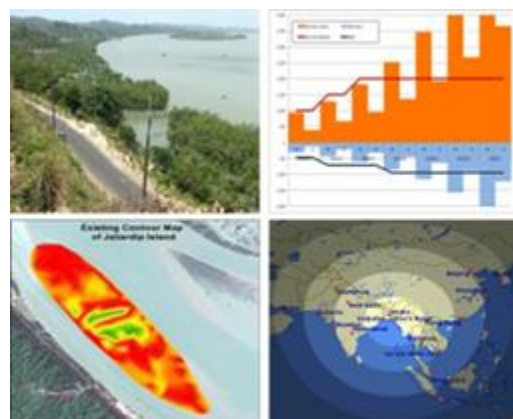


World Bank Project: BEZA S-21: Pre-feasibility Studies for Six (6) Economic Zones

Lot 3: Pre-Feasibility Study for Economic Zone Locations Narayanganj & Jaliardip

Final Report for Economic Zone Locations Narayanganj & Jaliardip *- Jaliardip Economic Zone -*



on behalf of



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List of Abbreviations and Acronyms

BDT	Bangladesh Taka
BEZA	Bangladesh Economic Zones Authority
BGB	Border Guard of Bangladesh
BIWTA	Bangladesh Inland Water Transport Authority
BOT	Build-Operate-Transfer
BOOT	Build-Own-Operate-Transfer
CAPEX	Capital Expenditure
DBFOOT	Design-Build –Finance-Own-Operate-Transfer
DC	Deputy Commissioner
E	East
ECA	Environment Conservation Act
EIA	Environmental Impact Assessment
EIRR	Economic Internal Rate of Return
ENPV	Economic Net Present Value
EPZ	Export Processing Zone
EU	European Union
EZ	Economic Zone
FDI	Foreign Direct Investment
FIRR	Financial Internal Rate of Return
FNPV	Financial Net Present Value
FY	Financial Year
G2G	Government to Government
GDP	Gross Domestic Product
GVC	Global-Value Chain
HFL	High-Flood Level
IEE	Initial Environmental Examination
IWT	Inland Waterway Transport
JICA	Japan International Cooperation Agency
JV	Joint Venture
Km	Kilometer
LNG	Liquid Natural Gas
LPG	Liquid Petroleum Gas
LPI	Logistics Performance Index
M	Meter
MCAT	Ministry of Civil Aviation & Tourism
MW	Megawatt
MWA	Megawatt-Ampere
N	North
NPV	Net Present Value
OPEX	Operating Expenditure
PPP	Public-Private-Partnership
PWC	Price Waterhouse Coopers
REB	Rural Electrification Board
RHD	Road & Highway Department
SME	Small and Medium-sized Enterprises
SWOT	Strengths, Weaknesses, Opportunities, Threats
ToR	Terms of Reference
UNO	Upazila Nirbahi Officer
US	United States
VGF	Viability Gap Financing
WB	World Bank
WTTC	World Travel and Tourism Council

1 SUMMARY

“Economic Zones” (EZs) are defined areas within which the Government of Bangladesh represented by the *Bangladesh Economic Zone Authority* (BEZA) is taking the initiative to provide a suitable business environment and associated infrastructure that are conducive to investors seeking additional and/or alternative locations for their business. BEZA is the dedicated organization that develops, maintains and monitors EZs. As the establishment of plants, factories and other business related facilities will be more regulated than in the past, BEZA has identified several areas.

Findings and recommendations of this *Final Report* have been detailed and carried forward from the Consultants’ individual *Interim Report on Jaliardip Economic Zone* (EZ). The presented Report is intended to serve as decision base for the higher political level (*Prime Minister's Office*).

1.1 COMPONENT 1: Competitiveness Analysis, Transport Assessment, Industry/ Market Assessment and Demand Forecast

1.1.1 Activity 1: Stakeholder meetings and a review of existing studies/information

During the entire period of the project the Consultants, on site and in their home office, reviewed documents - both as web pages and as hard copies - dealing with the legal background of an economic zone in general, and with statistics, descriptions and expectations of the garment & textile sector in Bangladesh in particular. A list of these documents is attached as *Appendix 1*.

During their missions to Bangladesh (08 June to 21 June, 12 July to 21 July, 01 August to 12 August, 23 August to 08 September, and 05 October to 06 October 2016), the Consultants conducted a number of meetings, guided by a tailor-cut questionnaire, with relevant stakeholders. The Consultants met with representatives of the tour operators as well as with public agencies whose services facilitate the journeys of potential guests. A list of these meetings is attached as *Appendix 2*; the protocols of these meetings are attached as *Appendix 3*. All international and domestic key experts inspected the site of Jaliardip EZ during the early stages of the Project.

1.1.2 Activity 2: Competitiveness analysis

Fulfillment of three key preconditions make the, preferably integrated, development of an tourism economic zone a success: (1) political commitment and institutional framework, (2) easy and fast accessibility for visitors, and (3) social and economic integration of residents.

Increased presence of sufficient representatives from the relevant authorities on and around Jaliardip Island will guarantee tourists’ and employees’ security against attacks, drugs, illegal immigration and other disturbances of law and order.

Benchmarking with comparable tourism developments shows the absolute need for detailed planning, focused marketing, quick implementation, and sectoral and regional integration.

1.1.3 Activity 3: Transport assessment

Based on growing incomes, mobility and regional demand, there appears to be a considerable potential for local transportation services in the southern parts of Cox's Bazar District. Planned improvements in the national and regional road infrastructure will, by latest 2020, enhance and facilitate the future roadside accessibility of the proposed Jaliardip EZ.

An alternative though less developed road link to the Teknaf region is the single lane Z1098 Cox's Bazar - Teknaf Marine Drive which runs along the western coast of the peninsula. Cox's Bazar - Teknaf Marine Drive (Z1098) connects Teknaf to Cox's Bazar running along the Cox's Bazar - Teknaf sea beach parallel to the N1 highway. Z1098 is a single lane road and it takes around 3 hours to reach Cox's Bazar from the proposed EZ by road. Using the Z1098, today's driving time from Teknaf Port to Cox's Bazar amounts to approximately up to 2 hours 40 minutes. In the course of ongoing efforts to enhance Bangladesh's road network, to establish an alternative road along the Dhaka – Chittagong – Cox's Bazar – Teknaf Corridor and to promote the development of tourism in the area, the Misharai – Teknaf Marine Drive Road Project includes a planned upgrade of a 285 km road section to a National Highway of 7.2 m pavement width.

Major improvements regarding the regional rail accessibility can be expected once the new railway line to Cox's Bazar in 2024 and the branch line to Gundum in the mediate vicinity of Teknaf Upazila by 2030 become operational.

Expansion of Cox's Bazar Airport, by end-2019, to cater for international visitors will widen the catchment area of this most important 'source pool' for foreign tourists to Jaliardip Island.

Excursion boats or express ferry services from Cox's Bazar and, in the long term, even visitors from Myanmar (for instance from Sittwe) on local shipping services might call on Jaliardip Island.

1.1.4 Activity 4: Industry/market assessment

Background

A large pool of domestic tourists already exists and is growing constantly, with the number of visitors to Cox's Bazar constituting a significant 'push' factor. Major tourist attractions, namely *St. Martin's Island* and the world's longest beach on the Teknaf peninsula, plus the designated *Sabrang Tourism Park* and touristic eco-tourism secrets like the Teknaf Wildlife Sanctuary constitute 'pull' forces to the center of this touristic development. The Consultants suggest concentrating all activities planned for Jaliardip Island on the 'site and education tourism' providing almost half of all tourism in Bangladesh, which would be best catered for through an eco-tourism environment.

The establishment of eco-tourism considers a minimized impact on both landscape and local population. A major aim would be to involve local inhabitants in a way that they best benefit financially and educationally from the tourism development in their neighborhood.

Methodology

The Consultants procured an updated list of private tourist operators within the entire country. Of this list, they localized almost 400 tourist agencies operating out of three rings of decreasing intensity within the gravitation centers of potential guests for the future Jaliardip

Island. The Consultants distinguished between “push” factors – operators’ proximity to potential guests and guests’ propensity to spend, and “pull” factors – transport connections and attractiveness of facilities and activities offered on Jaliardip Amazing Island.

1.1.5 Activity 5: Demand forecasts

Jaliardip Island should offer to the growing number of Bangladesh citizens and foreign residents an attractive alternative to traveling abroad in the South(east) Asian region. The Consultants estimate the growth of travel & tourism investment to be the major determinant for future tourism development on Jaliardip Island.

Subsequently, the Consultants based the future growth of demand for Jaliardip Island activities on three scenarios for possible tourist growth in Cox’s Bazar, although on a higher level due to the above-described ‘push’ and ‘pull’ forces. The Consultants calculated the tourist demand during the low-season (summer) period to get closer to that of the high-season (winter) period towards the end of the 20-year forecast period.

Table 1: Duration of capacity saturation of Jaliardip Island (years)

Scenario	Day-Time Activities	Accommodation
Conservative	5-7	6-8
Base	3-5	4-6
Aggressive	2-4	3-5

Source: Consultants

During low season, saturation of day-time (2,000 visitors) and stay-over (950 beds) capacities are forecast to be reached after four to eight years, depending on the scenario. During high season, this saturation would be reached about two years earlier.

The Consultants calculated the full land-area requirements as scheduled one year ahead of capacity saturation.

1.1.6 Activity 6: Market strategy

Approach and methodology

Successful implementation of the Government’s tourism strategy will require a strong public-private partnership. The Government’s role is to provide investments in fixed infrastructure (aviation), provide right incentives and enabling environment including ease of entry and exit, and ensure the security/safety of the tourists. Much of the investment in tourism facilities and services will have to come from the private sector, thereby encouraging partnership with foreign investors.

Activities on Jaliardip ‘Amazing’ Island would be complementary to those offered in Sabrang Tourism Park to mainly international (foreign-passport holding) visitors.

Acceptance of the project should be sought from the local population by promoting its advantages for region and residents, viz (i) infrastructure improvement, (ii) direct and indirect employment, (iii) involvement of Rohingya dwellers and Myanmar travelers, and (iv) mitigation of ecological disasters.

Marketing should be focused on target markets, in order of priority, of: (i) domestic visitors, (ii) overseas eco-tourists, (iii) mountaineers through Nepal, and (iv) short-distance international tourists. Special packages should be given to (v) honeymooners, and (vi) school classes, during low-season periods.

Indicative market strategy

As the Tourism Park EZ Concept is quite new to BEZA, the Consultants suggest a “Go-to-Market Strategy”. In general, such a strategy will be chosen when a new product and/or a new target group will be subject to marketing and sales activities. A Go-to-Market Strategy defines the interdependency and relation between the core factors which are product, customer, and markets:

1. The primary product is defined as the piece of land which BEZA has to sell or lease to a developer to develop the basically prepared island Jaliardip. The secondary product is the idea and/or the concept to develop tourism business in this southern part of Cox’s Bazar District, as without the effort and initiative of BEZA the development of Jaliardip would not be on top of the list of possible future tourism parks made up by the Bangladesh tourism industry.
2. The potential customers for BEZA’s product are “tourism-site developers” which is a quite general definition as the range of this kind of companies differs from pure construction companies over pure tourism park developers to hotel and recreational-site operators.
3. The markets are where this particular product should be sold, or at least offered, be they national tourism-site developers or international companies. Although an involvement of international or foreign companies seems promising, the Jaliardip EZ is more focused on national tourism and utilization by domestic tourists, and a concentration on national potential investors has been chosen.

1.1.7 Strengths-weaknesses-opportunities-threats analysis

Strengths, weaknesses, opportunities and threats (SWOT) were assessed with the aim to understand and clearly identify the competitive advantage of the proposed Jaliardip Economic Zone.

As opportunities (from outside the EZ) and strengths (from within the EZ) clearly supersede weaknesses (from outside the EZ) and threats (from within the EZ), the Consultants propose reassessing Jaliardip ‘Amazing’ Island in a adjusted *Initial Site Assessment*, as the original assessment was geared towards logistics operations and activities instead of tourism.

1.2 Component 2: Master Planning, Infrastructure Requirements and Environmental and Social Footprint

1.2.1 Activity 1: Site assessment

The proposed Jaliardip Island needs planning policies and an outline plan which emphasizes different aims and roles for tourism that represent the implementation and role of all stakeholders who are involved in tourism-site development.

The eastern side of the Teknaf peninsula is prone to multi hazard threats such as cyclones (although not as seriously as its western side thanks to its hilly backbone of the Teknaf Wildlife Sanctuary), storm surges and floods, earthquakes and, above all, climate change.

As the Project is definitely a “red” development project, it will thus require a full environmental-impact assessment (EIA). This process might need to investigate not only the impact on the island and its close surroundings, but also on the region in a wider distance.

The entire site is located below the maximum flood level, and is consequently prone to flood and water logging. Necessary filling with suitable protection structures would need to be carried out for the development of the proposed tourism island.

1.2.2 Activity 2: Best Practice Master Plan

To achieve successful tourism planning and development, guiding planning principles need to be applied, such as (i) integrated planning, (ii) local participation, and (iii) sustainability in resource usage.

The highest possible interlinkage between water and land should be achieved, thereby turning an apparent “disadvantage” into an advantage, and consequently lowering any reclamation costs.

The Consultants intend to achieve a complete separation of the accommodation (stay-over) area from the visiting tourist (day-time) area. Such separation will provide for the highest exclusivity for stay-overs and consequently the basis for higher rents achievable.

1.2.3 Activity 3: On and Off Site Infrastructure Requirements and Associated Costs

Major access to Jaliardip Amazing Island would be by cable car. This cable car would connect to an access and parking area on high ground of Teknaf Highway Z1099, and to a hilltop of the Teknaf Wildlife Sanctuary.

A hanging cable bridge of about 450 m length is proposed for a pedestrian connection between Jaliardip Island and the Cox’s Bazar Teknaf Road. An approach road is proposed from the proposed bridge end to the Cox’s Bazar- Teknaf highway. Length of the road is about 600 m and width is proposed for 2 lane capacity. Car parking, drivers’ hostel and substation will be on the side of the approach road. This road will be an off-site construction which will be developed by BEZA. A suitable drainage facility is suggested for the drainage of parking and building as off-site structure.

There should be a water-shuttle connection between Jaliardip Island and Sabrang Tourism Park along a river 3 km north of the southern tip of Teknaf peninsula. Tourist activities on Jaliardip Amazing Island would be complementary to those offered in *Sabrang Tourism Park*.

Table 2: Structural development of Jaliardip Island

SL. No.	Description of works	Amount (BDT million)
1	Land filling with dredging sand FM>0.80	656.17
2	Cable-stayed pedestrian bridge, 2.44m width including superstructure, substructure, foundation and protection works	112.50
3	Electrical external connectivity 33 KV line with 33/11 KV substation	50.00
4	Electrical external connectivity 33 KV line with 33/11 KV substation	14.00
5	Water treatment plant intake from Naf River	107.00
6	Sewage treatment plant (STP)	107.00
7	CC-block protection for internal water bodies (including 200 mm thick CC block, geo-textile and 100 mm thick granular bed)	326.40
8	Approach road (2-lane width with drainage facilities)	9.00
9	Gas connection 16" line from Cox's Bazar	800.00
Total		2,182.07

Source: Consultants

Development works shall be divided into three phases: In the 1st phase, BEZA will develop the Jaliardip Island land with protection works of embankment, the hanging cable bridge and an approach road. Total costing of works for structural development of Jaliardip Island would amount to BDT 2,182.07 million or US\$ 27.98 million. However, costs for the gas connection from Cox's Bazar will need to be borne by the relevant GoB authority. All other infrastructure and utilities would need to be established by the Developer in the 2nd phase. Preliminary costing for the Developer would amount to BDT 1,648.7 million or US\$ 21.14 million. In the 3rd phase, investors would establish the facilities and other superstructure. Preliminary costing for these investors would total BDT 2,952.02 million or US\$ 37.85 million.

1.2.4 Activity 4: Environmental and social footprinting

Bangladesh has a comprehensive legal framework for environmental governance. There are around two hundred laws in Bangladesh with direct relevance to environment, handled by different sectoral legislations. Similarly, Bangladesh is party to a number of international conventions; treaties and protocols related to environmental protection.

The World Bank has developed environmental and social safeguard policies with the aim to prevent and mitigate undue harm to people and the environment in a development project financed by the World Bank. The Consultants proposed best practice measures and/or technologies that can be applied to keep the environmental and social footprint as small as possible. From Jaliardip Island there can be a positive synergetic effect for the entire region.

The Government of Bangladesh has formulated policy, rules and regulations in order to make eco-tourism effective, and to increase employment opportunities in this sector, especially in rural areas. For eco-tourism, certification is important because it sets standards and helps distinguish genuine eco-tourism and sustainable tourism businesses from others that make empty claims. BEZA has decided to develop eco-tourism at Jaliardip Island. In the Consultants' view this is the right decision, as eco-tourism is already best practice tourism if followed in a sustainable, well managed and designed manner.

Best practice should also be applied during the construction of Jaliardip Island, as dredging and extraction of stream-bed sand, destruction of the protective mangrove ring around the island, oversizing of hotel buildings and of access roads, plus negligence of waste management and sewage treatment later on during operation of the facilities could seriously harm the natural environment of Jaliardip Island and thus diminish the value of its most precious asset.

1.3 Component 3: Institutional Framework

1.3.1 Activity 1: Assessment regulatory

Development of Jaliardip Island as an eco-tourist resort fits very well into the strategy of the Government of Bangladesh to foster tourism.

BEZA's activities on Jaliardip Island and in Sabrang Tourism Park will have to be well integrated into any plans for the tourism sector on the national as well as on the regional level.

The private sector has invested in the tourism field successfully and can be considered the main driver of hotel development and tour operations.

1.3.2 Activity 2: Identify institutional framework

For Jaliardip Island the Consultants propose any kind of BOOT (*Build-Own-Operate-Transfer*) approach on a long-term agreement depending on the considerable funds necessary for initial development.

The Consultants expect synergy effects with other EZs with a similar scope planned at the southeastern shores of Bangladesh. Against this background BEZA may vote to extend the contract of a developer of a neighboring EZ by including Jaliardip Island.

A long period of lease should ensure a return on the operator's initial investments.

1.3.3 Activity 3: Draft management plan

In the Consultants' opinion, BEZA will have to (i) employ new staff as the size of its organization will grow, and (ii) steadily re-invent itself as a core economic development agency for Bangladesh and a competent partner of private investors.

The Consultants suggest that there should be experts at BEZA for tourism industry who at the same time are in charge of a project while contributing to other.

1.4 Component 4: Economic and Financial Modeling

1.4.1 Activity 1: Financial model

A financial analysis serves to assess all revenues and costs directly associated with a project. Given a positive financial evaluation, a project is feasible to be set up by the private sector.

With a Financial Net Present Value (FNPV) at 7.0% of US\$ 21.7 million, a Financial Internal Rate of Return (FIRR) of 11.8%, and a Dynamic Payback Period (DPP) of 12.7 years, the development of Jaliardip Economic Zone is financially feasible. The financial evaluation is, however, subject to the choice of an appropriate land lease fee to be paid to BEZA by the developer. The financial evaluation is most sensitive with regard to variations in revenues.

1.4.2 Activity 2: Economic model

In contrast to the private viewpoint of the financial analysis, an economic analysis assesses the feasibility of a project in terms of economic costs and benefits, also considering external costs and benefits associated with a project.

With an Economic Net Present Value (FNPV) at 12% of US\$ 233.7 million, an Economic Internal Rate of Return (EIRR) of 28.3%, and a Benefit-Cost Ratio (BCR) at 12% of 3.2, the development of Jaliardip Economic Zone will be a socially and economically profitable undertaking. The economic evaluation is sensitive with regard to variations in benefits. The development, however, remains economically feasible even for increases in costs by 30% or decreases in benefits by 30%.

1.5 Conclusions and Recommendations

1.5.1 Opportunities and challenges for Jaliardip Economic Zone

Due to multi-hazard threats such as cyclones, storm surges and floods, as well as earthquakes, the Consultants recommend constructing facilities on ground level and only for exceptional functions, like the 5-star hotel, with an additional first floor.

The Consultants recommend attracting tourists during low season through certain offers, such eco-tourism to support awareness of nature, animals and plants, school-class packages and children-education stays, and honeymoon packages. The establishment of eco-tourism considers a minimized impact on both landscape and local population. A major aim would be to involve local inhabitants in a way that they best benefit financially and educationally from the tourism development in their neighborhood.

From the very beginning of the Project, fool-proof solutions need to be found for solving possible security threats – terrorist attacks, smuggling of drugs and weapons, and illegal immigration of Burmese and other nationalities. Increased presence of sufficient representatives from the relevant authorities on and around Jaliardip Island will guarantee tourists' and employees' security. Additionally, acceptance of the Project should be sought from the local population by promoting its advantages for region and residents.

Activities on Jaliardip 'Amazing' Island should be complementary to those offered in Sabrang Tourism Park to mainly international (foreign-passport holding) visitors. Integration of Jaliardip Island should be achieved through a water shuttle to *Sabrang Tourism Park* and through a cable-car connection with the Teknaf Wildlife Sanctuary.

The Consultants recommend achieving the highest possible interlinkage between water and land at Jaliardip Island, thereby turning the island's apparent "disadvantage" into an advantage, and consequently lowering any reclamation costs.

1.5.2 General Recommendations

Experience of successful countries indicates that a strategic EZ policy requires a clear vision, strong commitment, concerted efforts, continuity in efforts, and a pragmatic approach.

In the Consultants' opinion, BEZA will have to (i) employ new staff as the size of its organization will grow, and (ii) steadily re-invent itself as a core economic development agency for Bangladesh and a competent partner of private investors.

The location of Jaliardip was ranked on place 7 out of 7 within the *Initial Site Assessment* executed by *PwC India* in June 2015. From the point of an assessment considering a location for logistics operations and activities, this ranking seems to be correct as an island is really unsuitable to serve as a logistic s location with warehouses and other facilities which need to be accessible by truck and/or rail. The ranking considering the establishment of a tourism area would turn out to come to other results. Further criteria should be considered which are actually not relevant for the operations of cargo and/or industrial EZs. These are mainly the potentials/opportunities provided by the direct surrounding of Jaliardip Island to keep tourists coming and stay.

1.5.3 Specific Recommendations

Activities on Jaliardip 'Amazing' Island should not be competitive to those offered in *Sabrang Tourism Park* to mainly international (foreign-passport holding) visitors. One solution would be combined marketing – to the point of offering Jaliardip Amazing Island and *Sabrang Tourism Park* as one package to interested investors.

The Consultants recommend constructing facilities on ground level and only for exceptional functions, like the 5-star hotel, with an additional first floor. Where any high-rise structures need to be erected – such as the pylons for the cable-car connection – these need to be safely anchored in the rocky underground.

The highest possible interlinkage between water and land should be achieved, thereby turning an apparent “disadvantage” into an advantage, and consequently lowering any reclamation costs. A mangrove boundary has developed surrounding the island on clay or silt formation land. It is the best protection boundary against the effects of wave action and cyclones. Thus, the retaining structure may be constructed inward of the mangrove forest.

Increased presence of sufficient representatives from the relevant authorities on and around Jaliardip Island will be required in order to guarantee tourists' and employees' security against attacks, drugs, illegal immigration and other disturbances of law and order. Acceptance of the Project should be sought from the local population by promoting its advantages for region and residents, viz (i) infrastructure improvement, (ii) direct and indirect employment, (iii) involvement of Rohingya dwellers and Myanmar travelers, and (iv) mitigation of ecological disasters.

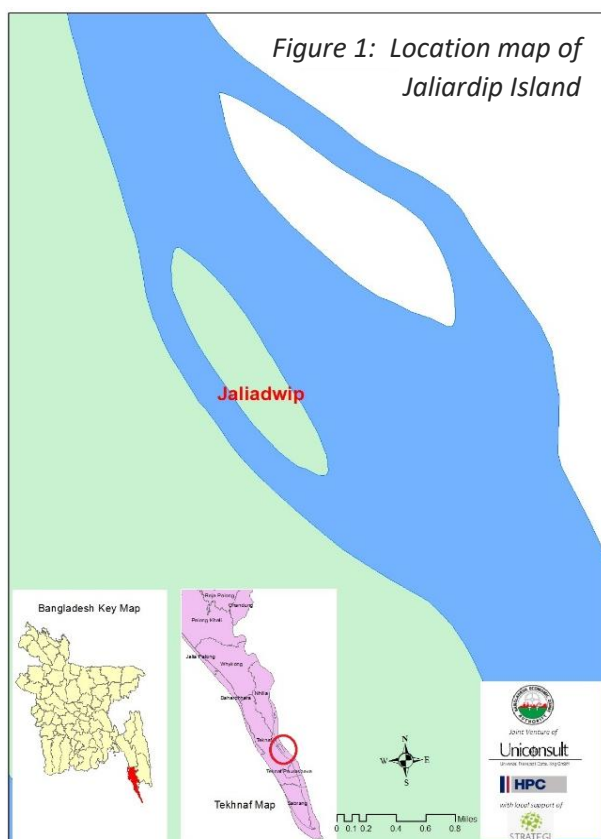
To improve the imbalance in demand between high and season and to attract tourists during low season, certain offers have to be prepared, such eco-tourism to support awareness of nature, animals and plants, school-class packages and children-education stays, and honeymoon packages.

The establishment of eco-tourism considers a minimized impact on both landscape and local population. A major aim would be to involve local inhabitants in a way that they best benefit financially and educationally from the tourism development in their neighborhood.

2 DEVELOPMENT OF JALIARDIP ECONOMIC ZONE

The following chapter analyzes the geographical setting of the Cox's Bazar region in general and the economic development of the Teknaf Peninsular and Jaliardip Island in particular.

The entire Jaliardip Island is designated as economic zone owned by the Government.



Source: Consultants

2.1 Component 1: Competitive Advantage and Industry Assessment

2.1.1 Activity 1: Stakeholder Meetings and a Review of Existing Studies/Information

2.1.1.1 Review of documents

Already during the mobilization week, the experts initiated the collection and analysis of a multitude of documents, which were identified online, provided by the Client or by interviewed stakeholders. During the entire period of the project the Consultants, on site and in their home office, continued reviewing further documents, both as web pages and as hard copies. In the context of Jaliardip Economic Zone, these documents deal with the legal background of an economic zone in general, and with statistics, descriptions and expectations of the tourism sector in Bangladesh in particular. The *Bangladesh Bureau of Statistics* constituted a particularly important source of information from which the Consultants drew many census and survey data. All documents are listed in *Appendix 1*.

2.1.1.2 Stakeholder meetings

During their missions to Bangladesh (08 June to 21 June, 12 July to 21 July, 01 August to 12 August, 23 August to 08 September, and 05 October to 06 October 2016), the Consultants

conducted a number of meetings, guided by a tailor-cut questionnaire, with relevant stakeholders. A list of these meetings is attached as *Appendix 2*; the protocols of these meetings are attached as *Appendix 3*. Please note that the Consultants did not draw up a protocol for meetings in which they only informed the participating stakeholder, but did not receive any additional information themselves.

The *Staffing Schedule* had been developed in such a way as to guarantee the presence of at least one international expert on site in Bangladesh, with the exception of the two Eid vacations plus short periods during which the experts need to write a main report and await BEZA's comments. The Consultants conducted individual site missions as follows:

- During the Inception Period, the *Team Leader* and the *Market & Transport Expert* initiated a multitude of interviews with existing and some potential stakeholders. In the beginning of their mission, both experts concentrated their interviews on investigations in regards to Jaliardip EZ, when they had meetings with the *Tour Operators Association of Bangladesh (TOAB)*, *Tourism Company Guide Tour*, and the *Civil Aviation Authority of Bangladesh (CAAB)*. On 13 June, these experts together with staff of *Strategi Consulting Company Ltd.* flew to Cox's Bazar, where they met the *Deputy Commissioner* and *District Magistrate*. Subsequently, the experts travelled to Teknaf town, and inspected Jaliardip Island.
- The week starting 10 July 2016 (after Eid), the *Team Leader* as well as the *Industry Sector Expert* undertook a mission to Bangladesh in order to (1) present, on 13 July 2016, the *Inception Report* at BEZA Headquarters in Dhaka, and (2) continue stakeholder interaction and data collection for the upcoming components and activities, for instance from the *Bangladesh Meteorological Department*. The *Industry Sector Expert* additionally investigated with transport-oriented agencies such as the *Bangladesh Inland Water Transport Authority (BIWTA)* and *Bangladesh Railways*.
- The Consultants' *Environmental & Social Expert* and *Institutional Expert* visited Bangladesh from the first week of August onwards. In early August 2016, both experts met the *Deputy Commissioner* and had an interview at the *Department of Environment (DoE)* in Cox's Bazar. Subsequently, the *Upazila Nirbahi Officer* of Teknaf received both experts plus their two domestic civil engineers (*Structural Engineer* and *Master Planning Expert*) and staff of *Strategi Consulting Company Ltd.* at Jaliardip Island. Both experts had numerous meetings with the Client BEZA and also the *Bangladesh Parjatan Corporation*.
- From the 2nd half of August into the 1st half of September, the *Team Leader* and the *Market & Transport Expert* were in Bangladesh to clarify remainder questions and to prepare and, on 31 August 2016, execute the presentation of the *Interim Report on Jaliardip Economic Zone*. The presentation was also joined by at the local *Structural Engineer*. On 25 August, a meeting with representatives of the project team for *Pre-Feasibility Study for Sabrang Tourism Park* took place. Information of the planning status of both locations was exchanged. Both teams discussed the development of an integrated concept where the services proposed to be provided by the tourism economic zone will complement each other's project.
- On 06 October 2016, the Consultants' core team - *Team Leader*, *Economic Expert*, *Market & Transport Expert* and local *Structural Engineer* - presented the *Draft Final Report* at BEZA Headquarters. As the ToR (see page 66 of *RFP-Lot#3*) state that the Draft Final Report and presentation shall be scheduled 6 weeks before the project is to end, the Consultants expect to deliver the *Final Report*, including also World Bank comments, five weeks after the Consultants' presentation of their *Draft Final Report*.

2.1.2 Activity 2: Competitiveness Analysis

2.1.2.1 Rationale

Although economic zones focusing on tourism differ a lot from industrial economic zones, there are some key success factors that apply to any EZ-project and thus are also crucial for the development of a tourism economic zone. First of all, political commitment and support from the government are required to ensure a well-functioning and coordinated development and operation of an economic zone by the involved government entities. High-level support can be especially expected when a specialized economic zone (SEZ) strategy is an integral part of a government's national development strategy and industrial policy. This also favors another important aspect: the existence of a policy and institutional framework for economic zones. A comprehensive policy framework with laws and regulations provides the basic conditions for the operation of an SEZ, whereas dedicated institutions ensure the compliance with the framework, handle the administrative procedures and develop further policy recommendations.

Besides policy subjects, a modern and high-standard infrastructure for transport and utility services such as electricity and water is essential for the success of an economic zone. An inadequate infrastructure limits the access to the zone by tourists, employees and suppliers. The difference of Tourism EZ to EZ utilized by industrial companies is that potential clients (guests) do not come regularly in the sense of several times per day or at least per week but once or twice a year. The accessibility of the tourism plot will be evaluated by the guest based on personal impressions and mainly not based on hard facts like transport cost, as it would be done for the calculation of transport/logistics costs by a transport or forwarding company while deciding to integrate the relevant EZ plot into its supply chain or not. Naturally, the quality of accessibility will also influence the pricing of travel tour providers when offering tour packages. In general it could be broken down to an approach where each hour of travel time (transfer time to the plot and back) that could be mitigated will support the attractiveness of the tourism location distinctly. As of course tour providers do, and have to, calculate their offers, individually travelling tourists/guests do evaluate time based on soft questions such as whether the needed transfer time is comparable to the total available (holiday/recreational) time in order to decide whether it is worth to go to the corresponding tourism park or not. This again shows that suitable infrastructure will support the success of each location no matter if it is an industrial or tourism EZ, but the direct financial impact is hardly ascertainable.

Another determining factor is described by the integration of the local society and economy respectively. The prospect for local people and companies to be a future beneficiary of the establishment of a tourism EZ will already support the acceptance and awareness of this project during its pre-planning and preparation phase as well as the planning and designing phase. Linkages to local suppliers or the local labor market stimulate the benefits from proposed economic zone towards the local society.¹ In this specific case, the local community could be involved to work as services staff (cleaning, waiter, gardening etc.) at the accommodation as well as tour guides for proposed hiking tours through the Wildlife Sanctuary and within the "Adventure Zone" in the southern part of Jaliardip Island.

¹ Source: United Nations Development Programme / International Poverty Reduction Center in China: *If Africa builds nests, will the birds come? Comparative Study on Special Economic Zones in Africa and China*. 2015. pp. 39-41

The chances for a successful development of both sites and for thus proving once more the reasonability of the investment in comprehensive off-site infrastructure will be raised by elaborating an integrated tourism concept focusing on two sites which are complementing each other to a certain extent.

2.1.2.2 Benchmarks

A benchmark research on tourism economic zones reviews the above explained key factors by comparing different tourist economic zones worldwide with each other.

Pamalican Island Tourism Zone (Philippines)

The Pamalican Island Tourism Zone located on a small private island – which has almost the same size of Jaliardip Island – in the Philippines has been developed by a private developer but is operating under the *Special Economic Zone Act* and administrated by the *Philippines Economic Zone Authority*.² It offers several fiscal incentives to investors such as, among others, tax holidays during the first eight years of operations. As the resort has been nominated as one of the best island resorts in the world, the project seems to be very successful. The island has its own airstrip and is served by a private plane flying from Manila. About 40 % of the employees are from the adjacent Manamoc Island. Thus, an adequate infrastructure exists despite its remote location. Benefits in terms of local employment are also given. Additionally integration of tourism in the natural surrounding without disturbing the character of the landscape has been well implemented in this case.

Figure 2: Impressions of Pamalican Island



Source: www.travel-world.eu

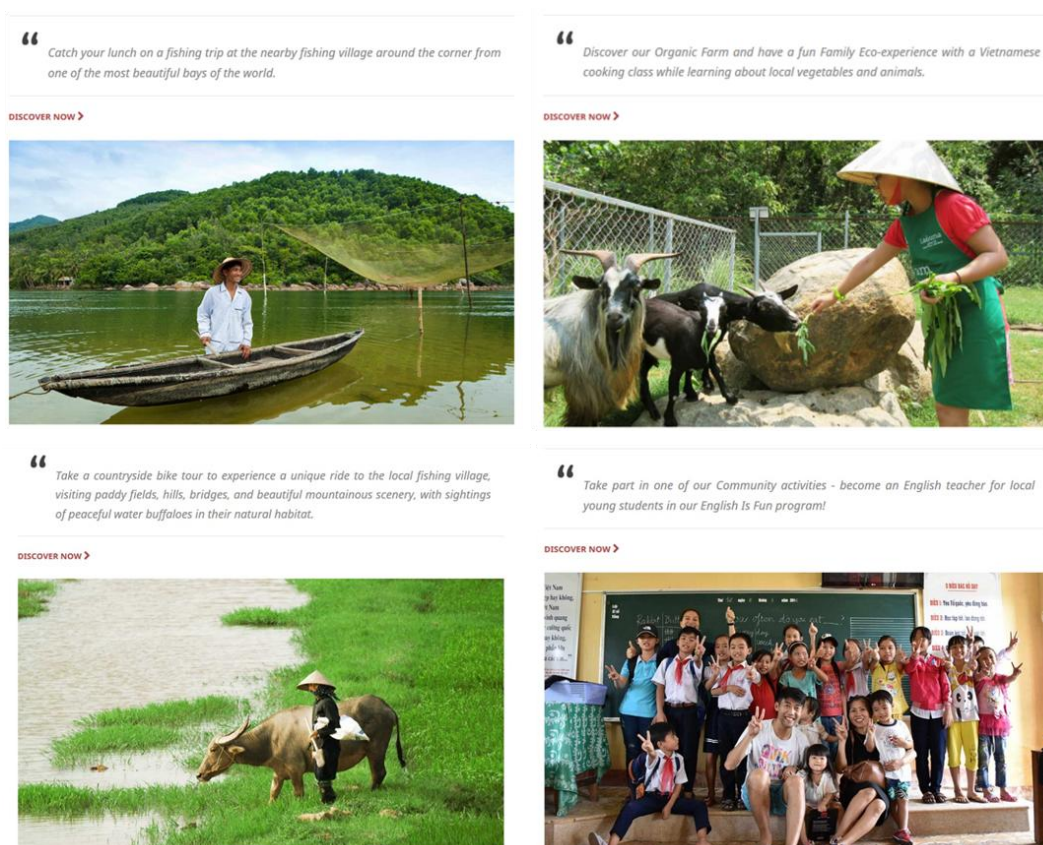
The shown arrangement of cottages utilizes an area of about 36 acres. The investment has been stated being around US\$ 9 million.

² Sources: <http://www.peza.gov.ph/>; Wikipedia "Pamalican"

Chan Mey - Lang Co Economic Zone

Another successful example is the Chan May – Lang Co Economic Zone in Vietnam.³ This economic zone for mixed purposes has been developed as model of “open” policies, operated by a separate legal framework, convenient investment and business environment; therefore, investors are given preferential policies. There are four functional areas planned, one of which is a tourism area with 3,250 ha designed for marine sports, eco-tourism, adventure tourism, entertainment and business tourism. The electricity system (500/220/110KV) is supplied from Da Nang Main Station. The economic zone owns Cau Hai station 110/22KV-(2×125MVA) and Lang Co station 110/22KV (2×25MVA), which are eligible for supplying electricity to serve production and business activities and domestic use in the cities of Chan May and Lang Co. Also two fresh water plants belong to the EZ administration. Many companies have expressed their interest and already now 3,338 employees work in the whole zone. The development of a favorable and modern infrastructure, fiscal incentives, an abundant workforce with specialized training, and the absence of floods and strong storms offer good conditions for the zone. Still, the project’s success is not visible yet. A possible threat is that so far there are no law on SEZs and no national administration bodies in Vietnam. The area was designated an economic zone already in 2009 and construction is planned to be finished in 2025. The utilization process of the zone still goes on.

Figure 3: Choice of Attractions at Laguna Lang Co



Source: www.lagunalangco.com

³ Sources: http://www.vietrade.gov.vn/en/index.php?option=com_content&view=article&id=2054:chan-may-lang-co-economic-zone-one-of-15-important-economic-zones-in-vietnam&catid=272:investment-opportunities&Itemid=250; <http://chanmaylangco.com.vn/Homepage>; http://www.vccinews.com/news_detail.asp?news_id=25087

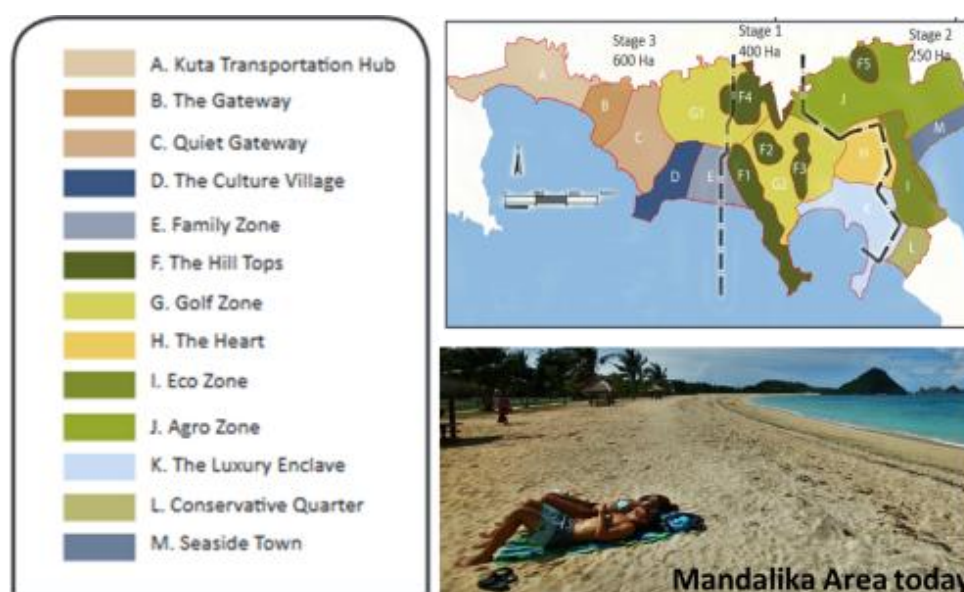
The missing regulatory framework might be one reason for this long process because standardized administration procedures are missing. To some potential investors it seems to be too uncertain that the economic zone management has not developed -all regulatory framework until now but established some regulations considering special industries only. 1,325 acres are proposed to be developed for tourism industry. In 2012, the project Laguna Lang Co was started on a 113 acres measuring plot. During the Phase One of this project US\$ 200 million have been invested. The resort offers cottages, hotels, golf courts, restaurants and further attractions for guests. It holds a high-class holiday accommodation.

The reason why it has been chosen to be considered in this benchmark is the comprehensive offer of attractions which could also be offered at Jaliardip Island while keeping the eco-tourism aspect valid. As shown in the figure above, Laguna offers trips with local fishermen, to “catch your own dinner”, bike tours through the scenic area, organic farming for kids (interactive kids zoo) and participation in English classes organized for the local community. These partly “down to earth” attractions do match with the demand of high-class tourists. Thus, luxury tourist facilities and eco-/agri-tourism attractions are no contradiction but complementary.

Mandalika Special Economic Zone (Indonesia)

The Aan beaches, high cliffs and Seger hills have made the Indonesian government intent on developing local tourism since 1984. But designs for the 506-acres measuring Mandalika Special Economic Zone (SEZ) Project has been under serious development only since 2008. Responsible authority is the Indonesian Tourism Development Corporation (ITDC). Until summer 2016, the development progress has only reached 10% to 15% of the total area. The region, which relies on nature and local culture as its main tourist attraction, has not managed to develop a positive tourism trend as, based on data from the Central Lombok tourism and culture agency, around 760,000 foreign travelers came to Mandalika region in 2015 which was less than the 855,000 travelers in 2014. As one of few economy zones projects, the Mandalika administration publishes its targets. These are in the long-term perspective an increase of 40% in foreign travelers and a 350% increase in the number of domestic travelers until 2018. The length per stay shall be raised from 2.1 days to 3.9 days.

Figure 4: Zoning of Mandalika Special Economic Zone Project



Source: Indonesian Tourism Development Corporation (ITDC)

The Mandalika project will have an environmentally friendly concept. Seawater will be processed into clean water. In addition to waste management, electricity will be produced from solar power. The region will be environmentally independent and safe. The Mandalika SEZ will be split into two distinct areas: mixed and luxurious. In the mixed area, starred hotels with a total 5,000-room capacity, international-scale convention and exhibition halls, shops, pedestrian sidewalks, water-sport infrastructure and places of worship will be developed. ITDC will also develop underwater tourism infrastructure, piers and docks for cruise ships in the area. The above figure shows the zoning as well as the phasing of the project. From the Consultants' view it still stays unclear how the challenges sticking to eco-tourism principles and establishing a 5,000 room facility will be managed.

Tinapa Free Zone and Tourism Resort (Nigeria)

Another successful example is the Tinapa Free Zone and Tourism Resort in Nigeria designed for leisure industries like shopping and entertainment.⁴ The Regional State Government and the *Tinapa Business Resort Free Zone Company* have jointly developed the zone on a 107 acres area. The zone activities are regulated by the *Nigeria Export Processing Zones Act* and the *Tinapa Free Zone and Resort Regulations*, and are administered by the *Nigeria Export Processing Zones Authority*. The invested US\$ 470 million are comparatively high. The establishment of the zone had been awarded to the developer in 2004. Within three years up to 2007, the complex project including office zones, shop facilities and luxury hotel accommodations had been developed comparatively fast. The development of the hotel site considered the existing landscape and nature quite well thus it fits well into the surrounding. A “multimodal” guest transport concept has been established as it also considers water transport by small boats which can use the hotel's own jetty. The reported enthusiasm of the local community was strong. Thus, the acceptance was large. The zone offers a variety of fiscal and other incentives to investors. One-stop approval is an important incentive; other strengths are all-time security service and uninterrupted power which are both not self-evident in Nigeria. Furthermore, the abundant supply of skilled labor at some of the most competitive labor rates worldwide is promoted.

Figure 5: Impressions of Tinapa Lakeside Hotel



Source: www.tinapalakesidehotel.com

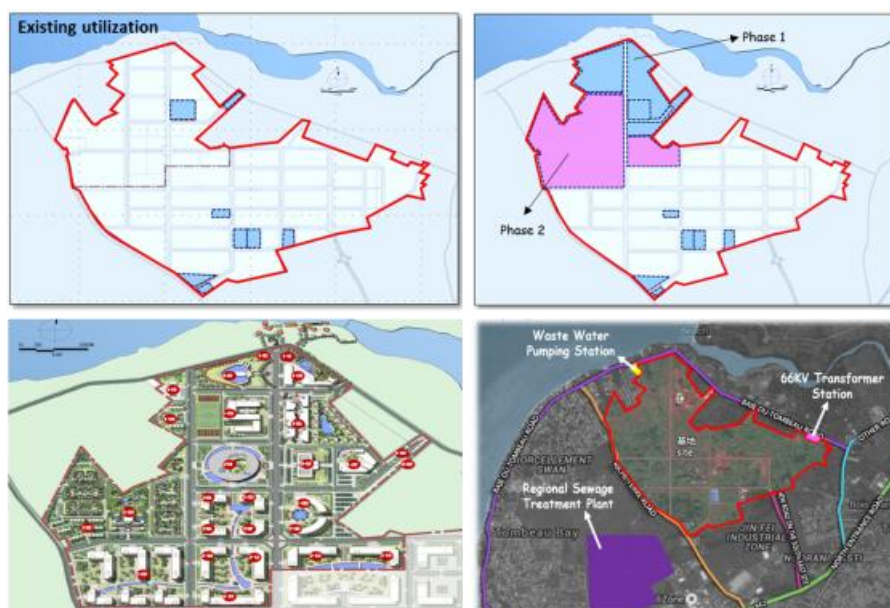
⁴ Sources: http://www.tinapa.com.ng/downloads/TINAPA_PRESENTATION.pdf; <http://www.tinapa.com.ng/>; <http://allafrica.com/stories/200802090011.html>

But the current status of Tinapa cannot be described as successful as only a few shop facilities are rented and most of the office space is unutilized. The whole project first lost its regional and international dynamic as it took the *Tinanpa Business Resort and Free Zone Company* two years to develop a regulatory framework. When in 2009 the first companies settled in the zone, the success story seemed to take off. But after two years of good development of shop rental and lease of business space, the Government withdrew the tax-free incentive and defined that tax become valid as the purchase of shoppers exceeds US\$ 150. This quickly led to a reduction of daily and local shoppers, as the benefit of driving to the shopping center outside the city was not given any more. Although the accommodation and leisure areas of Tinapa were not included in the regulatory changes, the bad reputation of the remainder zones influenced the utilization of the hotel, too. The above figure shows some impressions of the Tinapa Lakeside Hotel jetty area and the hotel entrance areas.

Jin Fei Special Economic Zone (Mauritius)

A different SEZ approach followed by the Chinese in the past years is to develop SEZs in other countries. The Jin Fei Special Economic Zone in Mauritius is such an example.⁵ On 211 ha, a real estate industry complemented with tourism, high technology and logistics has been established at an investment volume of US\$ 720 million. The sole shareholder is a Chinese company which has made an agreement with the Mauritian government.

Figure 6: Utilization of Jin Fei Economic Zone



Source: www.ifmy.sdlc.com

Mauritius is considered a strategic location for Chinese businesses as a gateway to Africa. Although the zone might be a successful project for China, there are fears by residents that it might rather have disadvantages than benefits for Mauritius. Critical points are the abundance of water and electricity in the zone which could lead to shortages in already-vulnerable areas of the island. The lack of knowledge regarding the African market in general and Mauritius in particular as well as relatively high wages and labor shortages might prevent Chinese firms from investing. From the outside it looks as if the political willingness

⁵ Sources: http://www.ppiaf.org/sites/ppiaf.org/files/publication/Africa_China_SEZs_Final.pdf; <http://www.saiia.org.za/occasional-papers/71-chinese-economic-and-trade-co-operation-zones-in-africa-the-case-of-mauritius/file>; <http://www.ictsd.org/bridges-news/trade-negotiations-insights/news/the-developmental-impacts-of-chinese-zones-in-africa>

of China has not been based on a, whatever un-profound, SWOT analysis. It seems too obvious that neither raw materials nor local markets exist on Mauritius. Another bottleneck is that all products that would be produced or stored on Mauritius have to be transported to the African continent. Finally this leads to the reasonable question if an industrial location could be viable for the producing industry. Until 2016 only 20 acres have been developed.

Baikal Haven Special Economic Zone (Russia)

The Baikal Haven Special Economic Zone, also known as Baikal Haven Tourism & Recreation Zone, is located at Lake Baikal in the Republic of Buryatia in Russia. The zone occupies an area of 1,460 acres. Up to US\$ 550 million of planned investments have been announced. The site had been established in 2006/2007. Until 2016, US\$ 38 million have been invested in the SEZ. Thus, the facility has not been developed as expected. The site itself advertises to provide attractions and facilities for, among others, eco-tourism, historical and cultural tourism, wellness and SPA tourism, active and extreme tourism, cruise tourism and religious tourism. Incentives like 5-10 year tax holidays are granted by regional authorities. The framework guarantees stability and no changes in the tax treatment for as long as the zone exists.

The Baikal Haven is one out of five Russian tourism resorts under Russian government. Disadvantage is the missing integrated tourism concept which defines each certain role per resort. In addition to that unrealistic tourism demand has been identified. Currently there is no type of marketing activities reported. After years of operating the SEZ Russian analyst came to the conclusion that "Only industrial production SEZs can have a real impact on the regional economy".

Figure 7: Map of Baikal Haven



Source: <http://eng.russez.ru/oez/tourism/buryatia/bajkalskayaqavan>

City of Galle (Sri Lanka)

Tourism plays an important role in the economy of Sri Lanka. After the 2004 Indian Ocean Tsunami, tourist visitors' numbers dropped, but began increasing again in early 2008⁶. In 2007, the *Sri Lanka Tourism Development Authority* (SLTDA) replaced the former *Sri Lanka Tourist Board* and was dedicated to developing the country into a globally known tourist destination. Its tasks consist of developing tourist products and services as well as guidance regarding legal and administrative concerns⁷.

⁶ Source: Aneez, Shihar (February 2008). "[Sri Lanka Jan tourist arrivals up 0.6 pct vs yr ago](#)". Reuters

⁷ Source: <http://www.slttda.lk/index.php>, accessed on Nov 7th, 2016

Especially the southern and eastern parts of the country attract the majority of tourists visiting Sri Lanka. One of the most common travel guides, *Lonelyplanet.com*, lists the city of Galle (“Beloved Galle Fort”), located at the southwestern shore of the country 173 km from Colombo, as one of the “top experiences in Sri Lanka”: it is praised for its maritime and tropic climate that in conjunction with the colorful Dutch architecture creates an exotic atmosphere. The colonial heritage is what makes Galle quite special and diverse: It has a history in trading, manufacturing and art which today translates into several little boutique shops and a vivid community of local and foreign artists and related professions.



Figure 8: Impressions of City of Galle



Source: Galle Dutch Reformed Church; Wikimedia Commons ([https://en.wikipedia.org/wiki/File:Galle_Dutch_Reformed_church_\(1\).jpg](https://en.wikipedia.org/wiki/File:Galle_Dutch_Reformed_church_(1).jpg))

The 36-hectare Fort hosts many of these establishments. It is listed as a UNESCO World Heritage Site and offers insights into structures of different centuries as it was built from 1663 onwards. It is the largest European-built fortress in Asia still remaining. Part of the fascination is the fact that it is not a pure museum but rather an area that is home to administrative and business units, too. Nevertheless, the absence of vehicular traffic, the existence of colonial buildings such as villas, some of which were transformed into exclusive accommodations, and the Dutch Reformed Church make this place very special. Galle can be reached via Sri Lanka Railways’ Coastal Line and via the A2 highway, commonly known as Galle Road.

Tourists looking for a quick beach escape from Galle’s Fort can find the beach of Galle’s suburb Unawatuna 6 km southeast. It stretches for approximately 2 km. It used to be protected by a natural reef and was considered being one of the world’s most beautiful beaches⁸. Divers came to visit ship wreck sites. The beach was famous especially among backpackers and appreciated for the small and simple huts and guest houses. However, after the beach was heavily hit by the 2004 tsunami, only a small part of the natural sandy beach remains at the eastern end, but widens towards the western part.

Instead of small houses, large-scale hotels and guest houses have been established even directly on the shore. Parts of the reef needed to make way for a breakwater. Ship-wreck diving is still offered, though, and jet-ski rentals have established. The message to be found

⁸ Source: <http://www.srilanka.travel/index.php?route=theme/main&theme=1&article=41>

between the lines is that the location gave up its most valuable asset, its unique and supposed natural atmosphere, but became a kind of package holiday-influenced attraction that lacks character and beautiful scenery.

Songkhla SEZ (Thailand)

To support the ASEAN Economic Community integration's development, Thailand chose to establish 10 Special Economic Zones along its borders, thereby acknowledging its strategic key position due to its geographical setting in the center of the Community. One of these ten areas is Songkhla SEZ in the southern part of Thailand, bordering Malaysia.

Songkhla SEZ consists of 4 sub-districts along the border area of Sadao district and amounts to a total area of 552.3 km². It is located 950 km south of Bangkok which can be reached via two highways. Its proximity to Penang Seaport and Klang Seaport of Malaysia, as well as a rail connection via Padang Besar, increase its accessibility. The SEZ is designed to fit export-processing industries and multimodal transport. However, for development in the SEZs the *Board of Investment of Thailand (BOI)* has identified 13 target industries which vary with reference to geographic conditions, available raw materials and demand and supply. Songkhla SEZ is a target area eligible for investment promotion in tourism-supporting business like ferry or tour-boat services, amusement parks, cultural and arts centers as well as health rehabilitation centers. The idea is to boost tourism especially in the very south of Thailand. Companies operating a target-industry business will be offered strong incentives, including an eight-year corporate-income-tax exemption, import-duty exemption on machinery and raw materials and a 50% reduction on corporate-income tax for five years.

The *Tourism Authority of Thailand (TAT)*, which has the mandate to foster Thailand as a tourism destination via information and data supply, development plans and cooperation and support in the field of staff in the tourism sector, values the province of Songkhla for its ethnic diversity and rich cultural heritage which can be witnessed through local architecture and cuisine. It is set in beautiful surroundings with plenty of seaside resort towns close to fine beaches and waterfalls. It is characterized as a quieter tourist destination that provides visits to nature and wildlife centers and charming fishing villages. For example, *Khao Nam Khang National Park* is a major tourist attraction that covers part of the Sadao District in Songkhla Province. On its 212 km² it covers waterfalls, wildlife attractions and old military tunnel systems that can partly be visited. Additionally, Songkhla Lake as the largest lake with several small islands for daytime relaxation attracts tourists.

Figure 9: Impression of Songkhla Province



Source: Songkhla Lake, Source: <http://travel.cnn.com/bangkok/visit/totally-thailand/77-things-do-thailands-77-provinces-485268/>

In general, accommodation in Songkhla covers a wide range from guesthouses and beach resorts to luxury hotels. Due to its location in the Indonesia-Malaysia-Thailand Growth Triangle (IM-GT), Thailand's BOI expects the SEZ to further contribute to the development of the Joint SEZ between Sadao and Malaysia's Bukit Kayu Hitam.

However, compared to the other SEZs, one-time rental payments are the highest in Songkhla, amounting to BT 3.75 m per hectare as proposed by the Finance Ministry of Thailand. This owes to its central location. Rental rates are proposed to be raised 3% on an annual basis.

Ganga Heritage River Cruise Circuit (India)

The Government of India's Ministry of Tourism has identified niche tourism products such as ecotourism, adventure tourism and cruise tourism as means to foster the development of the entire tourism sector. Diversity in the products is seen as a way to target the dependence of seasonality and to develop India as an all-year destination instead, thus attracting repeated visits⁹. En route of this agenda, several examples of these kind of tourism became part of a "Mega Destinations and Circuits" policy initiative that aims at developing tourist destinations "of national importance in a holistic and integrated manner", hence taking into consideration future demand both quantitatively and qualitatively¹⁰. 29 mega projects were identified with the *Ganga Heritage River Cruise Circuit* in the state of West Bengal being one example.

The project was contracted under PPP regulations and awarded financial assistance to the State Government by the Ministry of Tourism; in 2008-09, Rs. 204.2 million had been sanctioned¹¹. The assistance was provided under the LRG (Large Revenue Generating Projects) Scheme. The total project cost was estimated to be Rs. 1,250 million¹². Its promoter is the *West Bengal Tourism Development Corporation* which is a state government agency.

The *Ganga Heritage River Cruise Circuit* was planned by the Government of West Bengal which intends to use it as a vehicle for tourism development by promoting Bengal's history and heritage destinations while sailing on the Hooghly River. The *Ganga Heritage River Cruise Circuit* originates from Kolkata and proceeds upstream up to Murshidabad. During the journey, major historical, religious and cultural sites are passed by. The architectural and cultural heritage of Hindu, Muslim and European history can be observed.

The project is an integrated concept that involves river crafts, access facilities, marinas and other infrastructure, waterfront development, as well as the corresponding services of accommodation, guidance and transport services. It shall address international class standard and aims at a wide range of potential tourists by offering a variety of packages and intermediate destinations, thus also varying in proposed time schedules and costs: initially, day cruises and overnight cruises up to three nights were foreseen. Meanwhile, combined offers including cruise and onshore hotel accommodation expand the journey up to twelve days. A cruise company director stated in 2015 that the response was very good and bookings had been made for the next 3-4 years¹³.

⁹ Source: Ministry of Tourism, Annual Report 2015-16, p. 26

¹⁰ Source: Ministry of Tourism, Annual Report 2009-10, p. 20

¹¹ Source: Ministry of Tourism, Annual Report 2009-10, p. 30

¹² Source: IL&FS Infrastructure Development Corporation Ltd., Request For Qualification: Volume II "Ganga Heritage River Cruise Circuit Project", p. 11

¹³ Source: https://www.zawya.com/mena/en/story/GN_01012015_020112/ accessed Nov 7th, 2016

The overall package is intended to provide linkages to further tourist destinations in Bengal, e.g. using Kolkata as both key access to the cruise and destination on its own. Additionally, it is meant to develop Bengal “as a hub for travel to northeast”. The government also plans to start river cruise services from Kolkata to Bangladesh.

River-cruise tourism is seen to have a high potential in the Indian context due to the comparative advantage of offering exotic scenery and rich cultural heritage, which is considered being essential to survive in the competitive environment. The estimated potential is supported by a survey that showed appreciation for river tourism among 61% of domestic and 86% of foreign tourists.

Three critical factors have been identified to promote cruise tourism especially to domestic travelers: (1) awareness, (2) availability, and (3) affordability.

To foster the development of this niche, a *Task Force on Cruise Tourism* was established in November 2015. Cruise Shipping as a leisure industry with a business-wise and very promising future has been identified to meet India’s geographical settings of coastlines and islands in conjunction with accessible heritage sites, as well as the trend of growing disposable income among potential Indian domestic travelers. The Ministry of Tourism will continue providing Central Financial Assistance (CFA) to both ocean and river-cruise projects.

2.1.2.3 Security situation

Security issues are a reason frequently pointed out by tourists for not visiting Bangladesh.¹⁴ Jaliardip Island is located at the Myanmar border about 500 m across the Naf River – terrorist attacks, smuggling of drugs and weapons, and illegal immigration of Burmese and other nationalities, thus pose some serious problems which need to be contained from the very beginning of the Project. Teknaf Port as the nearest mainland access point is located straight opposite the south-eastern part of the island and presently houses a station of the Bangladesh Coast Guard.

Important priorities include: (i) safe local transportation by both public (bus) and private (car and taxi) services; (ii) ensured security of tourists both on Jaliardip Island and its vicinity (Tenaif Peninsula in general and Wildlife Sanctuary in particular) through increased presence of well-trained police officers with communication skills in English.

The Consultants have identified, discussed with BEZA, and received the Authority’s preliminary approval for further appraisal of security and immigration measures through i.e. Border Guard of Bangladesh (BGB), Customs and immigration authorities.

One measure consists of establishing a second station of the BCG, plus Customs and immigration authorities, on Jaliardip Island itself. A second measure would consist of observation points with high-surveillance equipment on top of the three cable-car stations at the arrival area, Jaliardip Island and Teknaf Wildlife Sanctuary (for details of these cable-car stations see *Chapter 2.2.3.1*). A last and very important measure would consist of a well-established coordination between the four authorities *Border Guard, Coast Guard, Customs and Immigration* which would leave the local lines of defense impenetrable.

¹⁴ Source: Bazlul Haque Khondker, Tahera Ahsan: *Background Paper on Tourism Sector*, Dhaka University, February 2015, p. 5

2.1.2.4 Comparison of Jaliardip EZ with benchmark locations

The mentioned locations of the benchmark have been chosen for certain reasons. Each example represents certain characteristics which also apply or are likely to apply for Jaliardip EZ. In addition to that, the described locations are not used or described within the benchmark of the *Pre-Feasibility Study on Sabrang Tourism Park*. Thus, no doubling of benchmark locations occurs. The examples also show important issues that lead a tourism park project to a success in general or hamper it becoming a good location. One mayor aim is to learn from all these already conducted projects.

The island of Pamalican/Philippines has almost the same size as Jaliardip Island. This example shows that it is possible to establish an eco tourism park on a plot of this size, as during the development of this study and a reasonable concept for Jaliardip Island has been questioned from some stakeholders due to the relatively small size of this EZ in comparison to other EZs in general and *Sabrang Tourism Park* in particular.

The *Chan Mey - Lang Co Economic Zone* in Vietnam has been chosen, as the *Laguna Lang Co* accommodation facility offers a comprehensive variety of eco-tourism activities which seem quite simple on the first look but have been successfully implemented and accepted/demanded by the overnight guest. It is a very good example for an integration of the local community into the operations of a hotel which is also a very important point for the implementation of activities and attractions at Jaliardip EZ.

Mandalika Special Economic Zone in Indonesia has been investigated for this benchmark as its concept includes eco-tourism and high standard accommodation. Additionally this project also considers a plot for agro-tourism which is also an interesting point for Jaliardip EZ.

Tinapa Free Zone and Tourism Resort located in Nigeria includes a hotel which considers, as far as possible, the existing landscape, and a “multimodal” guest transport concept has been established which considers water transport of the guests by small boats to be embarked at the hotel’s own jetty. Like in the Teknaf area, an intensive enthusiasm of the local community has been reported for the starting phase of the project.

The case of *Jin Fei Special Economic Zone* based on Mauritius shows that obvious advantages especially of the geographic position of an EZ location can turn into a disaster on the second look. To prevent such development of a project, a comprehensive analysis regarding strengths, weaknesses, opportunities and threats has to be executed.

The Russian *Baikal Haven Special Economic Zone* is a project which has been established together with other quite similar facilities. In this case it had been missed to define an overall development plan to generate zones which are complementing each other to a certain extent aiming to give each location an own unique selling proposition. This benchmark clearly shows that an integrated concept, comprising both Jaliardip EZ and *Sabrang Tourism Park*, has to be elaborated before initiation of detailed planning of the sites.

The *City of Galle* is an example of a tourism location that has turned from a former beach location with tiny huts and affordable rates into a mass-tourism location. The change has been forced by, or better happed after, the destruction of the place by the tsunami 2004. Of course this changes the whole character of the place.

Although the *Songkhla SEZ* in Thailand covers a very huge area, it has been chosen as a benchmark as it is located in the south of Thailand in order to boost the southern region. It is

not as remote as the Jaliardip location but anyway kind of outlying. The interlinkage to local community is very much highlighted in this project, and the involvement of regional wildlife is also a major aim; same does apply for Jaliardip.

The Indian benchmark has been chosen as the *Ganga Heritage River Cruise Circuit* is part of a national tourism development project called “Mega Destinations and Circuits”. It stands for implementation of an integrated tourism strategy. As (mini) cruises have been identified as a possible transport mode by the transport assessment (see next chapter), this again seemed to be suitable as a benchmark.

When comparing Jaliardip EZ to the above case studies, many comparative advantages become evident (see *Appendix 5: Benchmark Matrix Jaliardip EZ*). Bangladesh is already well-experienced with the establishment of economic zones. The legal framework was set with the *Bangladesh Economic Zones Act of 2010* which provides the private sector with opportunities in participating in economic-zone development and management.¹⁵ This law also was the base for the creation of the *Bangladesh Economic Zones Authority* which has the functions of establishing, licensing, operating, managing and controlling economic zones in Bangladesh.¹⁶ By now, 47 zones including Jaliardip EZ have been designated.¹⁷ The creation of special economic zones to promote regional growth is also part of the *National Sustainable Development Strategy* of 2013. These are favorable political and regulatory circumstances for the development of Jaliardip EZ.

One of the major advantages of Jaliardip EZ is the fact that all efforts for the establishment of a suitable and well-functioning framework are made. As BEZA is also requesting ideas and comments, for example on market strategy, in every pre-feasibility it becomes obvious how detailed BEZA has structured its proceeding. Especially at Jaliardip Island, as tourism park development is quite new to BEZA, a good preparation is necessary.

Concerning infrastructure, Jaliardip EZ has a strategic location on the one hand, but is not yet well connected with main transport routes on the other hand. Some weaknesses have been detected and are planned to be eliminated by comprehensive infrastructure projects as described in the following chapter. Still, problems like the missing potential for road connectivity of Jaliardip remain. There is a strong potential for linkages with the regional economy, by using the existent local workforce and by cooperating with the region of Cox’s Bazar which is most probably the most popular tourist destinations in the country.

Availability of well-trained manpower constitutes another constraint in this remote region: Cox’s Bazar District has 21 colleges (government and non-government colleges) and 157 secondary schools (government and non-government schools). Apart from this, the district also has 1 medical college and 7 technical and vocational institutions.¹⁸ Most of these institutions are located in Chakoria and Cox’s Bazar Sadar Upazila. Also, 3 technical training centers are located in Cox’s Bazar District. However, there is no technical and vocational institution located in Teknaf Upazila. Still, this upazila holds 54 primary and 25 secondary schools, plus 1 college in the town of Teknaf (see *Appendix 6* for comparison of literacy rate).

¹⁵ Source: <http://www.beza.gov.bd/investing-in-zones/legal-frameworks/>

¹⁶ Source: <http://www.beza.gov.bd/about-beza/beza-services/>

¹⁷ Source: <http://www.beza.gov.bd/all-zones/>

¹⁸ Source: Price Waterhouse Coopers (PwC): *Initial Site Assessment for Seven Economic Zone Sites - Dhaka Dohar, Bhola Sadar, Kushtia-Bheramara, Nilphamari Manikganj, Shariatpur-Zajira and Jaliardip-Teknaf*, Final Report, Bangladesh Economic Zones Authority (BEZA), Dhaka October 2015, p. 475

However, no English-teaching schools have yet been established in the upazila, according to local officials. The proposed Jaliardip EZ is not in close proximity to Chittagong, and it might get difficult to source quality manpower from the existing industrial Chittagong region.

Concluding the shown status and development of the nine benchmark sites and their comparison to Jaliardip Island, the following general findings have been identified:

- There is no sure formula for success! For each site and each concept, individual SWOT analysis, EZ structure, mixture of industries and layout plans have to be identified. BEZA is doing that as it investigates each site individually covering, among others, suitable industries, connectivity, design and financial issues.
- A comprehensive analysis of strength and opportunities, but also of weaknesses and threats (and of ways to mitigate their possible impacts) has to be executed. The major opportunities at Jaliardip Island are the comprehensive number of attractions in the surrounding area and the support and awareness of the local community.
- Although a “developer” has a clear view on the market and its possibilities as well as on suitable development concepts, the potential investor might not have it. For this reason the issue of project marketing is one of the most important ones. The assigning of a study, like this pre-feasibility study by BEZA, could, for example, also be seen as part of a project marketing strategy, as it generates additional stakeholder involvements and creates awareness.
- A suitable framework is vital for discussion with potential investors. The provision of a reliable and assessable basis is vital for the future investors, and BEZA is doing that. One issue, that has also lead to the decision to establish a tourism EZ in Teknaf region, is the availability of land. This obviously essential precondition has been clarified from the beginning which is also important to potential investors. That separates the project solely based on “political vision” from those that are seriously meant to be established which is the case at Jaliardip Island.
- Focusing on one development orientation (industry, tourism or housing, etc.) is highly recommended. As some of the mentioned benchmark locations’ organization and implementation plans have got messed up as they “wanted too much and everything”, it can only be seen as a right and very important decision to focus the Jaliardip site completely on tourism. Focusing facilitates a more efficient utilization of resources which supports an in-time development and implementation of the project.
- Once a project has been announced, quick implementation must follow. In comparison to other projects mentioned above this is ensured by BEZA. The tight schedule of this pre-feasibility study as well as the work of BEZA staff in parallel at the same time shows how willing the Authority is to implement the project. Everything is and will be done to facilitate a quick start.
- Development of an integrated concept must be stressed in case several plots exist. As described above the cooperation of both pre-feasibility studies – Jaliardip Island and *Sabrang Tourism Park* – indicates the awareness about a strategy that is based on the coexistence of both parks. A complementary overall concept is ensured.

2.1.3 Activity 3: Transport Assessment

2.1.3.1 Introduction

The main objective of the transport assessment at hand is to present the general parameters found at the site of the proposed Jaliardip EZ, Cox's Bazar District with regard to transportation and accessibility. The pre-feasibility level analyses thereby describe and evaluate the current infrastructural preconditions with regard to the requirements of a tourism economic zone. Moreover propositions on possibly viable enhancements of the regional transport are presented.

The proposed EZ is situated on Jaliardip Island, very close to the eastern coast of Teknaf Peninsula in the very south-east of Bangladesh. With a total length of approximately 2.78 km and a maximal width of about 0.6 km, Jaliardip covers approximately 271 acres (1.35 km²). Though the shortest direct distance to the mainland is just about 200m, there is currently no fixed link to the island. The estuary of the Naf-River constitutes the border between Bangladesh and Myanmar with the actual border line running mid-river, approximately 0.85km off the eastern shore of Jaliardip.

The development of tourist zones and holiday areas involves viable solutions to sophisticated transportation demands that partly differ from those that arise from economic zones in manufacturing and other service areas. In terms of accessibility it is thus of foremost importance to guarantee equally safe and reliable as well as secure transport offerings. Compared to freight, passenger transport is generally characterized by higher time sensitivity, demanding for fast accessibility from the country's major agglomeration areas and other markets of origin. Moreover, transport demands in terms of modes and travel times vary by different target groups.

In addition to a good outside accessibility, tourist zones are also characterized by distinct demands regarding the local transportation system. While high quality transportation offerings are generally required to cater for the tourists' local travel demands including day trips to nearby attractions, care is generally required to avoid major on-site transport externalities such as congestion, noise emission or exhaust gases that may encroach on the recreational value of the tourist zone. This is particularly relevant as the supply of tourist facilities is often causing notable amounts of additional delivery traffic.

Hereafter the transport assessment is structured into the following parts: *Section 2* gives a general description of the current status and recent developments regarding transport systems and transport infrastructure in the region of the proposed Jaliardip EZ. *Section 3* gives a first outlook on estimated transport demands that may be expected in the Teknaf region. *Section 4* presents ideas on general approaches to improve the accessibility of the proposed tourist economic zone.

2.1.3.2 Current situation

Safe, reliable and secure transportation of both tourist and cargo supplies is of central importance for the development of tourist zones. Moreover in some fields such as travel time and comfort, transport requirements of holiday areas will likely exceed those of manufacturing and service zones both in complexity and financial burden. The following paragraphs analyze the current conditions in the area of the proposed Jaliardip EZ, both in

regard to infrastructural development and transportation offerings. Moreover, planned improvements to the regional transportation system are briefly discussed.

2.1.3.3 General parameters

The site of the proposed tourism economic zone on Jaliardip Island is located in the south east of Cox's Bazar District in the area of Teknaf Upazila. Forming the most southern part of the Teknaf Peninsula, Teknaf Upazila covers an area of 388.66 km² and has a population of approximately 264,389 heads (2011).¹⁹ Teknaf center is located towards the south-west of the island at a direct distance of approximately 6km. Respective air-line distances to Cox's Bazar, Chittagong and Dhaka are approximately 62 km, 167 km and 372 km respectively. Major international centers located in the region include Kolkata, India at approximately 450km, Yangon, Myanmar at approximately 610km and Bangkok, Thailand at approximately 1,180km direct distance.²⁰

With no fixed link between Jaliardip Island and the mainland, the site of the proposed EZ is currently only accessible by boat or ferry. Teknaf Port as the nearest mainland access point is located straight opposite the south-eastern part of the island at a direct distance of just about 200 m and houses a station of the Bangladesh Coast Guard. The local ferry dock of Keri Sindbad located opposite the northern part of the island serves as the port of departure for regular ferry service to St. Martins Island. Both sites have reasonable road access and can easily be reached from the district capital of Cox's Bazar in the north and Teknaf center just a few kilometers to the south.

Based on regional population data there appears to be a considerable potential for local transportation services in the southern parts of Cox's Bazar District. With growing incomes, mobility and the demand for transportation services among the regional population will potentially grow in the years to come. Moreover the overall population development will likely further add to regional demand potential for transportation.

The Consultants analyzed all transport modes in the region between Cox's Bazar and Teknaf.

2.1.3.4 Road transport

Adequate road accessibility of the proposed Jaliardip Tourist EZ is of foremost importance. While being a widely used option for domestic travel on its own, road transport usually also caters for the last-mile transport of other transport modes. Teknaf Upazila has a total of 513.14 km of road, of which 80.49 km are asphalted, 74.39 km are semi-asphalted and 358.26 km are not asphalted.²¹ Teknaf Port as the nearest mainland access point to the site of the proposed economic zone is located on the southern stretch of the National Highway 1 (N1) which constitutes the region's main connection between the Teknaf Peninsula and Cox's Bazar, Chittagong, Dhaka as well other major agglomeration centers in the north. Currently, however, a fixed road link (e.g. bridge) between Teknaf Port and Jaliardip is missing.

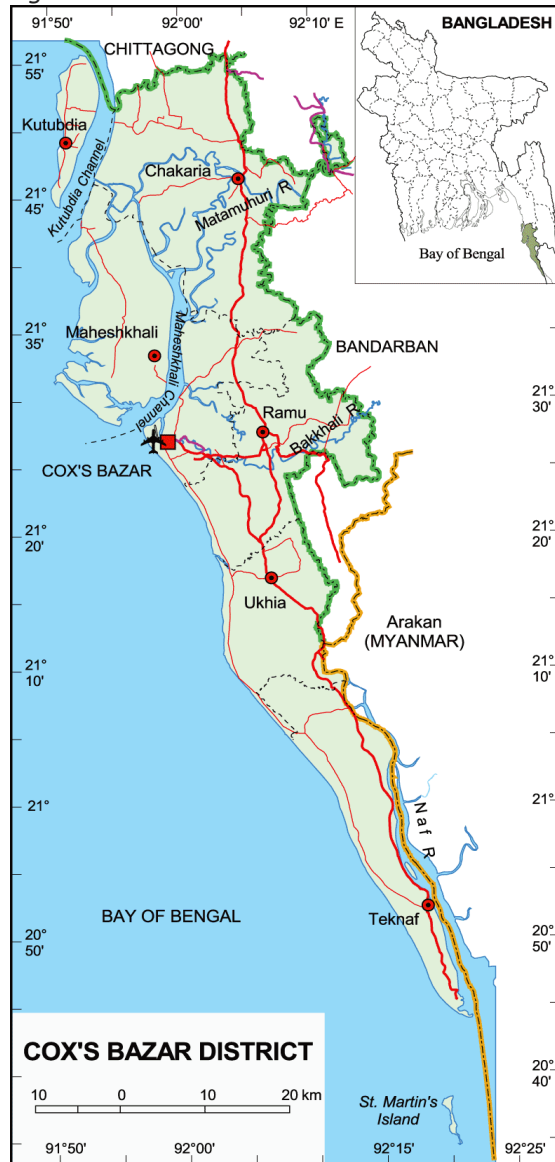
Upgrading the Dhaka-Chittagong highway to four lanes could ensure fast and smooth conveyance of goods and passengers between Dhaka and Chittagong. These roads can form part of the regional road network and of the Trans-Asian Road network facilitating trade bet-

¹⁹ Source: Bangladesh Bureau of Statistics (2013), District Statistics 2011 Cox's Bazar, p. 15

²⁰ Source: Consultant's calculations of direct distances based on Google Maps projections

²¹ Source: Bangladesh Bureau of Statistics (2013), District Statistics 2011 Cox's Bazar, p. 71

Figure 10: Road network in Cox's Bazar District



Source: <http://mapofbangladesh.blogspot.de/2011/09/map-of-coxs-bazar-district.html> accessed 29 June 2016

between Bangladesh and neighboring countries. Cox's Bazar - Teknaf Marine Drive (Z1098) connects Teknaf to Cox's Bazar running along the Cox's Bazar - Teknaf sea beach parallel to the N1 highway. Z1098 is a single lane road and it takes around 3 hours to reach Cox's Bazar from the proposed EZ by road. At present, there exists no approach road from Dhaka-Chittagong Highway to the proposed Jaliardip EZ. The proposed site is surrounded on all sides by the Naf River and is currently accessed by boats. Being an island, Jaliardip EZ has no potential for road connectivity.

On the N1, Teknaf Port is approximately 76 km away from Cox's Bazar with an estimated driving time of just about 2 hours. The respective road distance from Teknaf Port to Chittagong is about 200 km with an expected driving time of approximately 5 hours. The distance to Dhaka is about 480 km on the N1 with a projected travel time by car of approximately 11 hours.²² Having been constructed as a high-capacity highway in some of the northern parts, most stretches of N1 south of Chittagong still constitute a two lane road. In an effort to enhance regional connectivity, an upgrade of the Chittagong – Cox's Bazar – Teknaf section to a 4-lane highway is, however, currently in the plan-

ning with a feasibility study and work on the detailed design having been completed in June 2015.²³

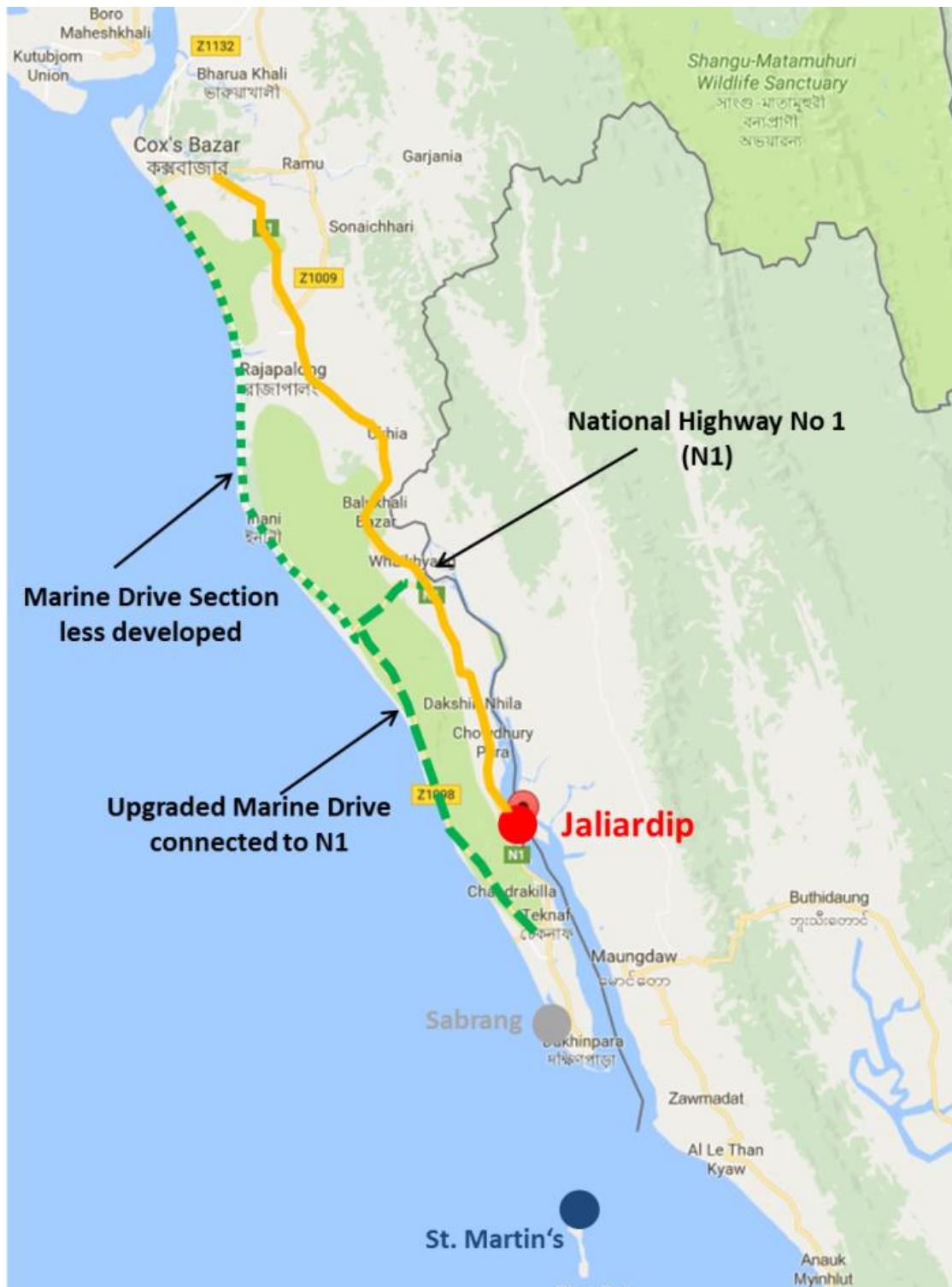
N1 (Dhaka-Chittagong National Highway) known along various stretches as the Dhaka – Chittagong Highway, the Chittagong – Cox's Bazar Highway and the Cox's Bazar – Teknaf Highway connects Teknaf with Chittagong, Dhaka, Comilla, Feni and other major cities of Bangladesh. However, the road traffic on Dhaka Chittagong Highway is severely hampered because of the lack of capacity of the existing highway and the load restrictions of bridges; with journeys taking around 10 hours due to the congestion of the road. The road also suffers from poor road safety records because of the lack of segregation between local and national traffic and between motorized and non-motorized traffic.

²² Source: Consultant's calculation of road distances and driving times based on Google Maps projections

²³ Source: Ministry of Road Transport and Bridges (2015), Sustainable Transport System: A Road to Development, p. 42ff

An alternative, though less developed, road link to the Teknaf region is the single lane Z1098 Cox's Bazar - Teknaf Marine Drive which runs along the western coast of the peninsula. Using the Z1098, today's driving time from Teknaf Port to Cox's Bazar amounts to approximately 2 hours 20 minutes (via Chowdhury Para and N1, road distance of about 78 km) respectively 2 hours 40 minutes (via Teknaf and N1, road distance of about 87 km).

Figure 11: Road connectivity of Jaliardip



Source: Consultant based on Google Maps

In the course of ongoing efforts to enhance Bangladesh's road network, to establish an alternative road along the Dhaka – Chittagong – Cox's Bazar – Teknaf Corridor and to

promote the development of tourism in the area, the Misharai – Teknaf Marine Drive Road Project includes a planned upgrade of a 285 km road section to a National Highway of 7.2 m pavement width.²⁴ During the Deputy DC's meeting on 07 August, he confirmed to the Consultants that the infrastructure development plans for the district are on the way: The road Cox's Bazar to Teknaf and Sabrang would be expanded to four lanes until the year 2018. Also the road from Cox's Bazar to the Myanmar border and beyond to Jaliardip EZ would be rehabilitated and broadened afterwards.

The proposed road development projects may thereby also be seen in the context of an integrated land use and transport planning aiming at the promotion and revitalization of tourism industries in potential water front sites, including Cox's Bazar. A corresponding concept has also been proposed as a priority for transformational investments and urgent adoption in the Government's current *7th Five-Year Plan*.²⁵

Planned improvements in the regional road infrastructure will thus likely enhance and facilitate the future roadside accessibility of the proposed Jaliardip EZ. *Table 3* provides data on road distances and current travel times from selected major cities.

Table 3: Accessibility of Jaliardip EZ / Teknaf Port by road

	Approx. Distance	Approx. Road Travel Time
Cox's Bazar	76 km	02h:00m
Chittagong	204 km	05h:00m
Dhaka	480 km	11h:00m
Mymensingh	580 km	13h:00m
Rajshahi	720 km	16h:30m
Rangpur	815 km	18h:00m

Source: Google Maps

In the absence of other modes of transport, public transport on Teknaf Peninsula mainly dependent on public coaches, taxis and other forms of public road transport. Frequent bus services exist between Teknaf and Cox's Bazar as the district capital and main gateway to the Teknaf Peninsula. Moreover there are also a number of direct intercity bus services to Chittagong as well as Dhaka that differ by the level of comfort and that are operated by various companies. Using the N1 up to Teknaf Port, these services can generally be used to provide convenient access to the site of the proposed Jaliardip EZ. Travel times are estimated at approximately 2 hours to 2 hours 30 minutes to Cox's Bazar, 5 hours to 6 hours to Chittagong and up to 11 to 13 hours to Dhaka.

2.1.3.5 Rail transport

Besides road transport, train services offered by Bangladesh Railway constitute an alternative option for tourist travel. Today there is, however, no active railway infrastructure in the Cox's Bazar District. While the existing railway network in the south-east of Bangladesh extends to Dohazari Bazar (approximately 160 km and currently about 3 hours 50 minutes north of Jaliardip / Teknaf Port on the N1), regular passenger trains are currently mainly operating north of the division capital Chittagong (about 200 km and approximately 5 hours driving time from the proposed EZ on the N1). Several direct Intercity and Express train

²⁴ Source: Ministry of Road Transport and Bridges (2015), *Sustainable Transport System: A Road to Development*, pp. 23ff

²⁵ Source: Planning Commission (2015), *Seventh Five Year Plan 2016-2020, Accelerating Growth, Empowering Citizens*, p. 356

services exist between Chittagong and Dhaka with travel times varying between 5 hours 30 minutes and 10 hours 10 minutes, depending on type of train and departure. Moreover, in addition to local commuter services, there are a number of direct services between Chittagong and other major cities in eastern and western Bangladesh.²⁶ *Table 4* informs on current direct rail services from Chittagong. Given infrastructural road conditions on the N1, a forerun of approximately 5 hours plus transfer time is currently required to access Chittagong railway station from the site of the proposed EZ.

Table 4: Accessibility of Jaliardip EZ / Teknaf Port by rail (travel time from Chittagong)

	Daily trains	Approx. Travel Time from Chittagong
Dhaka	up to 6x daily	05h:30m-10h:10m
Sylhet	up to 3x daily	09h:10m-15h:50m
Chandpur	2x daily	04h:45m-05h:45m
Mymensingh	1x daily	09h:25m-09h:30m
B.B Setu Purbo	1x daily	18h:00m-19h:35m

Source: Bangladesh Railway, Google Maps

The proposed Jaliardip EZ has no railway station in the vicinity. At present there are no railway stations in Cox's Bazar. However, Cox's Bazar is located on Bangladesh Railway's "Dhaka – Chittagong – Cox's Bazar Deep Sea Port Corridor". Currently this corridor is operational up to Dohazari railway station (located approx. 160 km from the proposed EZ via N1 National Highway). Dhaka-Chittagong Cox's Bazar- Deep Sea Port Corridor is the busiest rail track for passenger and freight transport. A construction project of single-line dual-gauge railway track from Dohazari to Cox's Bazar via Ramu and Ramu to Gundum near Myanmar Border is underway to be implemented during the *7th Five Year Plan*.²⁷

In the course of a further expansion of Bangladesh Railway's Dhaka – Chittagong – Cox's Bazar – Deep Sea Port-Corridor, the construction of a new single-line dual-gauge railway track from Dohazari to Cox's Bazar via Ramu as well as the construction of a branch line from Ramu to Gundum (about 39 km and currently approximately 1 hour driving time from the proposed EZ on the N1) are foreseen for implementation during the current *7th Five-Year Plan*. Both railway extensions have recently been approved by the National Economic Council ECNEC. The realization of the 100 km section from Dohazari to Cox's Bazar is foreseen within the next three years, while work on the Ramu to Gundum branch line shall be completed by the year 2022.²⁸ During the Deputy DC's meeting on 07 August, he confirmed to the Consultants that a railway connection from Chittagong to Cox's Bazar with a separate line to the Myanmar border is planned until the year 2024 respectively 2030. Bangladesh Railway has proposed raising the much-delayed construction cost of the Dohazari – Cox's Bazar single-line dual-gauge railway track project by 603% alongside extending its timeframe from December 2013 to June 2020, reports UNB. Under the proposed first revision, a 99.3km single-line dual-gauge track will be constructed from Dohazari to Cox's Bazar via Ramu with another 28.96 km single-line dual-gauge track from Ramu to Gundum near the Myanmar border. The project also aims at establishing a link with the Trans-Asian Railway Corridor and ensuring development of the tourism facilities of the tourist city Cox's Bazar through developing a rail communication system.

²⁶ Source: Bangladesh Railway (2016), Timetable July 2016

²⁷ Source: *7th Five-Year Plan*, 18-02-2016, p. 361

²⁸ Source: Daily Sun Online (2016-05-19), <http://www.daily-sun.com/arcprint/details/129891/CtgCox's-Bazar-rail-track-costs-jump-by-Tk-16182cr-/2016-04-20>

While rail can today already be used for travels to south-eastern parts of Bangladesh, its attractiveness for journeys to the Teknaf region is currently still constrained by the necessary forerun by road transport to Chittagong, including a change of transport modes. Major improvements regarding the regional accessibility by rail can however be expected once the new railway line to Cox's Bazar and the branch line to Gundum in the mediate vicinity of Teknaf Upazila become operational. In combination with the forthcoming enhancement of the N1, accessibility of the proposed Jaliardip Tourism EZ by rail should thereafter become both faster and more convenient.

2.1.3.6 Air transport

While today (public) road transport and rail transport are still the predominant means for domestic travel in Bangladesh, air transport accessibility is of equally great importance for the development of modern tourist zones here. For one, as incomes rise and Bangladesh's middle class grows, domestic demand for more comfortable and less time-consuming modes of transport will likely rise. The latter is of particular concern in regard to mini-break tourism or weekend trips where long arrivals and departures are to be avoided. On the other hand, the site's accessibility by air transport is likely a precondition for attracting foreign visitors to the new Jaliardip Tourism EZ.

Cox's Bazar Airport is located to the west of the district capital's center approximately 80 km from the site of the proposed Jaliardip EZ. Given current infrastructural premises, the airport can be reached within approximately 2 hours via the N1. With runway dimensions of 2,042 m x 38 m, Cox's Bazar Airport is currently mainly served by commuter jets on domestic flights to Dhaka with a flight time of approximately 1 hour. On this route, up to 5 daily flights are operated by a number of different airlines currently offering approximately 108,000 one-way seats per annum.²⁹ Dhaka Airport allows for connecting flights to international destinations. Direct international flights to a number of destinations in Southeast Asia, India and the Middle East are also available from Chittagong Airport (about 220 km, 5 hours 30 minutes driving time from the proposed EZ on the N1).

Due to increasing tourist numbers and in order to further promote tourism in the region, the Bangladesh Government has expressed its intention to upgrade Cox's Bazar Airport to an international level by the end of the year 2019.³⁰ Besides construction of a new international terminal and cargo facilities, the plans thereby also encompass an airside enhancement that allows for the handling of larger aircraft.³¹ It is also important to adopt an integrated sea beach front land use and transport development approach so as to harness the dividend of this capital intensive infrastructure. The *Ministry of Civil Aviation & Tourism* has clearly recognized this need and started to elaborate the *Cox's Bazar Sea Beach and Tourism Plan*.

A first step will thereby include the extension of the runway to 9,000 feet (2,745 m) which will allow for the operation of single-aisle aircraft (e.g. A320-200/B737-800 used by BIMAN and other airlines in India, Thailand and Malaysia) on routes of up to 4,000 km or up to 5 hours 30 minutes flight time (thus covering the Emirates, Java/Indonesia, Philippines and China). At a later stage the runway is moreover expected to be further extended to a length

²⁹ Source: Consultant's estimation based on timetable and operating aircraft for 01 August 2016

³⁰ Source: Planning Commission (2015), Seventh Five Year Plan 2016-2020, Accelerating Growth, Empowering Citizens, p. 364

³¹ In July 2015, the Prime Minister of Bangladesh inaugurated the commencement of construction works for the international airport

of 10,500 feet (3,200 m) to allow the handling of wide-body aircraft (e.g. A330-300/B777-300 used by many other airlines in Southeast Asia and the Middle East).³²

Figure 12: Flight ranges from Cox's Bazar Airport (1,000 km, 2,000 km, 3,000 km, 4,000 km)



Source: Great Circle Mapper

Given its relative proximity to the proposed Jaliardip EZ and considering the planned upgrade of the local road infrastructure, Cox's Bazar Airport will thus most likely be able to provide for adequate air-transport accessibility in the Teknaf region. Moreover, the on-going extension of the airport will create the infrastructural premises for the development of international airline services which would in turn facilitate the regional accessibility from abroad and will increase the region's attractiveness as a holiday destination among foreign tourist. Easing immigration regulations would widely improve that potential: At present, of the countries depicted on the above map only citizens from Bhutan, Taiwan, Malaysia, Singapore, South Korea, Japan and Australia are permitted to enter with a visa-on-arrival. Of these tourist origins, the first five countries will be within a flight range of 4,000 km, whereas tourists from the last two countries will be able to reach Cox's Bazar only at a later stage.

2.1.3.7 Water transport

River transport provides a low-cost means of passenger and cargo transit. It is widely regarded that the inland-waterway system is not used to its full potential, due in part to inadequate dredging and shortage of berthing facilities. Besides lack of resources as the main cause, the quality of sector management and services provided by the operators has also

³² Source: Civil Aviation Authority (2016), verbal information on the Consultants' request

been identified as contributing to inland-water transport's (IWT) overall decline. Tariffs regulated by the Government have also been found insufficient to generate a reasonable profit, and as a result boats are overloaded and consequently the cause for more than half of the accidents on waterways. In recognition of these constraints, the 6th Five-Year Plan adopted a number of programs to improve the performance of inland water transport, focused on improving river navigability.³³ Jaliardip Island is located at an aerial distance of less than 10 km from Teknaf Port (located about 3km south of town), but is accessible through waterways only. Teknaf Port is currently used only to transport goods and passengers between Bangladesh and Myanmar to cross the river for about 1 km width. Construction of a new pier directly in Teknaf town has recently been started. Approximately 3-5 trips are being made to and from Bangladesh.³⁴ According to local officials, 80-100 Burmese people cross on daily average mainly in search of medical treatment. In reverse, about 10-15 Bangladeshi people visit Myanmar per day.

The landing piers in Teknaf Port and Keari Sindbad marina in the immediate vicinity of the site of the planned Jaliardip Tourism EZ currently serve as ports for regular passenger ferry services to St. Martin's Island. Moreover a limited amount of approximately 3-5 cross-border trips per day to and from Myanmar are handled at Teknaf Port.³⁵ Tourists can enjoy shopping in the local market called "Burmese Market" where they find all the Burmese and tribal hand-made materials. Given the required construction of a capable link to Jaliardip Island and a general upgrade of local landing facilities, Teknaf Port could provide for seamless seaside access to the proposed EZ, e.g. for excursion boats or future express ferry services to Cox's Bazar (approximate nautical distance of 160 km, about 3 hours travel time on a 32-knots high-speed ferry).

Deep-sea transport is another important part of maritime transport in regional transportation systems. Even though of less direct importance for the operation of a tourism zone, the accessibility of deep-sea ports could still prove beneficial for related regional supply chains. The proposed EZ seems to be strategically located with respect to water connectivity to Chittagong Port, proposed Sonadia Deep Sea Port and even Mongla Port: Today, the city of Chittagong houses one of the country's major freight ports. Current plans on further port development in the region thereby mainly address the construction of deep-sea port facilities for the import of coal in connection with a 1,200 megawatt (MW) coal-fired power plant at Matarbari, Chittagong District (approximately 136 km, 3 hours 30 minutes north of Jaliardip), including the possibility for a future extension to coal-transshipment terminal by the year 2020.³⁶ Plans for the realization of yet another deep-sea port project at Sonadia / Cox's Bazar District have however been put on a hold by the Bangladesh Government.³⁷

In the past, the Government pursued an initiative to construct a deep-sea port at Matarbari (in Sonadia) north of Cox's Bazar under Public Private Partnership (PPP). Project costs for this

³³ Source: 7th Five-Year Plan, 18-02-2016, p. 350

³⁴ Source: Price Waterhouse Coopers (PWC): *Initial Site Assessment for Seven Economic Zone Sites - Dhaka Dohar, Bhola Sadar, Kushtia-Bheramara, Nilphamari Manikganj, Shariatpur-Zajira and Jaliardip-Teknaf*, Final Report, Bangladesh Economic Zones Authority (BEZA), Dhaka October 2015, p. 481

³⁵ Source: PWC (2015), *Initial Site Assessment for Seven Economic Zones Sites (Dhaka Dohar, Bhola Sadar, Kushtia-Bheramara, Nilphamari Manikganj, Shariatpur-Zajira and Jaliardip-Teknaf)*, p. 481

³⁶ Source: Planning Commission (2015), *Seventh Five Year Plan 2016-2020, Accelerating Growth, Empowering Citizens*, p. 363

³⁷ Source: The Times of India (2016-02-08), <http://timesofindia.indiatimes.com/India/Dhaka-cancels-port-to-be-built-by-China-India-eyes-another/articleshow/50894554.cms>

sea port are estimated at US\$ 1,200 million.³⁸ Due to lack of response from the private sector, steps have been taken to implement the project under Government to Government (G2G) arrangement.³⁹ The 1200 MW Matarbari Ultra Super Critical Coal-fired Power Plant project funded by Government of Japan contains an important component: the deep-sea port would serve for coal import, which will provide the opportunity for companies planning to develop the coal-fired power plants to procure the international coal on relatively cheaper price compared to the individual purchased coal from foreign countries. Japan International Cooperation Agency (JICA) is also examining the possibility to set up the large coal-transshipment terminal at Matarbari Port to cater the demand of nearly 3,500 MW of power generation by 2020.

2.1.3.8 Transportation demand

In order to assess the demand for transportation services in the region of the proposed Jaliardip EZ, the following section provides an overview on current passenger potentials, both regarding tourist and local demand. Moreover, a first outlook on future trends is presented. Due to its lower thematic relatedness and often small-scale structure, freight transport is thereby not considered at this stage. The basic reasoning is that the requirements needed for a seamless transport of tourists and other passengers will more likely constitute the infrastructural bottleneck than what is needed for cargo transport. It should however be kept in mind that any tourism zone strongly relies on reliable supply transport and will therefore also generate additional freight traffic.

2.1.3.9 Tourism-related demand

With about 2 million incoming visitors during the annual peak season from November to March, Cox's Bazar is currently one of the most popular tourist destinations in Bangladesh. Projections based on annual growth rates in the range of 4% to 7% show a steady increase in the number of annual visitors to the region of up to a total of 3 million to almost 4 million by the year 2024.⁴⁰

While today's tourist business mainly focuses on the district's northern parts around the city of Cox's Bazar, tourism-related transport demand on the Teknaf Peninsula is still rather limited and mainly serves travels to Saint Martin's Island. Frequent ferry connections to this most southern island of Bangladesh are offered both from Teknaf, and during peak season up to 350-800 passengers are transported daily.⁴¹ Moreover, an additional ferry link has been established from Keri Sindbad marina north of Teknaf Port.

With the realization of the proposed Jaliardip EZ as well as the development of a second tourism EZ in Sabrang just south of Teknaf town, tourist numbers and related transport demand will likely experience a considerable growth in the coming years. Due to yet pending demand assessments for the two tourism zones, exact numbers are hard to provide. Given the currently low number of visitors to the Teknaf Peninsula, it can however be expected that the local growth in tourism will, at least during the initial phase, exceed the projections

³⁸ Source: 7th Five-Year Plan, 18-02-2016, p. 354

³⁹ Source: 7th Five-Year Plan, 18-02-2016, p. 363

⁴⁰ Source: PWC (2015), Initial Site Assessment for Five Economic Zone Sites (Narayanganj, Panchagarh, Anowara-II, Sabrang Tourism EZ and Dhaka IT EZ), pp. 216ff

⁴¹ Source: PWC (2015), Initial Site Assessment for Seven Economic Zones Sites (Dhaka Dohar, Bhola Sadar, Kushtia-Bheramara, Nilphamari Manikganj, Shariatpur-Zajira and Jaliardip-Teknaf), p. 482

for the whole Cox's Bazar District on a percentage basis. Tourist-related growth in regional transport demand will thereby probably even exceed these numbers, as visitors to the Jaliardip and Sabrang Tourism EZ will likely demand extra transport services for day trips and local excursions. The Consultants estimate at least 2,000 day-time visitors per day to Jaliardip Island who would need to be shuttled back and forth from their hotels in Cox's Bazar. Additionally, almost 1,000 visitors - who would also travel through Cox's Bazar - would stay over in the island's accommodation. This would add up to almost 2,500 visitors traveling on the peninsula's roads each day and direction, or the equivalent of about 600 cars. To this number, an even higher number of tourists visiting the Sabrang Tourism Park would need to be added.

2.1.3.10 Local demand

In order to quantify the total demand for transportation in the regional vicinity of the proposed Jaliardip EZ and to assess the viability of infrastructural facilities and new transport offerings, the demand potential among the local population has to be added to the tourist-related transportation demand. While specific transportation requirements of locals will in many cases differ from those of tourists, both local and tourist-related transport often relies on the same infrastructure, and the two compete with each other in the case of capacity bottlenecks. However, the combined transportation demand may also give a case for improvements in the regional transportation system that cannot be justified on the sole traffic volumes of either tourist-related or local transport.

Table 5: Southern Cox's Bazar District Local Demand Potential

	Total Population	Aged 10 years and above	Aged 10 years and above (south to north accumulated)	Population Density (per Km ²)
Ramu	266,640	188,109	511,102	681
Ukhia	207,379	144,479	322,993	792
Teknaf	264,389	178,514	178,514	680

Source: Bangladesh Bureau of Statistics (2013), District Statistics 2011 Cox's Bazar

Given the region's geographical location with the Bay of Bengal to the west and the Teknaf Peninsula forming its southern edge, it appears reasonable to assume that the total demand for transportation among locals will decrease with increasing distance to the city of Cox's Bazar as the district's administrative and economic center. In the absence of more sophisticated transportation data on travel behavior and the total number of trips, local demand potential is quantified on the basis of regional population characteristics. Considering the upazilas of Ramu, Ukhia and Teknaf as the wider local transportation market in the southern part of the Cox's Bazar District, a total of about 738,400 people live in the regional vicinity of the proposed EZ, of which approximately 511,100 are older than 10 years and therefore more likely to demand transportation services on a frequent basis. Thereof Teknaf Upazila as the immediate vicinity of Jaliardip houses a total of 264,389 residents, of which approximately 67.5% are aged 10 years or above.⁴² Before Table 5 provides an overview on the population numbers by upazilas in the southern part of Cox's Bazar District.

Based on regional population data there appears to be a considerable potential for local transportation services in the southern parts of Cox's Bazar District. With growing incomes,

⁴² Source: Bangladesh Bureau of Statistics (2013), District Statistics 2011 Cox's Bazar, pp. 15ff

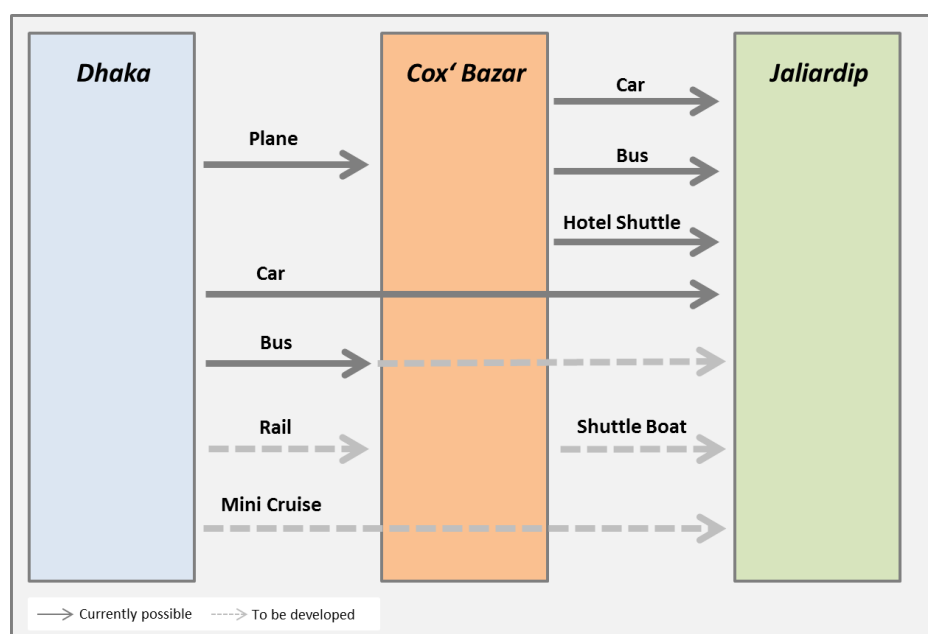
mobility and the demand for transportation services among the regional population will potentially grow in the years to come. Moreover the overall population development will likely further add to regional demand potential for transportation.

2.1.3.11 Opportunities for a multi-modal platform

Although the technical term “multi-modal” is more common in relation to cargo operations and transport, it could be also transferred to the tourism sector. Multi-modality, in the sense of diverse varieties to reach a tourist location, could also be a unique selling proposition in comparison to other locations. Jaliardip EZ could be seen as a multi-modal platform, as it could be reached by different transport modes and different combinations of them. To support the development of specific transport modes, certain efforts have to be made.

The following figure shows a scheme how Jaliardip Island could be reached. As currently Dhaka is the only major international airport in Bangladesh, the section between Dhaka and Cox’ Bazar has also been considered. The two different types of arrows used show that some modes could be already utilized, as suitable infrastructure **and** transport services exist and some modes still have to be developed - whether due to missing infrastructure and/or missing regular and established services.

Figure 13: Schematic illustration of suitable transport modes



Source: Consultants

Today there exists an aviation link that connects Cox’s Bazar to the international airport of Dhaka. As already mentioned previously in this chapter, the airport of Cox’s Bazar will also be transformed into an international airport. From Cox’s Bazar to Jaliardip Island (and back), the different land-transport opportunities will become relevant, as a small civil airfield is not proposed for the Teknaf Upazila. Thus, transport could be performed via rental or individual car, via public busses or via exclusive hotel-transfer shuttles which could be busses and limousines. Of course, it is currently also possible to reach Jaliardip by individual car directly from Dhaka.

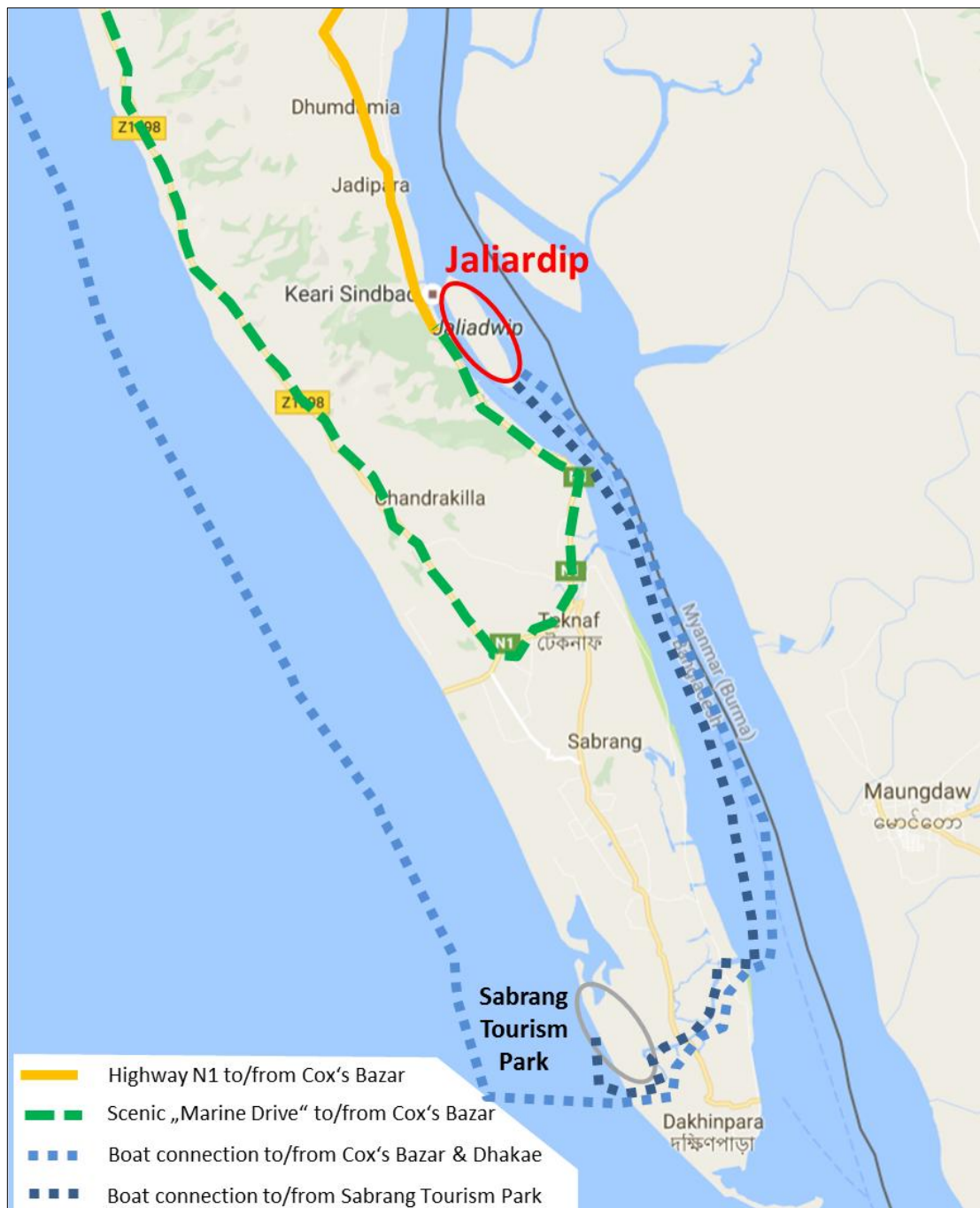
A bus service from Dhaka to Cox’s Bazar exists, but no direct service from Dhaka to Jaliardip Island. This is why the arrow in the figure above is not solid but dashed. A rail connection to

Cox' Bazar from Dhaka does not exist. But, as explained, a project has already been started to connect Cox's Bazar to the national railway network.

A transfer per boat is also an opportunity; from Dhaka as well from Cox's Bazar to Jaliardip Island. Of course, the infrastructure exists, but no regular services are provided. A boat trip from Dhaka to Jaliardip Island could be turned into a short cruise tour as it could take more than a day to go there. This also applies to *Sabrang Tourism Park*, too. To reach Jaliardip Island by boat, the revitalization of a former channel south of *Sabrang Tourism Park* would distinctly support the implementation of such a service. This channel could also be used to connect both tourism locations to each other.

The following figure shows the relevant current and future infrastructures to reach Jaliardip.

Figure 14: Relevant infrastructure for multi-modal access



Source: Consultant based on Google Maps

Summarizing the efforts, needed to support as many transport modes as possible to reach Jaliardip Island, are the extension and preparation of the Marine Drive, and the revitalization of the channel south of *Sabrang Tourism Park*. It is self-evident that the development of Cox's Bazar is the supporting measure for strengthening the attractiveness of the Teknaf Upazila as a tourism region.

2.1.4 Activity 4: Industry/Market Assessment

2.1.4.1 Existing and planned tourism facilities

For the purposes of the *Bangladesh Economic-Zones Act*, the Government may establish special economic zones (SPZs) established privately or by public-private partnership or by the Government initiative, for the establishment of any kind of specialized industry (e.g. as non-processing area specified for residence, health, education, amusements, etc.) or commercial organization.⁴³ The Government may, by notification in the official Gazette, exempt a zone or any organization thereof from the application of all or any of the provisions of all Acts.⁴⁴ BEZA may convert the areas declared as economic zones into economic centers by developing tourism zones through investment of banking sectors and to facilitate availability of skilled labor and efficient service provisions.⁴⁵

Figure 15: Beautiful Himchari sea beach south of Cox's Bazar



Source: <https://www.youtube.com/watch?v=xqh6qO30v1c> accessed 29 June 2016

Cox's Bazar is one the most popular tourist centers in the country. The beach in Cox's Bazar is said to be the longest natural beach in the world, spanning 120 km of sandy beach. In recent years the town has expanded and developed into one of the prime tourist spots of Bangladesh. A large number of hotels, motels and guest houses have developed which caters to all types of budget. In recent years there has been a surge of luxury hotels and resorts, some of them with their own private strip of the beach. The town is also famous for good quality and affordable seafood, and in recent year's water sports has also been introduced. Local officials estimate that nearly 2 million⁴⁶ people visit Cox's Bazar during the peak season from November to March, with Labonee Beach being the mostly visited attracting 30,000 tourists daily. Most of the visitors are Bangladeshi nationals. The hotels and restaurants including high ends are run by both private and public sector. 18 km-long Inani Beach is located in Ukhia Upazila of Cox's Bazar District.

⁴³ Source: *Bangladesh Economic-Zones Act, 2010*, <http://www.beza.gov.bd/about-beza/special-economic-zone-act/>, pp. 3-4

⁴⁴ *ibid*, pp. 5-6

⁴⁵ *ibid*, p. 8

⁴⁶ Source: Department of General and Continuing Education, North South University, Bangladesh and <http://archive.thedailystar.net/beta2/news/the-great-potential-of-tourism/>

Himchari is another spot in Cox's Bazar with the main attraction being its scenic beauty owing to its location advantage. It is surrounded by hills with the sea on one side which offers a view which is very attractive to tourists.

St. Martin's Island (a coral island located at a distance of 30 km to 40 km away from the proposed EZ) is a tourist attraction. The island is accessed by ships/boats sailing from the Saint Martin Island port. Saint Martin's port was developed by United Group Ports in PPP mode. Bangladesh Inland Water Transport Authority (BIWTA) currently operates daily Teknaf - Saint Martin Sea-Truck Service. During peak seasons 7 ships run up and down between Teknaf landing and the island carrying about 350-800 people per day.⁴⁷ According to local officials, St. Martin's Island receives 7,000-8,000 visitors, in their great majority Bangladeshi nationals, per season (see *Appendix 7*).

Sabrang EZ is also designated as a tourist destination. This future Sabrang Tourism Park is located at the open-sea side about 10 km southwest of Jaliardip EZ. With 1,027 acres, this park has a large area and can accommodate land-intensive tourist attractions such as golf course and yachting basin. According to information from a member of the *TOAB Tour Operators Association Board*, investors from Singapore are planning to invest US\$ 5.1 billion for the establishment of an exclusive tourism zone in Bangladesh. Chinese tourists (upper class) in general would be only attracted by exclusive resorts (currently there live around 100,000 Asian foreigners in the Dhaka/Chittagong area, of whom 27,000 are Chinese).

2.1.4.2 Possible tourism purposes and modalities

The *Bangladesh Parjatan Corporation* classifies tourism into six different types: Site tourism (46% of total), business (42%), religion (3.4%), office (1.5%), study (2.4%), service and other. According to statistics reported by Bangladesh Tourism Board, the purpose of tourism was as follows⁴⁸:

- *Site tourism*: The majority of tourists came to Bangladesh for leisure with the aim to enjoy the natural beauty of the country. This clearly indicates a need to preserve and protect these spots, as well as provide necessary infrastructural development support to develop. Site tourists would disperse their visits across the country according to the location of tourist attractions. The standard of accommodation is average among the six tourism types.
- *Business visitors*: A number of successful international business houses have set up local entities in Bangladesh, whereby a large number of expatriates travel to Bangladesh to work/conduct business. Due to an ever-expanding ready-made garments (RMG) sector, large numbers of potential buyers and their delegates are required to visit the country on a regular basis. Business visits concentrate on Dhaka and other urban centers within Bangladesh where enterprises are densely located. The standard of accommodation is highest among the six tourism types.
- *Religious visitors*: Bangladesh is a Muslim majority nation and it organizes the Bishwa Ijtema which is the largest congregation of Muslims after the Holy Pilgrimage to Makkah. This annual event alone attracts a huge number of tourists from the Muslim

⁴⁷ Source: Price Waterhouse Coopers (PWC): *Initial Site Assessment for Seven Economic Zone Sites - Dhaka Dohar, Bhola Sadar, Kushtia-Bheramara, Nilphamari Manikganj, Shariatpur-Zajira and Jaliardip-Teknaf*, Final Report, Bangladesh Economic Zones Authority (BEZA), Dhaka October 2015, p. 482

⁴⁸ Source: Bazlul Haque Khondker, Tahera Ahsan: *Background Paper on Tourism Sector*, Dhaka University, February 2015, pp. 3-4

world to Tongi in the outskirts of Dhaka. Other religious groups in the country are relatively much smaller in number; however their events do attract tourists although on a smaller scale. The purpose of the religious visitors is to visit the religious sites or events in the country. The standard of accommodation is average among the six tourism types.

- *Education visitors:* Education tourism is for students who want to enroll into educational institutions in the country. Many universities and other graduate-level institutions organize international conferences and seminars where delegates from all over the world attend. These foreign delegates all fall under the category of educational tourism. Education visits concentrate on Dhaka and other urban centers where educational institutions are located. The standard of accommodation is lowest among the six tourism types.
- *Office visitors:* Office tourism is similar to business tourism in some aspect; however this type predominantly focuses on the delegates of multinationals which have offices in Bangladesh. Many of these tourists arrive for tours of their local offices and provide assistance to the offices may need. Office visits concentrate on Dhaka and other urban centers within Bangladesh where enterprises are located. The standard of accommodation is highest among the six tourism types.
- *Medical visitors:* This is an untapped market, whereby private sector investments may improve service quality to the competent levels. Medical tourism also picks up when medical institutions are seen as reliable with a good record. Medical visits concentrate on Dhaka and other urban centers where hospitals and specialized clinics are located. The standard of accommodation varies according to the type of institution.
- *Luxury tourism:* As luxury is not a real technical term, there is no clear definition of this tourism modality. But it can be described as a group of travelers who focus on high-value accommodation, food, activities and shopping opportunities. The high-priced accommodation for example guarantees a silent and comfortably ambience which is the extent of exclusiveness the tourist requests.
- *Eco tourism:* This kind of tourism tries to harm nature as little as possible. It is more about hiking and enjoying forests, mountains and other natural sites. Eco tourists also consider as to what extent the tour operator stays to the philosophy of green tourism.
- *Other tourism:* Other forms of tourism includes bicycle touring, boat sharing, cultural tourism, rural tourism, river cruise, nautical tourism, jihadi tourism, halal tourism, sports tourism, slum tourism, virtual tour, walking tour, wildlife tourism and water tourism. Very often, people come for short visits to meet relatives, participating in sports and international awareness programs, etc. These tourists would disperse their visits across the country according to the location of the sites. The standard of accommodation is low among the six tourism types.
- *Sports tourism:* Besides the classification of tourism, this industry could also be defined and described by tourism modalities which focus more on the character of the spent time than on the purpose. The main relevant modalities that have been investigated for this report are the following:

- *Water-sports tourism:* As Jaliardip is an island the market assessment initially considered water-sports tourism. Representatives of this group of tourists travel to places where the supply of different water-related activities meets their expectations. The range covers scuba diving, water ski, jet ski, rafting, sometimes even fishing, etc. Due to the high share of sedimentation within the Naf River, for example scuba diving directly in the vicinity of Jaliardip will not attract tourists. Activities on the water seem to be a very obvious opportunity to offer but, considering the location close to the Myanmar border and the fact that half of the river is on the Bangladesh side and the other on Myanmar side, makes it kind of challenging.

Figure 16: Varieties of water sports tourism



Source: www.travelnewsdigest.in

Golf tourism: The term golf tourism describes the group of travelers that undertake trips mainly aimed at staying at locations where they can play golf. These tourists stay most of the time on the golf course. If possible they even live on the golf course's premises or at least near by. This target group in general requests a higher standard of accommodation and food. The global golf tourism market is worth over US\$ 17 billion. Worldwide 56 million people are playing golf. Most of them are originally from the USA (26.7 million) followed by the Japanese (14 million). With a distinctly smaller number follow Europe with 9.5 million and Canada with 5 million players. 1% to 10% of this group travel internationally at least once each year.⁴⁹

Of the tourists coming to Cox's Bazar, 75.3% come to spend their vacation. But people also visit for another purpose, viz 5.0% for meetings, 4.4% for business and 15.3% for other purposes.⁵⁰

⁴⁹ Source: www.onecaribbean.org

⁵⁰ Source: Mofiz Abul, *Critical analysis of Cox's Bazar as a tourist destination in Bangladesh: An analysis of tourists' response, 2016*, p. 101

BEZA has the options to canvas either for the (i) business and office tourism segment, or (ii) site and education tourism segment. Considering the small size of Jaliardip Island in general and the economic zone in particular, the Consultants suggest to concentrate on the second segment 'site and education tourism' and to earmark Sabrang Tourism Park for the first segment 'business and office tourism'. Eco-tourism catering for the second segment could additionally be provided on the Teknaf Peninsula where the natural endowment is best suitable.

2.1.4.3 Relevant trends of tourism industry

Ecotourism seems to be picking up with the planned introduction of eco-resorts within the region. This is especially attractive to foreigners who are more attuned to the concept of ecotourism than domestic visitors. According to the *TIES 2015 Guidelines* of the *International Ecotourism Society*, ecotourism is defined as "responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education".⁵¹ The term "education" includes the education and appropriate qualification of service staff as well as the education of the guests visiting ecotourism facilities. Thus, there is a certain linkage between eco- and educational tourism.

The establishment of eco-tourism considers a minimized physical impact on the landscape as well as minimized social and behavioral impact on the local population. The minimized physical impact assumes suitably designed, constructed and operated facilities. Minimized social and behavioral impact assumes no negative influences on local people's daily routines, utility supplies and privacy. A major aim is to involve local inhabitants so that they benefit financially and educationally from the development of tourism attractions and facilities in their neighborhood.

As mentioned before, 'education' does also imply to improve the awareness of the tourists toward nature in general and knowledge about the local wildlife, flora and fauna, and traditions in particular. This requests an integrated development concept not only on focusing on the establishment on sufficient accommodation capacities, but also on the involvement of the nature/landscape as well as local inhabitants and their social institutions.

2.1.4.4 Methodology of market assessment

The Consultants procured from TOAB an updated list of private tourist operators within the entire country. Almost 90% of Bangladesh's tourist agencies are located in the Dhaka region (the balance almost equally shared between the Chittagong, Sylhet, Cox's Bazar and Khulna areas). The Consultants understand that the agency owners' willingness to establish themselves on Jaliardip Island does not significantly differ with the distance from Jaliardip EZ. What weighs more is the proximity to potential clients by having their operation close to the country's international airports (Dhaka and Cox's Bazar, but also Chittagong and Sylhet), to the work and living places of potential clients, and on the commuting routes in-between. Of the identified 400+ operators (excluding hotels), the Consultants localized the agencies within three rings of decreasing intensity within those gravitation centers (180+ agencies within an "Inner" Influence Area, 100+ within a "Medium" Influence Area, and 100+ agencies within an "Outer" Influence Area), including the entire metropolitan area of Dhaka. The Consultants estimate the large share of tourist operators within these influence areas to promote Jaliardip Island to a sufficient number of tourists staying at Cox's Bazar. They

⁵¹ Source: The International Ecotourism Society, <https://www.ecotourism.org/what-is-ecotourism>

calculated a proportion of 0.3% (0.03%) of these tourists for their forecast (see next section).

Then, the Consultants distinguished between “push” and “pull” factors: The “push” factors are the above-described proximity to potential clients, plus their propensity to spend (see the next section). The “pull” factors are the previously described transport connections, plus the attractiveness of facilities and activities offered on Jaliardip Island. The following sections therefore describe in detail these facilities and activities; however, the final decision of tourist operators to establish on Jaliardip Island in the end depend on individual economic circumstances which the tourist agencies themselves cannot yet predict for a time span of about three years.

2.1.5 Activity 5: Demand Forecasts

Bangladesh is not known as a tourist destination in the international tourism market. For instance, of the 300,000 foreign tourists who came to Bangladesh in 2010, more than 70% came for business and official purposes.⁵²

2.1.5.1 Tourism potential

Bangladesh’s tourism sector has experienced growth in recent years, particularly during the last decade. During the last five years, the hotel and restaurant sector – which to a large scale represents the tourism industry – grew at an annual average of almost 7%, with increasing tendency.

Table 6: Tourism growth rate of GDP (constant prices, 2012-13 to 2015-16)

Industrial origin sector	2012-13	2013-14	2014-15	2015-16
Hotels and Restaurants	6.49	6.70	6.83	6.98

Source: Bangladesh Bureau of Statistics, [http://www.bbs.gov.bd/site/page/dc2bc6ce-7080-48b3-9a04-73cec782d0df/Gross-Domestic-Product-\(GDP\)](http://www.bbs.gov.bd/site/page/dc2bc6ce-7080-48b3-9a04-73cec782d0df/Gross-Domestic-Product-(GDP)), accessed 08 Nov. 2016

Table 7: Tourist arrival and departure

	Number of tourist		Growth (%)	
	Arrivals	Departures	Arrivals	Departures
1995	156000	830000	-	-
1996	166000	911000	6.4	9.8
1997	182000	866000	9.6	-4.9
1998	172000	992000	-5.5	14.5
1999	173000	1103000	0.6	11.2
2000	199000	1128000	15.0	2.3
2001	207000	1075000	4.0	-4.7
2002	207000	1158000	0.0	7.7
2003	245000	1414000	18.4	22.1
2004	271000	1565000	10.6	10.7
2005	208000	1767000	-23.2	12.9
2006	200000	1819000	-3.8	2.9
2007	289000	2327000	44.5	27.9
2008	467000	875000	61.6	-62.4
2009	267000	2254000	-42.8	157.6
2010	303000	-	13.5	-
Average Growth (1995-2009) (%)			6.8	14.8

Source: World Bank Databank

There exists a significant potential of Bangladesh tourists traveling abroad who could possibly be deviated to domestic destinations. In recent years, Bangladeshis have been

⁵² Source: *theindependent*, *Tourism in Bangladesh: problems and prospects*, by Ziaul Haque Howladar, Nov 06, 2015

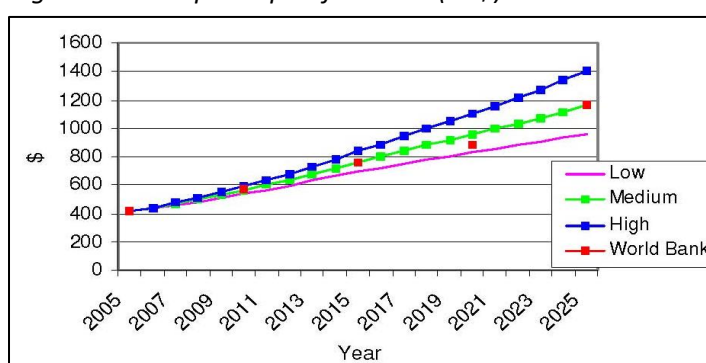
travelling abroad extensively. Two factors have contributed to new trend: (i) rising per capita income; and (ii) the myriad of budget carriers which has opened up in Bangladesh. These budget carriers offer extremely lucrative packages for travelling, especially in the South(east) Asian region countries like Thailand, Malaysia, Singapore, and India etc. While the main reason behind this is their dissatisfaction with the level of medical services provided in their country, another reason would be the reasonable cost of private medical services in countries like India which makes it an extremely lucrative deal.

The increase in outbound travel also indicates that a lot of domestic tourists prefer to travel abroad rather than within the country suggesting that the local tourist spots/facilities are unable to attract the domestic tourists in large numbers. There exists a significant potential of Bangladesh tourists traveling abroad who could possibly be deviated to domestic destinations.

2.1.5.2 Development trends of regional tourism

In developing assessments of what future economic growth might be, it was assumed that a 5.5% growth would be a reasonable central assumption. This is very much in line with *World Bank* (WB) assumptions. On either side of this, a low of 4.5% per year, and a high growth of 6.5% per year were assumed. The resulting forecast of GDP per capita is shown in *Figure 17*.

Figure 17: GDP per-capita forecasts (US\$)



Source: <http://railway.portal.gov.bd/site/page/8e5a704d-72e2-4d69-b443-21988229cbbc/Railway-Master-Plan>, Master Plan of Bangladesh Railway, 5. Traffic Projection and its Basis, updated 30 Sept. 2014

Like in almost all other sectors, investment is the key to the growth of the tourism sector. However, investment in this sector has been low which perhaps explains unsatisfactory performance in income and employment fronts. More specifically, capital investment in 2013 has been reported to be BDT 41 billion or only 0.39% of GDP. For the year 2015, the *World Travel & Tourism Council* (WTTC)⁵³ calculates travel & tourism investment as BDT 61.6 billion, or 1.2% of total investment. It should rise by 6.3% in 2016, and rise by 8.8% per annum over the next ten years to BDT 151.9 billion in 2026 (1.7% of total). The Consultants estimate the growth of travel & tourism investment to be the major determinant for future tourism development on Jaliardip Island. They calculated a factor of 0.65 in demand growth for their base-case forecast (see *Table 11* in the next subsection).

The WTTC provides concise figures⁵⁴ for the contribution of tourism to Bangladesh's economy: The direct⁵⁵ contribution of travel and tourism to GDP was BDT 407.6 billion (2.4%

⁵³ Source: World Travel & Tourism Council: Travel & Tourism - Economic Impact 2015 Bangladesh, 2016, p. 1

⁵⁴ *ibid*

of total GDP) in 2015, is estimated to rise by 5.2% in 2016, and is forecast to rise further, by 5.6% per annum from 2016-2026, to BDT 738.1 billion (2.3% of total GDP) in 2026. In contrast to such direct contribution which the Consultants will consider for their financial analysis, the following figures forecast the overall impact on Bangladesh's economy and will therefore be considered for the Consultants' economic analysis: The total⁵⁶ contribution of travel and tourism to GDP was BDT 809.6 billion (4.7% of GDP) in 2015, is estimated to rise by 6.1% in 2016, and forecast to rise by 6.4% per annum to BDT 1,596.0 billion (5.0% of GDP) in 2026.

Table 8: Tourism sector target for the 7th Five-Year Plan

	2014	2020	Headline Indicators	
Tourist arrival (million person)			Period Growth (%)	Annualized Growth (%)
BAU	460	549	19	3.9
7FYP	460	810	76	15.2
Tourist Receipts (billion BDT)				
BAU	10	18	90	17.9
7FYP	10	33	243	48.7
Tourism GDP (Direct) (billion BDT)			as percent of GDP	
BAU	257	491	2.0	
7FYP	257	935	3.6	
Tourism GDP (Total) (billion BDT)				
BAU	532	1,042	4.1	
7FYP	532	1,980	7.7	
Tourism Investment (billion BDT)				
BAU		141	0.5	
7FYP		345	1.3	
Tourism Employment (000 person)			as percent of total Employment	
BAU	2,965	3,174	3.2	
7FYP	2,965	6,040	6.0	

Note: BAU growth rate (WTTC) has been 4%; in the 7th Five-Year Plan a higher growth rate of 15 % is assumed. Additional growth in the 7th Five-Year Plan scenario is expected generate due to higher investment and assumed shift to high yield tourist especially in eco-tourism.

Source: Bazlul Haque Khondker, Tahera Ahsan: Background Paper on Tourism Sector, Dhaka, February 2015, p. 21

Tourism-sector targets/goals for the 7th Five-Year Plan have been measured against a scenario established by the *Bangladesh Agricultural University* (BAU) which, in turn, has mainly been drawn from (similar previous) projections made by the WTTC. The goals set out for the seventh plan are, although ambitious, feasible if appropriate actions can be adopted. Please note that, since base of tourism sector is still small, higher growth rate of more than 20% may be attainable. Tourism-sector targets for the 7th Five-Year Plan have been laid out in the before table.

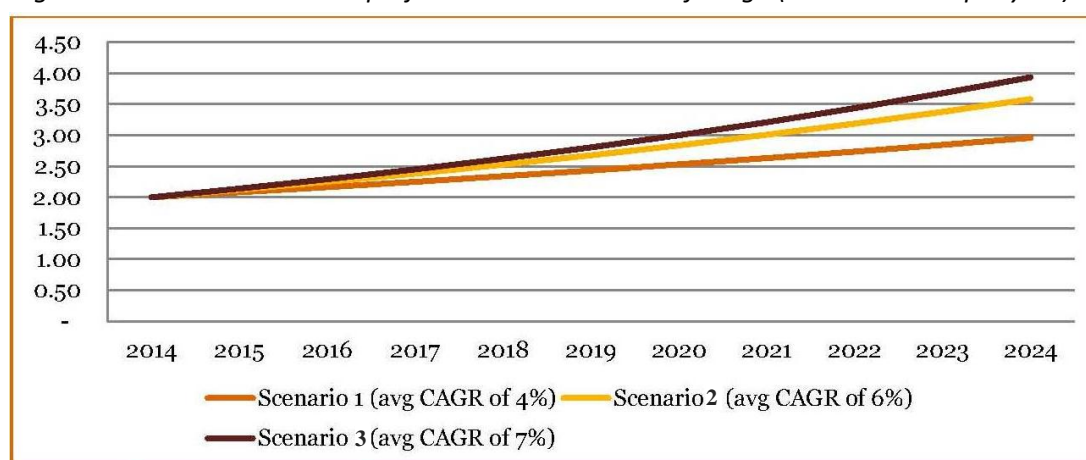
Considering the macro-economic conditions, Government's initiatives to promote tourism sector in the country and Cox's Bazar's position as a leading tourist destination; PWC assessed three scenarios for possible tourist growth in Cox's Bazar as illustrated in the following figure. The Consultants compared the growth rates of the above three scenarios

⁵⁵ The direct contribution of travel and tourism to GDP reflects the 'internal' spending on travel and tourism (total spending within a particular country on travel and tourism by residents and non-residents for business and leisure purposes) as well as government 'individual' spending - spending by government on travel and tourism services directly linked to visitors, such as cultural (e.g. museums) or recreational (e.g. national parks).

⁵⁶ The total contribution of travel and tourism includes its 'wider impacts' (i.e. the indirect and induced impacts) on the economy. The 'indirect' contribution includes the GDP and jobs supported by (1) travel and tourism investment spending - an important aspect of both current and future activity that includes investment activity such as the purchase of new aircraft and construction of new hotels; (2) government 'collective' spending, which helps travel and tourism activity in many different ways as it is made on behalf of the 'community at large' - e.g. tourism marketing and promotion, aviation, administration, security services, resort area security services, resort area sanitation services, etc; and (3) domestic purchases of goods and services by the sectors dealing directly with tourists - including, for example, purchases of food and cleaning services by hotels, of fuel and catering services by airlines, and IT services by travel agents. The 'induced' contribution measures the GDP and jobs supported by the spending of those who are directly or indirectly employed by the travel and tourism sector.

for Cox's Bazar with those provided by the *WTTC* for the entire Bangladesh economy and found them to be correlative. They therefore applied these growth rates as basis of their forecast (see next subsection).

Figure 18: Cox Bazar's tourist projections - domestic and foreign (million visitors per year)



Source: Data by World Travel & Tourism Council: *Travel & Tourism - Economic Impact 2015 Bangladesh*, 2016, p. 11; Graphic by Price Waterhouse Coopers (PWC): *Initial Site Assessment for Seven Economic Zone Sites - Dhaka Dohar, Bhola Sadar, Kushtia- Bheramara, Nilphamari Manikganj, Shariatpur-Zajira and Jaliardip-Teknaf*, Final Report, Bangladesh Economic Zones Authority (BEZA), Dhaka, October 2015

2.1.5.3 Deductive forecast of tourism at Jaliardip Island

The Consultants have therefore developed these above three scenarios into a demand projection for tourists to visit Jaliardip Island. The prime reason for basing their projection on those of Cox's Bazar is the implication that most of the tourists in question will stay overnight there and travel to Jaliardip for a one-day adventure. "People come to Cox's Bazar to see the beach, but due to lack of entertainment after one or two days they will feel tired"⁵⁷. Consequently, the Consultants expect tourism demand for Jaliardip Amazing Island to grow much faster than that at Cox's Bazar - its 'supply pool' - and to be limited merely by the capacity of facilities and activities offered on the island and in its neighborhood. The island's capacity would be mainly limited through the Consultants' design guidelines:

- Public space per stay-over visitor must be more than 0.1 acre;
- Density standard per day-time visitor of 0.09 acre;
- This place is in coastal areas, so the height limit for accommodations is G+4;
- On an island, maximum 20% of the total area can be occupied by buildings;
- Half of the number of guest houses are located at the outer edge of the island with a minimum distance of 5 meters from the shoreline/mangroves;
- 60% of the total length of shoreline on the island has been allocated for guest room frontage, 10% for general resort facilities and remaining 30% for open space.

Based on the above design guidelines, the Consultants calculated a maximum number of 950 beds (95 acres x 1.0) and of 2,000 day-time visitors per day (177 acres x 0.09).⁵⁸

Based on the Cox's Bazar's tourist projection, the following three scenarios – in this case i) conservative, ii) base, and iii) aggressive – distinguish themselves mainly through different

⁵⁷ Source: Cox's Bazar's Deputy Commissioner statement to the Consultants during their mission on 07 August 2016

⁵⁸ With a beautiful location like Jaliardip Island and some touristic river and land activities, a cable roof-line of at least 1 km and catering during the evenings at the river, Cox's Bazar District Deputy Commissioner confirmed 1,000-2,000 tourists per day during high season

growth rates. The Consultants have taken the Cox's Bazar scenarios as basis and added a multiplier (decreasing constantly to zero at the end of the forecast period) for Jaliardip Island, as its demand will grow much faster. The Consultants estimate this multiplier to be the second major determinant for future tourism development on Jaliardip Island. They calculated a factor of initially 0.35 in demand growth for their base-case forecast (see *Table 10* overleaf). Similarly, they took over the Cox's Bazar projection's year 2019/20 tourist volumes, for which they estimated the capacities (day-time or stay-over) of Jaliardip Island to suffice for less than one fifth (14-17%) at any given year. Also, the Consultants estimated the level of the low-season (summer) period as proportion of the high-season (winter) period tourist volumes and attached a marketing plus (positive impact) for this summer period.

Table 9: Distinctive parameters for Jaliardip Island tourist forecast scenarios

Distinctive Parameter	Scenario		
	Conservative	Base	Aggressive
Cox Bazar avg CAGR	4%	6%	7%
2019/20 Tourist Volume	2,500,000	2,700,000	2,800,000
Jaliardip Multiplier	30%	35%	40%
Off-Season Level	30%	35%	40%
Summer Marketing-Plus	1.0%	1.5%	2.0%

Source: Consultants

Finally, they estimated the share of stay-over visitors as 25% of all tourists, with the balance 75% being day-time visitors. In the following, the three scenarios are being presented and compared (for complete time rows please see *Appendix 9*).

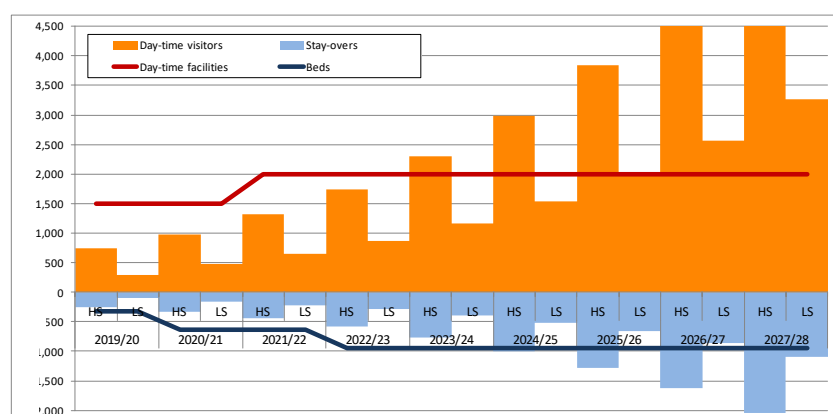
Table 10: Demand-Potential Forecast 1: Conservative Scenario (4% annual growth)

Cox's Bazar (tourists 2020/21 total): Project Year:			2020/21		2024/25		2029/30		2034/35		2039/40	
2,500,000			Period:		HS	LS	HS	LS	HS	LS	HS	LS
Growth	Jaliardip Multiplier	30%			29%		23%		15%		7%	
Rates	Summer Marketing-Plus	1.0%			30%		34%		39%		44%	
Potential Number of Jaliardip Tourists			0.03%		1,034	994	391	3,062	1,553	10,110	5,449	24,618
thereof	Stay-overs	25%			248	98	766	388	2,528	1,362	6,155	3,468
	Day-time visitors	75%			745	293	2,297	1,164	7,583	4,087	18,464	10,404
Capacities	Beds	950			316	316	950	950	950	950	950	950
	Day-time facilities	2,000			1,500	1,500	2,000	2,000	2,000	2,000	2,000	2,000
Required Land	Accommodation area (acres)				32	32	95	95	95	95	95	95
	Day-time activity area (acres)				133	133	177	177	177	177	177	177

Source: Consultants

In the *Conservative-Case Scenario*, it would take seven years to attract a number of day-time tourists sufficient to fill the capacity of day-time facilities. Capacity saturation of accommodation would even be reached only after eight years.

Figure 19: Demand Potential Forecast 1 for Jaliardip Amazing Island: Conservative Case



Source: Consultants

Before the above milestones, only about two-third of the required land area would need to be put into operation.

Table 11: Demand-Potential Forecast 2: Base Case (6% annual growth)

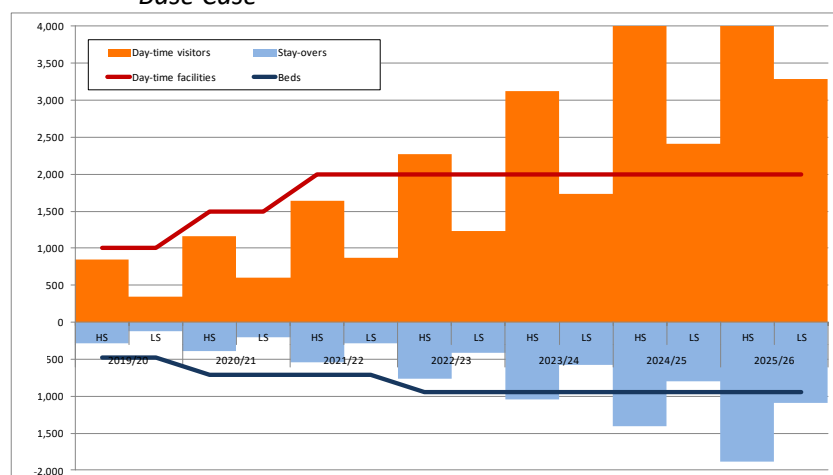
Cox's Bazar (tourists 2019/20 total): Project Year:			2019/20		2023/24		2028/29		2033/34		2038/39	
			Period:		HS	LS	HS	LS	HS	LS	HS	LS
Growth	Jaliardip Multiplier	35%			33%		26%		18%		9%	
Rates	Summer Marketing-Plus	1.5%			30%		36%		44%		51%	
Potential Number of Jaliardip Tourists			0.03%		1,253	1,128	465	4,164	2,314	16,674	10,250	47,374
thereof	Stay-overs	25%			282	116	1,041	578	4,169	2,563	11,844	7,826
	Day-time visitors	75%			846	349	3,123	1,735	12,506	7,688	35,531	23,479
Capacities	Beds	950			475	475	950	950	950	950	950	950
	Day-time facilities	2,000			1,000	1,000	2,000	2,000	2,000	2,000	2,000	2,000
Required Land	Accommodation area (acres)				48	48	95	95	95	95	95	95
	Day-time activity area (acres)				89	89	177	177	177	177	177	177

Source: Consultants

In the *Base-Case Scenario*, a number of day-time tourists sufficient to fill the capacity of saturation of day-time facilities would be reached after five years. Full bed occupation would be achieved after six years.

The land area required for day-time activities should be put into operation after latest two years, accommodation area completion could be scheduled one year later.

Figure 20: Demand Potential Forecast 2 for Jaliardip Amazing Island: Base Case



Source: Consultants

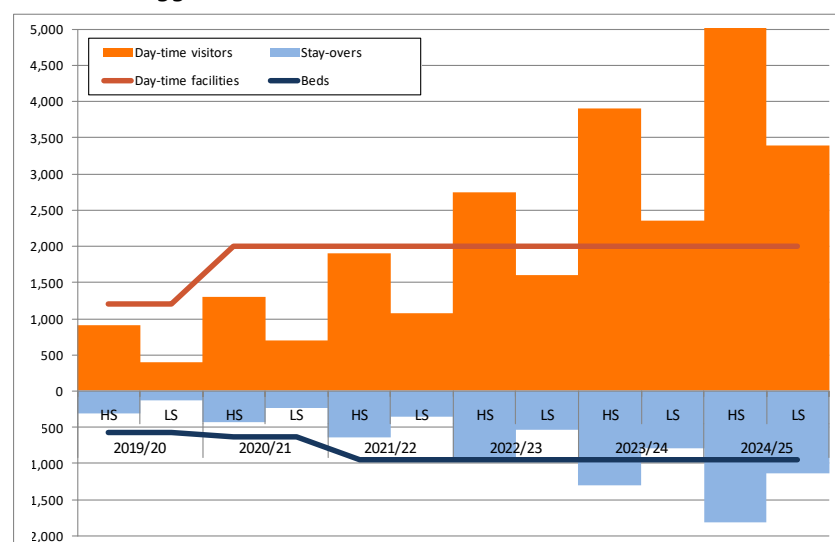
Table 12: Demand-Potential Forecast 3: Aggressive Case (7% annual growth)

Cox's Bazar (tourists 2019/20 total): 2,800,000			Project Year:		2019/20		2023/24		2028/29		2033/34		2038/39	
			Period:		HS	LS	HS	LS	HS	LS	HS	LS	HS	LS
Growth Rates	Jaliardip Multiplier	40%			38%		30%		20%		10%		0%	
	Summer Marketing-Plus	2.0%			30%		38%		48%		58%		68%	
Potential Number of Jaliardip Tourists			0.03%		1,392	1,218	523	5,200	3,130	24,166	16,651	76,651	57,948	160,754
thereof	Stay-overs	25%			305	131	1,300	783	6,042	4,163	19,163	14,487	40,188	32,418
	Day-time visitors	75%			914	392	3,900	2,348	18,125	12,488	57,488	43,461	120,565	97,254
Capacities	Beds	950			570	570	950	950	950	950	950	950	950	950
	Day-time facilities	2,000			0	0	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Required Land	Accommodation area (acres)				57	57	95	95	95	95	95	95	95	95
	Day-time activity area (acres)				0	0	177	177	177	177	177	177	177	177

Source: Consultants

In the *Aggressive-Case Scenario*, it would take only four years to attract sufficient day-time tourists to fill the capacity of day-time facilities. Capacity saturation of accommodation would be reached one year later.

Figure 21: Demand Potential Forecast 3 for Jaliardip Amazing Island: Aggressive Case



Source: Consultants

Complete coverage of the land area required for day-time activities must be achieved after the first year, accommodation area completion could be scheduled one year later.

2.1.6 Activity 6: Market Strategy

The purpose of the market strategy is to provide BEZA with an overview of how each of the priority sites should be packaged, promoted, and what type of materials would be needed for each zone's start up.

2.1.6.1 Overall strategy

Correlation between marketing and tourist arrival is 0.85, and correlation between marketing and increased tourist receipts is 0.75.⁵⁹ The high correlation suggests that marketing is an important enabler for achieving the year 2020 tourism targets for tourist arrivals and receipts. These targets are:

⁵⁹ Source: Bazlul Haque Khondker, Tahera Ahsan: *Background Paper on Tourism Sector*, Dhaka University, February 2015, p.25

- *Government Approach to Market Strategy:* The Bangladesh Government may hire a reputed international marketing company (at least for initial few years) to promote the Bangladesh branding. Along with beautiful Bangladesh, the company must try to find out brand names for better outreach. Marketing via high commissions and embassies must be intensified.
- *Ensure an Adequate Supply of Qualified Human Capital:* A strong pool of qualified human capital is critical to the success of the tourism sector. To meet the ambitious growth plan, the tourism industry will need approximately 120,000 additional workers from now until 2020. In terms of breakdown by qualifications, 65% of this incremental workforce will need to have a vocational or certificate qualification, 25% will need to have a diploma, while the remaining 10% will need to have a degree or post-graduate qualification. In the short term, *Ministry of Civil Aviation & Tourism* might arrange 3-6 months-long certificate courses in collaboration with local and foreign public/private college/universities geared to the demand of the tourism sector. In the medium term, specific colleges/universities could be identified to focus more on tourism and thus develop a healthy pipeline of talent to join the tourism industry. The *Ministry of Education* together with the *Ministry of Civil Aviation & Tourism* might help identify specific colleges/ universities to develop curriculums focused on career paths in tourism. These curriculums might also be geared towards foreign language learning.
- *Improve the Tourism Environment:* It is imperative that tourists be given a continuously positive experience from arrival through to departure to ensure they leave Bangladesh with pleasant memories, which may result in repeat visits and positive word-of-mouth to friends and family. There are many aspects to the tourism environment that can be improved, ranging from taxi services, overall information access, funding access for private entrepreneurs, safety and maintenance of tourism products and infrastructure. It is imperative that the *Ministry of Civil Aviation & Tourism* works with all the related agencies, industry players and other stakeholders to provide the enabling environment for the industry to flourish and for Bangladesh to become a key tourism country. Important priorities includes: (i) Affordable, efficient and safe local transportation (i.e. taxi services); (ii) Improve and ensure security of tourists especially in hot spots through increased presence of well-trained police officers with communication skills in English; (iii) Local authorities must ensure that outlets or premises (including toilets) frequented by the public are clean at all times. Companies offering cleaning services should be accredited to ensure they are able to deliver cleanliness at international levels; and (iv) SME development funds can be used to support small and micro-entrepreneurs who are in the tourism supply chain.
- *Rollout of Visa Facilitation Services:* Visa requirements can either facilitate or hinder segments of tourism development, from leisure tourists, to business travelers to entertainers. Significant improvement has been reported for immigration and visa services at Dhaka and Chittagong international airports. These efforts should be consolidated to sustain the growth of tourist arrivals. Visitors crossing the Naf River between Mungdaw/Myanmar and Teknaf are either given a 1-day pass to facilitate them

visiting their relatives on the other side of the border⁶⁰, or a 3-day pass generally to do wholesale trade across the border⁶¹.

The Government has pursued several policies and legislations for the tourism sector including the *Bangladesh Tourism Board Act* and the *Tourism Policy 2010*. The aim of these policies is to create a tourism friendly environment in Bangladesh, ensure quality service, and ensure comfort and safety of the visiting tourists. The *Ministry of Civil Aviation and Tourism* is vested with the overall coordinating responsibilities for policy formulation while implementation is the responsibility of the *Bangladesh Parjatan Corporation*. In tourism, the *Seventh Five-Year Plan* strategy consists in expanding and upgrading the tourist industry facilities comprising of visa and currency exchange facilities, hotels, restaurants, tourist resorts and inland transportation. The Government considers the promotion and revitalization of tourism industries, an integrated land use and transport planning for all the potential water front sites, viz. Cox's Bazar, Jaflong, Kuakata etc.⁶² To take advantage of Bangladesh's long coastal areas, the *7th Five-Year Plan* also plans the development of a strait Riviera linking the Teknaf Peninsula to the Sundabans.⁶³ The route will be anchored by three purpose built state of the art integrated cruise terminals in Teknaf/Cox's Bazar; Chittagong; and Kua Kata/Khulna. This might help built an exotic cruise experience exploiting existing coastal destinations. Each cruise terminal would serve as a catalyst for waterfront and semi-urban renewal, with development of adjacent waterfront retail (including water-sport facilities), residential areas and related facilities (including provision for night life activities such dining; music, and cinema etc.) at each terminal to encourage shore excursions.⁶⁴

Successful implementation of the tourism strategy will require a strong public-private partnership. The Government's role is to provide investments in fixed infrastructure (aviation), provide right incentives and enabling environment including ease of entry and exit, and ensure the safety of the tourists. Much of the investment in tourism facilities and services will have to come from the private sector. Depending upon need, other incentives including credit facilities and tax incentives may be considered as relevant. Partnership with foreign investors should be encouraged.

Complementarity to Sabrang Tourism Park: A great proportion of visitors will be national (domestic) tourists, of whom a greater share will be day-time visitors coming from Cox Bazar. In contrast, Sabrang Tourism Park will be offered to mainly international (foreign-passport holding) tourists as gambling and golfing resort, most of who will be staying overnight. Visits of Sabrang tourists to Jaliardip Island (and vice versa) should be enabled through water and (particularly before establishment of a boat connection) bus shuttles.

Marketing of Stay-Overs during Low-Season: Low demand during off-season April to October should be improved by promotion of

- eco-tourisms to support awareness of nature , animals and plants,
- school-class packages and children-education stays, and
- honeymoon packages.

⁶⁰ Based on 1980 Bangladesh-Myanmar Border Agreement

⁶¹ Based on 1991 Bangladesh-Myanmar Border Trade Agreement, but special passport is required from BGB Border Guard of Bangladesh

⁶² Source: *7th Five-Year Plan*, 18-02-2016, p. 356

⁶³ Source: *7th Five-Year Plan*, 18-02-2016, p. 246

⁶⁴ Source: Bazlul Haque Khondker, Tahera Ahsan: *Background Paper on Tourism Sector*, Dhaka University, February 2015, p. 23

Support from Residents: During the Consultants' mission to Teknaf on 11 August, the Upazila Nirbahi Officer reported that the majority of the population nearby has a positive stand towards the project by hoping for employment opportunities. Even the real estate prices in the area would have increased in the last months due to the new discussions of the project. However, he pointed out that tourism development here has been discussed for the last 45 years and that it was only the EZ-initiative which gave a new impetus as the people were not more believing in the realization. Acceptance of the project should be sought from the local population by promoting its advantages for region and residents, stressing the

- improvement of the region's connectivity infrastructure (roads, energy, gas);
- direct-employment generation (service staff, waiters, housekeepers, operators of day-time facilities, guides for wildlife sanctuary and eco-education, shop keepers);
- indirect-employment generation during construction (island facilities, roads, ferry jetties, other tourist facilities) and operation (taxi and bus drivers, rickshaw operators, shop keepers, food & supply providers, operation of effluent / sewage treatment plants - as no septic tanks);
- involvement of Rohingya dwellers within the natural reserve (wildlife sanctuary);
- involvement of Myanmar, for instance by turning an apparent "disadvantage" (missing catchment area due to location close to border) into an advantage with an initiative like "make a day-trip to Myanmar – easy and secure"; and
- lessons learned from St. Martin's Island, by timely mitigating ecological disaster.

2.1.6.2 Indicative market strategy: Go-to-Market Strategy

As the Tourism Park EZ Concept is quite new to BEZA, the Consultants suggest a "Go-to-Market Strategy". In general, such a strategy will be chosen when a new product and/or a new target group will be subject to marketing and sales activities. The main focus and structure of such a strategy is shown in the following figure. A choice of specific issues to be covered in each section has been also included.

Figure 22: Schematic illustration of the Go-to-Market Strategy



A Go-to-Market Strategy defines the interdependency and relation between the core factors which are

- product,
- customer, and
- markets.

When thinking about the definition of “product” – what has to be sold in this specific case – the first thing that comes up is “a piece of land”. Actually, this is right as BEZA wants to sell or lease land to a developer to develop the basically prepared island Jaliardip. But the second thought leads to the insight that more than only land could be defined as product. It is also the idea and/or the concept to develop tourism business in the southern part of Cox’s Bazar District. During the expert interviews executed during the Market Analysis Phase, it became obvious that without the effort and initiative of BEZA the development of Jaliardip would not be on top of the list of possible future tourism parks made up by the Bangladesh tourism industry. But by facilitating the development of tourism at this specific spot, the majority of interview partners showed interest in receiving more detailed information. It is a matter of fact that there is currently no real alternative to the holiday and recreational location of Cox’s Bazar (city) and its surrounding within Bangladesh. Thus, every development of additional tourism facilities is faced with a demand in general. By assigning this pre-feasibility study for the location of Jaliardip, marketing activities have actually started and all stakeholder involvements have been activities related to project marketing and efforts to support the establishment of awareness for this project. This effect has been strengthened by mentioning additional opportunities for developers at the Sabrang location, too.

Figure 23: Publication of project efforts at Jaliardip Island (1)



টেকনাফের জালিয়ার দ্বীপ পরিদর্শন করছেন বেজার পরামর্শক প্রতিনিধিদল।

জালিয়ার দ্বীপ সাজাচ্ছেন হাসিনা

নিজস্ব প্রতিবেদক @ টেকনাফ

টেকনাফের নাফনদীর মাঝে প্রকৃতির অপূরণীয় সৌন্দর্য জালিয়ার দ্বীপকে পর্যটকদের জন্য সাজাচ্ছেন শেখ হাসিনা।

পরিকল্পনার অংশ হিসেবে জালিয়ার দ্বীপ পরিদর্শন করেছেন বেজার পরামর্শক প্রতিনিধি দল। রোববার বিকাল ৪টার দিকে টেকনাফ জলবন্দর অফিসালন কেন্দ্রে ভেটি দিয়ে কোস্টগার্ডের স্পিডবোট যোগে বাংলাদেশ অর্থনৈতিক অঞ্চল (বেজার) পরামর্শক প্রতিনিধি দলটি জালিয়ার দ্বীপ ঘুরে বেছেন।

ভারা হুসেন- মিলেস পার্টিনা এগার্ট ও নরবাট হিমমারার্ট। এসময় তাদের সঙ্গে উপস্থিতি ছিলেন টেকনাফ উপজেলা নির্বাহী কর্মকর্তা (ইউএনও) মোহাম্মদ শফিউল আলম। প্রতিনিধি দলের

অর্থনৈতিক অঞ্চল টেকনাফের জালিয়ার দ্বীপে বেজার পরামর্শক প্রতিনিধি দল

পরামর্শক দলেন জার্মানির গবেষক।

উপজেলা সূত্র জানা গেছে, মিয়ানমার সীমান্তের নাফনদীর বুকে ঘেঁষে ওঠা জালিয়ার দ্বীপের আয়তন ২৭১ দশমিক ৭১ একর। স্বাধীনতার পর থেকে এই দ্বীপে স্থানীয় কয়েকজন ব্যক্তি ইচ্ছায় নিয়ে ওই এলাকায় চিহ্নিত ও লবণ উৎপাদন করে আসছিল। এখন এটি বিদেশি পর্যটকদের জন্য আকর্ষণীয় করার উদ্যোগ নিয়েছে সরকার।

ছবি মঙ্গলায় ইতিমধ্যে প্রকৃতির মতো এই দ্বীপটি বর্তমানে বাংলাদেশ অর্থনৈতিক অঞ্চল কর্তৃপক্ষের (বেজা) অনুমোদন বন্দোবস্ত দিয়েছেন।

গত ২০১৫ সালের ৭ আগস্ট প্রধানমন্ত্রীর কার্যালয়ের মুহাসিবি আবুল কালাম আজাদের নেতৃত্বে ১১জন সচিবকে নিয়ে তিনি জালিয়ারদ্বীপ ও সাবরাং এলাকা পরিদর্শন করেন। জালিয়ার দ্বীপের বৈশিষ্ট্য দেখে ভরন সবাই মুগ্ধ হন। এরপর দ্বীপটিতে পর্যটনকেন্দ্র গড়ে তোলার কাজে হাত দেন বেজা।

টেকনাফ উপজেলা নির্বাহী কর্মকর্তা মো. শফিউল আলম বলেন, মহাপরিকল্পনার জন্য প্রতিনিধি দলটি জালিয়ার দ্বীপ অর্থনৈতিক অঞ্চলের জায়গা পরিদর্শন করেছেন। ৩-একর প্লট ২-৩ কলাম ও

Source: <http://ebakkhali.com/index.php?date=09-08-2016&page=1>

The public interest exists in the Teknaf area, although the issue of tourism development has been discussed over many years again and again at that place. UNICONSULT and HPC representatives have visited Teknaf twice during the 3.5 months elaboration period for site assessment. Each time the UNO organized a comprehensive site visit, and representatives of the media also accompanied the team. The above figure shows a newspaper article from *The Dainik Bakkhali* about the experts' site visit at Jaliardip on 08 August 2016. The photo includes the Consultants' Environmental Expert, Institutional Expert, local Support Expert, Teknaf's UNO and local Infrastructure Engineer.

On 29 June 2016, an exclusive video clip has been released on *youtube.com* documenting the first site visit at Jaliardip executed by the *Team Leader* and *Market & Transport Expert*, the Consultants' local support consultant, Teknaf UNO, BGB and Coast Guard. The site visit took place on 14 June 2016. A screen shot of the video clip is shown as the following figure.

Figure 24: Publication of project efforts at Jaliardip (2)



Source: <https://www.youtube.com/watch?v=INvohHUZ5sl&feature=youtu.be>

As mentioned in *Section 2.1.7: SWOT Analysis*, a good number of opportunities is provided mainly by the direct surrounding area. These opportunities describe exiting facilities and attractions already existing in the area. There is, for example, the involvement of the wildlife sanctuary on the main land side in direct vicinity of the Jaliardip location. The existing gateway to St. Martin's Island and the development of the *Sabrang Tourism Park* with partly complementary attractions and facilities is also good for the establishment of a tourism site at Jaliardip. By developing rough ideas how to interlink all these attractions BEZA does "sell" the opportunities or its utilization respectively to the developer.

The provision of incentives like tax holidays for the first five to ten years, procurement of tax-free building materials, etc. are basic incentives of an EZ. Although such incentives are almost expected by potential developers, in this specific reflection on a market strategy these incentives also have to be considered as a product.

The potential customers for BEZA's product are "tourism-site developers" which is a quite general definition as the range of this kind of companies differs from pure construction companies over pure tourism park developers to hotel and recreational-site operators.

The relationship between product, customer and market is additionally described and defined by such basic questions like

- what to sell?,
- where to sell?, and
- how to sell?

“What to sell?” mainly deals with the product which has been described in the previous paragraphs. “Where to sell?” should lead to the definition where or by whom the product should be ideally sold. The answer that the product should be sold only by BEZA sounds obvious. But in cases other than the Jaliardip project, the alternative - that product could also be sold by, for instance, licensed real-estate agents - seems to be realistic and suitable. “Where to sell” also defines this particular project whether the product should be sold, or at least offered, to national tourism-site developers only or to international companies, too. Although the Jaliardip EZ is more focused on national tourism and utilization by domestic tourists, an involvement of international or foreign companies seems promising. As described in the previous section, in this phase of the project development a concentration on national potential investors has been chosen.

Last but not least remains the questions about “How to sell?”. The way how to sell a product mainly depends on the product and its customers. As tourism-site developers urgently need to know the site including its surrounding, a promotion event “on site” seems to be an appropriate tool to start the awarding process of the Jaliardip site. This event should include a visit of the wildlife sanctuary and a drive on the scenic approach road, the Marine Drive. The idea is to lease the complete area of Jaliardip to one single developer who operates the accommodation facilities and recreational site by himself or sub-lease the operation of these at the utmost. Alternatively, the tender process could be started as selective tender process where only pre-assessed developers will be invited to have the chance to submit a proposal.

In order to ensure necessary steps and activities of a “Go-to-Market”-Strategy, it is recommended elaborating an annex to the *Bangladesh Economic Zones Act 2010*. It is mainly Section 19, which deals with the “Duties and functions of the Authority” that should be extended by definitions that correspond with the needs of establishing a Tourism Economic Zone. It should be added that

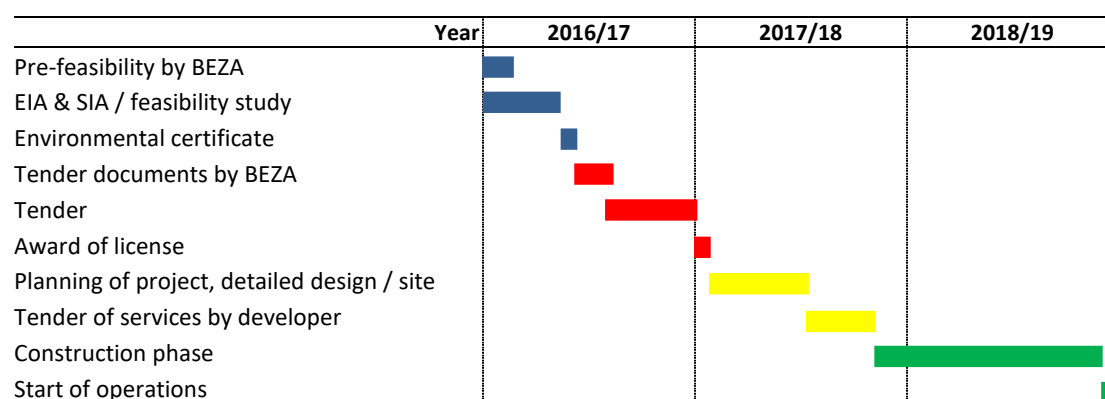
- BEZA has the possibility to organize and conduct sales and promotion events/activities. As the 17 points mentioned under Section 19 of the *Bangladesh Economic Zones Act 2010* are listed in quite a “chronological” way, this step could be located between Point 19 (2) “Acquisition of Land” and 19 (3) “Appoint Economic Zone Developer”.
- The definition of an integrated development concept should be initially made by BEZA. An integrated concept should define the measures to facilitate the coexistence of two or more economic zones to be established in the same area, and will cover similar catchment area or target markets. As BEZA has an interest in that all established EZ will perform and be implemented successfully, it should have the possibility to define rules that have to be followed not only during the operation phase of the EZs but already during their planning phase. One main issue of an integrated concept should be the aspect of complementary EZs. As some regions are more suitable for an EZ, and/or the demand for EZ is stronger than in other regions of Bangladesh, the development of EZs in parallel is very likely. The variety of EZs should always be seen as a source of opportunities.

- After having the right to prescribe the development and after conducting an integrated concept, BEZA should also have the right to check and audit its implementation and consideration in day-to-day business. If BEZA recognizes a violation of the agreed integrated concept, it should have the possibility to penalize the due party if it could be identified clearly or all involved parties. This is necessary as BEZA should have an interest in the long-term existence of any EZ and in maintaining a good reputation of the EZ philosophy.
- Especially during the development of Tourism Economic Zones, BEZA should have the function to promote the establishment of the zone locally. As the involvement of local residents, local communities and local businesses is important for the generation and maintenance of a convenient surrounding for the future guests/tourists, BEZA should be able to make efforts to convince the local residents of the advantages of the project. BEZA should also encourage businesses outside the zone to cooperate with the future developers, hotel operators, entertainment companies, etc. inside the EZ. As in Section 19 (10) of the *Bangladesh Economic Zones Act 2010* the establishment of backward linkage industries is already mentioned for Tourism Economic Zones, the involvement of single individuals as service staff, guides and others is important. A long-lasting tourism location needs strong partners outside the zone. The cooperation with the local community could, for example, be part of the complementary concept and/or could be mandatory for developers and operators.
- BEZA should be able to couple the receipt of mainly financial incentives to the compliance with the defined rules, concepts and regulations of each party.
- Cooperation with tourism corporations and associations should be possible; particularly marketing measures during the start-up phase of a tourism park are highly requested.

2.1.6.3 Timing, implementation framework and responsibilities

Following figure depicts a possible implementation schedule covering the period from the present pre-feasibility study until inauguration of the facilities.

Figure 25: Implementation schedule of Jaliardip EZ preparation



Source: Consultants

Another possibility is combined marketing – to the point of offering Jaliardip Amazing Island and *Sabrang Tourism Park* as one package to interested developers. If Jaliardip EZ and Sabrang EZ were to be developed by one developer, probably Jaliardip Island would be developed prior to Sabrang, as domestic tourists are available now, whereas international

tourists would become aware of *Sabrang Tourism Park* later - hence there would need to be more marketing undertaken for this customer group.

2.1.6.4 Target markets, countries and investor profiles

Following target markets should be focused on (according to priority):

- Domestic tourists will be the major target market at least in the medium term. As alternatives to Cox's Bazar are demanded, a high-class facility of Jaliardip Amazing Island will be booked by domestic travelers. A booking system in Cox's Bazar airport, bus station and major hotels should give interested parties the opportunity to purchase tickets in advance, thus avoiding unnecessary trips to an overfilled activity park. To attract international guests solely to Jaliardip Amazing Island, the limited capacity of the plot itself is seen as the major challenge. The opportunities of *Sabrang Tourism Park* cover the expectations of the average international tourist more comprehensively, as the plot itself is approximately five times larger.
- Interested eco-tourists from Europe, Japan and Australia (within flight range at a later stage at Cox's Bazar International Airport development).
- International tourists in Nepal, spending some time in the mountains, could have some days at the beach on Teknaf Peninsula. Packages should be offered by tourist companies in Nepal and overseas.
- Tourists on short-distance international flights, i.e. from India.

2.1.6.5 Promotional tools and materials required

Bangladesh must increase its presence on-line through digital advertisement avenues such as *YouTube*; *Facebook*, *Google*, etc. Jaliardip Amazing Island (JAI) should canvas stay-over visitors with an „Indicative Holiday Schedule“, such as the following:

- An overnight guest who will stay for 6 nights could experience the following JAI Holiday Schedule:
 - Day 1: Arrival in the morning and “Jungle Cruise” (day-time visitors attraction) in the afternoon;
 - Day 2: Ride the cable car up the hill, guided hiking tour, lunch at *View Point 200*, return in the afternoon;
 - Day 3: Boat ride with exclusive shuttle to *Sabrang Tourism Park*, enjoy golf, casino (only foreign passport holders), beach, others; return in the afternoon;
 - Day 4: Ferry trip to St. Martin's Island, lunch on the ferry, stay for a walk or a swim on the island; return in the afternoon to JAI;
 - Day 5: Enjoy the eco-edutainment program offered on JAI, do some “scientific research” and get your Island-Ranger-Certificate; theatre/cinema visit in the evening or artist event;
 - Day 6: Stay at the Lagoon-Area of JAI at its northern tip; relax and be served at the exclusive JAI-guest beach;
 - Day 7: Reserve your time window for water sports like water ski, water jet... on the Naf River.

2.1.7 Strengths-Weaknesses-Opportunities-Threats Analysis

To understand and clearly identify the competitive advantage of the designated economic zone, a strengths-weaknesses-opportunities-threats (SWOT) framework assessment is

presented below. The analysis and understanding in this section has been further used for identification of suitable services and attractions or creating unique selling propositions (USPs) for the Jaliardip Economic Zone. The key findings are as below:

Figure 26: SWOT diagram of Jaliardip Economic Zone

Strengths	Weaknesses	Opportunities	Threats
<ul style="list-style-type: none"> • Scenic and untouched landscape • Established access to inland-waterway transport • Political support of economic development • Diversity of outdoor recreation opportunities • Available local food supply by agriculture & fisheries • Availability of land • No resettlement issues • Improved land use planning/policy documents 	<ul style="list-style-type: none"> • Aging infrastructure • Lack of industry (diversification) • Unavailability of suitable skilled/ trained labor • Inadequate marketing • Seasonal tourism • Out-migration of youth • Lack of pure drinking water • Shortage of power availability • Protracted discussion about tourism development 	<ul style="list-style-type: none"> • Proximity to Wildlife Sanctuary • Gateway to St. Martin's Island • Agriculture - specialized farming • Involvement of local society • Trends in tourism - outdoor recreation and eco-tourism • Cost competitiveness to other Asian countries and even division • Proximity to Cox's Bazar • Development of Sabrang TP in parallel. • Ongoing infrastructure development projects • Increasing real-estate prices (currently due to assigned BEZA studies) 	<ul style="list-style-type: none"> • Demographic change • Provincial planning and policy making • Slowed down development of global economy • Region prone to flooding • Other natural disasters like cyclone, excessive rainfall • Global climate change • Illegally settled refugees in the Wildlife Sanctuary • Myanmar border Security issue

Source: Consultants

2.1.7.1 Strengths

The obviously untouched scenic landscape in direct vicinity of JAI is a given strength of the region which could be used as a selling argument for tour operators and potential investors towards tourists and recreation facilities operators. While a remote location is a disadvantage for logistics hub and industrial locations, it is an advantage when it comes to tourism and recreation.

Figure 27: Impressions of JAI surrounding landscape



Source: Consultants 2016

The already existing ferry operations and the corresponding required infrastructure and facilities for St. Martin's Island could also be provided for other marine transportation services. Already existing infrastructure is every time an advantage and strength as it could

support the decision of a shipping company to come to a certain place or a tour operator to integrate the place into his offers and packages. In tourism and in logistics, infrastructure has to be always provided in advance. Individual tourist and tourism companies will only book facilities that do already exist. The likely involvement of Teknaf in further marine-transport concepts does increase the level of accessibility and connectivity and consequently the number of potential (overnight) guests.

Figure 28: Ferry jetty facilities at Teknaf



Source: Consultants, panoramio.com

In the end of July 2016, Bangladesh's Prime Minister Sheikh Hasina reasserted the political willingness and support for the establishment of EZs throughout the country. She presided the *4th Meeting of the Governing Board of BEZA* where she asked the Authority to accelerate the work of establishing a total 100 economic zones, as those are aimed at attracting more local and foreign investment. It was stated that the main goal of the Bangladesh Government was to ensure overall development and that therefore efforts had to be continued and industrial development had to be geared up to create more employment opportunities. The Prime Minister also asked the authorities concerned to smoothly implement the policies and guidelines for setting up the country-wide economic zones. This recent example of political awareness towards the development of EZs shows, among others, the political support for the EZ-development.

The remote location provides diverse outdoor opportunities like hiking, guided tours and biking on the mainland. The water area surrounding the island could be used for water sports like jet-skiing, water skiing and canoeing. As part of an integrated concept, a trip to Sabrang Tourism Park could also be offered; furthermore the island itself is planned to be connected to the mainland by – on top of a, preferably pedestrian, bridge – a ferry service plus a cable car to generate a real unique selling proposition (USP). This cable car should provide, for incoming and outgoing guests, a direct connection from the mainland to the island and vice versa. It will also offer a connection to the upper level of the Wildlife Sanctuary providing the opportunity to enjoy a nice view or to follow a hiking trail further inside the sanctuary.

Food production is locally available in high quantities. Teknaf Upazila is an area with a large share of farming and fishing catering for the income of the local population. Fishing is done in the Naf River as well as in the Bay of Bengal. There also exists a lot of herbal farming under branch-made cover. On the island itself, fish and shrimp farming as well as sea-water salt production takes place. Thus, in the Teknaf area comprehensive expertise and know-how of

farming and fishing is available which can also be used to extent its efforts to providing regional fresh food for the proposed tourism facilities.

As nobody is living on Jaliardip Island permanently, no resettlement has to be done and no costs for resettlement are expected. Only some security and supervision personnel take care of the ponds and island substructure during high tide. Of course, the movement of the businesses of fish-, shrimp and “salt”-farmers working on the island has to be compensated.

The landlord has his land securely available. Compared to other EZ locations, in this specific case BEZA owns 100% of the Jaliardip ground. This represents certainty towards potential investors ensuring that the space needed could be provided by BEZA whenever requested by an awarded developer.

Improved land use planning means the fact that BEZA has already updated and declared this area as economic-zone development component constitutes a good situation. The Government and the planning commission also recognize the importance of engaging the local communities in land-use planning and economic development. Additionally, BEZA also plans to develop a sustainable and growth strategy plan for this area. The Authority will also develop the layout of an *Economic-Zone Detailed Master Plan* and other policy documents.

2.1.7.2 Weaknesses

The current conditions of the existing infrastructure as well as its maintenance status need to be improved. Even for actual every-day traffic it is inconvenient. In order to ensure a fast approach by car to Jaliardip Island, the existing roads have to be improved.

The area, as it is very much focused on agriculture and fishing, does not provide a vast variety of different industries. The lack of a significant industry leads to lack of diversification in education and available expertise.

According to the previous point, there currently is no suitably or properly skilled work force available in the Teknaf region. As part of integration of the local community, people have to be trained and developed to match the requirements of tourism and its accommodation business.

Although today the region already holds several attractions, the Teknaf Upazila is not marketed very well. Due to this absence of adequate marketing Teknaf is not utilizing its potential as being a gateway - for example to St. Martin’s Island. Even though many opportunities have been identified in the proximity of Jaliardip Island, marketing should have a high priority to “let the world know” about the advantages in visiting Teknaf Upazila.

Similar to many tourist regions, Jaliardip Island and the Teknaf region face the seasonal variation of utilization of tourism facilities. The high season from November to March will provide for higher utilization compared to the low season. To improve this imbalance, certain offers have to be prepared in order to attract tourists during low season.

A phenomenon identified in many remote and underdeveloped areas is the outmigration of young people. Much of this potential future work force leaves these areas to get better education, better professional qualification and certainly better wages. This development of movement of young people has to be stopped as they will be needed for the operation of Jaliardip Amazing Island and Sabrang Tourism Park.

Due to geological circumstances wells for drinking water could not be easily drilled within the Teknaf region, as the ground on the mainland is much too rocky. In order to host upper-class tourists, a reliable water supply will have to be ensured. It is expected that a well on Jaliardip Island would have to be some one hundred meters deep. Fresh-water supply is currently not provided by a public-utility network.

The reliable availability of energy is also an issue which has to be ensured. Energy will be needed on the island for almost all activities and facilities.

There has been a protracted discussion about tourism development going on in the region. The Consultants learnt from local representatives in Cox's Bazar that the discussion about development of the tourism industry in the Teknaf Upazila has a long history, since beginning of the 1970s. This lead to frustration of some involved officials and could also make potential investor highly skeptical. The impression could arise that there were crucial disadvantages that led to interruption of developments time and time again. Reasons for unexecuted plans in the past have to be identified before starting another discussion with potential investors. Already now, real estate prices in area have increased in the last months due to new discussions of the project. Thus, upcoming questions from their side to this issue could be answered authentically and mitigate skepticism right from the start. On the other hand, there are local people who need to be motivated to support the tourism development and/or implement certain activities.

2.1.7.3 Opportunities

The Teknaf Wildlife Sanctuary is located in the direct vicinity of the island on the mainland side. It is a more than 27 acres large area hosting wild elephants. The Teknaf Peninsula, divided by the rise of this rocky range, currently hosts approximately 30 elephants. In 1983, a significant section of the range was declared a game reserve. Guided tours are not offered in a structured way. The best season to see wild elephants is the winter time when they are more active during day time. The same period of time is also known as the peak season for tourism in Bangladesh. The Forest Department has put into place a co-management approach to eco-tourism under the banner of "Nishorgo – Bangladesh's Protected Area Management Program" at the Teknaf Wildlife Sanctuary. The Nishorgo approach is a joint commitment of the local community and Government through a co-management organization to expedite the provision of protected areas in Bangladesh. There are only four other areas like this in whole Bangladesh. The Wildlife Sanctuary comprises the Kudum Cave, more commonly referred to as the "Bat Cave". As the only known remaining sand-mud cave in Bangladesh, conservationists are keen to preserve it as an eco-tourism attraction. The Mochoni Nature Park is also incorporated into the boundaries of the Sanctuary. There is a nature interpretation center at Mochoni Nature Park, which is open to the public and is used as part of the training program for eco-tour guides under the Nishorgo initiative. The proximity to this institutionally settled Wildlife Sanctuary is an ideal attraction for overnight visitors looking for a day excursion.

Teknaf constitutes the gateway to St. Martin's Island. Most of the ferry rides to this tourism spot start and end in the Port of Teknaf. This is currently the main reason why tourists are coming to the southern end of Cox's Bazar District. The fact that - during the construction phase of Jaliardip Amazing Island - all guests of St. Martin's Island pass the influence area of the new resort constitutes a unique opportunity. For the construction phase, an information

center should be installed giving information of planned developments, time schedule and start of operations. Once the resort is in operation the established connection to St. Martin's Island offers an easily accessible one-day excursion opportunity.

The acceptance and support of residents is of high importance. Without the local people supporting that idea - as they might fear a negative influence on their living standards, health, culture and value - the implementation phase would be much longer than with a supporting society.⁶⁵ As, according to the UNO of Teknaf, most of the people expected predominantly positive effects, like employment and business opportunities, and by this would support the development of a JAI resort, developers can expect a comparatively fast implementation. The local people will not be hostile to the tourist and will be highly motivated to contribute as much as they can to the development of a good reputation of JAI.

In the end of July 2016, Bangladesh's Prime Minister Sheikh Hasina reasserted the political willingness and support for the establishment of EZ throughout the country. She presided the 4th Meeting of the Governing Board of BEZA where she asked the authority to accelerate the work of establishing a total 100 economic zones, as those are aimed at attracting more local and foreign investment. It was stated that the main goal of the Bangladesh Government was to ensure overall development and that therefore efforts had to be continued and industrial development had to be geared up to create more employment opportunities. The Prime Minister also asked the authorities concerned to smoothly implement the policies and guidelines for setting up the country-wide economic zones. This recent example of political awareness towards the development of EZ shows, among others, the political support for the EZ development.

The remote location provides diverse outdoor opportunities like hiking, guided tours and biking on the mainland. The water area surrounding the island could be used for water sports like jet-skiing, water skiing and canoeing. As part of an integrated concept, a trip to Sabrang could also be offered; furthermore the island itself is planned to be connected to the mainland by – on top of a pedestrian bridge – a ferry service plus a cable car to generate a real USP. This cable car should provide for incoming and outgoing guests a direct connection from the mainland to the island and vice versa. It will also offer a connection to the upper level of the Wildlife Sanctuary providing the opportunity to enjoy a nice view or to follow a hiking trail further inside the sanctuary.

Food production is locally available in high quantities. Teknaf Upazila is an area with a large share of farming and fishing responsible for the income of local economy. Fishing is done in the Naf River as well as in the Bay of Bengal. There also exists a lot of herbal farming under branch-made cover. On the island itself, fish and shrimp farming as well as sea-water salt production takes place. Thus, in the Teknaf area comprehensive expertise and know-how of farming and fishing is available which can also be used to extent its efforts to provide regional fresh food for the proposed tourism facilities.

According to the Deputy District Commissioner infrastructure development plans for the district are on-going. The road Cox's Bazar to Teknaf and Sabrang would be expanded to four lanes until 2018. Also the road from Cox's to the Myanmar border and beyond to Jaliardip Island would be rehabilitated and broadened afterwards. A railway connection from

⁶⁵ Hostile reactions of resident population in two upazilas of Khagrachhari against the establishment of eco-tourism zones serve as negative example of lacking local support (see *Daily Star* of Wednesday 31 August 2016, p. 12)

Chittagong to Cox's Bazar with a separate line to the Myanmar border was planned until 2024/2030.

Four new power coal plants with 5,000 MW total power generation (planned south of Chittagong) will guarantee electricity supply (no plan for alternative power generation).

2.1.7.4 Threats

Teknaf Upazila is facing a specific issue which deals with refugees ('Rohingyas') from Myanmar. Partly they are settling illegally in the nature reserves nearby the island. They are low educated and strongly religious Muslims. Thus, they could be a threat to the opportunity to integrate the Wildlife Sanctuary into the Jaliardip Amazing Island (JAI) concept as they could probably attack or raid hikers. This again raises a security issue which has to be considered.

As Jaliardip is directly located at the border to Myanmar, fool-proof solutions for solving possible security threats need to be found. The *BGB Border Guard of Bangladesh* unofficially claims a piece of land on the island in order to establish its own security camp.

2.2 Component 2: Master Planning, Infrastructure Requirements and Environmental and Social Footprint

2.2.1 Activity 1: Site Assessment

2.2.1.1 Planning policies

The aim is to develop the Jaliardip EZ for recreation and tourism in Jaliardip, Teknaf holds excellent state-of-the art infrastructure facilities and professional management to attract and support investments in the tourism sector. Hence, a Jaliardip EZ in the form of prepared land is proposed with general and specialized infrastructure facilities. Given the tourism base and the EZ-concept of taking cluster advantage, the proposed project will further strengthen the tourism sector and contribute to the economy.

It is important to develop the master plan to accommodate tourism area requirements in view of the various identified development components of the proposed EZ. Certain planning objectives / principles are envisioned with the aim to (1) implement this uniquely conceived EZ into a fully integrated and functionally optimum facility, (2) promote a new recreation cluster image in Bangladesh, and (3) develop confidence for foreign and local investors to undertake the development of the project and subsequent operation of their businesses.

The following are the basic planning principles:

- Propose a set of planning standards to be adopted;
- Designate broad land-use distribution of the whole site;
- Evolve land-use mix – tourism developments, industrial plots for the identified sectors, social amenities, general infrastructure, specialized & specific infrastructure, road, open and green space; etc.
- Position the zone to accommodate various types of target facilities to ensure compatibility;
- Provide an integrated infrastructure-system network to support the development;

- Develop requirements of various public utilities;
- Evolve phasing of the project;
- Comply with various planning norms and guidelines of the Bangladesh Government.

The proposed Jaliardip Island needs these planning policies and an outline plan which emphasizes different aims and roles for tourism that represent the implementation and role of all stakeholders who are involved in tourism-site development. BEZA from the Government site is the main stakeholder who is connected with, or emphasizes, functional roles such as: coordination, planning, legislation, entrepreneurial support, stimulation, promotion, social tourism and public interest protection.

National tourism plans include these policies for:

- National & regional tourism master plan development,
- Eco tourism & tourism policy,
- Socio economic policy development,
- Economic development,
- Competitiveness of tourism destinations and enterprises,
- Development of tourism infrastructure,
- Strengthening of employment quality,
- Training of human resources,
- Community well-being,
- Development of transportation for tourists,
- Coordination with other sectors,
- Setting up of councils,
- Tax incentives, subsidies and other fiscal stimuli, credit support,
- Creation of regional and local programs,
- Tourism emissions from aviation in considerations of governments, and
- Sustainability - protection of environment and social/cultural systems.

Such tourism plans include the guidelines for:

- promotion and marketing, and
- minimizing environmental impacts.

2.2.1.2 *Surrounding context*

Natural Setting and Influences

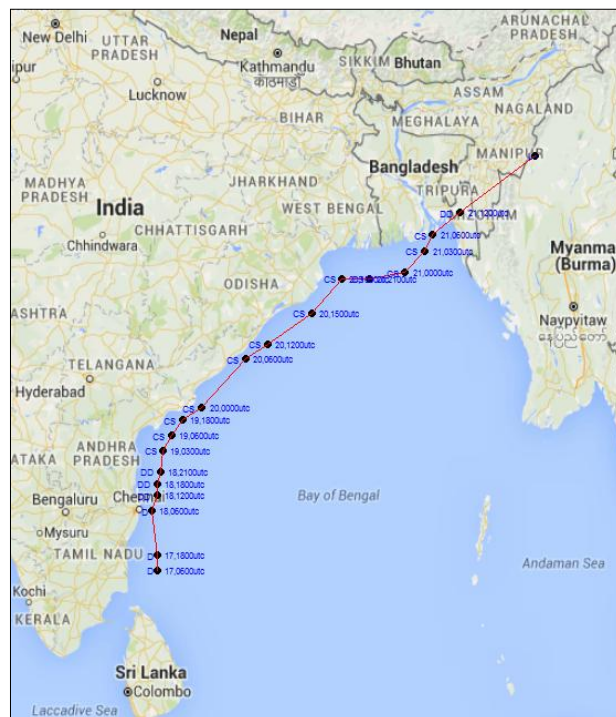
On 13 June and 07 August, the Consultants visited the Jaliardip EZ site, and recorded following observations:

The coastal region of Bangladesh is prone to multi hazard threats such as cyclones, storm surges and floods, as well as earthquakes and above all, climate change. As stated by local officials, the eastern side of the Teknaf Peninsula can still be affected by cyclones, although not as seriously as its western side thanks to its hilly backbone of the Teknaf Wildlife Sanctuary. For a topography map indicating the relevant sites see *Appendix 8*.

High wind speeds: The wind speed in the coastal areas could go up to 3-6 km/hour. From March to May, violent thunderstorms, called northwesters, are observed with a wind speed up to 60 km per hour. According to the *Bangladesh National Building Code (BNBC 2006)*, basic wind-speed resistance for Teknaf is 260 km/hour. On 29 April 1991, wind speed was 225 km/hour and storm surge was 6-7.6 m (source: *PwC*). The early summer and late monsoon seasons are characterized by intense storms where southerly winds of more than 160 km per hour and induce around 6 meter high waves in the Bay of Bengal.⁶⁶ This is a prime cause for most of the flooding witnessed each year in the coastal areas (see *Appendix 4* for a wind speed map of Bangladesh and measured directions).

Cyclones: Bangladesh is highly vulnerable to cyclones due to its geographical location, coastal areas. The proposed Jaliardip EZ is severely affected by cyclones. It is frequently visited by the cyclone-induced storm surge. According to the BNBC, design surge height for the sea coast between Teknaf and Cox's Bazar is 4.5 m for a 50 year-return period and 5.8 m for a 100-year return period. Bangladesh very often becomes the landing ground of cyclones formed in the Bay of Bengal. This is because of the funnel shaped coast of the Bay of Bengal; thus, the coastal zone of Bangladesh is disaster prone. Below map shows the path of a very strong cyclone that hit the region in 2014.

Figure 29: Observed track of Cyclone 'Roanu'



Source: Bangladesh Meteorological Department

Flooding: The entire site is located below the maximum flood level, and is consequently prone to flood and water logging. Necessary filling with suitable protection structures would need to be carried out for the development of proposed EZ. From a survey carried out by BEZA in August 2016 based on information from local people, it was observed that the flood level in 1991 was recorded as 4.030 m PWD, while the present (06 Aug. 2016 at 12.06 p.m.) water level was recorded at 2.571 m PWD. The filling land level shall be a minimum 0.60 m

⁶⁶ Source: PWC Price Waterhouse Coopers: *Initial Site Assessment for Seven Economic Zone Sites - Dhaka Dohar, Bhola Sadar, Kushtia-Bheramara, Nilphamari Manikganj, Shariatpur-Zajira and Jaliardip-Teknaf*, Final Report, Bangladesh Economic Zones Authority (BEZA), Dhaka October 2015, p. 468

above the HFL, i.e. the finished ground level shall be a minimum 4.63 m, and average depth of filling shall be $4.63 \text{ m} - 1.2 \text{ m} = 3.43 \text{ m}$. Again for protection against surge, an embankment may be provided to the minimum top level $2.571 \text{ m} + 4.5 \text{ m} = 7.071 \text{ m PWD}$. Top width is considered as 3.00 m, a country side slope of 1:2 is considered, and a river side slope of 1:5 is proposed with CC block protection works. Station number for HFL at Naf River is SW 316 as per station map of the *Bangladesh Water Development Board*. Actual HFL shall be collected from BWDB for the station SW 316 (*Bangladesh Water Development Board*) for further study or for detailed design. For a standard high-water map of Bangladesh please see *Appendix 4*. All levels are as per PWD, 0.46 m shall be the increase for the SOB level.

Figure 30: Jaliardip Island – view from Naf River



Source: Consultants, June 2016

Earthquake information: According to the seismic zoning map of BNBC, Jaliardip is located in Seismic Zone 2, in which the zone coefficient is 0.15. This shall be considered in the land development works for the liquefaction effect as well as for infrastructure development.

Geotechnical Information: From the preliminary site assessment it is observed that Jaliardip Island is a formation of land deposited by silt and clay. This clay and silt formation layer may be found in a greater depth. So it shall be taken care for the design of structure.

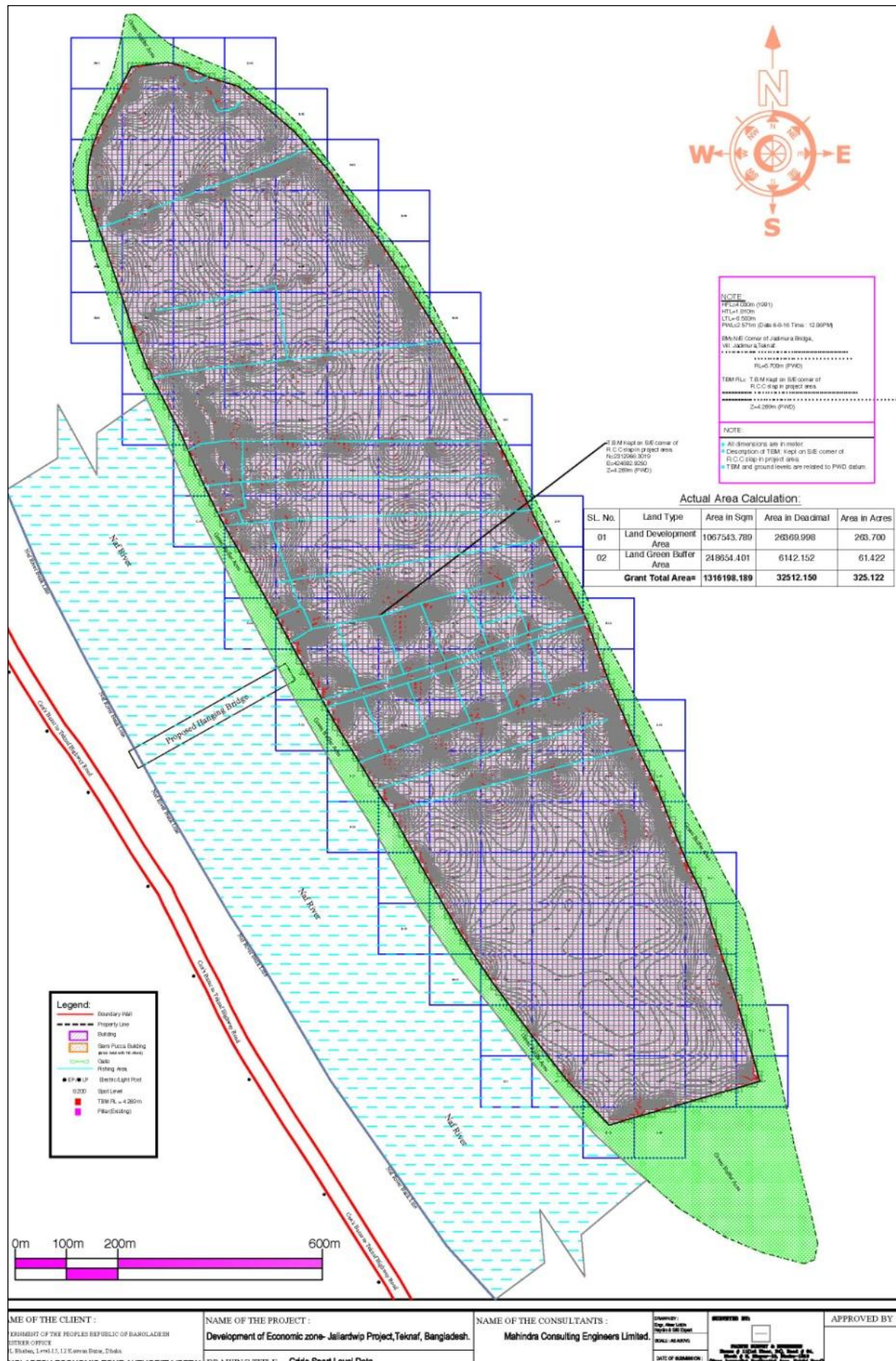
Water Information: Water in the Naf River is saline. A land port is situated at the bank of the Naf River and the slope of the hill. Tube-well installation is not possible in this location, and a municipal water-supply system is not available here. Thus, the land port stores water from spring water and after treatment supplies it for drinking purpose. But on Jaliardip Island deep-well installation this may be possible. For sweet water, sufficient depth is to be examined. Depth for a suitable aquifer may require up to 200 m or more. Otherwise, surface water from the Naf River may be treated for use. For construction works, sweet water shall be used. The Prime Minister suggested constructing a rain water reservoir in each EZ. So, a rain water reservoir system is to be established on Jaliardip Island.

Total area of the site is 271.93 acres (1,100,501 m²) of which about 220 acres (890,340 m²) are located within a low-lying embankment of a crest still below maximum flood level. The approximate balance of 52 acres consists of mangrove area outside of the embankment at the edge of the island. The surrounding future tourism areas hold a high potential which so far has not been utilized.

Physical Landscape

Jaliardip Island is about 450 m to 400 m away from the land port to inside the Naf River. This island is surrounded by an embankment, and mangrove forest is observed on the side slope of the embankment. Inside of this island fish culture is going on. Some tin-shed houses were found on the island - used by the fishermen. The island itself is an oval tube filled by 71% with a fish farm and salt-cropping site and surrounded by a clay wall and mangroves.

Figure 31: Area calculation of present Jaliardip Island



Source: BEZA

The middle of the Naf River forms the Bangladesh-Myanmar Border. The Naf is a high-tide river; too much wave and current action was observed in this river. The deepest bed of the river was found about 15 m from the water level on that day. From the land port, the formation level to water level on 07 August 2016 was about 2.5m. Jaliardip embankment level found 0.9 m above the water level on that day. Before figure depicts an area calculation of Jaliardip Island.

The formation level of Jaliardip Island will be governed by the highest tied level considering the surge effect in cyclone time, rather than highest flood level. The proposed formation level shall not be less than the existing land port level. For the actual information, a survey report is essential. Clay or silt formations of soil are observed on this island and shall be confirmed by the geotechnical investigation reports (*this information is to be incorporated in the foundation design of structures*). A mangrove boundary has developed surrounding the island on clay or silt formation land. It is the best protection boundary against the effects of wave action and cyclones. Thus, the retaining structure may be constructed inward of the mangrove forest. C.C. block protection shall be avoided for the sake of protection of the mangrove boundary, as this boundary shall not be destroyed. Viz the erosion on Saint Martin's Island which had developed as a result of the cutting of keya trees. "If you protect the mangroves, mangroves will protect you."

The map on the previous page also depicts the topography of Jaliardip Island; obviously its surface lies very low (red color means beneath water level). As a result, high reclamation costs would arise if a "traditional" approach was followed. However, in the following chapter the Consultants will present a more progressive approach.

Access to National Infrastructure

Road conditions on the Teknaf Peninsula are sub-optimal: There exists a significant lack of maintenance, and roads are 5-7 m wide with quite some dangerous spots (on their way the Consultants observed a bus accident with one fatality).

Whereas Jaliardip Island has no functioning jetty, there is a small river port at the river banks opposite the island, operation of which is leased out to a private company. Navigation clearance needs to be applied with BIWTA (2009 law and river classification regulates the required approval from the *Ministry of Transport*) for eventual use of the land and river for a construction of a jetty/terminal. Such foreshore (land area along the rivers up to 46 m inwards to high water (foreshore) belongs to BIWTA) approval is absolute necessary. After a jetty has been constructed, BIWTA's rules for tariff charging have to be applied.

On and Off-Site Infrastructure

Wastewater treatment: There is no wastewater treatment plant on the mainland (Teknaf). Drinking water is not supplied by wells, as the ground is too rocky, but by spring water from the mountains that is collected by dams. A reservoir for drinking water is close to the jetty at Teknaf, the water is cleaned for consumption. People in land port very close to Jaliardip Island are using the spring water and rain water for their drinking purpose. About 5m below aquifer is found at Teknaf area but water is saline. So, a desalination process shall be developed.

Sewage treatment: Cox's Bazar area has no central wastewater treatment facility; there are septic tanks for "black water" (toilet sewage), the "grey water" (kitchen, shower, etc.) is lead

directly to river and sea. This led (among others) to reduced oxygen in water. Especially in winter the dissolved oxygen (DO) is about 3-4 parts per million (ppm), at about 1 – 1.5 km from the wastewater inlet the DO is up to 7 again (remark: 3-4 ppm is below the generally accepted maximum amount of DO that supports fish life). This problem will increase with increased hotel construction. This shall be avoided for the development of Jaliardip Island. Every hotel shall have its own facility for pre-treatment of wastewater. A sewage treatment plant (STP) shall be established as drinking water level is very shallow. Soak well and septic tank will contaminate like in St. Martin's Island. Pre-treated water would then go from the hotels to the central STP. *Sabrang Tourism Park* has also septic tanks.

Environmental Issues

As the Project is definitely a “red” development project, it will thus require a full environmental-impact assessment (EIA).⁶⁷ This process might need to investigate not only the impact on the island and its close surroundings, but also on the region in a wider distance. The following are some problems which the Consultants discussed at Cox's Bazar:

- At present there are a lot of people, wild elephants, tall and small animals on the road. Together with an enlargement of the Teknaf road, overpasses or underpasses would be constructed. Experiences from other areas would show that underpasses/canals under road are well accepted by the animals.
- In most parts of nature reserves people are not allowed to enter. A cable-car station at the outskirts of a protected forest would not be a problem. Operation of cable cars would be stopped at night, and as most animals in the forest (in particular elephants) are active at night there would be no interference during day time.
- Dolphins have not been seen in the Naf River near Jaliardip for the last five years. But some dolphins are observed in the river mouth to the open-sea coast and in the bay on the way to St. Martin's Island.
- The planned coal-fired power plants are no problem, as long as an EIA is conducted, because Bangladesh has defined limits for exhaust emissions.

Social/Resettlement Issues

As Jaliardip Island is not permanently inhabited, no social/resettlement issues are foreseen to arise.

2.2.2 Activity 2: Best Practice Master Plan

2.2.2.1 Guiding planning principles

Economic Zone Planning Concept

Following guiding planning principles apply:

- Create a vibrant integrated tourism region with an inclusive growth concept;
- Create a dynamic, vibrant and bustling investment region to attract investors;
- Design shall be based upon modern planning concepts;
- Establish world-class environment targeting essentially the domestic and foreign companies at an affordable cost structure;

⁶⁷ EIA reports are reviewed by the District Environmental Officer first, and are subsequently given for clearance to the Director General Office of the Environment Department at Dhaka

- Create a holistic package by integrating with multi formatted development with excellent infrastructure facilities;
- Create an excellent brand image in the master plan to attract major corporations;
- Promote a varied and diversified environment through a flexible mix of uses;
- Enhance the physical connectivity to adjoining districts and states; and
- Create a green environment.

To achieve successful tourism planning and development, certain factors need to be in place. The following ones are under consideration:

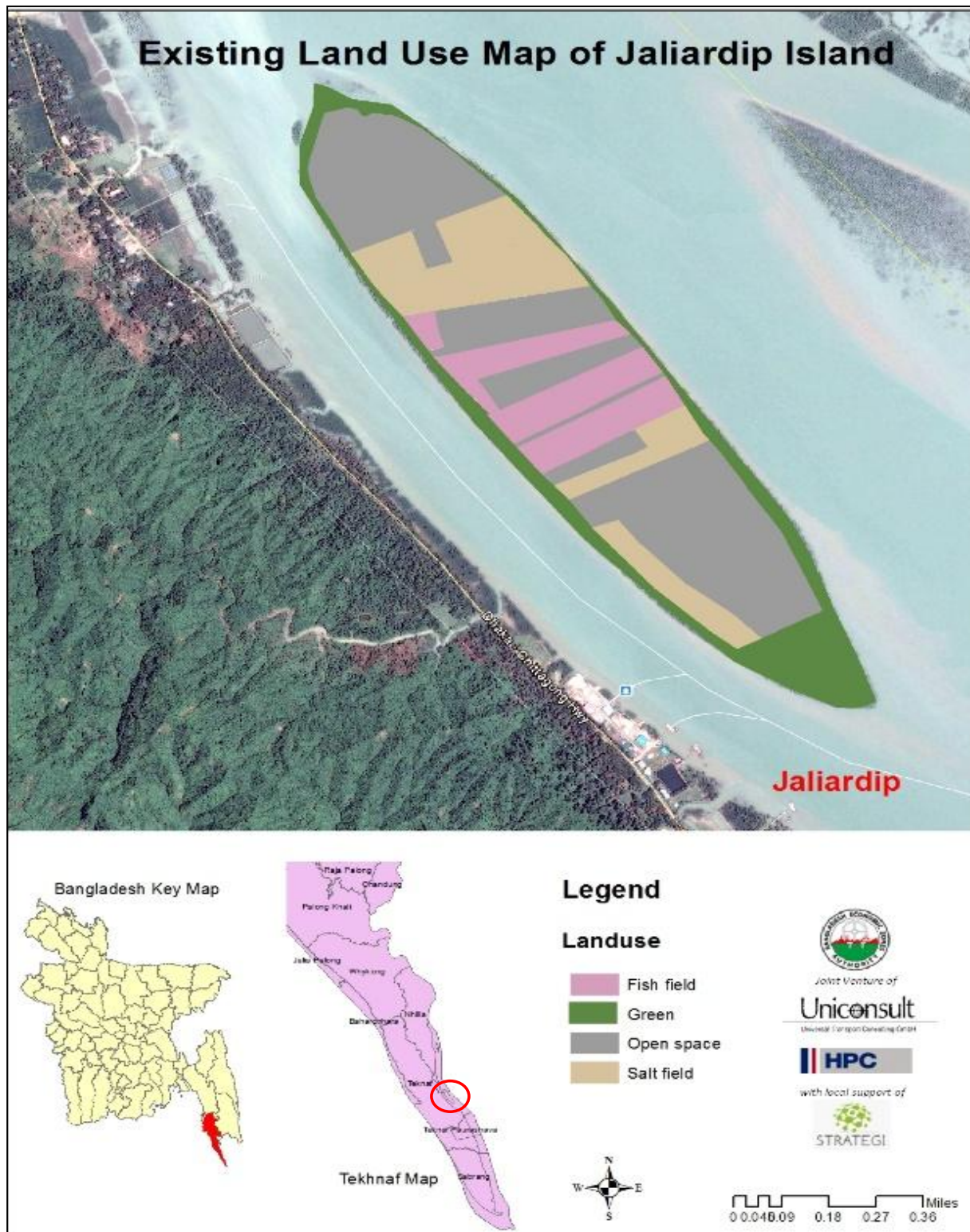
- *Integrated planning:* Jaliardip Island has no dwellers, but some outside residents are involved with fishing, salt cropping, etc. For the integrated planning process the Project should include these stakeholders' views into tourism planning and development. Stakeholders are broadly defined to include all those who have an interest and or are concerned/affected by tourism development. Among them are the Government, public and private sector, organizations, developers of tourism and heritage resources, local communities, etc. One should also bear in mind that tourism development must be part of a planned strategy for overall development. In order to achieve successful planning it is therefore essential to involve all stakeholders.
- *Local participation:* These local people must be involved in planning of the tourism site; their involvement will, however, bring to light their social, cultural, economic and religious problems which, when addressed in the process of planning, will ensure the successful tourism development, which in turn will positively affect their way of life. Involvement of host communities in tourism planning and development is another proven way of poverty alleviation.
- *Tourism infrastructure:* For this place, the use of solar energy for electricity generation needs to be considered. On-the-place availability of other amenities, such as good drinking water, good access road and road network, communication, etc., should also be investigated.
- *Sustainability in resource usage:* Local alternative resources like solar panels, solar gas, timber for eco-tourism, modern sewage treatment plants (STP) as well as other utilities should be used wherever these can be established.
- *Funding:* An appropriate amount of money needed for execution of a tourism project should be made available either by state or federal government in order to ensure an overall improvement in the living standard of the host community.

2.2.2.2 Land use plan

The proposed area is not a dominant urban center in Cox's Bazar District, but is in great demand as a recreation site. The proposed site constitutes an open area used by the local inhabitants as fishing-breeding and salt-cropping grounds. Some of the area is cultivated with vegetables. The detailed land use is shown on the overleaf map.

As most significant advantage it can be stated that no resettlement of resident population will be necessary.

Figure 32: Land use of present Jaliardip Island



Source: Consultants

2.2.2.3 Zoning Plan

Zone Spotting

The whole area is divided into various zones. The zoning design is done in order to have a smooth visitors' circulation by simplifying the movement patterns and allow any inter-zone

movement. Parking and catering for the visitors' vehicles is planned away from the island on the mainland at strategic locations.

Following site parameters are considered while positioning the zones:

- Boundary shape
- Physical site features
- Area availability
- Environmental considerations
- Micro-climatic conditions
- Compatibility issues
- Surrounding areas
- Accessibility
- Transportation issues
- Visibility

Zoning is a device for regulating or controlling both present and future development and constitutes a vital player for designing facilities. Firstly, a broad zoning of the facilities is laid out where the major zones are frequented by external and internal tourist. As the proposed tourist zone is surrounded by the Naf River, functions were solved to serve the best results.

As the Government has given much emphasis on tourism planning and recreation facilities, the Project aims at achieving the same objective. Circulation is another important aspect in designing a tourism site. Equal emphasis was given on external and internal circulation. Individual entry was provided for each block for the convenience in circulation. Light, air flow, ventilation and community aspect were carefully considered. Different entries for different sectors have been provided with necessary number of stairs. For resort and recreation purposes and for maintaining the natural landscape characteristics, a focus was set on a harmonious interaction of nature, river, land and people, while providing opportunities for public recreation. In this way, the highest possible interlinkage between water and land was achieved, thereby turning an apparent "disadvantage" into an advantage, and consequently lowering any reclamation costs.

The zoning percentage for the proposed Jaliardip EZ tourism site is as follows:

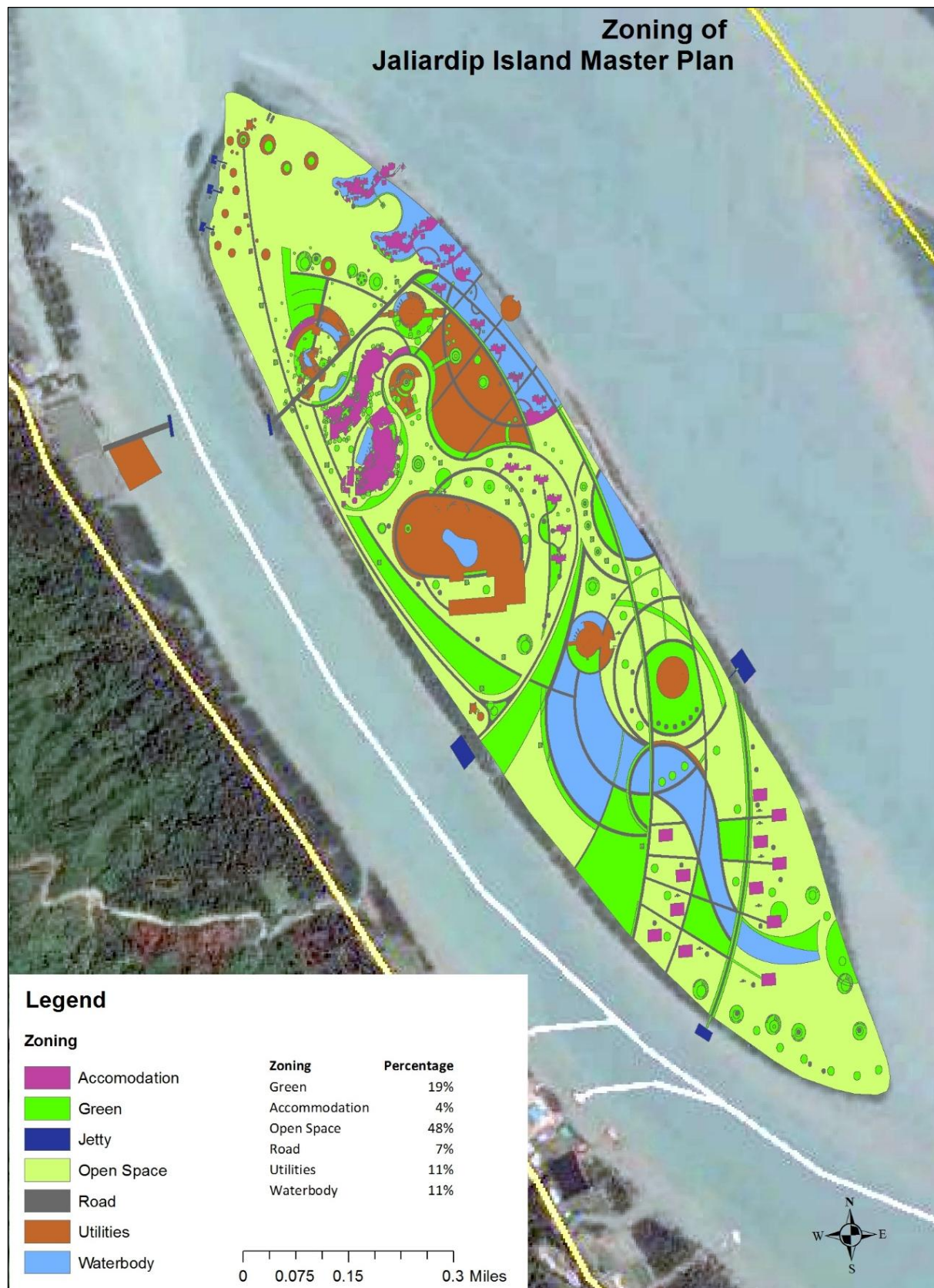
Table 13: Zoning proportion of Jaliardip EZ

Zoning	Percentage
Accommodation	4.0%
Children Park	7.5%
Green	18.9%
Jetty	0.6%
Lake	4.5%
Restaurant	0.5%
Open Space	48.2%
Parking	0.6%
Road	6.8%
Sitting Place	0.8%
Swimming Pool	0.1%
Utilities	0.9%
Water Body	6.5%

Source: Consultants

As a result, the Consultants drew up a design of a zoning plan (see overleaf figure).

Figure 33: Proposed zoning of future Jaliardip Amazing Island



Source: Consultants

2.2.2.4 Detailed design

Detailed master planning is done cluster-wise covering the following components:

- Micro level zoning,

- Land use plan,
- Detailing the locations and sizes of various land uses,
- Land parcel plan,
- Showing the subdivision of the land,
- Phasing,
- Utilities mapping,
- Greenery and open-space plan, and
- Road categories.

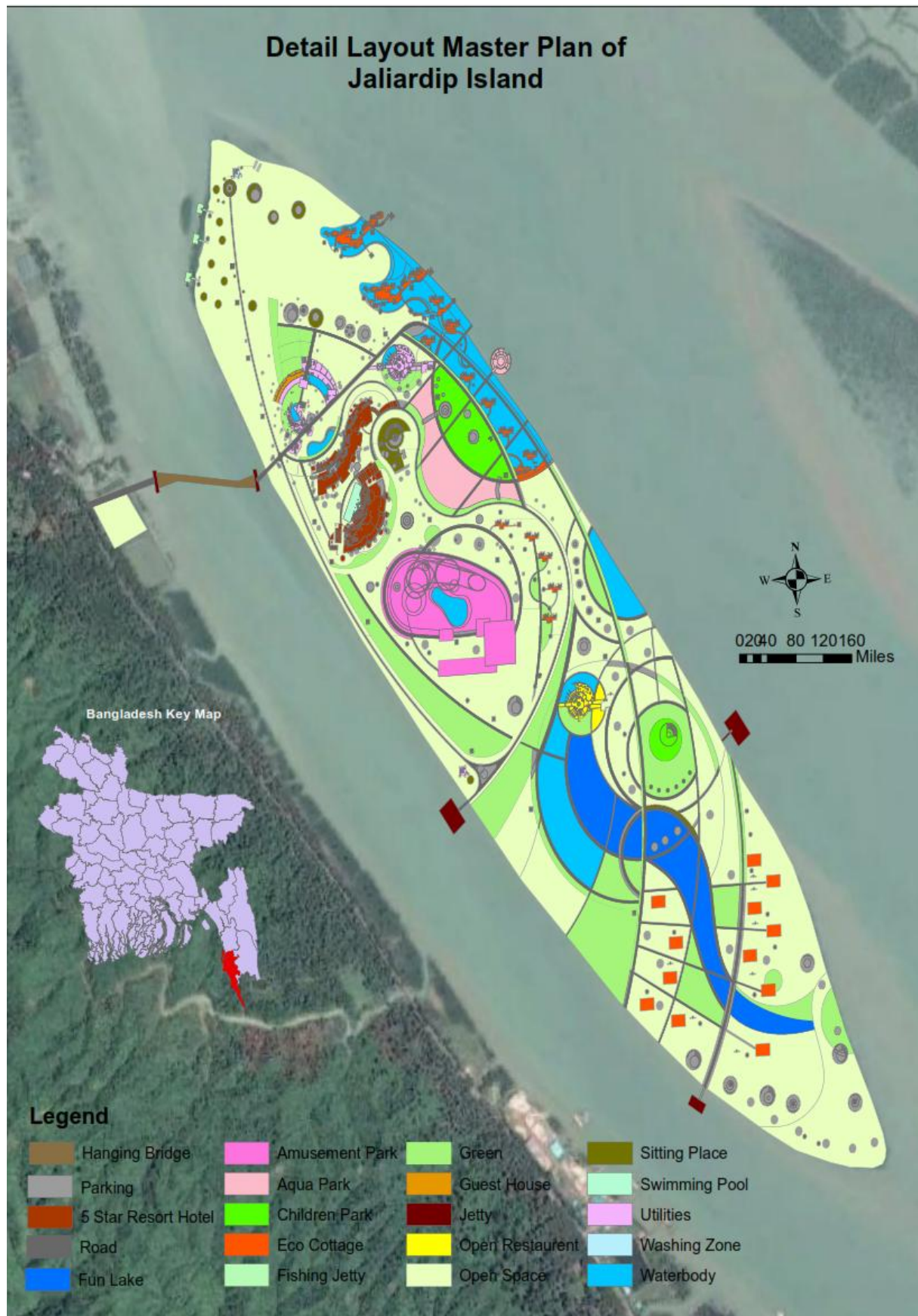
Design Requirements

The following are the parameters which the Consultants applied for their detailed design:

- Public space per stay-over visitor must be more than 0.1 acre;
- Density standard per day-time visitor of 0.09 acre;
- North South plot orientation;
- This place is in coastal areas, so the height limit for accommodations is G+4;
- *Architectural designs and control*: The guidelines for architecture stresses on suitable landscaping using local materials i.e. thatch and imported building material for resort construction to complement the natural vegetation and island environment. The guidelines restrict the construction of buildings exceeding the treetops or more than two stories. It also limits any construction within a distance of 5 meters from the shoreline.
- *Adequate water supply*: The Guidelines emphasizes on restricted use of limited ground water, roof catchment, storage and desalination using the reverse osmosis technique.
- *Waste disposal system*: It stresses for the utilization of controlled incineration, compaction and disposal in the deep-sea area. The Guidelines prohibit the disposal of plastic material and empty cans in the sea. They also encourage recycling of waste material and underground utility lines.
- *Control over marine ecology*: The guidelines forbid the collection of corals, seashells and rocks from the sea reefs and beaches. In fact, purchase on certain size of turtles, young lobsters and female lobsters ready to lay eggs may result in jail and penalty.
- It also prohibits the use of harpoons and guns to kill fish (spear fishing).
- *Control over turtle products*: The guideline prohibits display and sale of stuffed turtles in shops. It also prohibits export of turtle, tortoise shells and black coral.
- *Management*: The Ministry of Tourism (MoT) works in close coordination with private sector for the management of tourism industry. For instance, the MoT and private sector organizes regular meetings with the resort owners, managers and tour operator for proper functioning of tourism industry.
- According to Development Plans establishment of marine conservation areas and reserves has been given the topmost priority. To manage the natural environment BEZA and Bangladesh government has formulated and implemented environment standards, controls and established carrying capacity measures.
- These measure include guidelines for building construction such as: 1) control over tree cutting and restriction on constructing buildings above tree tops or more than two stories; 2) On an island maximum 20% of the total area can be occupied by buildings; 3) All guestrooms face the beach with a minimum of 5 m from the shoreline; and 4) 65% of the total length of beach on the island has been allocated for guestroom frontage, 20% for general resort facilities and remaining 15% for open space.

As a result, the Consultants drew up a design of a Master Plan:

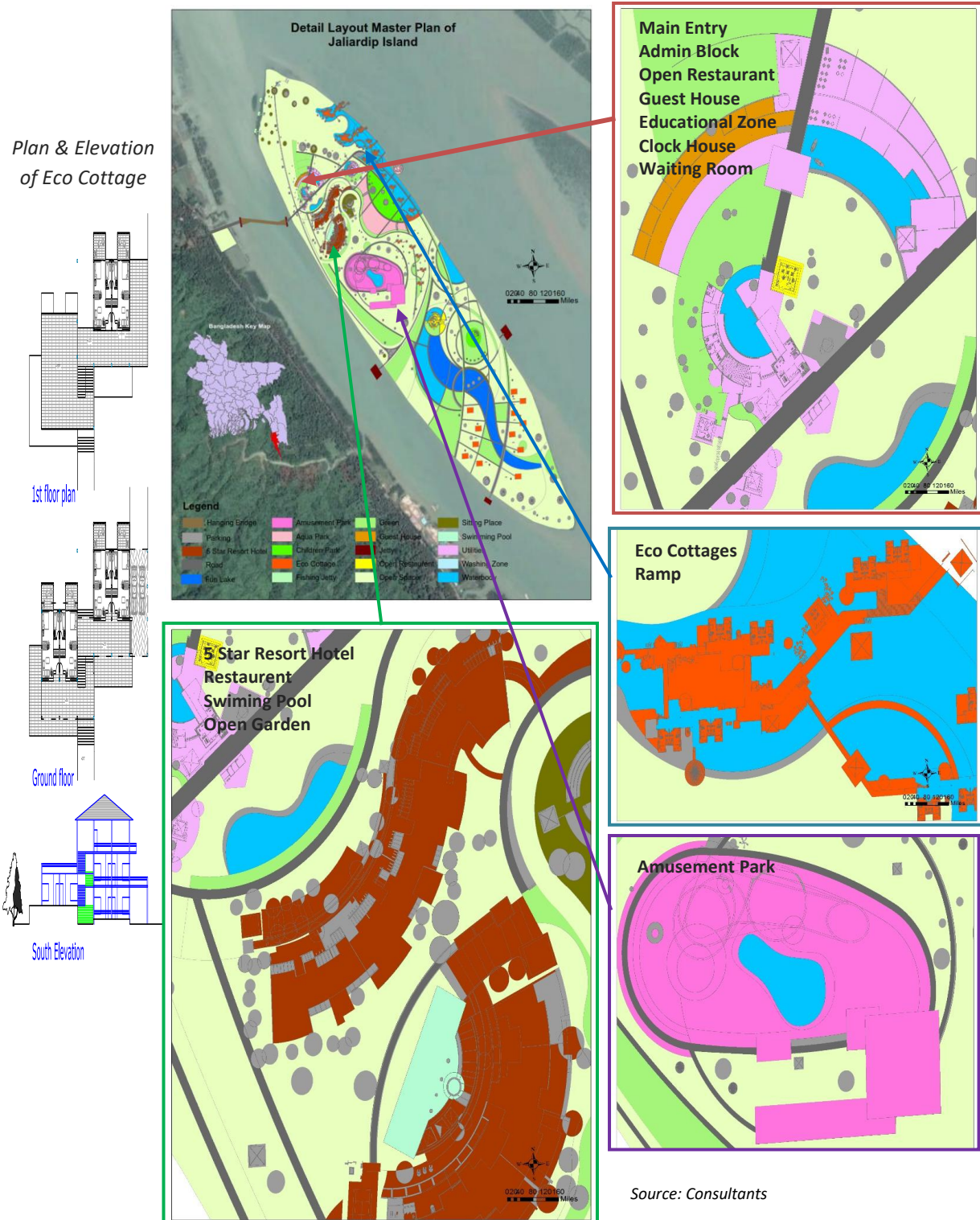
Figure 34: Detailed layout of future Jaliardip Amazing Island



Source: Consultants

The following graphic explains the most important details of the Master Plan.

Figure 35: Details of Master Plan for Jaliardip Amazing Island



In a next and final step, the Consultants intend to achieve a complete separation of the accommodation (stay-over) area from the visiting tourist (day-time) area. Such separation will provide for the highest exclusivity for stay-overs and consequently the basis for higher rents achievable.

Table 14: Design phases

Phase-1	Phase-2	Phase-3	Phase-4
Site analysis	Total program	Function	Detail Function
Gross program	Concept development	Detailed Master plan	Detail Master plan
Literature review	Zoning	Detail infrastructure analysis	
Concept formulation and sketches	Function analysis		
Zoning analysis	Master plan analysis		

Source: Consultants

Phasing concept: According to discussion with BEZA, development works shall be divided into two phases: In the 1st phase, BEZA will develop the Jaliardip Island land with protection works of embankment, the hanging cable bridge and an approach road. Total costing of works for structural development of Jaliardip Island would amount to BDT 2,182.07 million (or US\$ 27.98 million). An electrical substation would be constructed as a deposited work implemented by the *Rural Electrician Board* (REB). A well and water treatment works would be installed by the *Department of Public Health Engineering* (DPHE) as deposited work. However, costs for the gas connection from Cox's Bazar will need to be borne by the relevant GoB authority. All other infrastructure and utilities would need to be established by the Developer in the 2nd phase. Preliminary costing for the Developer would amount to BDT 1,648.7 million (or US\$ 21.14 million). In the 3rd phase, investors would establish the facilities and other superstructure. Preliminary costing for these investors would total BDT 2,952.02 million (or US\$ 37.85 million).

2.2.3 Activity 3: On and Off Site Infrastructure Requirements and Associated Costs

2.2.3.1 On-Site Infrastructure Requirements

Apart from the facilities and services it has to offer, tourism economic zones generally also consist of necessary infrastructures to support the delivery of desired services to the tourists. Some of the necessary infrastructures are:

- Internal and external connectivity;
- Utilities such as – power supply, water supply, drainage/sewerage and sanitation, solid waste management;
- Social infrastructure such as hospitals, police or BGB stations, etc.;
- Adequate security.

Transport & Communication

An approach road is proposed from the proposed hanging bridge end to the Cox's Bazar-Teknaf highway (see overleaf figure). Length of the road would be maximum 600 m, and width is proposed for 2-lane capacity. Car parking, drivers' hostel, and substation would be on the side of the approach road. This road would be an off-side construction which would need to be developed by BEZA. A suitable drainage facility is suggested for the drainage of the parking and building area as off-side structures. The course of internal roads (for pedestrians and possibly electric trolley cars) and walkways would be adapted to the Island's facilities.

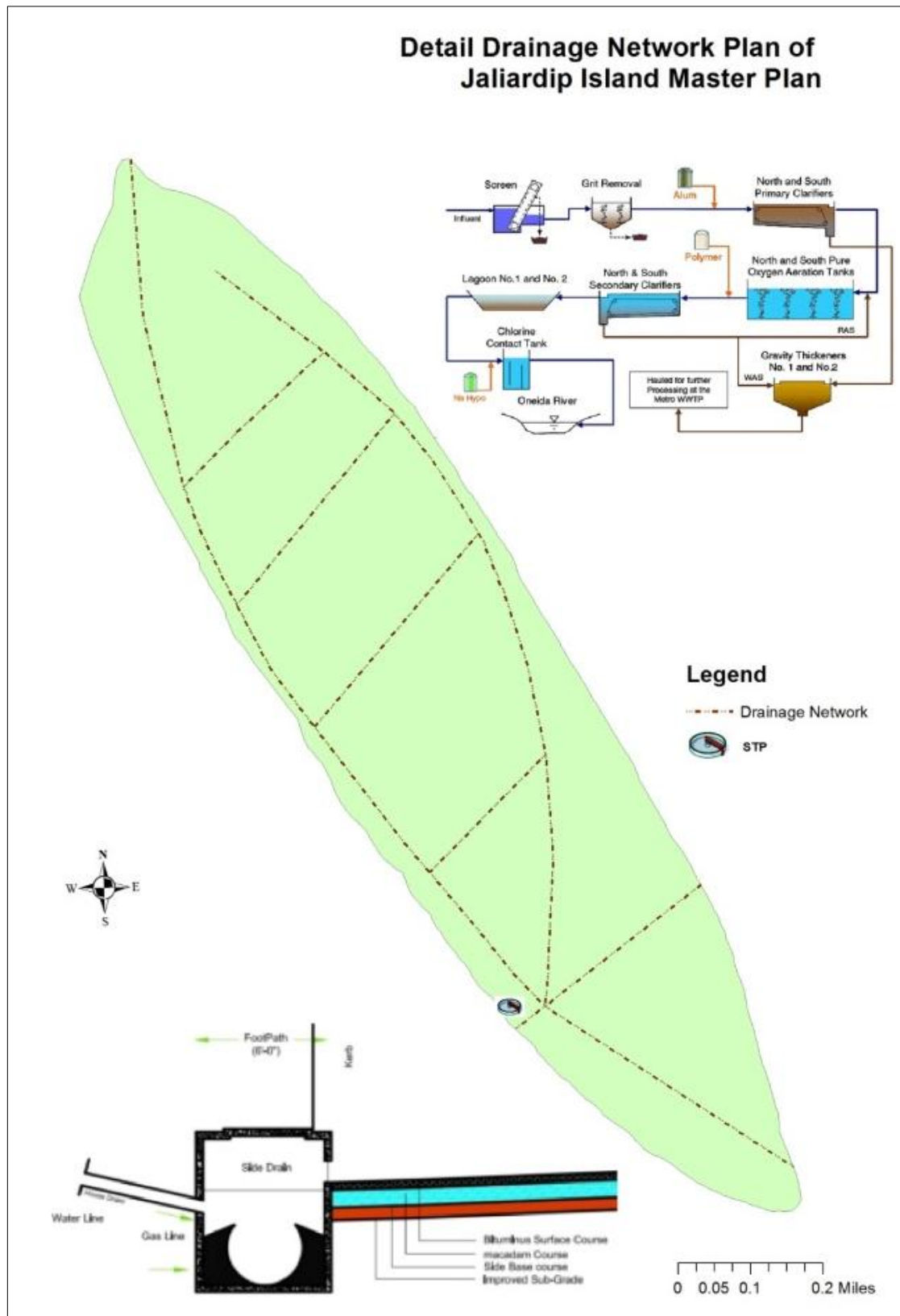
Figure 36: Internal road network of Jaliardip Island



Source: Consultants

The drainage network (see overleaf figure) follows, where practicable, the internal road distribution.

Figure 37: Drainage network of Jaliardip Island



Source: Consultants

There should be a water-shuttle connection between Jaliardip EZ and *Sabrang Tourism Park* along a river 3 km north of the southern tip of Teknaf peninsula. Clearing an already existing connection channel on the river's western side would save long trips around the shoals between Teknaf peninsula and Saint Martin Island (see *Appendix 8*).

A hanging cable bridge of about 450m length is proposed for a pedestrian connection between Jaliardip Island and the Cox's Bazar Teknaf Road.

Major access, however, would be by cable car. Below map indicates the course of the line. The visitors' arrival station (20°53'48.65"N, 92°17'3.38"E) would be on ground height of 130 feet (56 m). From there, one line of 2.14 km length leads to the island station (20°54'55.28"N, 92°16'44.69"E) at ground height of 10 feet (3 m), a second line of 3.98 km length to the sanctuary station (20°54'48.58"N, 92°15'1.83"E) on the highest nearby hill peak at ground height of 655 feet (282 m). Both lines might need at least one extra pylon as they exceed 1 km length. A roller coaster (for an impression see 2nd leaf of *Appendix 10*) would provide a thrilling direct connection over 2.98 km from the hill peak to the island station.

Figure 38: Cable-car and roller-coaster connection to Jaliardip Amazing Island and Teknaf Wildlife Sanctuary



Source: Consultants

Tourist activities on Jaliardip Amazing Island would be complementary to those offered in Sabrang Tourism Park. The Consultants have identified, discussed with BEZA, and received its preliminary approval for further appraisal of, the following tourist activities (for impressions see *Appendix 10*):

- Cable-car connection to Jaliardip island – Teknaf Highway Z1099 (N1) and further on into the Teknaf Wildlife Sanctuary (see next page), roller-coaster from the Teknaf Wildlife Sanctuary stop down to Jaliardip Amazing Island;
- Cyclone-proof (iron & stone integrated into the environment) accommodation, with half of the floor area over land and the other glass-bottomed half jutting out over the island's marine reservoirs (with attached balcony and waterfall over its roof);
- Glass-bottomed restaurants located over the island's marine reservoirs;
- Duty-free shopping mall and specialty shops;
- Security and immigration, i.e. *Border Guard of Bangladesh* (BGB) and *Customs Authorities* (plus BGB high-surveillance equipment at Teknaf Wildlife Sanctuary Cable-Car Station);

- Land-based attractions such as an adventure park and miniature/water golf;
- Water- based attractions such as an aqua park;
- Water Fun around the Island, such as jet skiing and parasailing;
- Boat cruises up-river and down-river until St. Martin's Island.

2.2.3.2 Off-site infrastructure requirements

Utilities

Water: There is no existing water supply system at the proposed site and within Teknaf town. The local inhabitants are dependent on shallow tube wells for the purpose of drinking water. The depth of shallow tube wells is about 20 m. However, on average only one of ten tube wells produce fresh water, while the great majority of wells hit salt water. Again, the bank of the river is on the hill side. Installation of deep tube wells is not possible due to stone underground. In the bank of the river, the Port Authority stores spring water in a big pond for drinking purposes. This indicates that deep wells cannot be installed as off-site infrastructure. On Jaliardip island, it may be possible to install deep wells depending on proper bore-log information. Depth of fresh water may be about 200 m to 250 m below the existing ground level. On the other hand, the proposed EZ is bounded by the Naf River on all its sides. Preliminary assessment therefore suggests that the water requirement could be met by extracting water from the Naf River through a water purification plant.

Electricity: The nearest substation to the proposed EZ is Teknaf substation having a capacity of 10 megawatt ampere (MVA). According to information from UNO and Rural Electrification Board (REB) officials, this substation has excess capacity of 3.5 MVA, tapping may be taken from this line and a 33/11 kilovolt (KV) substation may be proposed at site. A grid substation of 132/33 KV is available at a distance of 80km in Cox's Bazar. A 33 KV line is passing along the road which is located within 0.5km from the proposed EZ. For a full operation of Jaliardip Island, this limited electricity supply will not be sufficient, whereas the Government guarantees uninterrupted future supply. A 1,320 megawatt (MW) coal-fired thermal-power generation unit is earmarked to be set up in Matarbari, north of Cox's Bazar.⁶⁸ Wind energy has also made some inroads but its potential is mainly limited to coastal areas, and offshore islands with strong wind regimes. These coastal settings afford good opportunities for wind-powered pumping and electricity generation. Presently, there are 2 MW of installed wind turbines at Feni and Kutubdia.

Gas: There is no gas supply point available near the proposed Jaliardip EZ. A 24" gas transmission line is available up to Shikalbaha power plant near Chittagong (located at a distance of approximately 190 km from the proposed EZ). A 16" gas pipeline from this place to Cox's Bazar is proposed to be laid out. Still, the 80 km distance from Cox's Bazar to the proposed EZ would also need to be covered. Also, the Government promotes a switch from LNG to LPG consumption.

Telephone/Internet Information: A fiber-cable line is not available near the site. But Mobile companies such as Grameen Phone, Airtel, Banglalink, Teletalk, etc. are providing services here.

Transport & Communication

⁶⁸ Source: Ahsan Uddin Ahmed, Saleemul Haq, Mahbuba Nasreen and Abu Wali Raghieb Hassan: *Sectoral inputs towards the formulation of Seventh Five Year Plan (2016 – 2021) Climate Change and Disaster Management* - Final Report, January 2015, p. 43

In addition to connecting the island to the mainland by a pedestrian bridge and a ferry service, the idea of the establishment of a cable car has been elaborated. The following pictures show the probable line of the cable car and its distances. The first section offers a cable car ride over more than 3 km length. This would take around 15 minutes. The second section would be operated from the island strait up to the mountains of the Wildlife Sanctuary.

Below figures depict possible cable car designs.

Figure 39: Possible cable car designs for Jaliardip Island



Source: Google Earth, www.Doppelmayr.at

Once having arrived at the top cable car station within the Wildlife Sanctuary, the guest will have the opportunity to participate in a guided tour, or to walk, to a view point within the sanctuary. The following figure shows some ideas how such a hiking trail could be made.

Figure 40: Ideas elaborating the view point



Source: Google Earth

The photos overleaf depict the possible site for the visitors' arrival station of the cable car connection.

Figure 41: Possible site for cable-car visitors' arrival station



Source: Consultants

The cable car would connect to the following road network:

Figure 42: External road network connecting with Jaliardip Island



Source: Consultants

2.2.3.3 Associated costs

The cost calculation of Jaliardip Island is divided into three parts:

(1) *Table 15* is for structural development of Jaliardip Island which is essential for BEZA, its total costing would amount to BDT 2,182.07 million or US\$ 27.98 million (August 2016 equivalent). The Consultants introduced the cost of the bridge as it is essential for such a sensitive place considering political and environmental reasons. However, costs for the gas connection from Cox's Bazar (SL. No. 9) will need to be borne by the relevant GoB authority. Formation level is considered HFL +0.6 m and embankment top level is considered PWL + surge height minimum as per BNBC. For a costing of sand filling please see *Appendix 11*.

Table 15: Structural development of Jaliardip Island (costs initially partly borne by GoB)

SL. No.	Description of works	Unit	Quantity	Rate (BDT)	Amount (BDT million)
1	Land filling with dredging sand FM>0.8	m ³	3,771,091	174	656.17
2	Cable-stayed pedestrian bridge, 2.44 m width including superstructure, substructure, foundation and protection works	m	450	250,000	112.50
3	Electrical external connectivity 33 KV line with 33/11 KV substation (capacity 5 MVA)	no.	1	50,000,000	50.00
4	Electrical external connectivity 33 KV line with 33/11 KV substation	m	7,000	2,000	14.00
5	Water treatment plant intake from Naf River	no.	1	107,000,000	107.00
6	Sewage Treatment Plant (STP)	no.	1	107,000,000	107.00
7	CC-block protection for internal water bodies (including 200 mm thick CC block, geo-textile and 100 mm thick granular bed)	m	6,000	54,400	326.40
8	Approach road (2-lane width with drainage facilities)	km	0.6	15,000,000	9.00
9	Gas connection 16" line from Cox's Bazar	km	80	10,000,000	800.00
				Total	2,182.07

Source: Consultants

(2) *Table 16* serves for the developer's preliminary costing, total cost would amount to BDT 1,648.7 million or US\$ 21.14 million (August 2016 equivalent). The basis of rates is as per PWD/RHD schedules of rates and practical experience.

Table 16: Preliminary costs of developer

SL. No.	Description of works	Unit	Quantity	Rate (BDT)	Amount (BDT million)
1	RCC column, footing, grade beam, copping and brick wall construction boundary wall	m	5,500	30,000	165.00
2	Jetty	nos.	3	25,000,000	75.00
3	Internal RCC drainage line depth from 450 mm to 900 mm and width 300 mm	m	2,000	15,000	30.00
4	Internal street light	m	8,000	10,000	80.00
5	Internal BC/ RCC road average 5.6 m width	m ²	86,727	4,000	346.91
6	Parking area	m ²	1,000	2,000	2.00
7	Drivers facilities 3 storied RCC building	m ²	500	20,000	10.00
8	Fishing jetty	m ²	1043	20,000	20.86
9	Green	m ²	167,709	1,000	167.71
10	Sitting place	m ²	10,957	5,000	54.79
11	Utility zone	m ²	11,566	10,000	115.66
12	Washing zone	m ²	365	8,000	2.92
13	Rain water reservoir	m ²	1,000	8,000	8.00
14	Water body	m ²	84,929	2,000	169.86
15	Cable car including station, lift etc. complete	nos.	4	50,000,000	200.00
				Total	1,648.70

Source: Consultants

(3) Finally, *Table 17* serves for future investors' preliminary costing, total cost would amount to BDT 2,952.02 million or US\$ 37.85 million (August 2016 equivalent). The basis of rates is as per PWD/RHD schedules of rates and practical experience.

Table 17: Preliminary costs of future investors

SL. No.	Description of works	Unit	Quantity	Rate (BDT)	Amount (BDT million)
1	5 star hotel construction	m ²	22,259	25,000	556.48
2	Amusement park	m ²	50,435	10,000	504.35
3	Aqua park	m ²	46,872	12,000	562.46
4	Children park	m ²	24,038	10,000	240.38
5	Eco cottage	m ²	27,948	15,000	419.22
6	Fun lake	m ²	58,157	10,000	581.57
7	Guest house	m ²	1,298	15,000	19.47
8	Open restaurant	m ²	6,256	8,000	50.05
9	Swimming pool	m ²	1,804	10,000	18.04
				Total	2,952.02

Source: Consultants

2.2.4 Activity 4: Environmental and Social Footprinting

An “Ecological Footprint” stands for the size of a productive land area that is required to provide the resources that are needed for a certain product or industry (or even a country, or humanity in total, depending on the definition of a boundary), and that is necessary to absorb the waste that has been generated. In other words, it compares the resources that have been used (e.g. energy, food, soil and water) to earth's ability to regenerate these resources.

Footprint assessments depend upon the amount and quality of data of all resources used. As the EZ project is still in its pre-feasibility stage, and the exact amount of resources cannot be decided on yet, it is difficult to define this ecological footprint now, as it will be the sum of the footprints of all activities required to create that product, including the handling and treatment of waste and sewage that will be generated in each EZ.

During their stay on location (01 to 12 August 2015), the Consultants were asked to propose as far as possible “best practice” measures and/or technologies that can be applied to keep the environmental and social footprint as small as possible. The Consultants will comply with this request as far as possible and feasible. Thus, key actions will be elaborated and the significance of their impacts on the natural or social environment will be assessed and “best practice” measures to mitigate the impacts will be proposed.

The development of an EZ should not be considered separately as its influence will exceed the project sites. From Jaliardip Island there can be a positive synergetic effect for the entire region.

2.2.4.1 Legal and Regulatory Framework

National Environmental Laws and Legislation

Bangladesh has a comprehensive legal framework for environmental governance. There are around two hundred laws in Bangladesh with direct relevance to environment⁶⁹, handled by different sectoral legislations. Bangladesh has environmental laws that deal specifically with:

- Land use,
- Air pollution,
- Noise,
- Waste management,
- Water resources,
- Fisheries,
- Forest conservation,
- Wildlife protection,
- Wetland and coastal zone management,
- Environmental health and sanitation,
- Agriculture,

and other related subjects.

Major laws and regulations in the environmental sector include:

- *National Environmental Policy, 1992*: The Bangladesh National Environmental Policy, approved in May 1992, sets out the basic framework for environmental action together with a set of broad sectoral action guidelines. It was drawn up with the aim of providing protection and sustainable management of the environment. The objectives of the Policy include:
 - Maintaining the ecological balance and overall development through protection and improvement of the environment;
 - Identifying and regulate polluting and environmentally degrading activities;
 - Ensuring environmentally sound development and the sustainable use of all natural resources.
- *The National Environment Management Action Plan (NEMAP), 1995*: Formulated in 1995, NEMAP envisages identification of the key environmental issues of immediate concern for Bangladesh and the actions to halt or reduce environmental degradation, improve the natural and man-made environment, conserve biodiversity and its habitat, promote sustainable development and improve the quality indicators of human life.
- *Environment Conservation Act (ECA) 1995*: In the year 1995, the Environment Conservation Act (ECA) 1995 became effective. Section 12 of this Act stipulates that “no industrial unit or project shall be established or undertaken without obtaining environmental clearance from the Director General, Department of Environment (DG, DOE) in the manner prescribed by the rules”. Furthermore, the act requires conducting an environmental impact assessment (EIA) for various projects and activities that are

⁶⁹ Country Environmental Analysis Bangladesh, Asian Development Bank, July 2004

reviewed and evaluated by the DOE⁷⁰. Thus, EIA is a compulsory instrument of environmental planning of new industry projects.

- *Environment Conservation Rules, 1997 (Amended in 2002)*: The Environment Conservation Rules is the first set of rules promulgated under the Environment Conservation Act, 1995. Among others, the Rules are the most important legislative documents for prevention of industrial water pollution. They provide additional guidance for specific components of the Act.
- *The Environmental Court Act 2000*: It supports the Environment Conservation Act (1995) and the Environment Conservation Rules (1997) by providing for the establishment of environmental courts for the trial of offences relating to environmental pollution. It includes protocols for the establishment of the court, and defines the court's jurisdiction, appropriate penalties, powers of search and entry, and procedures for investigation, trial and appeal. The Environment Conservation Act, 1995 and the Environmental Court Act 2000 were amended in 2002 and the Environment Conservation Rules, 1997, were extended to incorporate ambient air quality and exhaust of vehicles.
- *The EIA Guidelines for Industry (1997)*: This is a handbook defining procedures for preparing EIAs and for reviewing them, prepared for the benefit of the development partners, EIA consultants and reviewers. Industrial units and projects shall, in consideration of their site and impact on the environment, be classified into the following four categories:
 - Green,
 - Orange-A,
 - Orange-B, and
 - Red.
- *Environmental Clearance for Industrial Sites*: This is a mandatory permission issued by the Director General, Department of Environment (DoE), before starting up a new industrial unit or project, or extension of the industrial unit. Environmental Clearance for Green category industries and projects is provided through comparatively simple procedure. In case of Orange-A, Orange-B and Red Category industries and projects, Site Clearance is mandatory at the beginning, then EIA approval and finally Environmental Clearance is issued. The Environment Clearance is to be renewed after three years for Green category and one year for Orange-A, Orange-B and Red category industries respectively.

Other sectoral policies include:

- *The National Water Policy, 1999*: This Policy shall ensure protection, restoration and enhancement of water resources, protection of water quality, including strengthening regulations concerning agrochemicals and industrial effluents.
- *The Forest Act (1927) and the Forest (Amendment) Act (2000)*: This Act (1927) was enacted to control trespass, illegal resources extraction from forests and to provide a framework for the forestry revenue collection system.

⁷⁰ EIA Guidelines for Industries, Department of Environment, Ministry of Environment and Forest, Government of the People's Republic of Bangladesh, June 1997

- *National Forest Policy (1994)*: The National Forest Policy of 1994 is the amended and revised version of the National Forest Policy of 1977.
- *Bangladesh Wildlife (Conservation & Security) Act, 2012 (previously known as Bangladesh Wildlife (Preservation) Order, 1973; amended as Bangladesh Wildlife (Preservation) Act 1974)*: This Order aims to protect and conserve wildlife in Bangladesh. Wildlife preservation, conservation and management fall within the jurisdiction of the Forestry Department.
- *Marine Fisheries Ordinance (1983)*: Regulates coastal resources management, marine biodiversity conservation, and prevention of marine pollution.

International Agreements, Treaties, Conventions and Protocols

Bangladesh is party to a number of international conventions; treaties and protocols related to environmental protection, among them:

- The **Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal**, usually known as the **Basel Convention**, an international treaty that was designed to reduce the movements of hazardous waste between nations, and specifically to prevent transfer of hazardous waste from developed to less developed countries (LDCs).
- The **Convention on Biological Diversity (CBD)**, known informally as the Biodiversity Convention, is a multilateral treaty. The Convention has three main goal, namely:
 - Conservation of biological diversity (or biodiversity);
 - Sustainable use of its components; and
 - Fair and equitable sharing of benefits arising from genetic resources.
- The **Cartagena Protocol on Biosafety to the Convention on Biological Diversity** is an international agreement on biosafety as a supplement to the Convention on Biological Diversity effective since 2003. The Biosafety Protocol seeks to protect biological diversity from the potential risks posed by genetically modified organisms resulting from modern biotechnology.
- **CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora**, also known as the **Washington Convention**) is a multilateral treaty to protect endangered plants and animals. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten the survival of the species in the wild.
- The **Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia**, an intergovernmental agreement that aims to protect, conserve, replenish and recover sea turtles and their habitats in the Indian Ocean and South-East Asian region.
- The **United Nations Convention to Combat Desertification (UNCCD)** is a Convention to combat desertification and mitigate the effects of drought through national action programs that incorporate long-term strategies supported by international cooperation and partnership arrangements.
- The **Kyoto Protocol** that was implemented to fight global warming by reducing greenhouse gas concentrations (in particular CO₂) in the atmosphere to "a level that would prevent dangerous anthropogenic interference with the climate system" (Art. 2).

- The **Ramsar Convention**, an international treaty for the conservation and sustainable use of wetlands. For Bangladesh, the Sundabans and Tanguar are listed as wetland ecosystems of national and international importance.
- The **Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia** is an intergovernmental agreement that aims to protect, conserve, replenish and recover sea turtles and their habitats in the Indian Ocean and South-East Asian region.
- The **Vienna Convention for the Protection of the Ozone Layer**.

World Bank's Safeguard Policies

The World Bank has developed environmental and social safeguard policies that are the cornerstones of its support to sustainable development and poverty reduction.

The objective of these policies is to prevent and mitigate undue harm to people and the environment in a development project financed by the World Bank. The implementation of these policies is described in different Operational Policies (OP) and Best Practices (BP), they provide guidelines for the borrower when planning and realizing a project.

In essence, the safeguards ensure that environmental and social issues are evaluated in decision making, help reduce and manage the environmental and social risks associated with a project, and provide a mechanism for consultation and disclosure of information.

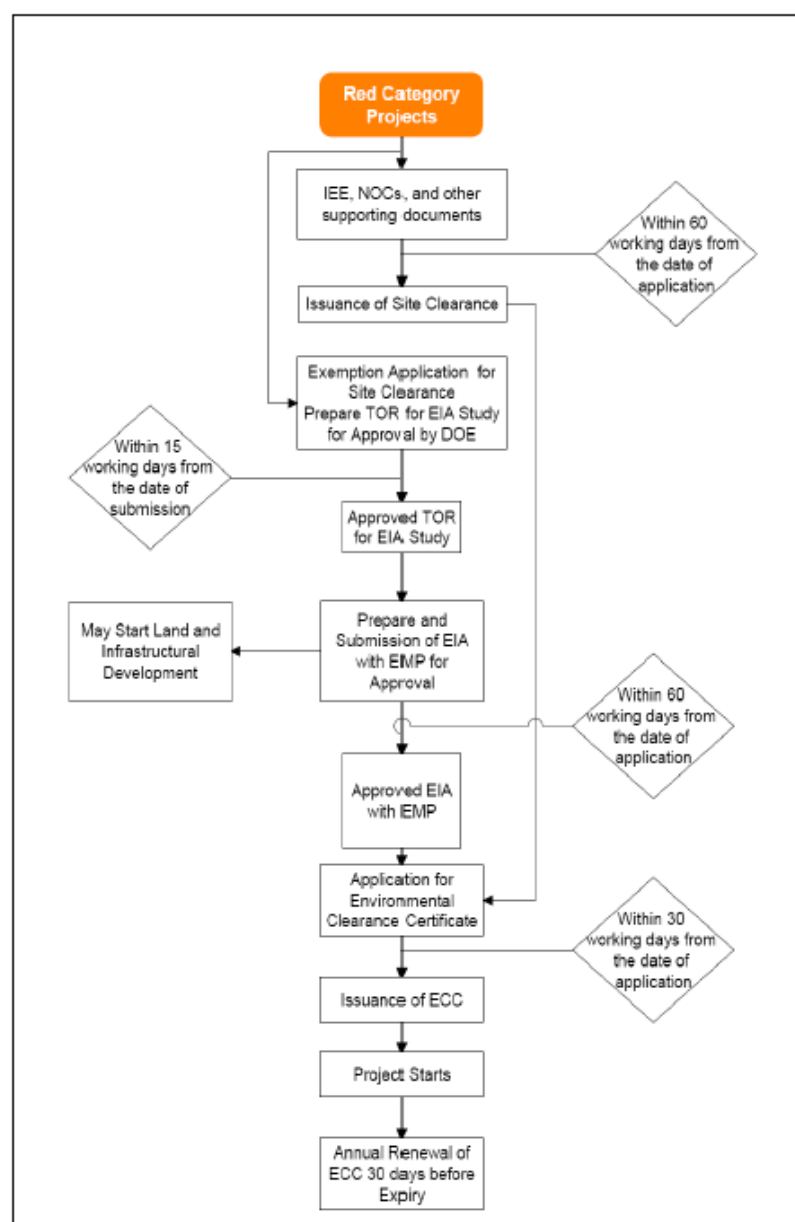
Safeguards applicable to the project are listed below:

Table 18: World Bank environmental and social safeguards and their policy objectives

OP/BP	Safeguard	Policy Objective
4.01	Environmental Assessment	Help ensure the environmental and social soundness and sustainability of investment projects. Support integration of environmental and social aspects of projects in the decision-making process
4.04	Natural Habitats	Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions
4.11	Physical Cultural Resources (PCR)	Assist in preserving PCR and in avoiding their destruction or damage. PCR includes resources of archeological, paleontological, historical, architectural, religious (including graveyards and burial sites), aesthetic, or other cultural significance
4.12	Involuntary Resettlement	Avoid or minimize involuntary resettlement and, where this is not feasible, assist displaced persons in improving or at least restoring their livelihoods and standards of living in real terms relative to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher
4.36	Forests	Realize the potential of forests to reduce poverty in a sustainable manner, integrate forests effectively into sustainable economic development, and protect the vital local and global environmental services and values of forests

Source: The World Bank

Figure 43: Steps to be followed for Environmental Clearance Certificate (ECC) for Red Category Projects



2.2.4.2 Development of eco-tourism

Rules and Regulations in Respect to Eco-Tourism

The Government of Bangladesh has formulated policy, rules and regulations in order to make tourism effective, and to increase employment opportunities in this sector, especially in rural areas.

This policy includes development of eco-tourism. For this, several Ministries and Agencies are working together, including:

- Ministry of Civil Aviation & Tourism,
- Ministry of Water Resources,
- Ministry of Environment and Forests,
- Department of Forests,

- Department of Fisheries,
- Bangladesh Tourism Board, and
- Bangladesh Parjatan Corporation.

One of the laws that the Government of Bangladesh has passed is the “Bangladesh Protected Tourism Area and Special Tourism Zone Bill-2010” and prepared related bye-laws under this law, including the “Bangladesh Tourism Protected Areas and Special Tourism Zone Rules, 2011”. By passing the law, eco-tourism shall be a tourist sector of high potential for Bangladesh.

Eco-tourism development should be guided under proper planning, management standards and guidelines so that the threat to biodiversity and cultural heritage are mitigated. The tourism development policy should be pro-poor ensuring that tourism growth also contributes to poverty reduction in the coastal areas.

Certification of Eco-Tourism

Certification is a way of ensuring that the eco-tourism meets certain standards.

Within the tourist industry, different organizations have developed certification programs measuring different aspects of tourism:

- (a) quality, for the entire tourist industry,
- (b) sustainability, also for all sectors, and
- (c) eco-tourism, for sustainable tourism that takes place in natural, protected, or fragile ecosystems and that may include indigenous communities.

For eco-tourism, certification is important because it sets standards and helps distinguish genuine eco-tourism and sustainable tourism businesses from others that make empty claims. This helps to protect the integrity of these concepts.

Furthermore, certification helps businesses to improve themselves, as going through a certification process is educational. A better-operating business tends to be more efficient and to attract more clients.

Other benefits are:

- Certification in general increases public awareness of responsible business practices;
- Certification can alert tourists to the environmental and social issues in an area, allowing them to act more respectfully or contribute to solutions;
- Certified businesses tend to offer better quality service; and
- Certification requires the businesses to protect the environment and the social and economic structure of local communities.

The World Tourism Organization identified in a study published in 2002 over 60 sustainable and eco-tourism certification programs around the world. A few programs operate worldwide, some are regional, and most are national or local. Some of the more important criteria for evaluating programs are:

- To what degree do they take into account all three aspects of the “triple bottom line” – environmental, socio-cultural, and economic sustainability?

The most commonly used system is the ISO 14001 for environmental management systems. They certify businesses that have established and documented systems for assuring the improvement of quality or environmental performance and for certifying sustainable tourism worldwide.

BEZA has decided to develop “Eco-Tourism” at Jaliardip Island. In the Consultants’ view this is the right decision, as there is the need and also the perfect precondition for sustainable tourism development in the area, due to the beautiful landscape at both river banks and the proximity of the Teknaf Wildlife Sanctuary which must be regarded as “sensitive area” that needs protection. *Bangladesh Parjatan Corporation* also supports this idea; the development of “mass tourism” is explicitly not foreseen for Jaliardip Island.⁷¹

Best Practice

Eco-tourism as such is already “best practice” tourism, as its core principles are: *emphasis on conservation, education, traveler responsibility and active community involvement*. Thus, there is a strong connection between tourism development, environmental protection and social sustainability.

The *United Nations Conference on Sustainable Development (Rio+20)*, held in June 2012, emphasized that “sustainable tourism, well managed and designed, can make significant contributions to sustainable development”. *Rio+20* encouraged investments in eco-tourism and cultural tourism, small business creation and called for facilitating access to finance, including through micro credits issued to local communities, the poor, and to indigenous peoples.⁷²

Two well-established definitions of eco-tourism are provided in the text-box below:

Figure 44: Definitions of “Eco-Tourism”

Definitions of “Eco-Tourism”
<p><u>The World Conservation Union (IUCN, 1996):</u></p> <p><i>Environmentally responsible travel and visitation to natural areas, in order to enjoy and appreciate nature (and any accompanying cultural features, both past and present) that promote conservation, have a low visitor impact and provide for beneficially active socio-economic involvement of local peoples</i></p>
<p><u>The (International) Ecotourism Society (1990):</u></p> <p><i>Responsible travel to natural areas that conserves the environment and improves the well-being of local people</i></p>

Thus, eco-tourism must account for social, economic and environmental implications in order to be successful.

There is a fine line between sustainable and unsustainable tourism, as also eco-tourism will have a certain impact on the direct project area. Therefore it is strictly recommended to

⁷¹ Source: Verbal communication at *Bangladesh Parjatan Corporation*, August 2016

⁷² Compendium of Best Practices in Sustainable Tourism Fen Wei for United Nations Department of Economic and Social Affairs – see: <https://sustainabledevelopment.un.org/content/documents/3322Compendium%20of%20Best%20Practices%20in%20Sustainable%20Tourism%20-%20Fen%20Wei%2001032014.pdf>

prepare Environmental Impact Assessments (EIAs) for each step of the development, i.e. for each single construction work, and not one EIA for the development of the entire area.

For operation of the EZ it is important to closely follow the Environmental and Social Action Plans (ESAPs) that should be developed within each EIA.

Potential impacts of eco-tourism that need to be assessed and mitigated may include:

Table 19: Potential impacts of eco-tourism

Element	Examples of risks from eco-tourism activities
Ecosystems	The construction of accommodation, visitor centers, infrastructure, and other services has a direct impact on the environment, from vegetation removal, animal disturbance, elimination of habitats, impacts on drainage etc. Wildlife habitat may be significantly changed (travel routes, hunting areas, breeding areas, etc.) by all kinds of tourist development and use.
Soils	Soil compaction can occur in certain well-used areas. Soil removal and erosion also occurs, and may continue after the disturbance is gone
Vegetation	Concentrated use around facilities can have a negative effect on vegetation. Transportation may have direct negative impacts on the environment (e.g. vegetation removal, weed transmission, animal disturbance).
Water	Increased demands for fresh water. Disposal of sewage or litter in river. Release of oil and fuel from ships and smaller craft.
Air	Motorized transportation may cause air emissions (from plane, train, ship or automobile).
Wildlife	Fishing may change fish population. Disturbance by visitors can occur by noise or visual impact. Marine mammals may be hurt or killed by boat impacts or propeller cuts. Habituation to humans can cause changed wildlife behavior, such as approaching people for food (in particular monkeys!).

Source: *Eco-tourism - Sustainable Tourism in National Parks and Protected Areas*⁷³ - (adapted by the Consultants)

Like many countries in the past, Bangladesh has already experienced the negative (or even devastating) impacts of conventional (“mass”) tourism on St. Martin’s Island. There, tourism has obviously been pursued in an unplanned manner. This has changed and degraded the local biodiversity, sewage has impacted the fresh- and drinking water resources as well as the growth of corals, and excessive logging of trees like mangroves has resulted in erosion of the island. Moreover, the island population has not really benefitted from the tourism that destroyed their island, as the major share of tourism activities has been conducted by outside tour operators or business people while the local islanders were only the marginal beneficiaries, e.g. by doing small-scale business like selling coconuts.⁷⁴

St. Martin’s Island is an example for how tourism development and increased consumption of natural resources can put pressure on all environmental aspects – if not managed adequately. Eco-tourism focuses on long-term growth and prosperity, balancing economics with people, culture and the environment.

Eco-tourism has already been developed in Bangladesh, e.g. at the Sundarbans. There it is mainly based on “Responsible Travel” which appeals to the tourist’s attitude, behavior and responsibility in order to bring about a win-win situation for the tourists, the destination, the community and the environment.⁷⁵

⁷³ Source: Obenaus S. (2005): *Ecotourism - Sustainable Tourism in National Parks and Protected Areas*. Banff National Park in Canada and Nationalpark Gesäuse in Austria - a Comparison

⁷⁴ Source: Effects of Environmental Degradation on Food Security in the St. Martin’s Island of Bangladesh, by Mohammed Mostafa Feeroz, Principal Investigator, Department of Zoology, Jahangirnagar University, September 2009

⁷⁵ Source: <http://sundarbans-ecotourism.org/cultural-ecotourism/>

The main differences between conventional "mass" tourism and eco-tourism are summarized in the table below:

Table 20: Differences between mass tourism and eco-tourism

Characteristics of mass tourism	Characteristics of eco-tourism
Large groups of visitors	Smaller groups of visitors
Urban	Rural
Touristic general marketing activities	Eco-marketing activities
Average prices for purposes of market penetration	High price with purpose of filtering the market
Impact on natural environment	Little impact on the natural environment
Advanced control options	Limited possibilities of control
Management based on macroeconomic principles	Management based on local economic principles
Anonymous relationship between visitors and local community	Personalized relationships between visitors and local community
General development goals	Local development objectives
Behavior-oriented leisure activities/entertainment, opponents to education and training actions	Loyalty in the process of training and education for appropriate conduct for the natural environment
Intensive development of tourism facilities	Reduced development of tourism facilities

Source: <http://www.intechopen.com/role-of-ecotourism-in-sustainable-development>

2.2.4.3 Construction works on Jaliardip Island

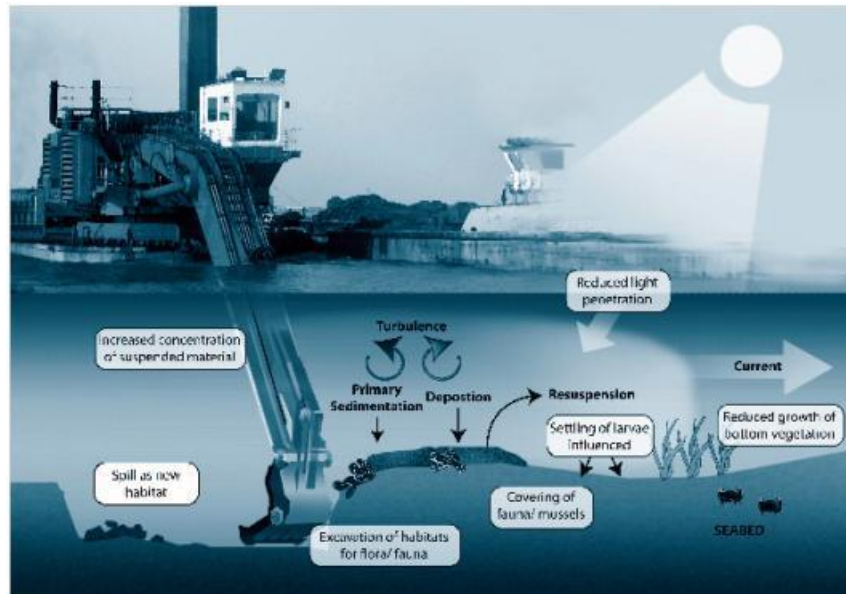
Filling and Elevation of the Island

At present, the island consists more or less of an oval-shaped wall or dam with water on either side. At the river side, the wall is surrounded by mangroves; at the inside of the island there are ponds for fish and shrimps cultivation. Most of the ponds will have to be filled up and the level of the island has to be risen for several meters. This requires large-scale dredging and extraction of streambed sand and special care must be taken that the sand used for elevating Jaliardip is acquired in a sustainable manner.

Dredging can have a number of negative impacts on river ecosystems:

- Hydrodynamic regimes can be altered through a change in direction of water flow;
- Physical habitats, such as bathymetry and benthic habitat features, are modified which can lead to short or long-term impacts to ecosystems;
- Dredging can cause direct removal or burial of organisms and habitats which are fish feeding and / or breeding areas; and
- Increased turbidity and sedimentation are common impacts associated with dredging.

Figure 45: Potential impacts of dredging



Source: *Dredging Management Practices for the Environment*⁷⁶

Best Practice

- An EIA for sand dredging from the river should be conducted that is based on a hydrodynamic model to determine in advance any potential environmental / physical impacts on the river like turbidity plumes, erosion and / or sedimentation, or any changes in river morphology due to dredging.
- It has to be ensured that the dredging activities will not cause reduced water quality for downstream users, or destroy natural riverbed habitats.
- There are different types of dredging vessels, such as suction dredger, cutter suction dredger, trailer suction hopper dredger, bucket ladder dredger, backhoe dredger and grab dredger. The EIA should define the most appropriate type according to the area to be dredged. The dredger should be equipped with, or be modified to install systems that reduce the environmental effects of the dredging process.
- If necessary, a silt curtain should be deployed during dredging. This is a floating barrier designed to contain silt during dredging operation; it surrounds and contains suspended silt until it settles again.

Mangroves fringing the Island

The island consists of clay and sand, and the only protection from being eroded by river currents is the mangrove trees that surround the island. At some parts at the southern end of the island, the mangroves are already depleted (cut by fishermen who need to access their fish ponds), thus exposing the earthen dam.

⁷⁶ Source: *Dredging Management Practices for the Environment*, An Information Update from the International Association of Dredging Companies (IADC) – Number 2 – 2009

Figure 46: Intact (left) and depleted (right) mangroves around Jaliardip Island



Source: Consultants

Best Practice

Therefore it is important that construction activities take place in the area behind the wall that is surrounding the entire island. When construction works start, utmost care should be taken that the mangroves remain untouched, except for perhaps two access points (remark: when bridge(s) are constructed, this should be taken into consideration, as they should reach the island in an area behind the mangroves). This has been confirmed by all governmental and local officials during the Consultants' stay on the location. Director of *BEZA Environmental Division* presented as "bad example" the development at St. Martin's Island. This island was fringed by keya trees that have been cut down. This vegetation loss has increased the rate of erosion considerably. Material for reclaiming the island can be taken from the river, however, at sufficient distance for not impacting the current flow and – again – leading to erosion processes.

It is also recommended to re-afforest the island's damaged mangrove areas. A number of projects conducted in particular in Asian countries have proven that mangrove forests can successfully be restored. The Consultants have experienced this e.g. in Pakistan where the *Karachi Port Trust (KPT)* actively promotes mangrove restoration projects (see figures below). There, two different species of mangroves are raised in the port (*Rhizophora mucronata* and *Avicennia marina*) and regularly planted at tidal flats at the coast.

Figure 47: Mangrove nursery in the port of Karachi



Source: Consultants

2.2.4.4 Construction and operation of eco-hotels and / or eco-lodges

In many tourist destinations worldwide, construction and operation of hotels has severe consequences for the environment. Also in Europe, in particular in the Mediterranean areas,

hotel constructions at the coast caused the loss of biodiversity and landscape attractiveness. This severely affected these tourist areas, and tourism there has been declining.

Other key impacts of tourism are use of water and generation of waste and sewage.

In dry regions of Spain, for example, tourists' water consumption of up to 440 liters a day per tourist led to periodic water shortages, losses in agriculture and other conflicts in the region.

In Cox's Bazar, the waste and sewage generated by tourists has already become an issue. According to the *Department of Environment*, only seven of the 300 hotels and motels located in the town's specified zone have environmental clearance and sewage treatment plants (STP), the rest are dumping their waste into the sea or Bakkhali River.⁷⁷

Best Practice

Corresponding to the principle of eco-tourism, an eco-hotel or eco-lodge is a guesthouse that incorporates local architectural, cultural and natural characteristics, promotes environmental conservation, and produces social and economic benefits for local communities.

Today, many tourists are environmentally conscious and want to stay in a place that does not negatively affect the environment, and they are ready to pay for this a higher price than for conventional tourism. The value of an eco-tourism property, however, rises and falls with its ability to protect surrounding biodiversity, wildlife and landscape.

One of the first requirements in planning and building a property is that it is sustainable in design, i.e. it should be built preferably with local / traditional materials (e.g. locally made bricks or stones, sustainably processed wood) with as small an ecological footprint as possible.

Further attributes of an eco-design include:

- Employment of energy saving tactics and appliances (e.g. energy saving light bulbs, sensors or motion detectors for starting light, air condition, etc. only when the guest is in the room);
- Installation of renewable energy technology such as solar panels to meet main power needs, such as lighting and hot water;
- Natural ventilation, i.e. provision of efficient natural air circulation to minimize use of electric air condition. The flow of air inside a building can be influenced by construction of the house as well as topographical features, by the orientation of the building and by the position of surrounding buildings and other obstructions built intentionally to divert the wind in a desired direction⁷⁸;
- Water-saving appliances like low-flow showerheads, low-flush or dual-flush toilets, water-saving faucet taps ("perlator");
- Rain water harvesting systems for domestic non-potable use;
- Sewage treatment plant, this should be planned on the mainland in connection with adjacent residential areas in Jaliardip, Teknaf and Sabrang, thus providing an up-value for the entire area. Furthermore, it would avoid running the plant at low capacity in off-

⁷⁷ Source: bdnews24.com, Published: 2016-03-18: <http://bdnews24.com/bangladesh/2016/03/18/coxs-bazar-hotels-dump-waste-at-sea>

⁷⁸ Source: Climate Responsive Building - Appropriate Building Construction in Tropical and Subtropical Regions (SKAT 1993)

season or even closing down its operation (which is very unfavorable, as a sewage treatment plant has to run non-stop once it has started);

- Use of treated waste water for irrigation, e.g. for a future golf course at Sabrang;
- Avoidance of sealing of the ground by concrete or asphalt, promote greening of roof areas (unless they are used for solar panel installation); and
- Offering the guest a natural surrounding directly at the hotel or lodge (eco-tourists travel to experience the beauty of natural habitats and not noisy amusement parks).

Figure 48: View from a river eco-lodge in Laos



Source: <http://www.rivertimelaos.com/>

Running an eco-hotel or eco-lodge involves also behavioral and managerial aspects, such as:

- Having ethical employment practices and contributing to the local economy, i.e. give work opportunities to nearby villagers, train local people and employ them at fair wages, support their community (e.g. by helping with activities at a nearby schools);
- Use local and seasonal food products at the restaurants, locally produced bed sheets, table cloths and other items. This helps demonstrate that eco-tourism is a more sustainable long term way to earn income than destroying or altering habitats for short term gains (e.g. illegal logging, over-fishing, etc.);
- Reduce and manage waste by not using things that generate excessive waste, such as disposable water bottles, or small food portions wrapped in plastic;
- Recycle and reuse items wherever possible, especially glass and plastic; and
- Minimize the use of chemicals in daily operations, in particular in cleaning or pest control.

To protect the local communities and indigenous people, information should be provided to tourists on cultural do's and don'ts. Local villagers should be regularly involved to find out if there are any problems created by tourism.

Nature conservation can be supported by giving information to the tourists about the importance and value of a healthy ecosystem, and a description on how to best enjoy the area without impacting it. This can be done by employing nature guides who are either trained in biology or have significant local knowledge of the habitat, and by providing books, posters, maps, photographs, orientation talks or other ways to inform tourists and visitors about the ecology of the area. Wildlife products should never be sold as souvenirs!

Figure 49: Nature guide at an information center of a German nature reserve



Source: <http://www.baumwipfelpfad.bayern/bayerischer-wald/>

2.2.4.5 Road access to Jaliardip Island

The development of tourism requires the existence of an infrastructure, i.e. road and / or railway connection. The Consultants have been informed that there are already plans to develop a four-lane road to Jaliardip Island, and Cox's Bazar Airport will be upgraded to an international airport, soon.

Even though a social and environmental evaluation of road construction goes beyond the scope of this study, it has to be mentioned here that construction of highways and airfields generally can cause severe negative environmental and social impacts. Usually road construction will stimulate tourism, but not always to the benefit of the nature and the local population. Social impacts on local residents by road construction might include:

- Fragmentation of villages,
- Increased traffic noise,
- Increased air pollution,
- Increased rate of accidents,
- Loss of land,
- Loss of areas e.g. for markets, and
- Increased price of land.

Furthermore, road and highway construction increasingly comes into conflict with wildlife. On the road from Cox's Bazar to Jaliardip, the Consultants passed signs "Elephant Crossing", and it has been confirmed at the Bangladesh Tourist Board that there are several groups of elephants moving around in the area south of Cox's Bazar. Further mammals in the area include the jackal (*Canis aureus*), fishing cat (*Prionailurus viverrinus*), large indian civet (*Viverra zibetha*), small indian civet (*Viverricula indica*), indian porcupine (*Hystrix indica*), wild boar (*Sus scrofa*), hog-badger (*Arctonyx collaris*), greater bandicoot rat (*Bandicota indica*), and barking deer (*Muntiacus muntjak*)⁷⁹.

⁷⁹ Source: <http://connection.ebscohost.com/c/articles/79284635/nocturnal-terrestrial-mammals-teknaf-wildlife-sanctuary-bangladesh>

Figure 50: Road sign “Elephant Crossing”

Source: <http://www.iucn.org/content/educating-children-protect-elephants>

Road and highway construction affects wildlife populations in numerous ways, from noise and smell disturbances, habitat loss and fragmentation, to barriers to animal movement, and wildlife mortality. Animal movement, on the other side, impacts severely motorists' safety.

Many animal species, in particular bigger and far-ranging animals, need to cross roads to follow their migration routes, to find mates or to hunt. Therefore, it is crucially important to mitigate the negative effects of the planned road.

According to observations during conduction of the EIA for railway construction⁸⁰, there are a number of “active” elephant crossing points in the area, where elephants migrate often (daily), as well as “seasonal” long distance travel routes the elephants use to move from one habitat area to another (see figure below).

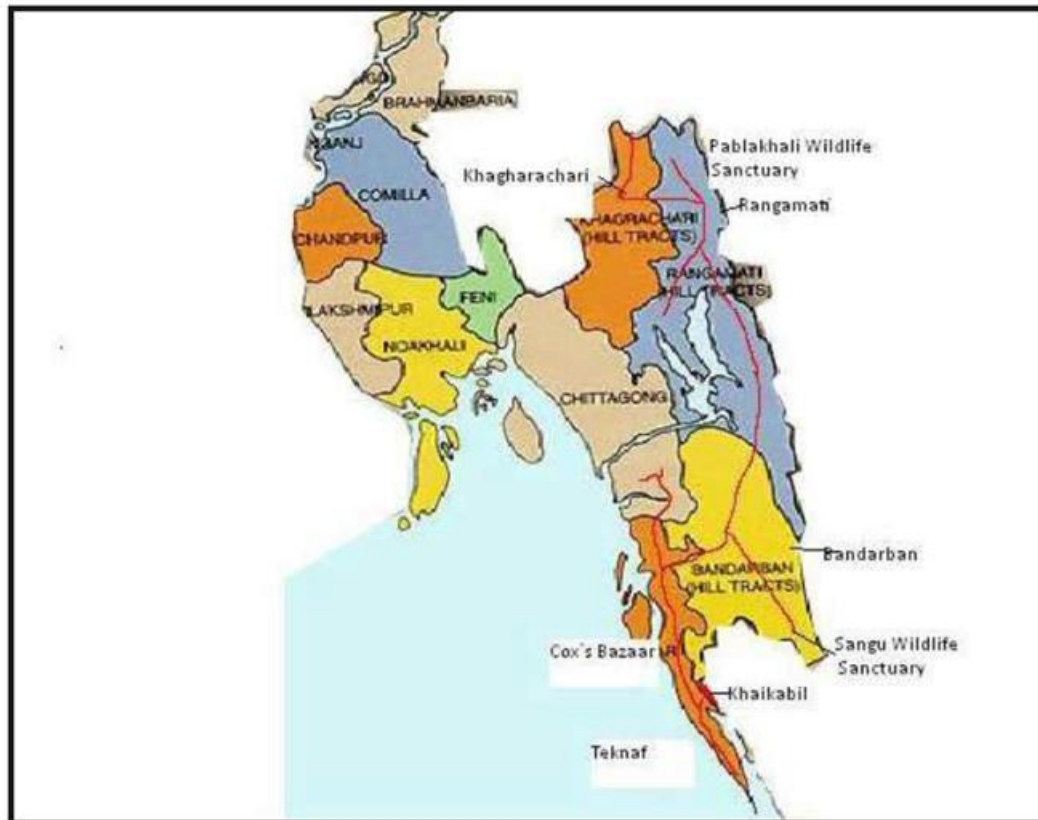
Best Practice

A solution might be to construct wildlife crossing structures which are intended to increase habitat connectivity across the highways, facilitate movement of animals and reduce wildlife-vehicle collisions. These structures can be above-grade (bridge, wildlife overpasses) or below-grade (tunnel, wildlife underpasses). In Europe and in the United States, a variety of designs, methods, and strategies have been successfully designed and implemented to make roadways more permeable to different kinds of wildlife and safer for motorists.

Figure 51: Wildlife overpass in Germany

Source: <https://www.environment.fhwa.dot.gov/ecosystems/wvc/ch4.asp>

⁸⁰ Source: Environmental Impact Assessment (Draft) for “BAN: SASEC Chittagong – Cox’s Bazar Railway”, April 2016, Project Phase I

Figure 52: Main travel routes of the Asian elephant in southern Bangladesh

Source: Environmental Impact Assessment (Draft) for "BAN: SASEC Chittagong – Cox's Bazar Railway"

However, different species react differently to wildlife crossing structures; they may work well for one species but not for others. Therefore, considerable research on wildlife behavior is necessary before constructing the crossings. They depend on the type of animals as well as on topography, land form, or landscape structure. Gathering of sufficient and accurate data on animal movement for selection, configuration, and location of different crossing types is a clear need.

Figure 53: Elephant underpass in Kenya

The elephants successfully crossed a major road without putting themselves or motorists in danger, and without damaging crops or scaring residents in a nearby village.



Source: <http://africageographic.com/blog/elephants-cross-highway-using-new-underpass/>

In Kenya / Africa, a historical elephant route between the Ngare Ndare Forest Reserve and the Mount Kenya National Reserve has been reopened by a large, 14km-long culvert. Thus, elephants can pass beneath a major highway between Mount Kenya's forests and those of Ngare Ndare. Game-proof fencing along the sides of the highway "channel" the elephants towards the underpass (see pictures below).

This kind of well-designed road mitigation measure obviously works. It has to be considered, however, that it is a costly measure that needs to be planned carefully with the help of scientists, that several of these wildlife crossing structures will be necessary, and that they need to be maintained regularly.

For construction of access roads to Jaliardip, the following should be taken into consideration:

- New or improved roads allow the tourist to better access the remote areas; however, road construction can be accompanied by a number of negative impacts that destroy the same nature the tourist wishes to enjoy!
- Wildlife pays! Games, in particular elephants, are valuable and a guarantor for income in tourism. Already fifteen years ago, studies about the direct monetary value of wildlife have been carried out in African Wildlife and Game Reserves: In Amboseli National Park in Kenya, for example, this study estimated that each lion was worth US\$ 27,000 and each elephant herd was worth US\$ 610,000 in tourist revenue per year. In Rwanda's *Parc des Volcans*, tourists pay US\$ 170 to spend one hour with lowland gorillas, generating US\$ 1 million annually for the Rwandan government. This money is used to support the management and operation of all of Rwanda's protected areas⁸¹.

Thus, local communities understood the economic benefits of eco-tourism and were motivated to protect resources and adopt conservationist attitudes.

2.2.4.6 Waste Management

The importance of well-organized waste management has already been discussed before. It is, however, not an issue of the EZ alone as it requires national regulations and a well-functioning infrastructure including collection, transport, processing, recycling and final disposal of waste and garbage. At present, there is a general lack of waste management in Bangladesh and waste is dumped at many undesignated sites. This will definitely hamper the development of international tourism! Visitors coming to a country do not want to see the tourist facility alone; they also would like to get an impression of the host country.

This starts already on the way from the airport to the hotel. Good quality tourism considers also:

- What is the experience from the moment the guests arrive at the airport?
- Would the experience be memorable?
- Does it give the visitor a good impression of the country?

Poor waste management has implications on hygiene and health, environmental quality, resources and economic sustainability.

⁸¹ Source: <http://www.prb.org/Publications/Articles/2001/EcoTourismEncouragingConservationorAddingtoExploitation.aspx>

Best Practice

On average, conventional hotels generate approximately one kilogram of unsorted waste per guest per night. Therefore, priority actions for eco-hotels and lodges should be:

- Reduce: Creation of as little waste as possible by not producing it, by implementing “green” procurement. Packaging alone can account for up to 40% of a hotel’s waste stream, therefore products with little packaging or returnable packaging should be selected;
- Reuse: Use of items that can be reused;
- Sort for recycling: Having a system in place for sorting everyday waste items such as bottles, cans, cardboard and paper for recycling (e.g. by using color-coded waste bins at all rooms and areas), taking into account local disposal possibilities;
- Training of employees in waste management; and
- Information of guests on how waste is handled at the tourist area.

“Best practice” waste management is to some extent limited by the insufficient waste management infrastructure in the locality and low collection coverage, not to mention insufficient final disposal sites. In particular collection of separated waste fractions can often be a bottleneck. “Best practice” waste management cannot be organized by BEZA’s EZ alone, as the responsibilities for waste handling lies with different Government departments.

However, Jaliardip Island can act as one of the “frontrunners” that stimulates waste management in the region. Examples could include:

- Waste recovery with focus on energy generation, e.g. biogas from organic waste – in cooperation with local farmers and with the excessive sludge from sewage treatment;
- Recovery of chemicals, e.g. bio-ethanol from waste (again in connection with farm waste), replacing petrol; and
- Direct re-use of plastic, paper, glass and metal waste as “secondary raw material”.

2.2.4.7 Energy management

Provision of energy is important to the hotel industry, as it is necessary to power equipment, appliances and devices that provide the services and the level of comfort expected by the guests.

Best Practice

Energy efficiency is a fundamental requirement of sustainable tourism. This can be achieved by:

- Building design (as discussed above): Buildings should be properly sited, oriented and designed to minimize their cooling requirements and maintaining a comfortable indoor temperature without air conditioning (passive cooling);
- Selection of energy-saving equipment and appliances;
- Staff and guest participation in energy conservation: Employees should know the importance of energy conservation, and be trained and encouraged to use energy efficiently; the guests should be informed accordingly; and
- Use of fuel briquettes that are being made from an increasing variety of waste materials.

Although renewable energy sources are the preferred energy supply options, backup energy sources (e.g. a diesel generator) should be available.

2.2.4.8 *Water management*

Water, and especially fresh water, is one of the most critical natural resources. The tourism industry generally overuses water resources for hotels, swimming pools, golf courses and personal use of water by tourists. This can result in water shortages and degradation of water supplies, as well as generating a greater volume of waste water.

Best Practice

The entire water supply should be designed to safe water, e.g. by:

- Collection and use of rainwater as a water source prior to any other source where possible,
- Reuse of treated wastewater for non-potable purposes, e.g. for irrigation,
- Installation of water saving devices wherever possible,
- Involvement of staff and communities,
- Information of guests, e.g. by explaining about unintentional wastage by a poster.

2.2.4.9 *Activities emanating from Jaliardip Island*

The tourist's activities should be offered and channeled in such a way that they limit negative impacts on the natural environment.

Best Practice

If planned and conducted carefully, tourists activities will result in synergies attained through the co-location of Jaliardip with the Teknaf Game Reserve / Wildlife Sanctuary. It should be community-based and local people should be involved, e.g. by providing trekking guides, by offering river excursions in traditional boats, etc.

Figure 54: Example of guided trekking tour on fixed routes



Source: <https://ruipingltourism.files.wordpress.com/2011/09/hiking-laurentians.jpg>

Figure 55: Local residents offering boat trips in Vietnam



Source: <http://www.mekongresponsibletourism.org>

Wildlife-Tourism

Via the planned cable lift, the guests of Jaliardip Island can reach the Wildlife Sanctuary. While the biggest parts of the forest are not open for visitors to conserve the biological heritage of the region, a part of the forest should be accessible for guests to encounter wildlife. The revenue derived from park-entrance fees and similar sources can help finance the protection and management of the sanctuary and other sensitive areas.

Local residents can also benefit from the environmental education eco-tourism provides. Local schoolchildren should regularly be taken to visit the Wildlife Sanctuary to learn about the nature and the importance of the forest in their direct vicinity.

Responsible wildlife tourism experiences should:

- Offer an educational program that highlights the importance of wildlife in terms of conservation and ecosystem function;
- Provide as natural an experience as possible;
- Prohibit feeding or handling of wildlife; and
- Contribute to the conservation of the local area and its wildlife via research, donations, habitat restoration etc.

Tourists should be advised animals are observed in their natural environment, they should not be disturbed and they are not there to “perform”.

Figure 56: Example of cable lift in a nature reserve



Source: <https://bohol-beach-resorts.com/loboc-ecotourism-adventure-park/>

Tree-Top Walk

A Tree-Top Walk is a nature-based tourist attraction that is found in several nature protected areas or parks of the world. It usually has a length of 600 to 1,000 m and is installed in 40 - 60 m height. Advantages of such a “Walk” are:

- The tourists can walk through the tree tops and enjoy a spectacular and unusual view of the forest and its inhabitants which cannot be seen from the ground;
- Information can be given at boards at the walk-way for better understanding of the eco-system; and
- The tourists stay on specific walkways and do not stray through the forest.

Figure 57: Example of the Ulu Ulu Tree-Top Walk in Borneo



Source: <http://bittenbythetravelbug.com/adventurous-jungle-safari-borneo/>

Figure 58: Example of a tree-top walk in Germany



Source: www.baumwipfelpfad.bayern/bayerischer-wald

Dolphin Watching Tours

At the coastal areas of bay of Bangle dolphin populations can be observed. In the north, there are Irrawaddy dolphins, furthermore, there are globally significant population of finless porpoise and relatively large population of Indo-pacific humpback dolphins. Further off-shore, Indo-pacific bottle nose dolphins and large group of pantropical spotted dolphin and spinner dolphins, as well as populations of bryde's whale can be observed in the bay⁸².

Dolphin watching tours are already organized by tour providers from the Sundabans. This could also be arranged from Jaliardip Island.

Figure 59: Off-shore dolphin watching at Sundabans



Source: Hobopace.com

Dolphin- and whale-watching tours should be preferred to a construction of a dolphinarium and watching dolphins in captivity. Eco-tourists will not visit a dolphinarium, as it is not considered sustainable. Worldwide, there is already a huge public concern about animal welfare standards in such facilities as the requirements for keeping dolphins in basins are very high. The water in the pools has to be constantly filtered to keep it clean for the dolphins and the spectators, and the temperature and composition of the water has to be

⁸² Source: <http://www.hobopace.com/trip-to-sundarban-bird-and-dolphin-watching-tour/>

controlled to match the conditions dolphins experience in the wild. The minimum size of the pools must be observed and a crew of specialists is necessary to keep the animals healthy⁸³.

Further Activities

- *Environmental Education:* offering hosted “Eco Summer Camp” to educate children in ecological issues. Through the participating of guided “adventure holidays” children learn to interact with nature, thus raising awareness of environmental problems
- *Offering of eco-lodges for meetings and conferences:* More and more companies are including a commitment to the environment as part of their mission statement, therefore the demand for conference facilities that also reflect this commitment is growing. Jaliardip Island could provide meeting and conference options that focus on environmental protection

Figure 60: Children in an eco-summer camp in Germany



Source: <http://www.swp.de>

2.2.4.10 Creation of Jobs and Employment for Local Communities

The tourism industry is the world’s largest industry. With about 150 million employees around the world it is a major employer, and in many regions of the world tourism provides livelihood for the local population. It involves a wide range of different activities, types of establishments, employment contracts and working arrangements. It provides local people with income and working experience and therefore contributes to their social inclusion and personal development.

Tourism provides direct as well as indirect employment:

- Direct tourism employment means that employees are in contact with tourists and cater for tourist demand, e.g. at hotels, restaurants, travel agencies, tourism information offices, aircrafts, cruise lines, resorts or shopping outlets.
- Indirect tourism employment involves activities like restaurant suppliers and construction companies that build and maintain tourist facilities, as well as necessary infrastructure, or handicraft producers.

It should be taken into account that it is more difficult to measure employment in the tourism industries than is the case for many other industries. The reason being that tourism employment is often characterized by one or more of the following factors:

- Seasonality;

⁸³ Source: European Association for Aquatic Mammals (EAAM)

- Part-time and/or excessive hours of work;
- Family labor; and
- Informal or sometimes illegal labor.

In the area of Jaliardip Island, jobs will be generated in the following fields of activity:

- Accommodation for visitors;
- Food and beverage serving activities;
- Railway and road passenger transport;
- Water passenger transport;
- Transport equipment rental;
- Travel agencies and other reservation services activities;
- Cultural activities;
- Sports and recreational activities; and
- Retail trade of country-specific tourism characteristic goods.

According to the Master Plan for Jaliardip EZ, the choice for accommodation will range from five-star hotel to eco-cottages and guest houses. As the number of employees in relation to “bed places” lies between 0.7 and 0.3 per bed⁸⁴, it can be assumed that the number of employees for the sector “accommodation” will range from 400 to 600 and will include the following jobs:

- Housekeeping room attendant,
- Cook,
- Host/hostess,
- Food and beverage service supervisor,
- Guest service attendant,
- Bartender, and
- Food and beverage server.

Furthermore, cooks and waiters are required for open restaurants.

Other direct employment opportunities include:

- Tour guide or outdoor adventure guide;
- Personnel for amusement park and aqua park;
- Taxi drivers, etc.

Gender Equality

Tourism can present an opportunity for gender equality and women’s empowerment, as many jobs in this industry are “typically” provided for women, e.g. in hotels and restaurants, even in countries in which the society is male dominated. In Thailand’s tourist area Chiang Mai, for example, about 70% of all jobs are carried out by women.

⁸⁴ Janianton Damanik: Arbeitsmarktpolitische Implikationen der Tourismusentwicklung in Entwicklungsländern, das Beispiel Nordsumatra, Indonesien (*Implications of tourism development in developing countries on Employment Market and Labor Policy, The Example of Northern Sumatra, Indonesia*)

Ecotourism particularly focuses on local employment opportunities. However, the local population often possesses limited advantages in employment and is employed in simple jobs only due to lack of skills and professional training.

Therefore, it is important that the local communities in the Jaliardip area are provided with professional education to help them enter into the tourism industry.

2.3 Component 3: Institutional Framework

2.3.1 Activity 1: Assessment Regulatory

The development of Jaliardip as an eco-tourist resort fits very well into the strategy of the Government of Bangladesh to foster tourism. *Bangladesh Parjatan Corporation* (BPC) was set up in 1973, and a five-year plan for developing the tourism industry has been part of the Government's *First Five Year Plan* (1973-78). An update of the most recent *Government Plan on Tourism* is expected to be published at the end of the year 2016. The development of the Cox's Bazar region will be central focus of the future strategy. An Integrated Tourism and Entertainment Village, Cox's Bazar is being proposed envisaged as a mixed use development focused on the cultural wealth and diversity of the Bangladesh with estimated total cost of the project is around US\$ 100 - 120 million. It shall include the following components:

- Cultural Center – Including museum, cultural promenade
- Amusement Park
- Hospitality
- Any other permissible commercial & institutional development.

Due to the role of Cox's Bazaar region, the Government intends to establish a development authority for the southeastern edge of Bangladesh; however, BPC remains to be the central public body in the tourism industry of Bangladesh.

The *BEZA Act* gives an excellent frame for the establishment of economic zones in Bangladesh, but institutional gaps and deficits might hamper an efficient application of investment, also in the case of Jaliardip EZ.

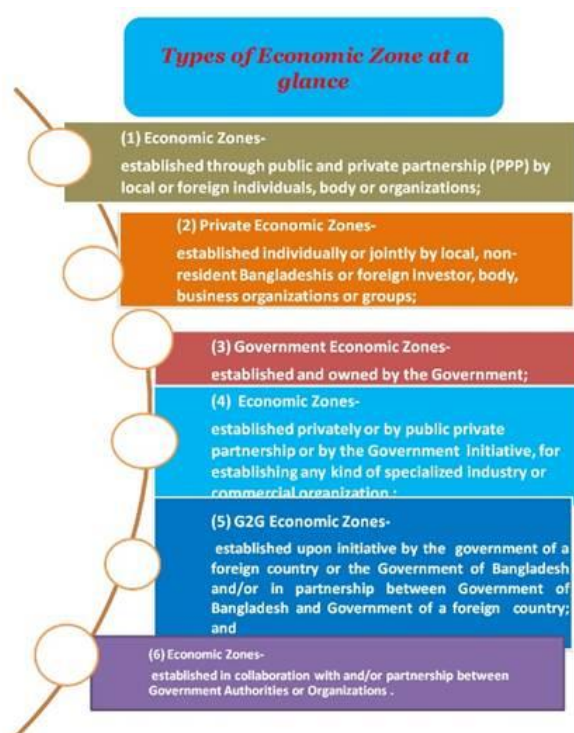
In order to verify this hypothesis, criteria on different levels will be discussed hereunder.

Provisions of the BEZA Act

Article 4 of the *BEZA Act* mentions four categories of Economic Zones which are further split into six in recent years (see figure below). Notably, Government to Government Economic Zones (Category No. 5) and a EZ model based on Partnership between Government and Organisations (Category No. 6) have been added.

It is proposed, that the Jaliardip EZ follows the Special Economic Zone Category (No.4) privately or by public-private partnership or by Government initiative, for the establishment of any kind of specialized industry or commercial organization. As discussed before, the Narayanganj EZ will be dedicated to Tourism Industry, one priority industrial sector in the investment policy of Bangladesh.

Figure 61: Types of Economic Zones



Source: BEZA

According to the same article, the Government of Bangladesh may “with a view to encouraging rapid economic development in potential areas including backward and underdeveloped regions of the country through increase and diversification of industry, employment, production and export and to implement the social and economic commitments of the State” establish such economic zones. The border area to Myanmar can be considered as an underdeveloped region. Historically, political issues have been obstacles for cross-border regional development.

The wide range of aspects like industrial policy, employment policy, encouragement of production and export as well as implementation of social and economic commitments is reflected in *Article 19* of the BEZA Act: Duties and functions of the Authority. The following table gives an overview

Table 21: Duties and functions of BEZA

Industrial Policy	Labor policy	Encouragement of production and export	Implementation of social and economic commitments
<i>Identify and select sites</i>	<i>Create employment opportunities</i>	<i>Acquire land for EZ</i>	<i>Encourage and <u>monitor</u> efficient management for implementing commitments</i>
<i>Prepare infrastructure development plans for EZ</i>	<i><u>Develop</u> skilled workforce</i>	<i>Appoint EZ developer</i>	<i>Encourage business organizations to relocate polluting and unplanned industries to special EZ</i>
<i>Ensure infrastructure development of EZ <u>within a specified period</u></i>	<i>Establish the due rights of workers and conducive industrial relations in EZ</i>	<i>Allot or lease or rent land or estates to investors</i>	<i>Take necessary <u>steps</u> to implement social and economic commitments</i>
<i>Establish backward linkage industries <u>within and outside</u> the economic zones</i>	<i>Facilitate availability of skilled labor and efficient service provisions by <u>converting EZ into economic centers</u></i>	<i>Promote local and foreign investment</i>	<i>Take appropriate <u>steps</u> to implement poverty reduction programs</i>
<i>Expedite implementation of industrial policy of the country</i>		<i>Ensure efficient use of land in the light of clustering principles</i>	<i>Encourage PPP in the development and operation of EZ</i>

Source: BEZA

Consequently, BEZA is not only an Economic Zone Initiator, but has to take responsibility for ensuring the long-time development in and around the zones. Respective horizons filtered from Article 19 are underlined in the table above. In terms of investor friendliness, some of the tasks obtained on labor policy and social commitment might also contradict encouragement of production and export.

As a powerful instrument to attract investors, *Article 13* stipulates that the Government may “exempt a zone or any organization thereof from the application and of all or any of the provisions of all or any of the following Acts”:

- Municipal Taxation Act, 1881;
- Explosives Act, 1884 (Act No. IV of 1884);
- Stamp Act, 1899;
- Electricity Act, 1910 (Act No. IX of 1910);
- Boilers Act, 1923 (Act No. V of 1923);
- Foreign Exchange Regulation Act, 1947;
- Building Construction Act, 1952 (E. B. Act No. II of 1953);
- Income Tax Ordinance, 1984;
- Land Development Tax Ordinance, 1976;
- Fire Prevention and Control Act, 2003 (Act No, VII of 2003);
- Value Added Tax Act, 1991;
- Bangladesh Labour Act, 2006 (Act No. XLII of 2006);

- Local Government Acts (Union Parishad/ City Corporation/ Municipalities), 2009; and
- any other Act or law as specified by the Government through Gazette Notification.

These exemptions are the most significant incentives provided under the *BEZA Act*.

Criteria of Investment Decisions

Generally, any investment decisions are following rationale principles with a strong profit orientation. Literature about this subject might overload the capacity of supercomputers. For reasons of transparency, the Consultants have adapted a basic original approach. Three basic sets of variables are required to fulfill any investment decision: conditioning, motivation and control variables. (1) Conditioning variables describe the full scale of a positive market analysis; i.e. guided by economic principles they would have a stand-alone effect for investment. (2) However, in reality, perception gives a major contribution for investment decisions, namely, in the form of motivation variables. The question here is not predominantly value for money but whether feeling relaxed with the decision and safe with the spatial environment. (3) At the other end, control variables like tax regimes and government policies can significantly foster the investment process, but they are in most cases NOT decisive for action. The table below describes these sets of variables.

Table 22: Variables for investment decisions

Variables	Firm (Product)-specific	Country (Competition)-specific	International (Business) - specific
Conditioning variables	Product and factor requirements, technology and production characteristics	(National) Market Demands Disparities in natural and human resource endowments Disparities in technological, cultural, institutional, economic and political environments	International financial system, trade, transportation and communication; Systems and agreements that affect the spatial movement of information, money, goods, people, etc.
Motivation Variables	Geographical perception and resource availability	The relative competitive position of individual enterprises and competitor moves and threats	Preferential trade regimes
Control Variables	Property/Patent Rights and Intangible Assets secured	Administrative actions, laws and policies of home and host country governments that directly or indirectly influence business through positive incentives and or negative controls	International agreements, treaties and codes of conduct directly affecting the pattern of international business

Source: The Consultants adapted from Robock, S. H, Simmonds, K. *international business and multinational enterprises*, 3rd edition, 1983, Homewood, Illinois, p. 50

The Consultants have assessed the regulatory framework for the development and utilization of the new EZ and have found that the “control variables” (i.e. investment-friendly government economic policies; incentives by BEZA) are well in place. What might hinder positive investment decisions, in order to flourish to full range in new EZs like Jaliardip, are in the sphere of ‘upstream’ conditioning and motivation variables. For turning around motivation variables, considerable marketing efforts might assist which can only be partly covered by BEZA alone.

Sector Associations

EZ promotion can be significantly bolstered by private business communities, and associations are an invaluable asset for the success.

The private sector in Bangladesh has invested in the tourism field successfully and can be considered the main driver of hotel development and tour operations. As travel and tourism

contribution to the economy are manifold (see below figure), lobbying and pressure group activities are quite strong despite the fact that tourism has been contributing only by 2.2% to the country's GDP in 2014 (see *Travel and Tourism Economic Impact 2014, Bangladesh*, WTTC).

As the success of the EZ is very much depending on sector strategies it might be an option for the development of Jaliardip to formulate a Special Purpose Company (SPC) with potential operating companies or business associations having a stake. This would have the advantage for the developer as partner in the SPC to design turn-key facilities for future operators with no or low emphasis on promoting real estate. Also, EPC (Engineering-Procurement-Construction) contracts could be a recommended format. Services provided under these contracts are as follows:

Engineering

- Detailed engineering and design,
- Programming and scheduling works, and
- Cost estimating for all areas of the project.

Procurement

- Tenders/quoting for all sub-packages of works involved,
- Purchasing, receipting and invoicing of goods, and
- Potential coordination of any sub-contracts involved for services.

Construction

- Adherence to construction schedule,
- Performance (directly or through sub-contractors) of all construction activities,
- Commissioning and finalization of project, and
- Closure of project.

The basic principles are shown in the figure overleaf.

Figure 62: Basic Principles of EPC Contracts

	EPC
Accountability	Contractor fully accountable
Risk	Contractor holds risk
Time	Fixed date for completion
Price	Fixed price contract
Procurement	Contractor responsible for procurement
Quality/Performance Guarantee	Contractor guarantees performance of completed facility
Owner's Involvement	Contractor in control
Defective works/services	Contractor to rectify any defects

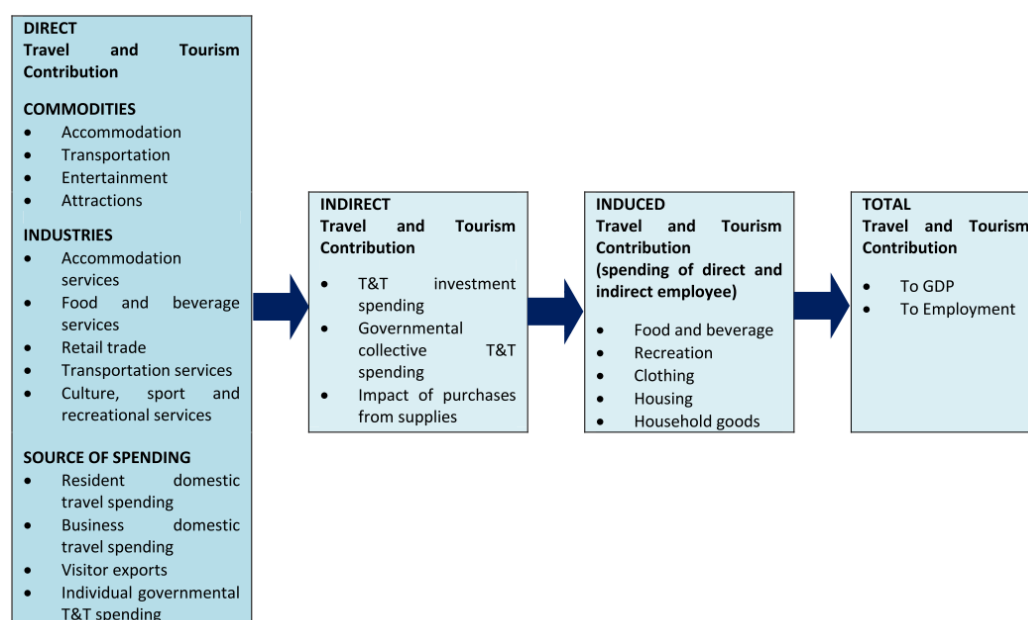
Source: Moore and Sarcich, 2014

Significant cost overruns and aggressive bidding positions taken by a few market players are some of the key concerns. Speedy regulatory clearances, diligence in bidding process, balanced risk allocation and rapid dispute resolution mechanism are few measures, which might remedy these effects.

Business Development

The recent investment in tourism industry in Bangladesh shows that conditioning variables for investment as discussed above have been generally met. The rationale for private investment in tourism is the expectation of a growing market by properly utilizing the country's national beauty and cultural richness. This might mismatch with conservatory and protective functions within GoB, e.g. in environmental or forest affairs (see before chapter). It is also against this background that eco-tourism is the most promising approach for Jaliardip Island, as it is going in line with relevant legislation on protective measures.

Figure 63: Impacts of travel and tourism



Source: Travel and Tourism Economic Impact 2014, Bangladesh, WTTC

In any case, it would be helpful if an integrated *Tourism and Service Industry Development Plan* would be further developed for the Cox's Bazar region by the Government of Bangladesh with the Jaliardip project as a relevant part.

There are significant needs for the development of a reliable infrastructure network in the EZ's hinterland and security provisions at the border to Myanmar which are in majority beyond the scope of BEZA but still having direct impact on the success of the Jaliardip economic zone.

2.3.2 Activity 2: Identify Institutional Framework

The institutional framework for the development of the new economic zone in Jaliardip comprises options for the development, financing, and management of the EZ. As such, strategic focus and relevant development criteria like (1) private sector involvement, (2) financial sector involvement, and (3) options for private-sector participation are concerned.

Concerted Policy

In referring to experience from Economic Zone Development in the Philippines, the registration of tourist EZ follows after such stakeholder consultations and pre-qualification procedures (i.a. certifications by the *Department of Tourism, Department of Agrarian Reform, Department of Environment and Natural Resources, National Water Resources Board*) based on a logical standard approach (see below figure).

GOVERNMENT OFFICE / PEZA UNIT IN-CHARGE	PROCESS FLOWCHART	PEZA FEES	
PEZA Director General	<pre> graph TD START([START]) --> PROPO[PROPOSENT Submission of Accomplished Application Form and Documentary Requirements] PROPO --> EVAL[Evaluation of Application Presentation of Application to the PEZA Board] EVAL --> APPROV[PEZA BOARD APPROVAL*] APPROV --> ISSUANCE[Issuance of the PEZA Board Resolution of Approval] ISSUANCE --> SUBMIT[Submission by Proponent of Documentary Requirements for Presidential Proclamation of the Tourism Economic Zone as Special Economic Zone] SUBMIT --> CERT[Certificate of Completed Staff Work from Local Government, DAR/HLURB and DENR] CERT --> ENDORSE[Endorsement by PEZA of Proclamation Documents to the Secretary, Department of Trade and Industry, for its Endorsement to the Office of the President of the Philippines] ENDORSE --> PROCLAM[Issuance of the Proclamation by the President of the Philippines] PROCLAM --> AGREE[Preparation of the Registration Agreement between Proponent and PEZA] AGREE --> SIGN[Signing of Registration Agreement and Issuance of PEZA Certificate of Registration to Proponent] SIGN --> END([END of Registration Process]) </pre> <p>The flowchart details the registration process from start to end. Key steps include submission of application, evaluation by the PEZA Board, issuance of approval resolution, submission of documentary requirements for presidential proclamation, receipt of certificate of completed staff work, endorsement by PEZA to the Department of Trade and Industry, issuance of proclamation by the President, preparation and signing of the registration agreement, and final issuance of the PEZA Certificate of Registration.</p>	<p>Guidelines on the Registration and Administration of Incentives to Tourism Economic Zone Developer/Operators and Locators under Republic Act No. 7916, as amended</p> <p>For inquiries, please contact : info@peza.gov.ph</p> <p>Standard Investment Requirements:</p> <ul style="list-style-type: none"> a) Expenditure at least 5% of Tourism (DOT); b) Expenditure at least 5% of Provincial Consolidated Budget for proposed economic zone; c) Dependent on type of project, minimum capital requirement or employment and land for a Regulatory Estate (HLURB) zoning Certification, whichever is applicable; d) Valid title covering the land and technical descriptions of proposed economic zone area; e) Compliance with Comprehensive Certificate issued by the Department of Environment and Natural Resources/EPA and/or Man and the Biosphere; and f) Some additional requirements based on Certifications relative to terms of service or specific local concerns apply problem for the address it contains. 	Application Fee: Php 12,000
PEZA - Economic Development Department		Registration Fee: Php 12,000	
PEZA Director General/Secretary, Department of Trade and Industry			
Office of the President of the Philippines			
PEZA - Legal Services Group			
PEZA Director General			

On the one hand, Bangladesh has a highly centralized administrative structure; on the other hand, new development projects have to be absorbed by local communities. In having the

district as the basic unit of administration, the post of the *Deputy Commissioner* (DC) should not be underestimated for successfully implementing and communicating any EZ-project concept to the public. As a district collector, the DC is responsible for collecting land revenue; and as a deputy commissioner, the DC controls, directs, and coordinates all administrative and development activities. In a third function, the DC also acts as district magistrate.

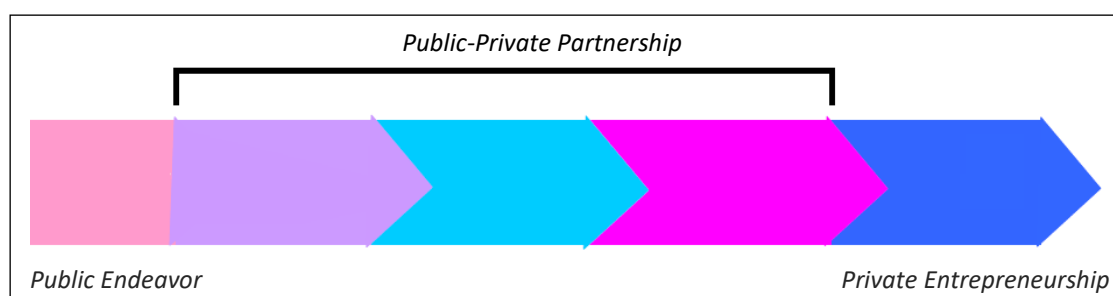
The success of the Jaliardip project will depend significantly on transparency and open communication policy. In the Consultants' view, concerted action for any zone development is a prerequisite for the success.

Public-Private Partnerships

The duties and functions of BEZA include encouraging public-private partnerships (PPP) in the development and operation of economic zones (*BEZA Act, 2010; Art. 19(12)*). Thereby, the Government of Bangladesh is seeking to encourage private investment in infrastructure and stimulate economic activity. PPP can only be successful with complete and qualified participation, performance of respective obligations, and cooperation by both public and private entities. This is important for fostering a win-win situation for both the private and public entities involved in the collaborative effort. This will be finally reflected as return on the investment for the private partner, and a net benefit to the society - and the economy as a whole - through the achievement of specific EZ-related goals, such as the improvement of accessibility to products and services or the reduction of costs. These interests are channeled through the definition of risks. Possibilities of risk-sharing (planning, construction, financing, operating, commercial, residual-value risk) can make projects attractive for both partners. Thus, a clear assignment of risks and rewards is a precondition of the successful implementation of a PPP initiative.

PPP entails a joint alliance between the public and private sectors beyond the traditional contractual relationship. PPP brings the best of each partner's competencies to optimize the achievement of the common objective. Given the mid or long-term nature of that objective and the transformation generated by the shift in roles, the joint alliance needs to be sustained over a long period of time. The longer the nature of the objective, the larger are the uncertainties associated with the project, and the more critical and relevant is the risk-reward distribution among the partners.

Figure 65: Intensity levels of private-sector involvement



Source: Consultants

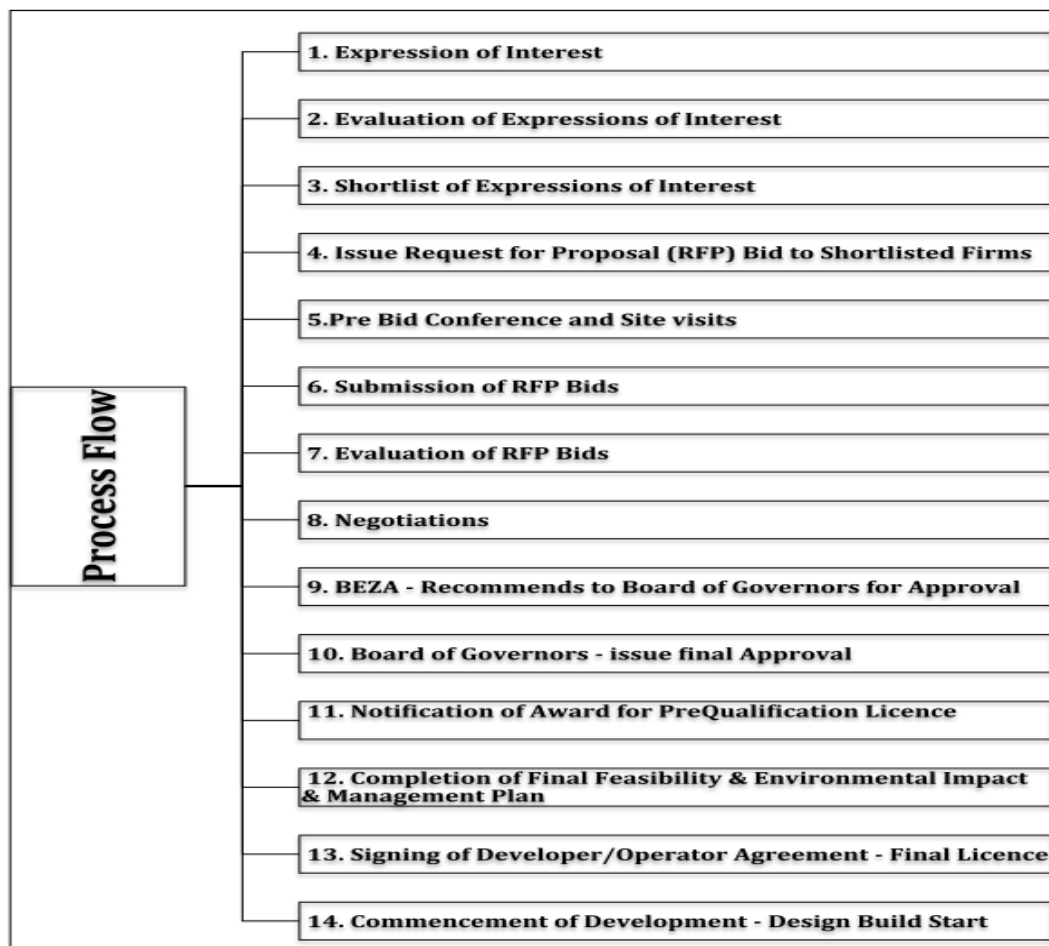
A partnership between a public entity and a private company exists when the two join resources for outcome. Therefore, at the two extremes of PPP (none and full), there is no

PPP. In other words, PPP as a noun denotes some presence of both the public and private sector in a partnership.

BEZA is prepared to provide a full range of incentives which might help realizing the EZ in the short run. Usually, a PPP model is preferred. For the establishment of the first economic zones, BEZA opted for *Design-Build –Finance-Own-Operate-Transfer* (DBFOOT) whereas the developer/operator may enjoy a contract lease of 30 years with a possible extension of further 20 years. Such a long period of lease shall also ensure a return on the operator's initial investments for Jaliardip. As it is a green-field project, it might be also necessary to allow viability gap financing (VGF) as given in the *Bangladesh PPP Guidelines*.

In the identification and selection of developers/operators, BEZA follows a sequenced approach by forming a committee with members comprising of the public and private sector for selection and shortlisting firms for developer/operator of an EZ. However, the illustration and transparency of the process as, for example, set in the '*Guidelines for Selection of Economic Zone Developer/Operator to Design, Build, Finance, Own, Operate & Transfer (DBFOOT), Economic Zones at Mongla, and Sirajganj*' could be improved.

Figure 66: Flow chart of selection process of EZ developer/operator



Source: BEZA

For the Jaliardip Economic Zone, the Consultants propose any kind of BOOT (*Build-Own-Operate-Transfer*) approach on a long-term agreement depending on the considerable funds necessary for initial development.

The original idea of EZs in Bangladesh has been to encourage rapid economic development through increased industrial activity and the creation of employment opportunities by establishing multi-sectoral economic zones. Due to the border location and the missing hinterland, the Consultants have identified Jaliardip EZ to be developed for tourism and the service industry. As described before, the Consultants expect synergy effects with other EZs with a similar scope planned at the southeastern shores of Bangladesh. Against this background BEZA may vote to extend the contract of a developer of a neighboring EZ by including Jaliardip Island.

Also, BEZA is prepared to provide other incentives which might help realizing the EZ in the short run. For the establishment of the first economic zones, BEZA opted for Design-Build-Finance-Own-Operate-Transfer (DBFOOT) where the developer/operator may enjoy a contract lease of 30 years with a possible extension of further 20 years. Such a long period of lease shall ensure a return on the operator's initial investments.

The economic feasibility of such arrangements must be carefully analyzed. In terms of costs, four categories must be considered:

Investment costs: They include the costs of planning, project development, land acquisition and the actual construction work, and other services until completion of the project. It can be conveniently assumed that BOT structures lead to considerable cost savings in particular through close integration of design, planning, construction and maintenance in one hand.

Finance costs: The private sector is generally expected to have a more efficient financial management. On the other hand, the public sector has significantly more favorable terms when raising capital. Due to the cash flow structure of major infrastructure projects (high initial disbursement, comparatively small periodic cash flows, long payback periods) private investors have - different from the public sector - to calculate risk premiums in determining the cost of capital.

Operating and maintenance costs: This category looks at management as well as the expenses for repair and maintenance for a service life of up to 30 years. Here the private sector in general has certain advantages due to sector arbitrage as compared to the public sector, particularly in more efficient organizational models of the management and maintenance as well as lower personnel costs.

Transaction costs and agency costs: With the implementation of a project in the form of PPP, transaction costs and agency costs become due (especially the cost of negotiations, renegotiations, and disputes on defaults or on the residual value of infrastructure). Their effects can be considerable. As regards the level of transaction costs in the procurement phase, it is estimated that the total costs can amount on average to well over 10% of the capital value of the project. Transaction costs to the public sector and the winning bidder vary between countries (legal systems) and sectors, and they are significantly higher in small projects (below US\$ 40 million) and in projects that take long (over 4 years) to procure.⁸⁵

These cost effects are summarized in overleaf *Table 23*.

⁸⁵ Source: EIB; Economic and Financial Report 2005/03, Transaction Costs in Public-Private Partnerships: A First Look at the Evidence, prepared by Gerti Dudkin and Timo Vällilä

Table 23: Generic cost comparison of PPP versus public-sector projects

Cost Category	PPP Projects	Public-Sector Projects
Investment Costs	+	-
Financing Costs	-	+
Operating and Maintenance Costs	+	-
Transaction Costs	-	+

Source: Consultants

Being located in a remote area at the border to Myanmar, transaction costs are just one of the risks affecting the Jaliardip EZ development. Risks can have consequences in terms of economic performance and reputation, as well as environmental, safety and societal outcomes. Other risks include insolvency of the developer, delayed timelines for realization or deviations from contract. According to verbal information from BEZA, provisions against such risks have been taken. However, the establishment of standard procedures for managing risk effectively might help BEZA to perform well in an environment quite full of uncertainty.

Considerable marketing efforts will have to be made according to a *Background Paper on Tourism Sector in Bangladesh* of February 2015 compared to other countries in the region like Malaysia and Thailand which spend 5 US\$ respectively 8 US\$ per tourist on marketing. Any development of Jaliardip will depend on concerted measures in the sector.

2.3.3 Activity 3: Draft Management Plan

The establishment process of the first EZs by BEZA has shown that the Authority is struggling to develop routine in providing an efficient project development and management cycle.

As a major success factor for “Special Economic Zones”, FIAS (2008) has identified the autonomy and effectiveness of the body charged with regulating zone operations. Further criteria identified are adequate funding; customer orientation and ethos; powers over other government ministries; partnerships with private zone operators and enterprises; and maximizing the role of the private sector in service provision.

Good-practice guidelines for the development of an effective institutional framework for SEZ ensure the following:

- Sufficient autonomy of the zone authority, particularly overstaffing, budgets, spending, and policymaking;
- Adequate authority by constituting an independent board comprised of key government ministers and private sector representatives reporting to the highest level of government. Ideally, allow private sector representatives to constitute the majority of board membership to ensure flexibility, results-orientation, and customer-focus;
- A one-stop shop approach through legislation that provides the body with single-point authority over other government agencies in core areas;
- The zone entity delegates, outsources, and privatizes as many non-core functions and services as possible to focus on core activities.
- Management of zones operated on a cost-recovery rather than a subsidized basis, and is market-oriented and customer-focused.

BEZA has a quite high autonomy based on the *BEZA Act 2010*, and it's affiliation to the Prime Minister's Office guarantees smooth access across the line ministries. The Governing Board of BEZA which is the highest body that undertakes overall policy decisions. Representations from Ministries or Divisions of Industries, Commerce, Finance, Planning, Science and Information and Communication Technology, Power, Energy and Mineral Resources, Communications, Labor and Employment, Environment and Forests, Agriculture, Posts and Telecommunications, Foreign Affairs, Home, Shipping, and the Prime Minister's Office. However, only 5 out of 35 members are delegates from apex chambers and private sectors.

For its vision to become a sustainable development driving force and world-class investment promoter and its mission wanting to establish 100 EZ on 30,000 ha of land within the next 15 years and generating employment for 10 million people, the Authority relies on the following core values: Customer Satisfaction, Team Working, Free Flow of Information; Participation and Involvement: Never Stop Learning, Networking, and Effective PPP.

The Authority's Role as a One Stop Service (OSS) Provider is described in the below figure:

Figure 67: One stop services at BEZA



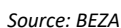
Source: BEZA

Consequently, the success criteria outlined by FIAS for an efficient EZ institutional environment are widely met. As it is recommended that Narayanganj follows a PPP model selected in former projects, BEZA can rely on its first experiences in the selection of developers and/or investors.

However, the Authority has to meet the challenge to

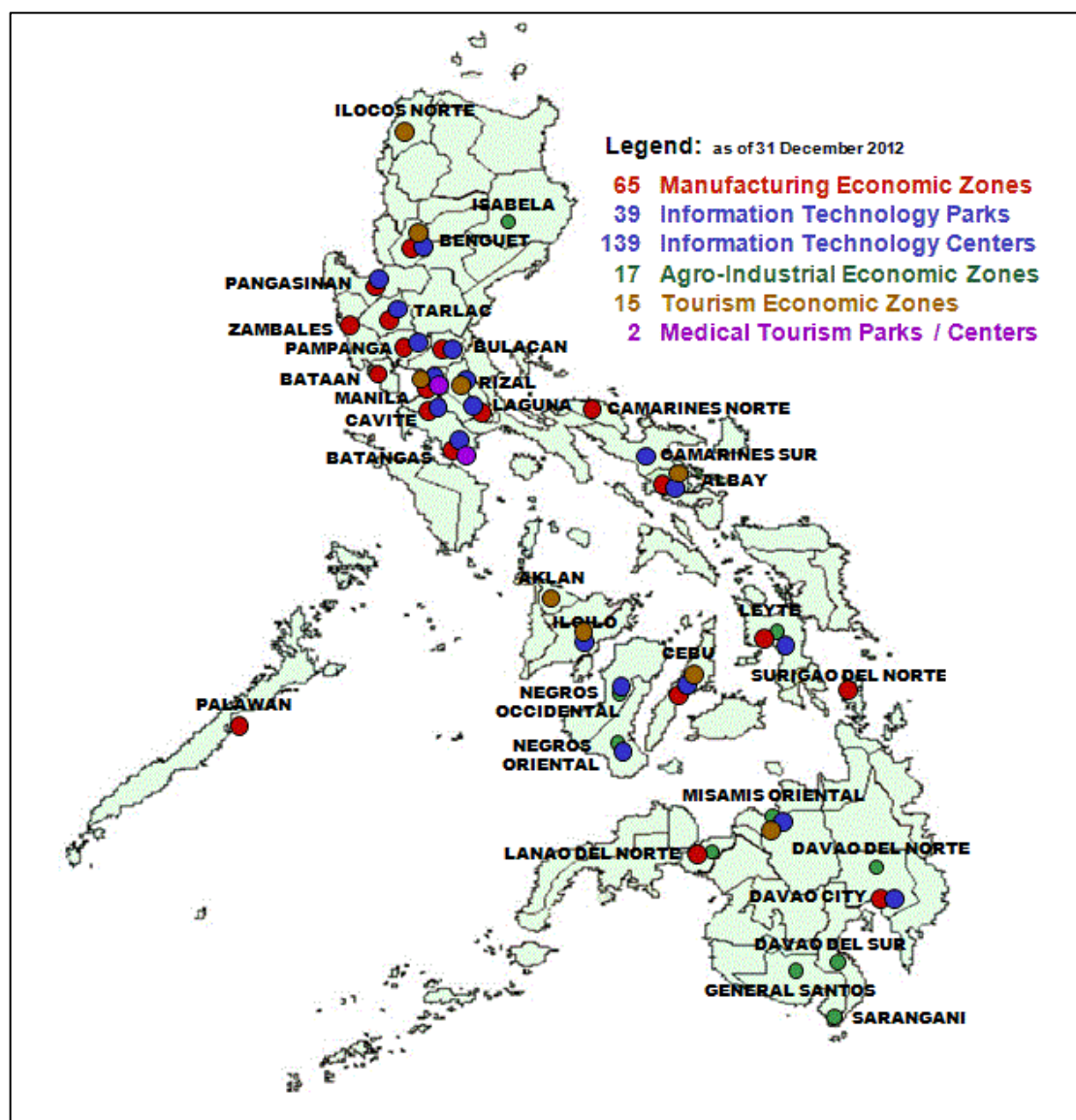
1. integrate new staff as the size of its professional staff will grow by 300% in the coming years from 72 today (establishment levels of 183 new staff positions have been positively considered by the Ministry of Finance);
2. sustain knowledge development within the Authority; and
3. steadily re-invent itself as a core economic development agency for Bangladesh and a competent partner of private investors.

Figure 68: Organizational Structure of BEZA



PEZA was created in 1995 by the *Special Economic Zone Act of 1995* for the development of today about 300 Special Economic Zones throughout the country. The act also provides for competitive incentives available to investments inside the zones. PEZA is the only government agency of the Philippines with the task to promote investments, extend assistance, register, grant incentives to and facilitate the business operations of investors in all Special Economic Zones proclaimed by the President of the Philippines. In the Authority's own words "it oversees and administers all incentives to developers/operators of and locators in world-class, ready-to-occupy, environment-friendly, secured and competitively priced Special Economic Zones."

Figure 69: Economic zones in the Philippines



Source: PEZA

PEZA is attached to the Philippine Department of Trade and Industry. Activities eligible for PEZA Registration and Incentives are Export Manufacturing as well as IT Service and Agro-industrial Export, but also Tourism, Medical Tourism, Agro-industrial Bio-Fuel Manufacturing, Logistics and Warehousing Services, any kind of Economic Zone Development and Operation as well as Facilities and Utilities Provision to SEZ Enterprises.

PEZA grants the fiscal and non-fiscal incentives similar to the ones adopted in Bangladesh:

- Corporate income tax holiday for four years to a maximum of eight years;
- Exemption from duties and taxes on imported capital equipment, spare parts, materials and supplies;
- After the lapse of income tax holiday, a five-percent special tax on gross income and exemption from all national and local taxes;
- Tax- and duty-free importation of raw materials, capital equipment, machineries, and spare parts;
- Exemption from wharfage dues, export tax, impost, or fee;

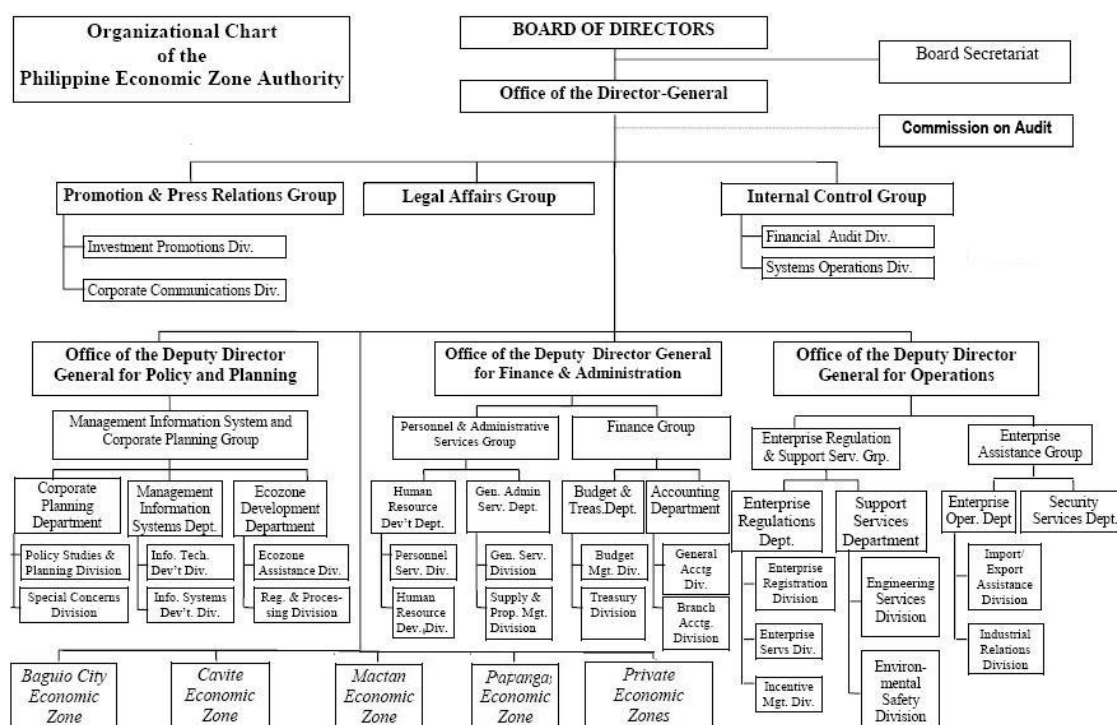
- Value-added tax (VAT) zero rating of local purchases;
- Exemption from any and all local taxes, impost, licenses, and fees;
- Exemption from expanded withholding tax;
- Tax credit (equivalent to 25% of duties) for import substitution of raw materials used in producing nontraditional exports;
- Additional deduction for training expenses;
- Tax credit on domestic capital equipment (equivalent to 100% of taxes and duties);
- Tax- and duty-free importation of breeding stocks and genetic materials;
- Tax credit on domestic breeding stock and genetic materials (equivalent to 100% of taxes and duties);
- Additional deduction for labor expense;
- Unrestricted use of consigned equipment;
- Employment of foreign nationals;
- Permanent residence status for foreign investors and immediate members of the family;
- Simplified import-export procedures, streamlined customs and business registration procedures, and liberal foreign exchange policies;
- Exemption from all national and local taxes and in lieu thereof, payment of a special rate of five percent on gross income;
- VAT zero rating of local purchases;
- Exemption from expanded withholding tax;
- Additional deduction for training expenses; and
- Incentives under the Build Operate and Transfer Law.

As provided in the Special Economic Zone Act, the PEZA Board is chaired by the Secretary of the Department of Trade and Industry. Vice-Chair is the Director General (Chief Executive Officer) of PEZA. Members of the Board are Undersecretaries representing nine key government Departments, to ensure efficient coordination between PEZA and their respective Departments on matters pertaining to investors' operations inside the Special Economic Zones (SEZ).

The organizational structure of PEZA shows three line divisions and four staff functions:

Staff functions are Promotion & PR, Legal Affairs, Internal Control (Controlling & Systems Operations), and Auditing. Within the three line divisions there is Finance & Administration for internal purposes. The Authority's operative functions are divided into the divisions for Policy & Planning (MIS and Corporate Planning) respectively so-called Operations (Enterprise Regulations and Support) each headed by a Deputy Director General. The four public Economic Zones Baguio City, Cavite and Mactan and Pampanga have their own administration on site managed and operated by PEZA. As of 30 June 2013, these eco-zones host 400 locators. In addition, PEZA facilitates business operations of and grants fiscal incentives to over 2,200 locators in 304 privately operated eco-zones.

Figure 70: Organigram of the Philippine Economic Zones Authority (PEZA)



Source: PEZA

For management procedures the Authority has a quality management system according to ISO 9001:2008 in place, which means that operations follow standard procedures. Consequently, the PEZA presents on his website a range of checklists and information to investors facilitating the application process but also guaranteeing a high degree of transparency.

In order to get it clear, PEZA is far from being a blueprint for BEZA's development due to various country-specific facets. The focus of PEZA has originally been on export-processing manufacturing industries and on the big public managed zones significantly turning to other sectors and private economic zones within the last decade. But what could be a point of reflection are the set of standard procedures and the establishment of a quality management system for zone development and investor relations.

The implementation of such standard systems at BEZA now in the time as the authority is still growing, could mean a better absorption of new staff entrants and allows quick knowhow transfer from lessons learned in one EZ development project in Bangladesh to future projects. The development of Jaliardip EZ can serve as such a showcase as its predicted success goes in line with significant infrastructure investment necessities also involving social and environmental issues.

Beyond fiscal incentives such as tax breaks and tariff exemptions, BEZA takes care that a developer's concept for a modern zone management is primarily focusing on providing an internationally competitive business environment. This means improved infrastructure in terms of transport and logistical linkages and state-of-the-art communication networks, efficient clearance operations, reliable utility services and efficient administration. Also in this respect, checklists and routines might be useful.

But coming back to the organizational structure, there are also some lessons to be learned from the Philippine example. What one can see in the comparison of Figure 68 (organization

of BEZA) and *Figure 70* (organization of PEZA) is that the line functions – here Planning & Development there Policy & Planning, here Investment Development there Operations (Enterprise Regulations/Support Services & Assistance (“One Stop”) as well as Administration & Development respectively Finance & Administration are more or less the same. Noteworthy here, is only that at PEZA Engineering is part of Operations and Environment/Safety is a high ranking division under the same pillar, too. This makes sense as these fields are very much affiliated to individual zone projects, both in terms of service orientation and zone monitoring.

But at the end, it is the decision of the BEZA Governing Board and Management how to structure its services in the best line combination. However, what is strongly recommended by the Consultants is to follow the example of PEZA by the establishment of staff functions: Promotion & PR, Legal Affairs, Internal Control (Controlling) and Auditing. The rationale behind is as follows:

Promotion and PR is the central unit for any kind of general business promotion and the spread of good news about Economic Zone Policies. It will have to liaise strongly with BIDA and sector promotion agencies in Bangladesh.

Legal Affairs (now a line function in Administration& Development) is such an important issue for the Authority that it needs to be affiliated to the executive top and finally,

at least Auditing must be separated from Accountancy and Financial Management, as it is the basic idea to crosscheck all departmental financial activities.

Matrix Organization

For BEZA’s organizational routines, the Consultants are proposing the establishment of a matrix organization. In a matrix organization, interfaces occur between organization functions set in a vertical line structure (i.e. a classical line organization) and project-oriented horizontal cross-organizational lines. These interfaces are occupied in this management system either by individual officers (“Project Leaders”) or an entire team.

Such a structure is quite unusual for a government body but quite suitable for a development agency. As the focus of BEZA is seen not only in administering but actively promoting projects, such an organizational approach might fit well. The biggest difference to hierarchical top-down decision trees is the establishment of flat hierarchies with multi-functional key account managers for both - individual projects and major economic sectors (see below figure).

Figure 71: Matrix organization



Source: Consultants

So, the matrix organization is a variation of a multi-line organizational system. In this system, the operating staff is subject to both a performance (work flow)-oriented supervisor as well

as a project (process)-oriented manager. An essential feature of the matrix organization is thus that, in addition to so-called performance (line) managers, it also includes equally or temporarily dominating project managers.

The objective of the matrix organization is to combine the advantages of both types of organizations functional respectively divisional structure relevant for any type of efficient administration and flexible innovative team structure, which is characterized mainly by high-degree expertise and knowledge management. Rapid problem resolutions are guaranteed by empowering various specialists rather than by top-down hierarchies.

But this also means that highly qualified personnel must be present. Otherwise, competence problems may result. Also, one should not disregard the fact that a matrix structure can lead to conflicts within the organization due to the many interfaces respectively resistance of line managers to trust staff and resources to project managers. Not least, of course, is also the coordination effort, especially if there are a variety of projects at the same time.

These are basically the main advantages and disadvantages. The following table summarizes all the advantages and disadvantages:

Table 24: Advantages and disadvantages of a matrix organization

Advantages of a matrix organization for BEZA	Disadvantages of a matrix organization for BEZA
<ul style="list-style-type: none"> • BEZA's leadership is relieved • Fast troubleshooting for individual EZ projects by BEZA specialists • High degree of teamwork • Short / direct channels of communication • Very flat hierarchies • High degree of specializations of executives and staff • Less pure administrative functions necessary • Trained and highly qualified staff 	<ul style="list-style-type: none"> • competence problems / competence crossroads • Quite high coordination effort (virtual ranking of projects) • Great communication needs • Potential for conflict within the teams • Decentralized decision-making • Potential danger of setting mainly compromises • Great demand for managers • High competition in the labor market for qualified staff

Source: Consultants

In the ideal typical matrix organization, all areas are equal. The team for EZ Project A is next to the team for the Project B, as equals in turn are the functional areas of construction supervision, contract management, environment etc. Therefore, in this form of organization a high degree for communication needs usually arises.

In particular, as in the distribution of resources in-house conflicts can occur, for example, when the project range of Project A manages to tap large engineering capabilities that are no longer available to Project B.

Accordingly, variants of the matrix organization are usually described for three levels:

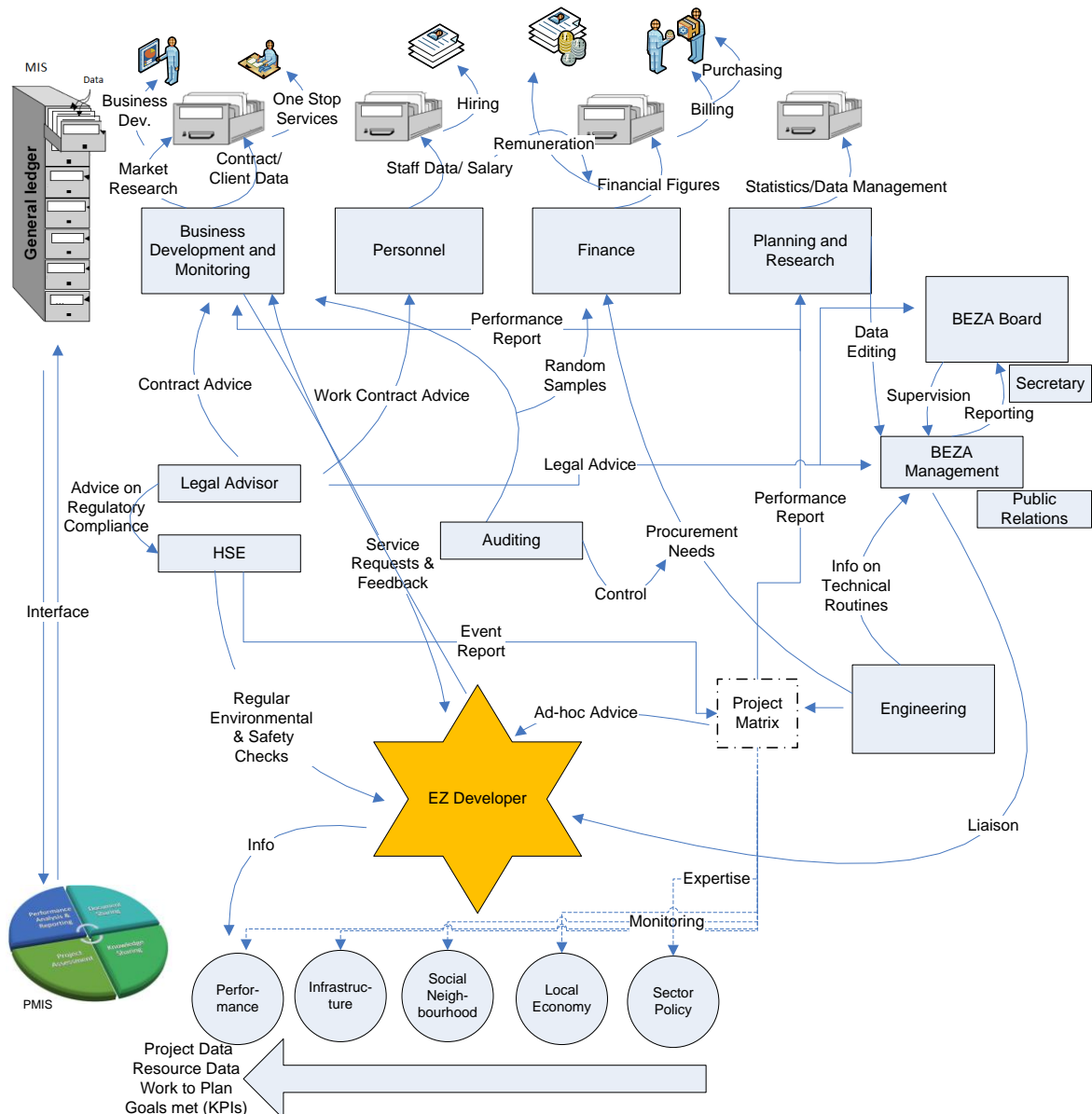
- Weak Matrix Organization;
- Balanced Matrix Organization; and
- Strong Matrix Organization.

These stages differ in the authority of the project manager: For the weak matrix organization there is only one project coordinator without powers; in the strong matrix organization, the project manager has direct access to the resources, but must coordinate with the respective line managers. In the balanced matrix organization, the line organization remains unchanged, but the project organization is superimposed.

The final decision, on which kind of matrix should be implemented, will be with BEZA leadership. However, it is important for organizational patterns not mixing up authority levels over time, i.e. today weak, tomorrow strong, or vice versa.

For Jaliardip Island this will mean that there should be experts at BEZA for the tourism industry who at the same time are in charge of a project while contributing to others.⁸⁶

Figure 72: Project team and reporting lines at BEZA recommended



Source: Consultants

The figure above gives the expected reporting lines at BEZA by establishing project teams within a combined line/matrix organization. In-house expertise at BEZA should be available for the following high-priority/ priority sectors in Bangladesh:

- Garments and Textiles,
- Leather and Leather Goods,

⁸⁶ The same will fit e.g. to the Narayanganj EZ where BEZA will need knitwear-industry key account managers cum engineers. For BEZA this would mean that there would be a project team for the Narayanganj EZ established that coordinates and follows up the whole realization process.

- Jute and Jute Goods Sector,
- Home Textile Industry,
- Light Engineering,
- Automobile Sector,
- Bicycle Industry,
- Agro Machinery Manufacturing Industry,
- Pharmaceutical Sector,
- Active Pharmaceutical ingredient Industry and Radio pharmaceutical Industry,
- Cosmetics and Toiletries,
- ICT and Business Services,
- Plastic Industry,
- Toys Industry, and
- Tourism Industry.

External Expertise could be found for the other priority sectors:

- Ship Building Industry- Sector,
- Environment friendly ship breaking and Assembling Industry,
- Renewable Energy (Solar Power and Wind Mill),
- Power Savings Instrument Industry,
- Agribusiness,
- Frozen Foods, and
- Seed Industry.

If and when other specific sector know-how is frequently needed, respective expertise should be incorporated into BEZA.

Next to sector specialists, the project teams should incorporate:

- One specialist for local economy (economist),
- One specialist for social neighborhood (sociologist), and
- One specialist for infrastructure (engineer).

They shall be guided by a permanent project manager/ key account officer for the respective EZ project. This team shall permanently monitor the project work of the EZ developer.

Each team member shall manage his job responsibilities independently with only general direction from the project manager/key account officer. Job characteristics for the project management team read as follows (see overleaf tables):

Table 25: Job requirements of Project Manager/Key Account Officer

Job Purpose	Leading the team, responsible for all regular operational and legal activities based on contract with EZ developer.
Essential requirements	Knowledge of project management systems. Background in industrial activities
Knowledge and Education	Higher education and formal qualification to B.Sc. degree standard in engineering or business management related discipline.
Skills	<p>Trained in planning, administering and coordinating operational and business activities.</p> <p>Fluency in English and Bangla preferred. Good command of the English language, verbal and written.</p> <p>Ability to think laterally and apply management knowledge in practical terms.</p> <p>A thorough understanding of industry standard safety regulations.</p> <p>Excellent communication skills at all levels.</p> <p>Management of operational and human resources.</p> <p>Computer literate and able to use standard software such as MS Word, Excel, Outlook, Access and PowerPoint.</p>
Experience	<p>Previous experience in a similar capacity.</p> <p>Experience of managing teams successfully.</p>
Essential Functions	<ol style="list-style-type: none"> 1. Reviews operating costs and performance of EZ project and monitors the cost-effectiveness of the selected PPP solution. 2. Review financial and economic data, and makes recommendations for revisions and adjustments 3. Maintains records on all activities to determine effectiveness and efficiency of EZ developer and operators. 4. Maintains knowledge and assures compliance with regulations for the safe and effective handling of commodities through the zone. 5. Initiate programs for industrial safety, environmental regulatory compliance, sanitation, etc. in cooperation with BEZA's HSE section and implements changes as needed. 6. Assists in marketing programs for the zone. 7. Monitors annual operating budget for project activities in conformance with contract. 8. Maintains contact with EZ developer and related investors to insure proper planning and scheduling of activities. 9. Provides reports and coordinates with other departments for the success of the EZ project. 10. Guides Investor Relations Initiatives

Source: HPTI

Table 26: Job requirements of Industrial Sector Specialist

Job Purpose	Monitors all aspects of EZ operations; appraising performance; addressing complaints; resolving problems with the EZ developer in accordance with customer policies, procedures and safety rules.
Essential requirements Knowledge and Education	Bachelor's degree (B. A.) from four-year college or university; or one to three years' related experience and/or training; or equivalent combination of education and experience. Must have at least 3 years of direct sector specific experience
Skills	Related Management Skills Knowledge of sector specific needs for facilities, equipment and methods. Knowledge of health and safety standards and use of such in practice
Experience	Must be familiar with regulatory rules for sector operations. Must possess understanding of forward and backward sector linkages.
Essential Functions	<ol style="list-style-type: none"> 1. Establish and maintain information lines with EZ developer and operators while maintaining control of the established project details. 2. Review all activities of the EZ developer against project outline 3. Follows and enforces all rules and procedures for the safe and efficient operation in the EZ. 4. Understands and can communicate knowledge and understanding of sector operations to others. 5. Work with the infrastructure expert to ensure the operational functioning. 6. Suggests changes in working conditions and use of equipment in the EZ to increase efficiency. 7. Organizes and maintains an accurate record keeping process for site operations.

Source: HPTI

Table 27: Job requirements of Local Economy Specialist

Job Purpose	Responsibility for all kind of economic reporting on the outcome of the EZ project. Assists in the monitoring and economic review of the plans of the EZ developer. Tracks all economic cost and benefits.
Essential requirements	Holds a bachelor's degree from an accredited university or college in Business or Economics.
Knowledge and Education	Has 4+ years' experience in financial and economic appraisal. In addition, has at least 3 years' experience in a cost management role supporting major projects. Strongly proficient in the use of computer software and database management and familiarity with financial and economic data. Strong verbal, written and interpersonal skills.
Skills	Excellent organizational and communication skills Ability to interact well with local authorities Excellent problem solving skills with a high level of accuracy
Experience	Experience in business analysis Experience in specific sector environment is a plus.
Essential Functions	<ol style="list-style-type: none"> 1. Responsible for the economic review of EZ development against client projections.. 2. Manage the updates to forecast/expectations and provide variance explanations 3. Track all operating expenses. This includes updating and produce monthly forecasts and expectation report. 4. Analyze data to provide information for reports on current actual EZ performance against budget. 5. Prepare and distribute monthly analyses and work on special projects as required. 6. Participate in corporate audits and related activities as required. 7. Identify areas of best practices and synergies and manages improvement initiatives 8. Take necessary steps to implement economic commitments across the EZ development. 9. Take role in development and implementation of business intelligence platforms to improve overall organizational reporting.

Source: HPTI

Table 28: Job requirements of Social Neighborhood Specialist

Job Purpose	Responsibility for all kind of social reporting on the outcome of the EZ project. Assists in the monitoring and review of the plans of the EZ developer. Tracks all social cost and benefits; addressing complaints by workers or stakeholders resolving problems and responsible that policies of the EZ developer are in accordance with social safeguards.
Essential requirements Knowledge and Education	Bachelor's degree (B. A.) from four-year college or university in sociology; or one to three years' related experience and/or training in social work; or equivalent combination of education and experience. Must have at least 3 years of industrial work experience
Skills	Additional training or qualification in labor-related disciplines a plus. Knowledge of Health and Safety standards and use of such in practice
Experience	Must be familiar with regulatory rules for labor. Must possess basic understanding of sector requirements.
Essential Functions	<ol style="list-style-type: none"> 1. Maintains contact with EZ neighbors and interested parties to ensure their satisfaction with zone operations 2. Liaise with local authorities 3. Reviews and guides employment opportunities to ensure acceptance of the zone. 4. Initiate and guide development measures on skilled workforce and propose training initiatives to EZ developer and investors 5. Follows and enforces rules and procedures for the safe and secure operation in the EZ in cooperation with BEZA's HSE Unit 6. Understands and can communicate knowledge and understanding of all social aspects of specific EZ to others. 7. Suggests changes in working conditions if necessary. 8. Organizes and maintains an accurate record keeping process on social aspects for site operations. 9. Collaborate with worker representatives to build out training, mentorship and other personnel development programs throughout entire EZ. 10. Communicate social performance targets and results based on operational commitments. 11. Responsible for the development of a long-term Social Management Plan for EZ including annual review and updates of employment strategies.

Source: HPTI

Table 29: Job requirements of Infrastructure Specialist

Job Purpose	Responsibility for planning, coordination, review and oversight of all zone related technical aspects. Identifies opportunities to improve infrastructure reliability and hinterland connection of the zone
Essential requirements (Knowledge and Education)	Civil Engineering or equivalent related experience. Completion of an accredited engineering degree. Three or more year supervisory experience in complex estate projects.
Skills	Demonstrated ability to diagnose complex process problems and manage remedial action. Demonstrated ability to coordinate long term maintenance and ongoing operations. Ability to set and maintain high standards in cleanliness, maintenance and repair procedural compliance.
Experience	Ingenuity and initiative to coordinate problem resolution, resolve conflicting priorities and to meet assignment deadlines within a team environment. Experience in sector environment and knowledge of the methods, techniques, principles, and practices of infrastructure and facility management is a plus.
Essential Functions	<ol style="list-style-type: none"> 1. Work closely with EZ developer to ensure technical standards are current, efficient, and provide adequate flexibility. 2. Ensure given time lines of infrastructure development of EZ 3. Maintain infrastructure records 4. Coordinate engineering activities and infrastructure investment of BEZA on site. 5. Monitor infrastructure investment of EZ developer and investors in line with original infrastructure development plan. 6. Study schedules and estimates cost requirements for completion of infrastructure assignments. 7. Working closely with EZ developer, assist with defining and maintaining technical infrastructure standards and oversee their implementation. 8. Identify opportunities to improve efficiency of technical solutions. 9. Ensure that a procedure for Weak Point Analyses of technical facilities and civil constructions is established. 10. Advice on technical on-site projects 11. Performs related duties as assigned.

Source: HPTI

In a decentralized approach such teams could be located in the region but shall send performance reports to the central departments for Business Development & Monitoring as well as to Planning & Research. They shall also get advice on Environmental & Safety Affairs by a central HSE Unit at the headquarters, which will also conduct regular environmental & safety checks as needed. One team can be responsible for up to five EZ projects, depending on the size and accessibility of the respective projects. If priorities set by BEZA management change a new project matrix for specific projects should be established.

The organizational structure for BEZA's operations and administration has been discussed before and does not need to be repeated here.

The sophisticated work scope and exchange with project partners need professionals enabled to work more independently and responsibly. In view of the needs of the future EZ projects it is strongly recommended gradually selecting personnel which has the qualification or potential of future project staff.

Major problem is the qualification of personnel which needs to be regularly upgraded. This will only be effective with monitoring qualification of personnel and parallel IT standards. The Business Development and Monitoring Department will take care of all 'client relations' of BEZA. They shall elaborate the specifications, shall prepare the tender documents and take care of tendering and evaluation of tenders. The employees of such a department are usually not formally qualified for this job by university education alone but best gained their practical experience through their work. So, project appraisal methods like ex post-evaluation and ranking statistics of bidders or frame contracts need to be introduced by appropriate training. Any processes involving financial flows are best executed by the Finance sections AND controlled by internal auditing.

Planning & Research shall also perform a kind of internal controlling function. The BEZA management needs to be permanently informed on cost, value and progress of work processes. For this purpose, a constant data editing will help to identify bottlenecks and "graves of money spent".

Such data generated and supplemented with some additional statistical information should result from a formalized Management Information System and in the set-up of a data warehouse so that departments and subsections can draw reports and information from the system.

Based on that, a set of regular management-related features as below should be derivable, which will help the management team to monitor and optimize BEZA's processes.

Table 30: Management-related features

Business Intelligence	Gain an integrated view of EZ operations Optimize resource utilization Monitor performance View all forecast and actual movements Manage and monitor realization steps in real-time
Integrated Data on Operations	Track details and schedules Integrate seamlessly with clients and other agencies Interface to PMIS
Compliance & Control	Maintain audit trail on all actions Manage operational risks Evaluate social and environmental footprints Provide controls on key processes and figures
Resource optimization/ outputs	Increased staff utilization Quality management Visibility through real time accurate information Improved information flow

Source: HPTI

Having such a system in place, e.g. by interfaces of standard business software like SAP or Oracle, regular reporting requirements will be easily adaptable. This will facilitate the coordination of all operative departments as well as the interlinkage to the administrative and overhead functions.

Whereas regular work processes can be reflected in such a system and respective data generated and reported to the right place, the problem of direct reporting occurs only in all times of non-conformities. Here, the Project Matrix will have a vital role to distribute the respective information in-house in the right way.

The data reported monthly have to be formally evaluated and, based on that, a structured process of action shall be established by introducing standardized reports summarizing the project reports.

These project reports have to be derived from project management information systems. Such PMIS might be special platforms of BEZA's MIS or – in larger EZ projects such information systems might run independently with in-time data delivery from the EZ developer and an interface to BEZA.

Generally, the structure of the organization is to a major extent not a problem in itself, but again of the qualification and the job understanding in many of the positions. A holistic organization understands that all its different units serve ONE purpose. This is more a question of mind set than of organizational set-up.

It is with PR to establish a true corporate communications unit responsible for strategic upgrading of the BEZA's reputation to the outside world as well as to living its vision and mission.

There may still be some problem area, if and when the departments, especially business development and monitoring, are broken down into very many subsections. This can lead on the one hand to very fragmented work and on the other hand to a lack of understanding of the overall work outcome. An example could be the establishment of several one-stop service units. Such fragmentation in turn may lead to a lack of feeling of responsibility that all activities are carried out perfectly well. Therefore, it might be a better option to establish specialist functional units for a specific range of one stop services each. At the end, it will also be a matter of leadership to coordinate all functions well and for solving the question of Information exchange between the sub-departments: quite often, units appear not to understand that they depend on each other but perceive themselves as the only important in an Authority. This can lead to a lack of exchange of information between each other. As they don't understand the work of the other they also don't know which information from the other units would be important to them so they don't demand such information. This might change once the data warehouse will be available and the personnel trained to draw information from this data base.

Without doubt, Business Development and Monitoring is the core function of BEZA. All other departments should serve, feed or monitor these activities. Good quality operations are the best business card, and all direct customer relations should be trusted to this customer relationship management. The BEZA management shall liaise with EZ developers but at the same time involve and empower the Business Development and Monitoring staff. As discussed before it is strongly recommended designating key account officers for all major

clients. These key accounts serve as one-window option to the clients in all business-related matters.

Training Requirements

This means that there should be sector specialists available with BEZA who should have strong project and risk management skills. As such competence patterns are not too frequently found in the Bangladesh labor market, this will result in basic training requirements for BEZA staff.

Consequently, management training at BEZA should not be a singular event, but should take place regularly in order to steadily supplement "soft" skills like leadership and communication with EZ-related commercial and operational awareness.

These skills have to be trained permanently if a lasting effect is to be reached. The target group is the upper and middle management level of all departments. In the following a sample of most relevant courses for selected management staff of BEZA is given.

Table 31: Course Title: Leadership and General Management Training

Target Audience:	All Management Staff
Duration of Course:	5 days training
Overall Objective:	The target audience is familiar with General Management Tools
Module / Sub Topic	Learning Objective (per sub-topic)
Basics of Leadership	<p>The participants have general knowledge about leadership theory and practice</p> <p>They understand the important components of different leading styles related to job and people</p> <p>The participants know the theoretical and practical background of different delegation models</p>
Motivation Praise and reprimand Appraisal schemes	<p>The participants get an overview about motivation theories</p> <p>They can use incentives and disciplining measures</p> <p>They can handle the "motivational gap"</p> <p>The participants are acquainted with appraisal systems</p>
Conflict Handling and Change Management	<p>The participants are familiar with "natural" conflicts. They can avoid conflicts and know instruments to handle conflicts</p> <p>The participants are acquainted with typical resistance against change. They know the important instruments to avoid and overcome change barriers</p>
Typical Leadership Mistakes	<p>The participants know the typical Leadership mistakes</p> <p>They know how to avoid these mistakes</p>
Successful negotiations	The participants are able to negotiate and get win-win-results
Organisational knowledge and skills	The participants know about the ongoing improvement of organizational development
Presentation skills	The participants know the principles of good presentation for internal and external purposes
Decision making	<p>The participants know important tools for better decision making.</p> <p>They know about prioritizing tasks</p>
Basics of Controlling	<p>The participants know to design key figures (KPIs) for their projects</p> <p>They are able to use online analytical processing with data warehouse</p>

Source: HPTI

Table 32: Course Title: Contracting

Target Audience:	Project Staff
Duration of Course:	5 days training
Overall Objective:	The participants have the necessary knowledge to draft contracts according to international standards by taking into account all necessary legal and commercial obligations
Module / sub-topic	Learning Objective (per sub-topic)
Planning, Project Management and Contract Supervision	The participants are acquainted with planning and budgeting tools. They can Project Management software. They can supervise contractors
Procurement	The participants understand the basics of tendering. They are able to take care of tendering procedures
Internat. Standards of Contracts	The participants are familiar with all the relevant paragraphs and international standards of Contracts
Legal Formalities	The participants are able to check contract compliance to legal requirements and commercial terms and conditions (including warranty, the transfer of risk, assignment, auditing rights, confidentiality, remedies, etc.)
Post-award Administration	The participants know about typical post-award administration procedures like contract auditing and monitoring minor changes, change requests etc.

Source: HPTI

Table 33: Course Title: EZ Marketing & PR

Target Audience:	Stakeholder Relations and Marketing Staff
Duration of Course:	5 days training
Overall Objective:	The Participants can apply relevant marketing measures and design PR campaigns
Module / sub-topic	Learning Objective (per sub-topic)
Means	The participants are informed on all marketing means available and are acquainted with selection criteria
Target Groups	The participants are able to analyze the market and identify target groups
Methods	The participants are prepared to define marketing strategies for different target groups
Media	The participants gain insight into the pros and cons of different media and are able to select a proper media mix for marketing and PR strategies

Source: HPTI

Table 34: Course Title: International Standards in EZ set-up and institutions

Target Audience:	Management Staff
Duration of Course:	5 days training +international study tour
Overall Objective:	The participants are able to select EZ development instruments best suitable for BEZA needs in an international context
Module / sub-topic	Learning Objective (per sub-topic)
EZ Development Instruments in the International Arena	The participants discuss different development instruments and EZ realization paths in an international and cross-regional context
EZ Institutions	The participants know the organizational set-up of different international EZ administrations
Range of EZ Services	The participants are acquainted with international benchmarks for EZ-related services
EZ Realization Paths	The participants evaluate different paths and discuss whether they fit to the Bangladesh environment
International Requirements	The participants obtain an overview on schemes and 'value chains' of EZ models
Networks	The participants know international networks and cooperation possibilities

Source: HPTI

Table 35: Course Title: Financial Management

Target Audience:	Finance Staff
Duration of Course:	10 days training
Overall Objective:	The participants have a deeper understanding of structuring financial systems relevant for the BEZA business environment
Module / sub-topic	Learning Objective (per sub-topic)
Financial Issues in Contractor Management	The participants discuss financial issues in contractor management in other countries
Financing Issues	The participants meet bank managers and infrastructure developers to exchange ideas on EZ financing
Accounting Standards	The participants are able to analyze EZ-related end-of-the-year statements and profit and loss accounts based on IFRS rules
Controlling Processes	The participants gain insight into the organization of controlling measures
PPP Schemes	The participants are confronted with international examples of PPP Schemes like BOT and other administration means.

Source: HPTI

Table 36: Course Title: Risk Management

Target Audience:	Project Managers
Duration of Course:	2 days
Overall Objective:	The Participants know the principles and techniques of risk management
Module / sub-topic	Learning Objective (per sub-topic)
Principles of Risk Management	The participants understand the principles of risk management as defined in ISO 31000
Risk Identification and Assessment	The participants can identify risks and assess risks for the probability of occurrence and potential severity of impact
Risk Mitigation	The participants know how to create new processes to avoid risks or find ways to transfer risks to external parties
Risk Management in Projects	The participants can develop plans to manage risk in specific projects, including risk management tasks, responsibilities, activities and budget

Source: HPTI

2.4 Component 4: Financial and Economic Analysis

A financial analysis serves to assess all revenues and costs directly associated with a project. As such, the financial evaluation takes the perspective of a private investor and indicates whether a project is financially feasible, i.e., whether it is sufficiently profitable to be realized.

In contrast to the private viewpoint of the financial analysis, an economic analysis assesses the feasibility of a project in terms of economic costs and benefits, also considering external costs and benefits associated with a project. The economic evaluation thus takes the perspective of the society as a whole and shows whether or not the project *should* actually be realized, independent of the mere financial assessment.

Taken together, the two evaluations may result in four distinct cases as depicted in the following decision matrix.

Figure 73: Decision Matrix Financial vs. Economic Evaluation

	Positive Economic Evaluation	Negative Economic Evaluation
Positive Financial Evaluation	Private sector realisation.	Private sector realisation feasible, yet not recommended (substantial negative externalities).
Negative Financial Evaluation	Project realisation by state or with state support (subsidies or PPP) recommended.	No project realisation.

Source: HPC 2016

Given a positive financial evaluation, a project is feasible to be set up by the private sector. In this case, the project can and should be realized by the private sector without support of the state – provided the economic evaluation is positive as well. In case, however, that the economic evaluation is negative – i.e., there are substantial negative externalities or insufficient benefits – the realization of the project should even be prevented by public regulation.

If a project is not financially feasible, realization by the private sector is no realistic scenario. It is then to be decided by an economic evaluation whether the project should be realized nevertheless – in case there are substantial economic benefits, the project may be worth being set up by the state or with state support (with subsidies or as a public private partnership).

The following two sections present the financial analysis (from the perspective of the developer) and economic analysis for Jaliardip Economic Zone (see *Appendix 12* for a detailed calculation).

2.4.1 Financial Analysis

Costs of off-site structural development of the Jaliardip Economic Zone will, at least initially, be borne by BEZA, such as for approach road with drainage facilities, [cable-stayed pedestrian bridge](#), external telecommunications, external electricity connection with substation, external gas connection from Cox's Bazar, and water connection line. BEZA will also bear on-site initial development costs for CC box protection, and land filling with dredged sand.

All costs for on-site structural development of the Jaliardip EZ will be borne by the Developer, such as for final land filling and boundary wall, jetty, cable car and lifts, Internal connections and distribution of gas, electricity, road traffic, water (including water treatment plant intake from the Naf River) and drainage, all utilities, buildings and open zones.

2.4.1.1 Methodology

The financial analysis serves to assess the Project – the development of Jaliardip Economic Zone – from the viewpoint of the developer, taking into account all associated costs and revenues. As such, the financial viability of the Project is evaluated through an analysis of the (*financial*) cash flow. Typically, the cash flow is defined as the difference between revenues on the one hand and operating and investment costs on the other hand (financing options shall not be considered for this analysis).

As time horizon the year 2039 is chosen, including 20 full years after opening of the zone in 2019. The Consultants conduct the financial analysis in US\$ in constant prices of 2016. Where required, an exchange rate of 1.0 US\$ = 78.00 BDT has been applied. Import duties and VAT mostly do not apply for the development of the economic zone (*BEZA Law 2010*) and are hence omitted.⁸⁷

To assess the financial viability of the Project, the Consultants apply the following financial indicators to the cash flow:

- Financial Net Present Value (FNPV),
- Financial Internal Rate of Return (FIRR), and
- Dynamic Payback Period (DPP).

The *financial net present value (FNPV)* is calculated by discounting the net cash flow of each year accruing throughout the project life at a given financial discount rate. A positive FNPV indicates that the project under consideration is more profitable than an alternative investment with a return equal to the discount rate.

The *financial internal rate of return (FIRR)* is the discount rate at which the present value of all outflows of cash is exactly equal to the present value of all inflows of cash. It indicates the actual return of a project and is thus a good indicator for profitability of a project. The higher the FIRR, the higher is the profitability of the project. For extremely profitable or unprofitable projects, however, it is possible that no FIRR exists (for instance when the cash flow is either positive in all years or negative in all years).

The *dynamic payback period (DPP)* is the project period in which the accumulated cash flow, discounted at the given financial discount rate, turns positive. The dynamic payback period is a good indicator for the risk of a project. The project is feasible if the dynamic payback period is lower than the project length.

Thus, a project is *financially feasible* if for a given financial discount rate the following (typically equivalent) conditions are satisfied:

- The FNPV (evaluated at the financial discount rate) is greater than 0;
- The FIRR is greater than the financial discount rate; and

⁸⁷ According to the BEZA law from 2010, no import duties apply for the development of the economic zone. Similarly, most VAT does not apply – exceptions include electricity (yet only after 10 years) and petroleum products.

- The DPP (evaluated at the financial discount rate) lies before the project horizon.

For the financial evaluation of Jaliardip Economic Zone, the Consultants apply a financial discount rate of 7.0%.

The financial analysis is conducted for the Base Case demand scenario (see *Chapter 2.1.5.4*).

2.4.1.2 Costs and Revenues

Investment Cost

The development of the economic zone will take place as follows:

- Pre-development of some structures by BEZA in 2017 (for a list of structures and costs, see *Chapter 2.2.3.3*);
- The developer will take over these structures in 2018 and will reimburse BEZA for the investment cost with an up-front payment equal to the investment cost plus a service charge of 2%; and
- The developer will then be responsible for the remaining infrastructure development in 2018/2019 (for a list of structures and costs, see *Chapter 2.2.3.3*).

As such, the following investment costs arise for the developer.

Table 37: Jaliardip Economic Zone – Investment Cost (US\$ million)

Year	2017	2018	2019	Total
<i>Project Year</i>	<i>0</i>	<i>1</i>	<i>2</i>	
Up-Front Payment		18.1		18.1
Infrastructure Development		10.6	10.6	21.1
Investment Cost	0.0	28.6	10.6	39.2

Source: Consultants

Operating Cost

Operating costs comprise the following items:

- Land lease fees (paid by the developer to BEZA);
- Maintenance & repair of the infrastructure; and
- Cost for the provision of utilities (electricity, water, gas, sewage, waste, and telecommunication).

Land lease fees to BEZA are accounted for from 2018 and are based on the full area of the economic zone of 271.93 acres. The level of land lease fees has been chosen as 8 US\$ / m³, resulting in an acceptable financial performance of the development.

Cost for maintenance & repair have been assumed with annually 2.0% of the infrastructure investment cost, accounting both for materials and labor cost.

For utilities, the following assumptions are made with regard to unit costs and the consumption in the economic zone:^{88,89}

⁸⁸ Assumptions for unit costs for electricity, water/sewage, and gas the unit costs are based on tariffs for utilities in export processing zones (<http://epzbangladesh.org.bd/details/tariff-for-utilities>), assuming a 10% service charge. Unit costs for waste have been assumed based on information from Dhaka City Corporation.

⁸⁹ Electricity, gas, and water/sewage consumption have been derived per overnight stay based on figures from the European Tourism Survey 2006. Waste is estimated by the Consultants as 5 kg per overnight stay, based on information from Dhaka City Corporation. For daytime visitors, generally 50% of the utility consumption is assumed as compared to overnight stays. For telecommunication, lump sum consumption worth US\$ 300 per month has been assumed in total.

Table 38: Jaliardip Economic Zone – Utility Units Costs and Consumption

Utility	Unit Cost	Consumption (per overnight stay)	Consumption (per day visitor)	Lump Sum EZ (per year)
Electricity	6.82 BDT / kWh	24.31 kWh	12.16 kWh	
Water	25.22 BDT / m ³	0.22 m ³	0.11 m ³	
Gas	5.86 BDT / m ³	4.88 m ³	2.44 m ³	
Sewage	25.22 BDT / m ³	0.22 m ³	0.11 m ³	
Waste	5,000.00 BDT / ton	5 kg	2.5 kg	
Telecommunication	1.00 BDT / unit			255,273 units

Source: Consultants

Total consumption and thus operating cost for utilities are then derived applying the demand scenario for the Base Case (see Chapter 2.1.5.4).

As such, the following operating costs arise for the developer.

Table 39: Jaliardip Economic Zone – Operating Cost (US\$ million)

Year	2017	2018	2019	2020	2021	2030	2039
Project Year	0	1	2	3	4	13	22
Land Lease		8.8	8.8	8.8	8.8	8.8	8.8
Maintenance and Repair				0.8	0.8	0.8	0.8
Utilities			0.2	0.6	0.8	2.1	2.1
Operating Cost	0.0	8.8	9.0	10.1	10.4	11.7	11.7

Source: Consultants

Revenues

Revenues for the developer comprise rent from plot investors as well as utility revenues.

- For rent, it is assumed that the developer charges 1.93 US\$ / m³ / month;⁹⁰
- Utilities are charged with a 10% service charge on top of operating cost.

Applying the demand scenario for the Base Case (see Chapter 2.1.5.4), the following revenues are projected for the developer.

Table 40: Jaliardip Economic Zone – Revenues (US\$ million)

Year	2017	2018	2019	2020	2021	2030	2039
Project Year	0	1	2	3	4	13	22
Rent			8.5	12.8	15.6	17.1	17.1
Utilities			0.2	0.6	0.9	2.3	2.3
Revenues	0.0	0.0	8.7	13.4	16.5	19.3	19.3

Source: Consultants

2.4.1.3 Financial evaluation

The financial cash flow is composed of investment cost, operating cost, and revenues arising for the developer. The following table presents the financial cash flow for Jaliardip Economic Zone for the development phase and selected later years.

Table 41: Jaliardip Economic Zone – Financial Cash Flow (US\$ million)

Year	2017	2018	2019	2020	2021	2030	2039
Project Year	0	1	2	3	4	13	22
Investment Cost		28.6	10.6				
Operating Cost		8.8	9.0	10.1	10.4	11.7	11.7
Revenues			8.7	13.4	16.5	19.3	19.3
Financial Cash Flow	0	-37.4	-10.8	3.3	6.1	7.7	7.7

Source: Consultants

⁹⁰ The rent level has been determined by the Consultant based on rent charges in Narayanganj and a comparison of rent levels inside Dhaka (incl. Narayanganj) and outside Dhaka

The following table shows the financial indicators as obtained for above cash flow. The FNPV and DPP are evaluated at a financial discount rate of 7.0%.

Table 42: Jaliardip Economic Zone – Financial Evaluation

Financial Indicator	
Financial Net Present Value (FNPV) at 7.0%	US\$21.7 million
Financial Internal Rate of Return (FIRR)	11.8%
Dynamic Payback Period	12.7

Source: Consultants

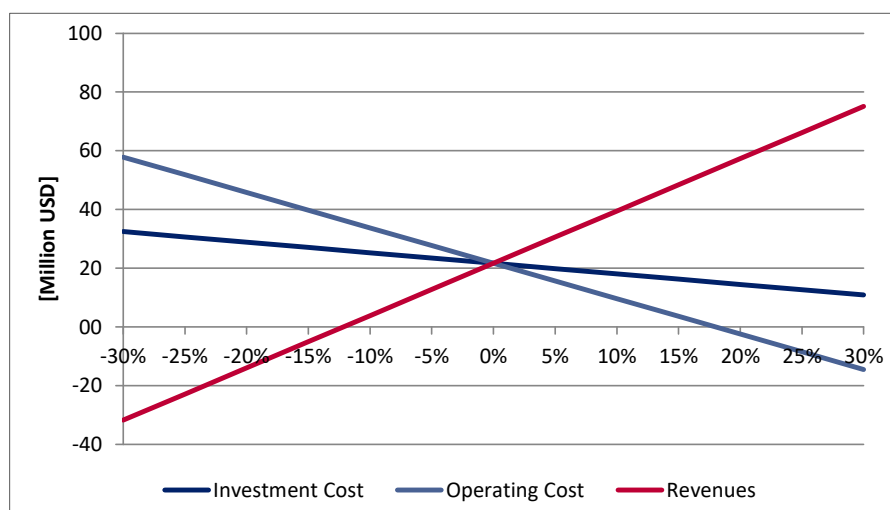
All indicators show the development of Jaliardip Economic Zone is financially feasible. The financial evaluation is, however, subject to the choice of an appropriate land lease fee to be paid to BEZA by the developer (see Chapter 2.4.1.2).

2.4.1.4 Sensitivity analysis

In order to assess the effect of changes in underlying assumptions on the financial results (FNPV and FIRR), a sensitivity analysis has been conducted.

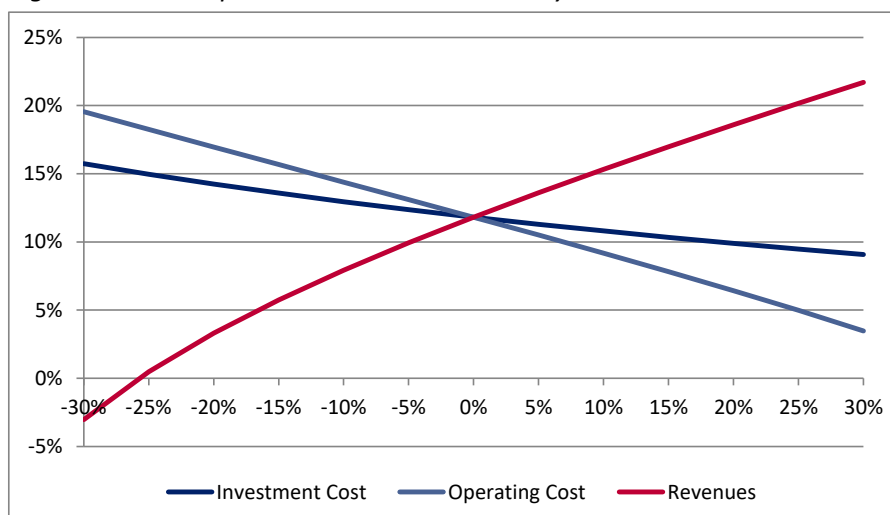
The following figures show the sensitivity of FNPV and FIRR with regard to variations in investment costs, operating costs, and revenues.

Figure 74: Jaliardip Economic Zone – Sensitivity FNPV



Source: Consultants

Figure 75: Jaliardip Economic Zone – Sensitivity FIRR



Source: Consultants

As can be seen, the financial evaluation is most sensitive with regard to variations in revenues (positively). The development stops being financially feasible ($FNPV < US\$ 0$ or $FIRR < 7\%$) if revenues decrease by 20% or more.

2.4.2 Economic Analysis

2.4.2.1 Methodology

The purpose of the economic analysis is to assess the economic feasibility of the Project – development of Jaliardip Economic Zone – and to identify and calculate its socio-economic cost and benefit to the general public and government.

As such, it can be seen as an extension of the financial analysis. While the latter takes the viewpoint of a private investor, the economic analysis accounts for the actual economic costs and takes into account external costs and benefits.

In accordance with the above, the starting point for an economic analysis is the cash flow from the financial analysis. The financial costs, however, often include transfer payments such as taxes (VAT and import duties) or subsidies. For the economic analysis, transfer payments need to be removed as they do not per se constitute actual value created or consumed (*fiscal correction*).

In addition to the fiscal correction, costs and revenues may have to be adapted to shadow prices in order to reflect the real opportunity cost of goods and services:

- For tradable goods, border prices should be used (CIF prices for imported inputs, FOB prices for outputs);
- Non-tradable inputs should be valued at their long run marginal cost,
 - In imperfect markets (e.g., monopolies), the market price may be distorted and not sufficiently reflect the cost of production,
 - Wages for unskilled labor may have to be corrected downwards, especially in countries with high unemployment;
- Non-tradable outputs should be valued based on the willingness-to-pay;
- In some cases, revenues may not capture the actual benefit of public services; Instead of the tariff (which is often regulated), benefits should be based on how much users are willing to pay.

Finally, the project boundaries should be extended as to account for externalities.⁹¹ Here, all costs or benefits should be included that result from the project but do not constitute a financial in or out flow. External costs and benefits should also be included at appropriate shadow prices.

For Jaliardip Economic Zone, the Consultants identified the following negative externalities:

- *Resettlement cost*: estimated 20 small scale businesses (10 fish farms, 5 shrimp farms, 5 salt productions) presently located in the future zone have to be relocated and compensated.
- *Land Value of Jaliardip EZ*: the opportunity cost of developing Jaliardip EZ, which is owned by BEZA, should be accounted at the estimated land value.

⁹¹ The economic analysis however omits costs for investments inside or outside the economic zone that are not responsibility of the developer or pre-financed by BEZA.

No significant adverse environmental impact is expected for Jaliardip Economic Zone considering the mangrove belt surrounding the island will be conserved and also overall the developed tourism will be eco-tourism.

For Jaliardip Economic Zone, the Consultants identified the following benefits:

- *Direct and induced economic effect of tourism:* the development of Jaliardip Economic Zone is expected to create a substantial amount of tourism (see *Chapter2.1.5*). The spending of tourists creates a direct benefit (to the tourism industry) but also has an induced effect due to increased consumption in the Bangladeshi economy.

In a final step, all costs and benefits are then compiled into the (*economic*) *cash flow*. To assess the economic viability, the following economic indicators are applied to the cash flow:

- (Economic) Internal Rate of Return (EIRR),
- (Economic) Net Present Value (ENPV), and
- Benefit-Cost-Ratio (BCR).

The *economic net present value (ENPV)* is calculated by separately discounting the net economic cash flow of each year accruing throughout the project life at a given economic discount rate. It thus indicates the present value of all benefits and costs.

The *economic internal rate of return (EIRR)* is the discount rate at which the present value of all benefits is exactly equal to the present value of costs. It indicates the actual social return of a project. The higher the EIRR, the higher is the social profitability of the project.

The *benefit-cost-ratio (BCR)* is the ratio between the present ENPV of all benefits and the ENPV of all costs, both evaluated at the given economic discount rate. The higher the BCR, the better the benefits of the project as compared to its costs.

A project is said to be *economically feasible* if for a given economic discount rate the following (typically equivalent) conditions are satisfied:

- The ENPV (evaluated at the economic discount rate) is greater than 0;
- The EIRR is greater than the economic discount rate; and
- The BCR (evaluated at the economic discount rate) is greater than 1.

The economic discount rate is typically higher in less-developed countries, and is typically greater than the financial discount rate. For the economic evaluation of Jaliardip Economic Zone, the Consultants apply an economic discount rate of 12.0%.

Furthermore, in analogy to the financial analysis, the time horizon is chosen as the year 2039. The economic analysis is conducted in US\$ in constant prices of 2016. Where required, an exchange rate of 1.0 US\$ = 78.00 BDT has been applied. The economic analysis is conducted for the Base Case demand scenario (see *Chapter2.1.5.4*).

2.4.2.2 Adjustment of financial costs

Costs as found in the financial analysis need to be converted into economic costs: taxes and subsidies (transfer payments) need to be removed and prices should be adjusted to shadow prices, where necessary.

Taxes and import duties are already omitted from the financial analysis (see *Section 3.4.1.1*). Also no subsidies are relevant.

Costs are however adapted in order to account for a lower opportunity cost of unskilled labor as compared to actual wages. Assuming a share of unskilled labor of 25% and a shadow wage rate for unskilled labor of 60%, a conversion factor of 0.9 arises that is to be applied to all investment and operating cost.

Furthermore, utilities are no more included in operating cost as they are accounted for by the direct economic effect of tourism (see *Chapter 2.4.2.4*).

2.4.2.3 External costs

The following table presents the external costs expected for the development of Jaliardip Economic Zone. All external costs are explained in detail in the subsequent paragraphs.

Table 43: Jaliardip Economic Zone – External Costs (US\$ million)

Year	2017	2018	2019	2020	2021	2030	2039
<i>Project Year</i>	<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>13</i>	<i>22</i>
Resettlement Cost	15.8						
Land Value of Jaliardip EZ	55.0						
External Costs	70.8	0.0	0.0	0.0	0.0	0.0	0.0

Source: Consultants

Resettlement Cost for Local Businesses

Overall 20 small scale agribusinesses – thereof 10 fish farms, 5 shrimp farms, 5 salt productions – are presently located in the future economic zone and have thus to be relocated and compensated. The Consultants tentatively account for each business with a relocation cost of BDT 61.7 million.

Land Value of Jaliardip EZ

As the area for the development of Jaliardip Economic Zone already fully belongs to BEZA, no actual cost is included for purchasing the property. Nevertheless, in addition to the cost for relocation of businesses, the economic analysis should generally account for the opportunity cost for the development.

The Consultants however consider the opportunity cost for development of Jaliardip Economic Zone to be limited. As a conservative approach, the opportunity cost is included based on a land value of US\$ 50 per square meter (with an area of the economic zone of 271.93 acres).

2.4.2.4 Benefits

The following table presents the benefits expected for the development of Jaliardip Economic Zone. All benefits are explained in detail in the subsequent paragraphs.

Table 44: Jaliardip Economic Zone – Benefits (US\$ million)

Year	2017	2018	2019	2020	2021	2030	2039
<i>Project Year</i>	<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>13</i>	<i>22</i>
Direct Economic Effect of Tourism			2.4	8.6	12.7	33.2	33.2
Induced Economic Effect of Tourism			2.9	10.6	15.6	40.8	40.8
Benefits	0.0	0.0	5.3	19.2	28.2	74.0	74.0

Source: Consultants

Direct Economic Effect of Textile Exports

Due to the development of Jaliardip Economic Zone, there will be an increase in tourism with corresponding revenues (*direct effect*). It is assumed that all tourism in Jaliardip Economic

Zone will be new tourism and will *not* be diverted from other locations. The tourism revenues are expected as follows:

- Per overnight stay, revenues of US\$ 210 are expected on average – including US\$ 150 for accommodation, US\$ 30 for food and beverages and US\$ 30 for other activities and souvenirs;
- Per day visitor, revenues of US\$ 65 are expected on average – including US\$ 30 for cable car and tour, US\$ 30 for food and beverages and US\$ 30 for other activities and souvenirs.

It is important to note, however, that the above revenues still include economic costs and thus do not constitute economic net benefits. The Consultants account only 28% of the above figures as economic net benefits.⁹² Thus, the *direct economic effect* per overnight stay is approximately US\$ 58.8 and for a day visitor approximately US\$ 18.2.

Applying the demand scenario for the Base Case (see *Chapter 2.1.5.4*) then allows deriving the expected direct economic benefits.

Induced Economic Effect of Textile Exports

In addition to the direct economic effect, the Consultants consider additional spill-over effects for the Bangladeshi economy: the direct increase in income leads to increased consumption and corresponding knock-on effects (*induced effect*). In order to quantify this effect, the Consultants apply a simple income multiplier capturing the total effect if income is exogenously increased by 1:⁹³

$$\lambda = \frac{1}{1 - c * (1 - m)}.$$

Based on data from IMF (2016), the Consultants consider a marginal propensity to consume $c = 72.3\%$ and import penetration $m = 23.8\%$.⁹⁴ Thus, the income multiplier are calculated as $\lambda = 2.23$. The induced effect thus amounts to $\lambda - 1 = 1.13$ times the direct effect.

Based on the above, the Consultants have quantified the induced effect in addition to the direct effect. As for the direct effect, only the net benefit of 28% of the overall effect is included as benefit.

2.4.2.5 Economic Evaluation

The economic cash flow is composed of the adjusted project costs (infrastructure and maintenance & repair) as well as external costs and benefits. The following table presents the economic cash flow for Jaliardip Economic Zone for the development phase and selected later years.

⁹² The economic net benefit of 28% is based on the following assumptions: (i) average pre-tax operating margin of 10%; (ii) a conversion factor of 0.8 is applied to the costs in order to correct for taxes/import duties (50% share of materials at a VAT/import duty of 15%) and unskilled labour (25% share of unskilled labour at a shadow wage of 60%). As such, the economic net benefit are calculated as $100\% - 90\% * 0.8 = 28\%$.

⁹³ In an economy with marginal propensity to consume c and import penetration m , an initial increase in income of 1 will induce additional consumption and thus increase income in the amount of $c * (1 - m)$. As a second round effect, the latter increase in income of $c * (1 - m)$ will induce additional consumption and thus increase income in the amount of $c^2 * (1 - m)^2$ etc. Overall, the sum of direct effect and all knock-on effects yields the infinite geometric series: $1 + c * (1 - m) + c^2 * (1 - m)^2 + c^3 * (1 - m)^3 + \dots = 1 / (1 - c * (1 - m))$.

⁹⁴ As per IMF (2016), the share of exports in GDP is 17.2% and the share of imports in GDP is 25.8%. Thus, the import penetration is calculated as $25.8\% / (1 + 25.8\% - 17.2\%) = 23.8\%$.

Table 45: Jaliardip Economic Zone – Economic Cash Flow (US\$ million)

Year	2017	2018	2019	2020	2021	2030	2039
Project Year	0	1	2	3	4	13	22
Project Costs	15.9	9.5	9.5	0.7	0.7	0.7	0.7
External Costs	70.8						
Benefits			5.3	19.2	28.2	74.0	74.0
Economic Cash Flow	-86.8	-9.5	-4.2	18.5	27.5	73.3	73.3

Source: Consultants

The following table shows the economic indicators as obtained for above cash flow. The ENPV and BCR are evaluated at an economic discount rate of 12.0%.

Table 46: Jaliardip Economic Zone – Economic Evaluation

Financial Indicator	
Economic Net Present Value (ENPV) at 12.0%	US\$233.7 million
Economic Internal Rate of Return (EIRR)	28.3%
Benefit Cost Ratio (BCR) at 12.0%	3.2

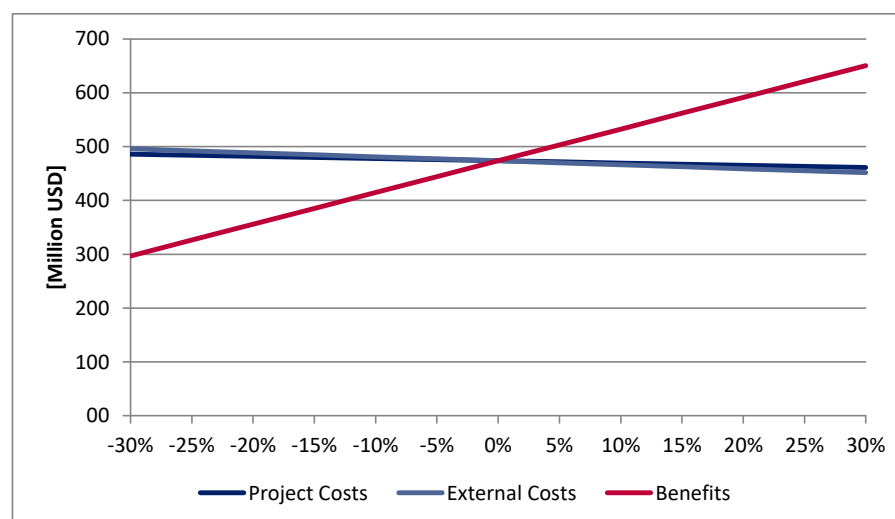
Source: Consultants

All economic indicators show that development of Jaliardip Economic Zone will be a socially and economically profitable undertaking.

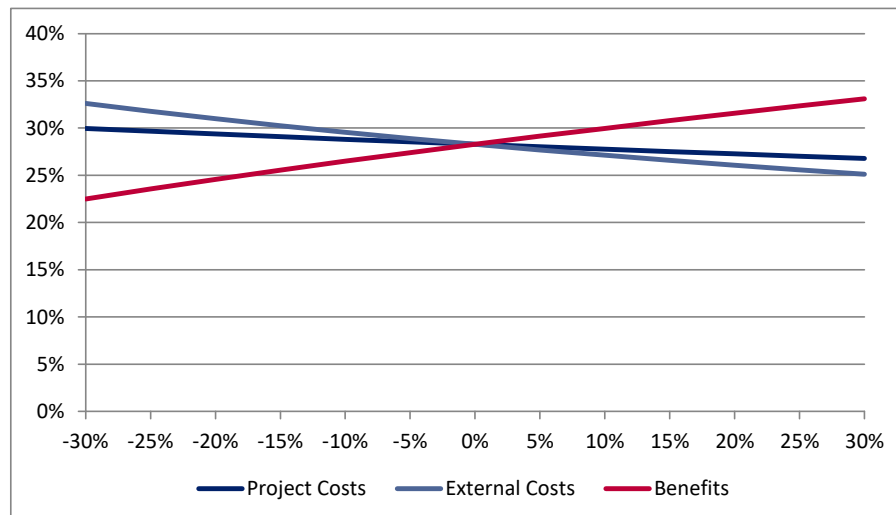
2.4.2.6 Sensitivity Analysis

In order to assess the effect of changes in underlying assumptions on the economic results (ENPV and EIRR), a sensitivity analysis has been conducted.

The following figures show the sensitivity of ENPV and EIRR with regard to variations in project costs (infrastructure development and maintenance & repair), external costs, and benefits.

Figure 76: Jaliardip Economic Zone – Sensitivity ENPV

Source: Consultants

Figure 77: Jaliardip Economic Zone – Sensitivity EIRR

Source: Consultants

As can be seen, the economic evaluation is most sensitive with regard to variations in benefits. The development, however, remains economically feasible even for increases in costs by 30% or decreases in benefits by 30%.

3 CONCLUSIONS AND RECOMMENDATIONS

In the following section, ‘opportunities and challenges’ refer to the Consultants’ major findings foreseen to have an impact on the development of the two economic zones. However, these will be, or already are in the process of being, tackled either through work undertaken by the Government at large (as ‘opportunities’ and ‘threats’ under *Chapter 2.1.7*) or by BEZA and/or the Developer (as ‘strengths’ and ‘weaknesses’ there under). The Consultants draw the most pertinent recommendations with the aim to tackle these challenges. Therefore, they draw also general recommendations aiming at improving the overall development process of economic zones.

3.1 Opportunities and Challenges to Jaliardip Economic Zone

3.1.1 Opportunities

Jaliardip EZ is not yet well connected with main transport routes. The road traffic on Dhaka Chittagong Highway is severely hampered because of the lack of capacity of the existing highway and the load restrictions of bridges; with journeys taking up to 14 hours due to the congestion of the road. The road also suffers from poor road safety records because of the lack of segregation between local and national traffic and between motorized and non-motorized traffic. Planned improvements in the national and regional road infrastructure will, by latest 2020, enhance and facilitate the future roadside accessibility of the proposed Jaliardip EZ. The road Cox’s Bazar to Teknaf and Sabrang would be expanded to four lanes until the year 2018. Also the road from Cox’s Bazar to the Myanmar border and beyond to Jaliardip EZ would be rehabilitated and broadened afterwards.

Cox’s Bazar Airport is currently mainly served by commuter jets on domestic flights to Dhaka with a flight time of approximately 1 hour. Development of international airline services will facilitate the regional accessibility from abroad and will increase the region’s attractiveness as a holiday destination among foreign tourist. Easing immigration regulations would widely improve that potential: At present, of the countries depicted on the above map only citizens from Bhutan, Taiwan, Malaysia, Singapore, South Korea, Japan and Australia are permitted to enter with a visa-on-arrival. There exists a significant potential of Bangladesh tourists traveling abroad who could possibly be deviated to domestic destinations. In recent years, Bangladeshis have been travelling abroad extensively. The increase in outbound travel indicates that a lot of domestic tourists prefer to travel abroad rather than within the country suggesting that the local tourist spots/facilities are unable to attract the domestic tourists in large numbers.

Activities on Jaliardip ‘Amazing’ Island should not be competitive to those offered in *Sabrang Tourism Park* to mainly international (foreign-passport holding) visitors. One solution would be combined marketing – to the point of offering Jaliardip Amazing Island and *Sabrang Tourism Park* as one package to interested investors. If Jaliardip EZ and Sabrang EZ were to be developed by one investor, probably Jaliardip Island would be developed prior to Sabrang, as domestic tourists are available now, whereas international tourists would become aware of *Sabrang Tourism Park* later - hence there would need to be more marketing undertaken for this customer group. Also, there should be a water-shuttle

connection between Jaliardip Island and *Sabrang Tourism Park* along a river 3 km north of the southern tip of Teknaf peninsula.

3.1.2 Challenges

The coastal region of Bangladesh is prone to multi-hazard threats such as cyclones, storm surges and floods, as well as earthquakes and above all, climate change. As stated by local officials, the eastern side of the Teknaf peninsula can still be affected by cyclones, although not as seriously as its western side thanks to its hilly backbone of the Teknaf Wildlife Sanctuary. The Consultants therefore recommend constructing facilities on ground level and only for exceptional functions, like the 5-star hotel, with an additional first floor. Where any high-rise structures need to be erected – such as the pylons for the cable-car connection – these need to be safely anchored in the rocky underground.

Jaliardip Island is located below the maximum flood level, and is consequently prone to flood and water logging. Necessary filling – with an average filling depth of about 3.4 m - with suitable protection structures would need to be carried out for the development of the proposed EZ. The highest possible interlinkage between water and land should be achieved, thereby turning an apparent “disadvantage” into an advantage, and consequently lowering any reclamation costs. A mangrove boundary has developed surrounding the island on clay or silt formation land. It is the best protection boundary against the effects of wave action and cyclones. Thus, the retaining structure may be constructed inward of the mangrove forest.

Similar to many tourist regions, Jaliardip Island and the Teknaf region face the seasonal variation of utilization of tourism facilities. The high season from November to March will provide for higher utilization compared to the low season. To improve this imbalance and to attract tourists during low season, certain offers have to be prepared, such eco-tourism to support awareness of nature, animals and plants, school-class packages and children-education stays, and honeymoon packages.

There currently is no suitably or properly skilled work force available in the Teknaf region. As part of integration of the local community, people have to be trained and developed to match the requirements of tourism and its accommodation business. The proposed Jaliardip EZ is not in close proximity to Chittagong, and it might get difficult to source quality manpower from the existing industrial Chittagong region. In terms of breakdown by qualifications, 65% of this incremental workforce will need to have a vocational or certificate qualification, 25% will need to have a diploma, while the remaining 10% will need to have a degree or post-graduate qualification. The establishment of eco-tourism considers a minimized impact on both landscape and local population. A major aim would be to involve local inhabitants in a way that they best benefit financially and educationally from the tourism development in their neighborhood.

As Jaliardip is directly located at the border to Myanmar, fool-proof solutions need to be found for solving possible security threats – terrorist attacks, smuggling of drugs and weapons, and illegal immigration of Burmese and other nationalities, thus pose some serious problems which need to be contained from the very beginning of the Project. Increased presence of sufficient representatives from the relevant authorities on and around Jaliardip Island will guarantee tourists’ and employees’ security against attacks, drugs, illegal immigration and other disturbances of law and order. Acceptance of the Project should be

sought from the local population by promoting its advantages for region and residents, viz (i) infrastructure improvement, (ii) direct and indirect employment, (iii) involvement of Rohingya dwellers and Myanmar travelers, and (iv) mitigation of ecological disasters.

The development of tourist zones and holiday areas involves viable solutions to sophisticated transportation demands that partly differ from those that arise from economic zones in manufacturing and other service areas. Compared to freight, passenger transport is generally characterized by higher time sensitivity, demanding for fast accessibility from the country's major agglomeration areas and other markets of origin.

3.2 General recommendations

Benchmarking

In comparison to other identified projects it could be already stated that the advantage of the implementation of EZs is the consideration of involvement of regional industries and business, as the freight villages for example mainly concentrate on the optimization/utilization of the logistics and transport facilities themselves offering standardized procedures. Experience of successful countries indicates that a strategic EZ policy requires a clear vision, strong commitment, concerted efforts, continuity in efforts, and a pragmatic approach. At the aggregate level, EZs appear to have made a significant contribution to investment and exports. Benchmarking with comparable tourism developments shows the absolute need for detailed planning, focused marketing, quick implementation, and sectoral and regional integration.

Reranking under separate Tourism Criteria

The location of Jaliardip was ranked on place 7 out of 7 within the *Initial Site Assessment* executed by *PwC India* in June 2015. From the point of an assessment considering a location for logistics operations and activities, this ranking seems to be correct as an island is really unsuitable to serve as a logistic s location with warehouses and other facilities which need to be accessible by truck and/or rail. The ranking considering the establishment of a tourism area would turn out to come to other results. Further criteria should be considered which are actually not relevant for the operations of cargo and/or industrial EZs. These are mainly the potentials/opportunities provided by the direct surrounding of Jaliardip Island to keep tourists coming and stay.

Staffing of BEZA

In the Consultants' opinion, BEZA will have to (i) employ new staff as the size of its organization will grow, and (ii) steadily re-invent itself as a core economic development agency for Bangladesh and a competent partner of private investors.

4 APPENDICES

Appendix 1: References

Studies and Documents

Ahsan Uddin Ahmed, Saleemul Haq, Mahbuba Nasreen and Abu Wali Raghieb Hassan: *Climate Change and Disaster Management - Sectoral inputs towards the formulation of Seventh Five Year Plan (2016-2021)*, Final Report, January 2015

Bangladesh Bureau of Statistics (BBS): *District Statistics 2011 - Cox's Bazar*, Statistics and Informatics Division (SID) / Ministry of Planning, December 2013

Bangladesh Bureau of Statistics (BBS): *Economic Census 2013 (in abridged Form)*, Vol. I and II, Statistics and Informatics Division (SID) / Ministry of Planning, December 2015

Bangladesh Bureau of Statistics (BBS): *Population and Housing Survey 2011 – Community Report Zila: Cox's Bazar*, Statistics and Informatics Division (SID) / Ministry of Planning, November 2014

Bangladesh Bureau of Statistics (BBS): *Statistical Pocketbook Bangladesh 2014*, Statistics and Informatics Division (SID) / Ministry of Planning, May 2015

Bangladesh Bureau of Statistics (BBS): *Statistical Yearbook Bangladesh 2014*, 34th Edition, Statistics and Informatics Division (SID) / Ministry of Planning, 13 January 2016

Bangladesh Export Processing Zones Authority (BEPZA): *Information for Investors*, October 2013

Barbara Enengel: *Ausflugs- und Bildungstourismus als Beitrag zu einer integrierten nachhaltigen Regionalentwicklung – eine Portfolio-Analyse internationaler Angebote und deren Übertragbarkeit auf den Naturpark Obst-Hügel-Land [Excursion and educational Tourism as Contribution to integrated sustainable Regional Development – a portfolio analysis of international offers and their transferability to the natural park 'Obst-Hügel-Land']*, Matrikelnummer: 0140330 Studienrichtung: 890, Landwirtschaft Betreuung: Ao.Univ.Prof. Dipl.-Ing. Dr.nat.techn. Marianne Penker Wien, May 2007

Bazlul Haque Khondker, Moogdho Mim Mahzab: *Lagging Districts Development - Background Study Paper for Preparation of the Seventh Five-Year Plan*, Dhaka University, February 2015

Bazlul Haque Khondker, Tahera Ahsan: *Background Paper on Tourism Sector*, Dhaka University, February 2015

Dr. M. M. Goyal (Principal (OSD) PGDAV College): *Educational Tourism: Analysing the Global Trends*, University of Delhi, Delhi/India, Asia Pacific Journal of Research Vol. I Issue XVIV, November 2014, ISSN: 2320-5504, E-ISSN-2347-4793

EplerWood International: *Teknaf Peninsula Community-Based Ecotourism Strategy*, USAID Contract N° EPP-1-00-06-00007-00, Order No: EPP-I-01-06-00007-00, USAID/Bangladesh, April 24, 2009

Jannatul Ferdausha and Hasan Md. Faisalb: *Tourism Potentiality & Development of Bangladesh: Applicability of Pragmatic Governmental Management Policy*, Article in Journal of Management and Science Vol. 4 No. 1, pages 71-78, March 2014

Japan Development Institute, Maxwell Stamp Ltd. Bangladesh, Sheltech (Pvt.) Ltd.: *Support to Capacity Building of Bangladesh Economic Zones Authority Project (under Private Sector Development Support Project) - Inception Report*, Bangladesh Economic Zones Authority (BEZA), June 2013

Md. Anisur Rahaman: *Development of tourism industry in Bangladesh: Issues and Strategies*, PhD dissertation, Registration No. 133; Session: July, 2008-2009, Department of Marketing, University of Dhaka, Bangladesh

Md. Masudur Rahman: *Exploring the Socio-Economic Impacts of Tourism: A Study of Cox's Bazar, Bangladesh*, Thesis, Cardiff School of Management, University of Wales Institute, Cardiff, UK, 2010

Md. Ziaul Haque: *The Impact of Economic Crisis on Tourism Industry: A Bangladesh Perspective*, International Research Journal of Engineering, IT and Scientific Research, Volume 2, Issue 1, USA, Jan. 2016

Miguel Orellana Lazo: *Water Footprint of Coastal Tourism Facilities in Small Island Developing States: a Case-Study of a Beach Resort in the Maldives*, Faculty of Graduate Studies, University of British Columbia, Vancouver, August 2013

Ministry of Hotels and Tourism: *Myanmar Tourism Master*, Final-Draft Report, Republic of the Union of Myanmar, June 2013

Mossammat Ayesha Khatun, Md. Bazlur Rashid, Hans Olav Hygen: *Climate of Bangladesh*, MET report No. 08/2016, Norwegian Meteorological Institute, Oslo, 31 May 2016

Mofiz Abul: *Critical analysis of Cox's Bazar as a tourist destination in Bangladesh: An analysis of tourists' response*, University of Bottola, Bangladesh, GEOGRAFIA Online™ Malaysian Journal of Society and Space 12 issue 5 (94 - 103) 94 © 2016, ISSN 2180-2491

Peter Warr and Jayant Menon: *Cambodia's Special Economic Zones* – Asian Development Bank Working Paper Series No. 459, October 2015

Price Waterhouse Coopers (PWC): *Initial Site Assessment for Five Economic Zone Sites - Narayanganj, Panchagarh, Anowara-II, Sabrang Tourism EZ and Dhaka IT EZ*, Final Report, Bangladesh Economic Zones Authority (BEZA), Dhaka, September 2015

Price Waterhouse Coopers (PWC): *Initial Site Assessment for Seven Economic Zone Sites - Dhaka Dohar, Bhola Sadar, Kushtia- Bheramara, Nilphamari Manikganj, Shariatpur-Zajira and Jaliardip-Teknaf*, Final Report, Bangladesh Economic Zones Authority (BEZA), Dhaka, October 2015

Sisovanna Sau (2010): *Investment Climate in Cambodian City and Towns*. In: Investment Climate of Major Cities in CLMV Countries, edited by Masami Ishida, BRC Research Report No. 4, Bangkok Research Center, IDE-JETRO, Bangkok, Thailand

World Travel & Tourism Council: *Travel & Tourism - Economic Impact 2015 Bangladesh*, WTTC Travel & Tourism Economic Impact 2015, Oxford, Great Britain, 2016

Web Sites

Asean Briefing: Special Economic Zones in Myanmar (June 28, 2013) <http://www.aseanbriefing.com/news/2013/06/28/special-economic-zones-in-myanmar.html>, accessed on September 15, 2016

Bangladesh Bureau of Statistics: *Monthly Statistical Bulletin*, Bangladesh, April-2015 <http://203.112.218.66/Home.aspx>, accessed 10-06-2016

Bangladesh Bureau of Statistics: Gross Domestic Product (GDP), Dhaka 2015, [http://www.bbs.gov.bd/site/page/dc2bc6ce-7080-48b3-9a04-73cec782d0df/Gross-Domestic-Product-\(GDP\)](http://www.bbs.gov.bd/site/page/dc2bc6ce-7080-48b3-9a04-73cec782d0df/Gross-Domestic-Product-(GDP)), accessed 08 Nov. 2016

Bangladesh Economic Zones Authority: *Bangladesh Economic-Zones Act, 2010 – Act No. 42 of 2010*, 01 August 2010 <http://www.epzbangladesh.org.bd/>, accessed 08-06-2016

Bangladesh Export Processing Zones Authority <http://www.beza.gov.bd/about-beza/special-economic-zone-act/>, accessed 09-06-2016

Consult Myanmar: *Six-company foreign consortium wins bid for implementing Kyaukphyu SEZ in Myanmar* (January 1, 2016) <http://consult-myanmar.com/2016/01/01/six-company-foreign-consortium-wins-bid-for-implementing-kyaukphyu-sez-in-myanmar/> – accessed on Sep 15, 2016

BIWTC: Home Page <http://www.biwtc.gov.bd/>, accessed 11-06-2016

CPG Consultants: *CPG Consortium Appointed to develop master plan for Myanmar's Kyauk Phyu Special Economic Zone* – media release July 7, 2104 [<http://kpsez.org/wp-content/uploads/2014/07/KP-SEZ-Media-Release-CPG.pdf>] – accessed on Sep 15, 2016

General Economics Division (GED) / Planning Commission: *7th Five-Year Plan – Accelerating Growth, Empowering Citizens*, Dhaka, December 2015 <http://www.plancomm.gov.bd/7th-five-year-plan-2/>, accessed 10-06-2016

Hasseroeder Holiday Camp, <http://www.hasseroeder-ferienpark.de/ferienpark/ferienpark/#>

Laws of Bangladesh <http://bdlaws.minlaw.gov.bd/>, accessed 11-06-2016

Master Plan of Bangladesh Railway, 5. Traffic Projection and its Basis, last updated 30 September 2014 <http://railway.portal.gov.bd/site/page/8e5a704d-72e2-4d69-b443-21988229cbbc/Railway-Master-Plan>, accessed 12-06-2016

Ministry of Civil Aviation and Tourism: *Tourism Publications*, Government of the People's Republic of Bangladesh <http://www.mocat.gov.bd/site/page/5fda009b-ccce-42c9-b159-7e20f524545f/Tourism-Related-Publications>, accessed 12-06-2016

Myanmar Business Today: *Kyaukphyu SEZ Master Plan go public June* (May 19, 2014) [<http://mmbiztoday.com/articles/kyaukphyu-sez-master-plan-go-public-june>] – accessed on Sep 15, 2016

Myanmar Business Today: *Singapore Consortium wins 25M Kyaukphyu SEZ Consultancy deal* (March 11, 2014) [<http://mmbiztoday.com/articles/singapore-consortium-wins-25-m-kyaukphyu-sez-consultancy-deal>] – accessed on Sep 15, 2016

Myanmar Business Today: *Economics behind Myanmar's Special Economic Zones Part II* (November 20, 2014) [<http://mmbiztoday.com/articles/economics-behind-myanmar-s-special-economic-zones-part-ii>] – accessed on Sep 15, 2016

Open Development Cambodia [<http://www.opendevdevelopmentcambodia.net/briefing/special-economic-zones/>] – accessed on Sep 16, 2016

Planning Commission-- Bangladesh <http://www.plancomm.gov.bd/>

realestate.com.kh: *International Investment in Sihanoukville brings \$100 Million to White Horse Beach, but local agents question market demand* (28 July, 2016) [<http://realestate.com.kh/news/international-investment-in-sihanoukville/>] – accessed on Sep 16, 2016

Report on Sabrang Tourism Park Cox's Bazar « BEZA <http://www.beza.gov.bd/video/report-on-sabrang-tourism-park-coxs-bazar/>, accessed 14-06-2016

Sihanoukville Special Economic Zone official website [<http://www.ssez.com/en/index.asp>] – accessed on Sep 16, 2016

Wikipedia, the free encyclopedia: *Teknaf Upazila* https://en.wikipedia.org/wiki/Teknaf_Upazila, accessed 13-06-2016

Ziaul Haque Howlader: *The great potential of tourism*, Department of General and Continuing Education, North South University, Bangladesh <http://archive.thedailystar.net/beta2/news/the-great-potential-of-tourism/>, accessed 12-06-2016

Appendix 2: Meetings/Interviews/Consultations with Stakeholders

Company's Name	Kind of stakeholder	Contact	Position	Mobile No.	Phone	E-Mail	Full Address	Agenda
Bangladesh Economic Zones Authority (Prime Minister's Office)	Authority	Md. Harunur Rashid	Project Director (Joint Secretary)	+88 01713 255 004	+88 02 818 0170	bezaprojectgov@gmail.com	BDBL Bhaban (Level-15), 12 Karwanbazar, Dhaka-1215, Bangladesh	General project information, phasing of investment, responsibilities for construction, unit costs and operation charges, site development process, minimum requirements, social & environmental impact
Bangladesh Economic Zones Authority (Prime Minister's Office)	Authority	Khokan Kanti Saha	Deputy Project Director	+88 (0)1716-100 375	+88 02 5501 3559	bezaprojectgov@gmail.com , ksaha07@yahoo.com	BDBL Bhaban (Level-15), 12 Karwanbazar, Dhaka-1215, Bangladesh	
Prime Minister's Office, Bangladesh Economic Zones Authority	Authority	Engr. Md. Nurul Huda	Procurement Specialist	+88 (0)1711 666 660	+88 02 550 13 557	hudaxn@yahoo.co.uk	BDBL Bhaban (Level-15), 12 Karwanbazar, Dhaka-1215, Bangladesh	
Bangladesh Economic Zones Authority (Prime Minister's Office)	Authority	AKM Mahbubur Rahman, Habibur Rahman	Ex-Member Finance, BEPZA, Project Director Phase 1	+88 (0)1711 563 998, +88 (0)1755 589 582	+88 (0)2 580 70320	mahbubur.bepza@gmail.com	BDBL Bhaban (Level-15), 12 Karwanbazar, Dhaka-1215, Bangladesh	
Bangladesh Economic Zones Authority (Prime Minister's Office)	Authority	Shakil Ahmed	Environmental Specialist, Support to Capacity Building of BEZA	+88 (0)176 447 1449	+88 02 5501 3556	shakil1.mirpur@gmail.com	BDBL Bhaban (Level-15), 12 Karwanbazar, Dhaka-1215, Bangladesh	
Bangladesh Economic Zones Authority (Prime Minister's Office)	Authority	Md. Daud Miah	Manager (Admin), Deputy Secretary	+88 (0)1712 055618	+88 02 5501 3212	rizivuno@yahoo.com	BDBL Bhaban (Level-15), 12 Karwanbazar, Dhaka-1215, Bangladesh	
Bangladesh Economic Zones Authority (Prime Minister's Office)	Authority	Md. Abdul Quader Khan	Social/Resettlement Specialist	+88 (0)1716-681 456	+88 02 5501 3557	kaderngo@gmail.com	BDBL Bhaban (Level-15), 12 Karwanbazar, Dhaka-1215, Bangladesh	
Bangladesh Economic Zones Authority (Prime Minister's Office)	Authority	Mohammed Shoheler Rahman Chowdhury MCIPS	Trainer on Public Procurement		+88 02 818 0123	shohel_bd2002@yahoo.com	BDBL Bhaban (Level-15), 12 Karwanbazar, Dhaka-1215, Bangladesh	
IIFC - Infrastructure Investment Facilitation Company (enterprise of ERD Ministry of Finance)	Authority	Kazi Shofiquel Azam	Managing Director & addl. Secretary, ERD Ministry of Finance		+88 02 5881 0035	mdiifc@infra-bd.com	House # 239 (1st Floor), Road # 17 (Lake Road), New DOHS Mohakhali, Dhaka-1206, Bangladesh	Tourism potential of Jaliardip Island
IIFC - Infrastructure Investment Facilitation Company (An enterprise of ERD Ministry of Finance)	Authority	Munsi Shahid Anis	Consultant	0192 171 78 99	+88 02 588 1003 133	anis@infra-bd.com	House # 239 (1st Floor), Road # 17 (Lake Road), New DOHS Mohakhali, Dhaka-1206, Bangladesh	
Bangladesh Meteorological Department (Ministry of Defence)	Authority	Md. Abdur Rahman	Deputy Director	+88 (0)1726-531451	+88-02-9111 942 +88-02-7911 415	rra_rahman@yahoo.com	Meteorological Complex Agargaon, Dhaka-1207	Meteorological sensitivities & risks
Bangladesh Railway (Ministry of Railway)	Authority	Qazi Md. Rafiqul Alam	Addl. Director General (Infrastructure)	+88 (0)1711 505 301	+88 02 9562 051	adgi@railway.gov.bd	16, Abdul Gani Road, Railbhaban, Dhaka-1000, Bangladesh	Timeframe of railway extension
Charudesh Tourism	Business	Uttam Barua (Charu)	Managing Director	+88 (0)1841 317 777, 184316666		info@charudesh.com	Road 08, House 54, DIT Project, Merul Badda, Dhaka-1212, Bangladesh	Tourism potential of Jaliardip Island

Company's Name	Kind of stakeholder	Contact	Position	Mobile No.	Phone	E-Mail	Full Address	Agenda
Bangladesh Inland Water Transport Authority (BIWTA)	Authority	Mahmud Hasan Salim	Director (Planning)	+88 (0)1911 914 636	+88-02-956 3188	mhasansalim@gmail.com , dpl@biwta.gov.bd	BIWTA Bhaban, 141-143, Motijheel C/A, Dhaka-1000, Bangladesh	Required administrative process, IWT potential
Bangladesh Inland Water Transport Authority (BIWTA)	Authority	Commodore M Mozammel Haque	Chairman	+88 (0)1713 332 101	+88 02 956 5561	chairman@biwta.gov.bd , mozammel467@yahoo.com	BIWTA Bhaban, 141-143, Motijheel C/A, Dhaka-1000, Bangladesh	
Bangladesh Inland Water Transport Corporation (BIWTC)	Authority	Md. Mizanur Rahman	Additional Secretary		+88-02-955 4100	mizanurbd@yahoo.com , chairman@biwtc.gov.bd	5, Dilkusha Commercial Area, Dhaka-1000, Bangladesh	
Bangladesh Inland Water Transport Corporation (BIWTC)	Authority	Jesmin Ara Begum	Chief Planning Manager	+88 (0)119 900 7062	+88 02 955 1916	info@biwtc.gov.bd	5, Dilkusha Commercial Area, Dhaka-1000, Bangladesh	
Bangladesh Inland Water Transport Corporation (BIWTC)	Authority	Capt. Showkat Sardar	Master Mariner (UK), GM (Marine), Ex. Pres. BIWTC Officers Ass.	+88 (0)171 1602 622	+88-02-955 2472	showkat.sardar@yahoo.com , gmm@biwtc.govt.gd	5, Dilkusha Commercial Area, Dhaka-1000, Bangladesh	
Bangladesh Inland Water Transport Corporation (BIWTC)	Authority	N.S. M Shahadat Ali	General Manager (Commerce)	+88 (0)171 139 2570	+88 02 95 1846	info@biwtc.gov.bd	5, Dilkusha Commercial Area, Dhaka-1000, Bangladesh	
Household Income and Expenditure Survey (HIES) Project BBS, Statistics and Informatics Division (Ministry of Planning)	Authority	Dr Dipankar Roy	Project Director, Joint Director BBS	+88-0(0)1732-363 039	+88-02-9137323	dr.droy69@gmail.com	Parishankhyan Bhaban, E-27/A Agargaon, Dhaka-1217 Bangladesh	Past and projected development of Gross Domestic Product, influence of tour operators
Bangladesh Bureau of Statistics (Ministry of Planning)	Authority	Md Baitul Amin Bhuiyan	Dep. Director General, Additional Secretary	+88 (0)1711 194615	+88 02 9133 385	amin_baitul@yahoo.com	Parishankhyan Bhaban, E-27/A Agargaon, Dhaka-1217 Bangladesh	
Bangladesh Bureau of Statistics (Ministry of Planning)	Authority	Kabir Uddin Ahmed	BCS (Statistical), Joint Director	+88 (0)1711 022 636	+88 02 818 1509	kabir.ddd@gmail.com	Parishankhyan Bhaban, E-27/A Agargaon, Dhaka-1217 Bangladesh	
Bangladesh Bureau of Statistics (Ministry of Planning)	Authority	Md. Dilder Hossain	Project Director	+88 (0)171 530 1843	+88 02 818 1419	bilderbbsbd@yahoo.com	Parishankhyan Bhaban, (Level-8), E-27/A Agargaon, Dhaka-1217 Bangladesh	
Roads and Highways Department	Authority	MD Abul Kashem Bhuiyan	Additional Chief Engineer	+88 (0)1730 782 520	+88 02 8879 373	acepmz@rhd.gov.bd	Planning & Maintenance Wing, Sarak Bhaban, Tejgaon, Dhaka, Bangladesh	Timeframe of road extension
Roads and Highways Department	Authority	Eng. MD Abdus Salam	Additional Chief Engineer	+88 (0)1730 782 592	+88 02 9136 383	acedha@rhd.gov.bd	Dhaka Zone, Allenbari, Tejgaon, Dhaka - 1215, Bangladesh	
Bangladesh Parjatan Corporation	Govt. Tourism Organization	Aparup Chowdhury, Ph.D.	Chairman		+88 02 8833 229	aparup.chy@gmail.com	Bir Uttam A K Khandakar Road 83-88, Mohakhali C/A, Dhaka-1212, Bangladesh	Tourism potential of Jaliardip Island
Deputy District Commissioner Office	Authority						Cox's Bazar	Site inspection, external connectivity capacities, social and environmental impact of project

Company's Name	Kind of stakeholder	Contact	Position	Mobile No.	Phone	E-Mail	Full Address	Agenda
Department of Environment (DoE) - Ministry of Environment & Forests	Authority	Sarder Shariful Isalm	Assistant Director	???	???	???	Cox's Bazar	Environmental impact of project
Xenon Bangladesh	Business	Mahin Ibne Kamal (Chapol)	CEO	+88 (0)1190 485646	+88 (0)2 914 5871	chapol@xenonbd.com	House - 34/4, Road - 3, Shyamoli, Mohammadpur, Dhaka-1207, Bangladesh	Tourism potential of Jaliardip Island
Galaxy Bangladesh	Business	Taufiq Uddin Ahmed	Chairman	+88 (0)17 292 88888	+88 (0)2 9880 054	taufiq@galaxybd.com	Taj Marriot, 5 th floor, 25 Gulshan Ave, Dhaka-1212, Bangladesh	Tourism potential of Jaliardip Island
Guide Tours	Business	Sourav Mansur	CEO	+88 (0)1711 541 456	+88 (0)2 9862 205	sourav.manusr@guidetours.info	Flat B1, 1 st floor, House 2E, Road 29, Gulshan 1, Dhaka-1212, Bangladesh	Tourism potential of Jaliardip Island
Novoair	Business	Sohail Majid	Head Marketing & Sales	+88 (0)9666 722 224	+88 (0)2 9871 891-2	info@flynovoair.com	House 50, 3rd floor, Road 11, Block F, Banani, Dhaka-1213, Bangladesh	Tourism potential of Jaliardip Island

Source: Consultants

Appendix 3: Minutes of Individual Meetings (in chronological order)

Joint Venture of UNICONCONSULT and HPC with local support of Strategi Consulting Bd.



Pre-Feasibility Study for Economic Zone Locations at Narayanganj and Jaliardip

On behalf of BEZA Bangladesh Economic Zone Authority



Protocol of Meeting: Tourism Company Guide Tour at Company's Office, Dhaka

Date & Time: June 11th, 2016; 1:00 p.m. – 2:30 p.m.

Participants:

Interview Partner: For the tourism company: Mr Mansur (CEO)	Interviewer: For the JV-Project-Team Mr Dr. Witulski (Team Leader) Mr Zia (Local Surveyor) Mr Busse (Authorized Representative)
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Interview:

About Company/Authority/Institute:

- Guide Tours Ltd. is a Bangladeshi company mainly focusing on organizing and selling tours into the Sundarbans
- Established in 1987
- www.guidetours.com.bd

Information gathered within the meeting:

- Mainly focusing on Jaliardip during the discussion
- Teknaf is the gateway to St Martin's Island
- Important for development of tourism is the involvement of locals
- How could the locals participate (food production, service (education?))
- Connectivity is essential
- Accessibility to be provided by airports, road, rail, waterways
- Unfortunately the China-Myanmar-India-Highway does not consider Bd.
- "Nightlife" is not part of the Muslim life the Bangladeshi culture respectively
- The Indian tourist should not be the target group for further tourist development
- Around 500 tourist visit the Sundarbans annually
- An individual permission is needed to visit the Sunderbans
- A backpacker tourist spends around US\$ 50 per day
- The Myanmar tourist prefer Thailand instead of Bangladesh
- At the Sundarbans Myanmar tourists a quite rare
- The establishment of casinos is often followed by drug and red-light business

Statements regarding establishment of Economic Zone Jaliardip and or Narayanganj:

- The main question is: Why should tourist go to Jaliardip? What is the USP of the location?
- Probably suitable for Eco-Tourism
- As a probable Best-Practice Case: Village in Myanmar; only accessible for tourists/ foreigners; where a lot of activities are allowed, that are not allowed in general in Myanmar
- In order to establish a waterway connection from e.g. Dhaka or Cox's Bazar to Jaliardip tidal condition, and water depth are important to know and to consider
- Duty Free Shop will be developed at Teknaf
- As it is close to the boarder and a land port for Myanmar ferry
- Probably light fishing (as in Malaysia) could be an attraction
- Malaysia has an duty free island (best practice?)
- Sundarbans and Jaliardip are not expected to be competing locations as they attract different types of tourists.

Signed by

Frank Busse

June 13th 2016

Joint Venture of UNICONCONSULT and HPC with local support of Strategi Consulting Bd.



Pre-Feasibility Study for Economic Zone Locations at Narayanganj and Jaliardip

On behalf of BEZA Bangladesh Economic Zone Authority



Protocol of Meeting: TOAB Tour Operators Association of Bangladesh at Galaxy Bd. Office

Date & Time: June 13th, 2016; 11:00 a.m. – 12:00 p.m.

Participants:

Interview Partner: For the interview partner: Mr Ahmed (Member of the Board & Chairman of Galaxy Travel Bd.) Mr Randolph (Sr. Vice President of Galaxy Travel Bd.) Mr Majid (Head of Marketing & Sales Novoir)	Interviewer: For the JV-Project-Team Mr Dr. Witulski (Team Leader) Mr Zia (Local Surveyor) Mr Busse (Authorized Representative)
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Interview:

About Company/Authority/Institute: <ul style="list-style-type: none"> - TOAB Tour Operators Association Bangladesh covers the mandates for almost 400 tourism companies in Bd. - TOAB was formed in 1992. The other main objective or aim of the organization is to develop and nourish tourism in Bangladesh and to promote tourism products of Bangladesh at an international level. - The association has been recognized as a trade organization by the Ministry of Commerce, Government of the People's Republic of Bangladesh in 2002. - Actively participating in different international trade fairs like among others ITB - Berlin, WTM - London, BITE - Beijing, ATA Travel Mart - Bangkok, TTF - Kolkata, SATTE - Delhi - www.toab.org
Information gathered within the meeting: <ul style="list-style-type: none"> - Duty Free Shop business is an upcoming branch - Several Duty Free shops will be established at the borders to India - To buy and transport liquor in Bangladesh certain licences (per individual) have to be provided - Start of operations of International Airport Cox's Bazar in 2018 is doubted - Investors from Singapore are planning to invest 5.1 billion US\$ for the establishment of an exclusive tourism zone in Bd. - Chinese tourists (upper class) in general will be only attracted by exclusive resorts - Currently there are around 100,000 international Asian Tourist in Dhaka/Chittagong area; 27,000 of these are Chinese
Statements regarding establishment of Economic Zone Jaliardip and or Narayanganj: <ul style="list-style-type: none"> - First and spontaneous statement of Mr Ahmed: "Yes it could be feasible." - But not an exclusive area for international tourists, rather also be accessible for Bangladeshis - The remote location is a disadvantage regarding connectivity - A helicopter service could be a realistic alternative as transfer from Cox's Bazar Airport (as a landing strip for small (private) planes seems not be feasible) - The Sabrang Tourism Zone and possible Jaliardip development should cooperate - Provision of permanent security or secure conditions for tourist respectively is likely to be the biggest issue to be clarified (close location to international border to Myanmar) - The establishment of a casino could be a promising investment

Signed by

Frank Busse

June 13th 2016

Joint Venture of UNICONCONSULT and HPC with local support of Strategi Consulting Bd.



Pre-Feasibility Study for Economic Zone Locations at Narayanganj and Jaliardip

On behalf of BEZA Bangladesh Economic Zone Authority



Protocol of Meeting: CAAB Civil Aviation Authority of Bangladesh at Headquarter Office

Date & Time: June 13th, 2016; 1:30 p.m. – 2:00 p.m.

Participants:

Interview Partner: For the interview partner: Air Vice Marshal Choudhury (Chairman of CAAB)	Interviewer: For the JV-Project-Team Mr Dr. Witulski (Team Leader) Mr Zia (Local Surveyor) Mr Busse (Authorized Representative)
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Interview:

About Company/Authority/Institute: <ul style="list-style-type: none"> - CAAB Civil Aviation Authority of Bangladesh functions as the regulatory body for all aviation related activities in Bangladesh. - It also acts as the aeronautical service provider and is responsible for safety and control of air traffic flow within the Flight Information Region (FIR) bounded by the International geographic boundary of Bangladesh. - It is the custodian of all airports and related facilities including air navigation facilities. - www.caab.gov.bd
Information gathered within the meeting: <ul style="list-style-type: none"> - The extended runway of the Cox's Bazar Airport will have a length of 9,000 ft. - The construction work will be finished until June 2017. - The status of an international airport will valid from end of 2017 on. - Planes like A 320 or 319 could then reach the airport - These planes could cover flights of 5-6 hours (4,000 km) - Another extension by 1,000 ft. to reach 10,000 ft. finally is also expected (2019). - The CEO of Cox's Bazar will be available if further questions arise (Mr Kobid)
Statements regarding establishment of Economic Zone Jaliardip and or Narayanganj: <ul style="list-style-type: none"> - The development of tourism in Cox's Bazar District will be supported by the extension of the currently national airport of Cox's Bazar into an international one - From his side of view it could be very likely that Cox's Bazar will be included in "international travel packages" (for example: first mountain climbing in Nepal, then relaxing at Bangladesh's beaches)

Signed by

Frank Busse

June 13th 2016

Joint Venture of UNICONCONSULT and HPC with local support of Strategi Consulting Bd.



Pre-Feasibility Study for Economic Zone Locations at Narayanganj and Jaliardip

On behalf of BEZA Bangladesh Economic Zone Authority



Protocol of Meeting: Cox's Bazar Deputy Commissioner and District Magistrate at Cox's Bazar Office

Date & Time: June 13th, 2016; 4:30 p.m. – 5:00 p.m.

Participants:

Interview Partner: For the interview partner: Mr Md. Ali Hossain (Deputy Commissioner & District Magistrate)	Interviewer: For the JV-Project-Team Mr Dr. Witulski (Team Leader) Mr Zia (Local Surveyor) Mr Islam (Local Surveyor) Mr Busse (Authorized Representative)
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Interview:

About Company/Authority/Institute: <ul style="list-style-type: none"> - Cox's Bazar is a district in the Chittagong Division of Bangladesh named after Cox's Bazar town. - It is located 150 kilometres (93 mi) south of Chittagong and around 80 km from the proposed EZ location of Jaliardip/Teknaf. - www.coxsbazar.gov.bd
Information gathered within the meeting: <ul style="list-style-type: none"> - There are currently around 378 hotels in the town of Cox's Bazar - Sees a potential for 10 mil tourist annually for this region
Statements regarding establishment of Economic Zone Jaliardip and or Narayanganj: <ul style="list-style-type: none"> - Main season for Cox's Bazar is November to March - Currently there is no natural gas supply (infrastructure) provided in the Teknaf area - A development of a tourism site in the Teknaf region would be appreciated and supported very much - District will benefit from development of an International airport at Cox's Bazar as well as from the "Chittagong Tunnel" as both projects will improve the connectivity of the region

Signed by

Frank Busse

June 13th 2016

Joint Venture of UNICONSULT and HPC with local support of Strategi Consulting Bd.



Pre-Feasibility Study for Economic Zone Locations at Narayanganj and Jaliardip

On behalf of BEZA Bangladesh Economic Zone Authority



Protocol of Meeting: Bangladesh Metrological Department

Date & Time: 13 July 2016; 10:10 am. – 10:40 a.m.

Participants:

Interview Partner: For Bangladesh Metrological Department: Mr. Shamsuddin Ahmed Mr. Abdur Rahman	Interviewer: For the JV-Project-Team Mr Dr. Witulski (Team Leader) Mr Peter Carderbring (Industry Sector Expert) Mr Ashikul Islam (Representative of Strategi)
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Interview:

About Company/Authority/Institute:

- Bangladesh Meteorological Department (BMD) is a government organization under the administrative control of the Ministry of Defence. The origin of BMD goes back to 1867 when the country's meteorological activities started through the establishment of one observatory in Satkhira, a district in Southwestern Bangladesh. In 1947 the service had been renamed as Pakistan Meteorological Services and after the country's independence in 1971, it became the Bangladesh Meteorological department.
- <http://bmd.gov.bd>

Information gathered within the meeting:

- Mainly focusing on weather and climate data,
- Maintenance of historical records of all meteorological and seismological extreme events in numeric and graphical.
- They have shared about tropical cyclone, severe thunderstorm/tornadoes, heavy rainfall, drought, cold and heat wave
- Which facilities are available & what are needed?
- Meteorological data has been requested by the Consultant and will be delivered 14.7

Statements regarding establishment of Economic Zone Jaliardip and or Narayanganj:

- They have heard & discussed above things & they have send relevant data to us.
- As it is island & river zone, before run the project, they advised to check land strength, weather, climate other natural disaster issues.
- One disadvantage they thought, river could floated the island area after 20 years (app).
- They advised to follow all forecasting & historical data

Signed by Md. Ashikul Islam and Peter W. Cardebring

14 July 2016

Joint Venture of UNICONCONSULT and HPC with local support of Strategi Consulting Bd.



Pre-Feasibility Study for Economic Zone Locations at Narayanganj and Jaliardip

On behalf of BEZA Bangladesh Economic Zone Authority



Protocol of Presentation: Bangladesh Economic Zone Authority

Date & Time: July 13th, 2016; 3:00 Pm. – 4:45 p.m.

Participants:

July	
For Bangladesh Economic Zone Authority:	For the JV-Project-Team
Mr. Harunor Rashid (Project Director)	Mr Peter Carderbring (Industry Sector Expert)
Mr Huda (Procurement Specialist)	Mr Dr. Witulski (Team Leader)
Mr. Daud Miah (Manager Admin)	Mr. Anizuzzam (Expert-Infrastructure)
Md. Soheler Rahman (Deputy Secretary)	Mr Ashikul Islam (Representative of Strategi)
Mr. Shakil Ahmed (Environmental Specialist)	
Md. Quader Khan (Resettlement Specialist)	

Interview:

Information gathered within the presentation:

Jaliardip :

1. Land condition of Jaliardip & need Soil test. (previous soil test report will be sent by BEZA to Uniconsult (Ashil will follow up)
2. Railway connection will be started.
3. Cox's Bazar will be International Airport in 2019.
4. Security is big threat, Security policy & condition should be more effective.
5. It was stressed that the border guards (coast guard) and the border control towards Mynamar is extremely important. No smuggling of narcotics will be allowed (Heroin found at a value of US\$ 250 million by the border guard)
6. Hotel & resources organization in Cox's Bazar have many information. BEZA will provide that information.
7. Marketing plan on tourism is the first concept in Bangladesh
8. Land filling & water sources is important issues for this zone
9. Jaliardip is an important project for the GOB and a mega project
10. Security is a major threat in the region
11. Describe the "operational process" for tourism activities
12. Consider the Sabrang concept

Narayanganj:

1. Project Director asked about alternative of Narayanganj EZ.
2. The Project Director discussed the foundation cost, piling cost, soil test & improvement of soil and would like to know how large these costs are.
3. The foundation for the planned jetty needs 27 meters of piling.
4. The road need to be expanded, they wanted to know how it could be expanded? Find out least cost for the planned road connection
5. River could be suitable for transportation. Have to find out best possible way by using river.
6. A new bridge is planned westward to Narayanganj City (get info from Md Abdul Quader Khan, Prime Minister's Office Mail: kaderngo@gmail.com (will be followed up by Ashik)

BEZA Requirement:

Prepare a good report with a clear vision

Signed by

Md. Ashikul Islam and Peter W. Cardebring

17 July 2016

Joint Venture of UNICONSULT and HPC with local support of Strategi Consulting Bd.



Pre-Feasibility Study for Economic Zone Locations at Narayanganj and Jaliardip

On behalf of BEZA Bangladesh Economic Zone Authority



Protocol of Meeting: Bangladesh Inland Water Transport Authority.

Date & Time: 14 July 2016; 11:30 a.m. – 12:10 p.m.

Participants:

Interview Partner: Bangladesh Inland Water Transport Authority: Mr. Mozammel Haque (Chairman) Mr. Mahmud Hasan Salim-Director-Planning	Interviewer: For the JV-Project-Team Mr Peter Carderbring (Industry Sector Expert) Mr Ashikul Islam (Representative of Strategi)
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Interview:

About Company/Authority/Institute:

- To set up Authority for development, maintenance and control of inland water transport and of certain inland navigable waterways the then East Pakistan Government on 31st October 1958 promulgated an ordinance called the East Pakistan Inland water Transport Authority Ordinance 1958 (E.P. Ordinance, NO LXXV of 1958). On November 4, 1958 the Government by an order constituted a three member Authority of East Pakistan Inland Water Transport Authority (EPIWTA). The BIWTA came in to existence on promulgation of the above ordinance 1958 as the successor of the former EPIWTA. An advisory committee have subsequently been constituted to advise the authority in respect of all matters related to development, maintenance and operation of inland water transport and of inland waterways in Bangladesh.
- <http://www.biwta.gov.bd/>

Information gathered within the meeting:

- Discussed about navy gravity of the river route
- BIWTA carry out dredging, survey, conservancy & maintain the voids.
- Time-table for passenger services are maintained by BIWTA
- The land area is belongs to BIWTA along the rivers up to 150 feet inwards to high water (foreshore)
- They construct & maintain shore area.
- They also regulate the passenger services

Statements regarding establishment of Economic Zone Jaliardip and or Narayanganj:

- Before implement or start they advised to take approval from BIWTA.
- They suggested to high construction in centre places & light in shore areas.
- Clearance has to be applied at BIWTA for eventual use of such land and the river for a construction of a jetty/terminal. Such foreshore (150 feet limit) approval is absolute necessary.
- The law from 2009 regulates the required approval from the Ministry. The existing rules have to be followed by a construction of a jetty/terminal.
- When a jetty has been constructed, the BIWTA's rules for charging have to be implemented and used.
- A special taskforce has been set up 14.7.2016 by the GOB with the aim to protect all rivers in Bangladesh.
- The area at Narayanganj is critical since three different rivers meet there (conjunction). When a jetty will be constructed there, it has to be built in a basin inwards at land, so no disturbances at the barge traffic will occur
- BIWTA is planning to start to dredge the river down to Chittagong to achieve a depth at low tide of -4 meter from this year. This will improve the navigability.
- *Comment:* The current port at Narayanganj (3 km from the planned EZ) seems to be quite small and eventually not suited for the planned traffic (to be checked)

Signed by

Md. Ashikul Islam

20 June 2016

Joint Venture of UNICONSLT and HPC with local support of Strategi Consulting Bd.



Pre-Feasibility Study for Economic Zone Locations at Narayanganj and Jaliardip

On behalf of BEZA Bangladesh Economic Zone Authority



Protocol of Meeting: Bangladesh Railway, Dhaka

Date & Time: 14 July 2016; 11:00 a.m. – 11:30 a.m.

Participants:

Interview Partner: For Bangladesh Railway, Dhaka: Mr. Qazi Md. Rafiqul Alam Additional Director General (Infrastructure)	Interviewer: For the JV-Project-Team Mr Peter Carderbring (Industry Sector Expert) Mr Ashikul Islam (Representative of Strategi)
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Interview:

About Company/Authority/Institute:

- Railway operation in today's Bangladesh began on 15 November 1862 when 53.11 kilometres of 5 ft 6 in (1,676 mm) (broad gauge) line were opened for traffic between Dorshona of Chuadanga District and Jogotee of Kushtia District. The next 14.98 kilometres 1,000 mm (3 ft 3 3/8 in) (metre gauge) line was opened for traffic on 4 January 1885. In 1891, the construction of then Bengal Assam Railway was taken up by the British Government assistance but that was later on taken over by the Bengal Assam Railway Company. On 1 July 1895, two sections of metre gauge lines were opened between Chittagong and Comilla, a length of 149.89 kilometres and between Laksam Upazila and Chandpur District, a length of 50.89 kilometres. Railway Companies formed in England took up the construction and operation of these sections in middle and late 19th century. <http://www.railway.gov.bd/>

Information gathered within the meeting:

- Mainly focusing on facilities of Narayanganj & Tekhnaf island surrounding areas during the discussion
- There are three rivers surrounding EZ areas in Narayanganj
- Which facilities are available & what are needed?
- Discussed about port & transport facilities about the area.
- Existing covered area of rail & possibility to extend.
- Dhaka-Chittagong high speed express railway.

Statements regarding establishment of Economic Zone Narayanganj:

- The total areas of place are almost 1,500 acres in Narayanganj.
- Narayanganj:
- Had a proposal for power plant or a container port in Narayanganj area. It has been cancelled.
- Knit factory or garments industry would be good for Narayanganj economic Zone.
- No rail connection is planned to Narayanganj. A possible rail connection to Narayanganj City (western side of the river) might be possible, but is not currently planned.
- The island of Narayanganj is located at the crossing of three rivers, No plan on rail connection

Signed by

Md. Ashikul Islam and Peter W. Cardebring

July 17th 2016

Joint Venture of UNICONSULT and HPC with local support of Strategi Consulting Bd.



Pre-Feasibility Study for Economic Zone Locations at Narayanganj and Jaliardip

On behalf of BEZA Bangladesh Economic Zones Authority



Protocol of Meeting: BEZA, Dhaka

Date & Time: 03 August 2016, 10.00 - 13.00

Participants:

Interview Partners: For BEZA Mr. Mr Harunur Rashid, Project Director Mr. Khokan Kanti Saha, Deputy Project Director Mr. Shakil Ahmed, Environmental Specialist Mr. Abdoul Quader Khan Social/Resettlement Specialist	Interviewer: For the JV-Project-Team Ms. Tatiana Eggert, Environmental and Social Expert, Mr. Norbert Zimmert, Institutional Expert Mr. Ashikul Islam, LocalSupport Consultant
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Interview:

Social Issues (Narayanganj):

- Generally, EZs are well accepted, people recognize development as possibility for income (e.g. small business, shops, etc.)
- With reduction of size of EZ, about 60 households need to be relocated. One small part of land shall be added to EZ, in exchange/compensation for another part at the river which is presently isolated from the rest of the EZ area. The land for compensation is smaller than the part that should be added to the EZ, but according to Mr Khan it is better, closer to the city and of higher value (for clarification see figure on page 3)
- The design of the EZ is not favourable located along the coastline. The area is now used as agricultural land for some families around for more than 20 years. Plan to integrate members of these families into the workforce of the EZ in order to give them future income.
- The local communities do not think about negative impacts (traffic, etc.), yet. Local committee founded to discuss matters of future concerns.
- EZ workers can be accommodated nearby in residential areas as houses can be heightened.
- Energy: For textile industry, there is high demand. It is not possible to cover it by solar energy. Wind energy is reportedly no option due to low wind speed.

Environmental Issues (Narayanganj):

- Textile/garment industry produces big amounts of waste water. Mr. Ahmed suggests to consider sewage treatment for recycling
- Question: are there examples from EZ's that are already operating? Answer: There are currently no BEZA-EZs operating
- Sewage treatment examples from BEPZA-EPZs show that waste water treatment is not very efficient, the maximum permissible values according to Bangladesh legislation are too high and there is generally an enforcement problem because of shortage of manpower at respective authorities.
- For issuance of Environmental Clearance Certificate, the applications for industrial settlements are examined for about six weeks. During this examination, industries are separated into four categories:

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- (a) Green;
- (b) Orange – A;
- (c) Orange – B; and
- (d) Red,

depending on their site and impact on the environment, as described in The Environment Conservation Rules, 1997.

- Generally the concentration of industries into EZs is good, as effluents etc. can be easier controlled than that of small, scattered industrial plots.
- How powerful is the Ministry of Environment? Answer: Not so much, but now everybody is concerned about the environment. Lobby groups (NGOs) are also existent.
- EZs shall function as examples for good environmental protection.
- Every industry should pre-treat its effluents that are then delivered to the local waste water treatment plant for further treatment.

Institutional Issues (Narayanganj):

- Narayanganj: Interest from the knitwear industry. Possibility to develop industrial sites of 15 – 20 acres individually; (general permission by the Prime Minister to change the original 'one developer per EZ principle')
- Provide a master plan and the plot but no investment on site.
- Jaliardip fully owned by BEZA, Narayanganj in the process of acquiring land (still an obstacle). Usage of the money from Mirersarai contract for the acquisition of Narayanganj.

Overview by Project Director:

- There are 100 EZs planned within the next 15 years
- They will generate about 10 mill jobs
- They are developed in Governmental and private sector. Three Governmental sites will be developed within the next seven months, Mongla, Sreegath and Mirersarai.
- Main investors are from China, Japan, Korea, Taiwan
- Bargaining power in environmental and social issues for EZs is rather small, as costs will be increased by environmental performance. However, environmental standards are set by importing countries.
- BEZA under the Prime Minister' Office has access to Prime Ministries resources for the development of EZ; e.g. road, transport and highway division, electricity, water development board.
- Success story of EZ still missing.
- BEZA will relocate its premises in January 2017 due to shortage of space at headquarter.

Further meetings are planned with:

- Ministry of Environment and Forests
- Ministry of Tourism
- Further Discussions with BEZA on results of field trips

Project

Interim Report should be in time – SWOT and Benchmarking required. Also report on Jaliardip is pressing as it has impact on Sabrang Development.

03 August 2016

Tatiana Eggert

Joint Venture of UNICONSULT and HPC with local support of Strategi Consulting Bd.



Pre-Feasibility Study for Economic Zone Locations at Narayanganj and Jaliardip

On behalf of BEZA Bangladesh Economic Zones Authority



Protocol of Meeting: BEZA, Dhaka

Date & Time: 03 August 2016, 10.00 - 13.00

Participants:

Interview Partners: For BEZA Mr. Mr Harunur Rashid, Project Director Mr. Khokan Kanti Saha, Deputy Project Director Mr. Shakil Ahmed, Environmental Specialist Mr. Abdoul Quader Khan Social/Resettlement Specialist	Interviewer: For the JV-Project-Team Ms. Tatiana Eggert, Environmental and Social Expert, Mr. Norbert Zimmert, Institutional Expert Mr. Ashikul Islam, Local Support Consultant
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Interview:

Environmental Issues (Jaliardip):

- It is planned to build up Eco-Tourism (the question is how to protect the untouched environment?)
- For Sabrang the Pre-Feasibility Study is completed, the zone will be developed on PPP-basis, there is big interest of investors for "beach holidays". DOHWA Engineering (responsible for pre-feasibility of Sabrang) has been contacted by Team Leader. Meeting is supposed to be on 25 August.
- Energy: solar-based energy should be investigated

Institutional Issues (Jaliardip):

- Question: Is there a regional tourism plan / a package for the entire region South of Cox's Bazar?
 Answer: This should be discussed with the Ministry of Tourism. There are also plans for a new regional development authority for Cox's Bazar, but not yet materialized

Overview by Project Director:

- There are 100 EZs planned within the next 15 years
- They will generate about 10 mill jobs
- They are developed in Governmental and private sector. Three Governmental sites will be developed within the next seven months, Mongla, Sreegath and Mirersarai.
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03 August 2016

Tatiana Eggert

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Pre-Feasibility Study for Economic Zone Locations at Narayanganj and Jaliardip

On behalf of BEZA Bangladesh Economic Zones Authority



Protocol of Meeting: 1. Field Trip to Jaliardip guided on site by Teknaf Upazila Officer

2. Meeting at Deputy Commissioner Cox's Bazar District Residence

(Note: Deputy Commissioner is the highest state representative in the district and formal head of the sub-district officers)

Date & Time: 07 August afternoon (14.45 – 17.00 on site) and 21.00 – 22.00 (Cox's Bazar)

Participants:

Interview Partners: <ul style="list-style-type: none"> - (1) Mr. Mohammad Shafioul Alam Teknaf Upazila (Sub-District) Officer - (2) Mr. MD Ali Hossain Deputy Commissioner, Cox's Bazar 	Interviewer: For the JV-Project-Team <ul style="list-style-type: none"> - Ms. Tatiana Eggert, Environmental and Social Expert, - Mr. Norbert Zimmert, Institutional Expert - Mr. Ashikul Islam, Manager – Admin. & HR - Mr. Anisuzzaman, Civil Engineer - Mr. Milon Hossain, Surveyor
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Interviews:

General Observations:

Trip from and to Jaliardip has been made in 1h 45 minutes (significant hurry) resp. 2h 20 minutes back accompanied by four armed policemen for security reasons in a second car.

Road conditions: significant lack of maintenance, 5-7 meters width with quite some dangerous spots (one bus accident with one person left dead has been passed on the way).

The last kilometres to the island of Jaliardip features an area with some natural beauty.

The island itself is an oval tube filled by 71% with a fish farm and salt production site and surrounded by a clay wall and mangroves. The mid of the Naaf River forms the Bangladesh-Myanmar Border. Every day about 200 to 300 Myanmaris are crossing the river for a daily entry permit to Bangladesh. Whereas Jaliardip has no functioning jetty, there is a small river port at the river banks opposite, operations of which is leased out to a private company.

Our visit got some media reflection (on site a group of local Journalists were waiting).

Opinion of the Local Community towards the Project:

The Upazila Officer reports that the majority of the population nearby has a positive stand towards the project by hoping for employment opportunities. Even the real estate prices in area have increased in the last months due to the new discussions of the project. However, he points out that tourism development here has been discussed for the last 45 years and it was only the EZ initiative which gave a new impetus as the people were not anymore believing in the realization.

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Teknaf region faces some problems with refugees from Myanmar (reportedly up to 1 million) who are settling illegally in the natural reserves nearby. These refugees are low educated but strongly religious Muslims.

Plans for Infrastructure Development:

The deputy commissioner points out that infrastructure development plans for the district are on the way. The road Cox's Bazar to Teknaf and Sabrang will be expanded to four lanes until 2018. Also the road from Cox's Bazar to Myanmar border and beyond to Jaliardip will be rehabilitated and broadened afterwards. A railway connection from Chittagong to Cox's Bazar with a separate line to the Myanmar border is planned until 2024/2030.

4 new power coal plants with 5,000 MW power generation in total (planned south of Chittagong) will guarantee electricity supply (no place for alternative power generation)

Initiatives fostering the district development:

- BCIM: trade partnership and cross-regional infrastructure planning Bangladesh-China-India-Myanmar
- fishing project for dry fish area export: 4,500 fishermen selected
- tourism and hotel construction in Cox's Bazar

State of Tourism:

'People come here to see the beach, but due to lack of entertainment after 1-2 days they will feel tired.' There is a need to diversify beyond the day package to St. Martin's Island (coral)– in high season 3,000 tourists are to St. Martin's Island per day- 5 vessels with 500-600 people each. These (local) tourists want to enjoy – “no problem for money”.

Perspectives on Jaliardip:

Jaliardip will be a “wonderful business” just what is needed is a master plan.

20,000-40,000 tourists are flocking into the district in high season on weekends.

Foreigners (also Indians) will come with the opening of the international airport in Cox's Bazar 2018, so there is a clear bright perspective, according to the Deputy Commissioner.

With a beautiful location like Jaliardip and some touristic river island activities, a cable roofline of 1 km and cater in the evenings at the river he expects 1,000-2,000 tourists per day in high season. Sabrang can be another supplementary package also St. Martin's Island, he stated.

Security situation:

Since his arrival in February last year he faced no single major evidence of security problems in the district. The situation is “quite ok” despite the recent events:

Bangladeshis know each other and transparency of family relationships is given.

On district data:

“In my country you are not able to collect all data”. There are different living conditions and cost of living in Dhaka and Cox

Further meetings are planned with: Bangladesh Tourism Board

12 August 2016

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Pre-Feasibility Study for Economic Zone Locations at Narayanganj and Jaliardip

On behalf of BEZA Bangladesh Economic Zones Authority



Protocol of Meeting: Department of Environment (DoE), Cox's Bazar District Office

Date & Time: August 8th 2016, 12.30 - 02.00 pm

Participants:

<p>Interview Partner: Mr. Sarder Shariful Islam, Assistant Director</p>	<p>Interviewer: For the JV-Project-Team Ms. Tatiana Eggert, Environmental and Social Expert, Mr. Norbert Zimmert, Institutional Expert Mr. Ashikul Islam, Local Support Consultant Mr. Anisuzzaman, Civil Engineering Expert Mr. Milon Hossain, Local Support Consultant</p>
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Interview:

The DoE has no objection concerning the project, however Mr. Sarder Shariful Islam is clearly aware of the risks associated with tourism development at Jaliardip Island:

Construction works:

- The island itself consists of clay and silt and is prone to erosion as soon as the natural protection given by mangrove trees is destroyed. Therefore it is important that construction activities take place in the area behind the wall that is surrounding the entire island. The mangroves that are fringing the island in front of this wall are already partly cut by fishermen who need to access their fish ponds. When construction works start, utmost care should be taken that the mangroves remain untouched, except for maybe two access points. (Remark: when bridge(s) will be constructed this should be taken into consideration, they should reach the island in an area behind the mangroves).
- Mr Sarder Shariful Islam presented as "bad example" the development at St. Martin Island. This island was fringed by keya trees that have been cut down. This vegetation loss has increased the rate of erosion considerably.
- Material for filling up the island can be taken from the river, however, at sufficient distance for not impacting the current flow and – again – leading to erosion processes.

Water / Waste water:

- A sewage treatment plant (STP) is considered essential; wastewater treatment by septic tanks is not enough. Again an example from St. Martin was given, where septic tanks are used. As the aquifer for drinking water (groundwater) is not very deep there (15 – 20 feet), the wastewater from septic tanks has already started polluting the drinking water sources, coliform bacteria have been found in drinking water (proof for wastewater contamination).
- There is no wastewater treatment plant on the mainland (Teknaf). Drinking water is not supplied by wells, as the ground is too rocky, but by spring water from the mountains that is collected by dams. A reservoir for drinking water is close to the jetty at Teknaf, the water is cleaned for consumption.
- Cox's Bazar area has no central wastewater treatment facility; there are septic tanks for "black

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water" (toilet sewage), the "grey water" (kitchen, shower, etc.) is lead directly to river and sea. This lead (among others) to reduced oxygen in water. Especially in winter the dissolved oxygen (DO) is about 3-4 ppm, at about 1 – 1.5 km from the wastewater inlet the DO is up to 7 again. (Remark: 3-4 pm is below the generally accepted maximum amount of DO that supports fish live). This problem will increase with increased hotel construction.

- Every hotel shall have its own facility for pre-treatment of wastewater. Pre-treated water will go to the central STP (remark: which is at present not existing)
- Sewage samples are taken at hotels before and after treatment, fines have already been imposed for some hotels.
- Sabrang has also septic tanks.

Road construction:

- Question: the road to Teknaf will be enlarged to a four-lane road. At present there are a lot of people, cows, goats, etc. on the road, also we passed signs "Elephant Crossing". How will this be handled if traffic increases and goes faster?
- Answer: for elephants there will be an overpass or underpass of the roads. There are several groups of wild elephants, each consisting of 7-8 animals. Experiences from other areas show that underpasses/canals under road are well accepted by the animals

Wildlife / protected areas:

- Question: what is the status of the protected forest?
- Answer: In most parts it is not allowed for people to enter the nature reserve. A cable car station at the beginning of the forest will not be a problem. Operation of cable cars will be stopped at night, most animals in the forest (in particular elephants) are active at night so there will be no interference
- Despite the fact that there is no one allowed to enter the wildlife area, there are some refugees from Myanmar living there. About one million refugees came to Bangladesh and they build illegal housings
- There are no dolphins in the river, but they have been seen at the coast and in the bay on the way to St Martin

EIA Procedure:

- The project is definitely a "red" development project, therefore requiring a full EIA Process. EIA reports are reviewed by the District Environmental Officer first, but given for clearance to the Director General Office of the Environment Department at Dhaka.

Staffing of the District Office:

- The office at Cox's Bazar is staffed by Director, Assistant Director, 1 Inspector, 2 Officers and 1 driver.

Other infrastructure:

- The planned coal-fired power plants are no problem, as long as the EIA is conducted. Bangladesh has defined limits for exhaust.

Interference of international banks:

- Question: As this is a World Bank Project, have there ever been interferences of WB members?
- Answer: up to now not, they will come later in the project. There are experiences with JICA, they have made some investigations about projects they were financing.

July, 08 August 2016

Tatiana Eggert

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Pre-Feasibility Study for Economic Zone Locations at Narayanganj and Jaliardip

On behalf of BEZA Bangladesh Economic Zones Authority



Protocol of Meeting: 1. Meeting at Bangladesh Parjatan Corporation

(Government Tourism Organization)

Date & Time: 09 August, 02.50 – 4 p.m.

Participants:

Interview Partners: <ul style="list-style-type: none"> - Mr. Aparup Chowdhury. Ph.D. - Chairman BPC - plus four leading staff from the organization 	Interviewer: <p>For the JV-Project-Team</p> <ul style="list-style-type: none"> - Ms. Tatiana Eggert, Environmental and Social Expert, - Mr. Norbert Zimmert, Institutional Expert - Mr. Ashikul Islam, Manager – Admin. & HR
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Interview:

Tourism Plans for the Region South of Chittagong:

Critical situation in St. Martin's Island. Traditional tourism is considered not sustainable any more. Therefore, vote for eco-tourism as it is least disturbing flora and fauna.

Potential seen for 'Adventurous tourism like tracking , biking etc' ' Presenting Indigenous communities' colourful lifestyle" Beach sports like paragliding' 'Visits to Buddhist relics e.g. a lying Buddha of 100feet length'

Plans for Cox's Bazar to establish an "entertainment village" (leisures and pleasures) on 150 acres of land under PPP program (including bar section). Also a college offering bachelor degrees in tourism and hospitality will be established there (another one is already existing in Dhaka)

Plans for Transport Connections:

Railway extension from 40 km south of Chittagong to Myanmar border with a side link to Cox's Extension national highway Cox's Bazar - Teknaf double lane
Cox's Airport –to be declared international by 2018 with runway extension and night landing

International Tourists considered:

With the opening of the airport tourists from China or Singapore can come, play golf and travel back For Sabrang Tourism Park it is not yet decided to be dedicated only for international tourists – there might be an option for wealthy locals paying a bit higher taxes.

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Investors in Tourism:

Foreign direct investment expected, but also national /international joint ventures. There is no embargo.

Acceptance of Tourism:

Committee of local public officers, journalists, civil society representatives in Cox's Bazar should foster awareness building for Cox's Bazar. In the coming winter the tourism year in Cox's Bazar will start with mega beach festival. A gathering of international Buddhist countries prime ministers six months ago in Cox's Bazar had helped to market Cox's Bazar internationally. A problem occurs with about 1 million refugees from Myanmar, who form a very conservative baseline (illiterate) Muslim community camping in the natural reserves.

Myanmar relations:

No bitter relations to Myanmar anymore, but concerted actions in tourism crossing the border are not planned.

Environmental concerns:

components of waste disposal is of growing concern. St marten island is beyond absorption, so there is hesitance on it to let tourism grow. Example: Turtle eggs at the beach site

Next steps:

Cox's Bazar tourism master plan 2010 to be revised end of 2016 by Ministry of labour affairs. Inland tourism is 16%% up in the last year but highly seasonal, in Eid holidays hotels are fully booked – concern how to balance use of capacity in the holiday season.

09 August 2016

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Pre-Feasibility Study for Economic Zone Locations at Narayanganj and Jaliardip

On behalf of BEZA Bangladesh Economic Zones Authority



Protocol of Meeting: Meeting at BEZA Headquarters Dhaka

Date & Time: 10 August 2016, 10.45 – 12.00

Participants:

Interview Partners: - Mr Khokan Kanti Saha Deputy Project Director (10-45 – 11,20) - Mr. Harunur Rashid Project Director Support to Capacity Building of BEZA Project (11.20 – 12.00)	Interviewer: For the JV-Project-Team - Ms. Tatiana Eggert, Environmental and Social Expert, - Mr. Norbert Zimmert, Institutional Expert - Mr. Ashikul Islam, Manager – Admin. & HR
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Interviews / Observations:

Expansion of BEZA:

Today 72 staff is fully employed, but Ministry of Finance gave permission for another 183 establishment posts mostly in the capital Dhaka. Relocation of BEZA headquarters within the city at the end of the year.

Capacity deficits:

There is a lack of capacities to be overcome in the next years, e.g. in waste treatment.

BEZA plans to send staff abroad for training in different trades, PPP, project management, environmental and social issues,

In the organization there are permanent environmental posts but the position is now only filled on a temporary basis. Also here capacity development and qualification of human resources is necessary-

Relation to other authorities:

The High Tech Park Authority is focussing on IT whereas BEZA is multimodal/multifocal but mainly on the industrial sector. However, they have also some private sector requests on IT related EZ. There is a memorandum of understanding between BEPZA and BEZA that BEPZA is taking over 1000 acres for development in the new Mirsarai EZ (Chittagong).

Like in Dhaka with the 'capital city development authority' a new development authority is planned for Cox's Bazar region.

Competition to private EZs in Narayanganj:

There are three private EZs approved in Narayanganj region which have submitted feasibility report, master plan, and environmental study to BEZA. There might be some competition for investment but it is assumed by BEZA that investors in knitwear production will prefer the government EZ.

Also the private sites are much smaller in size and dedicated industrial zones.

Further points of Discussion:

Labour costs might increase as Bangladesh develops to a middle income country

Investment criteria for investors (tax holidays, security, infrastructure, etc.

Narayanganj to be developed by one single developer (rather than individual investors for plots). BEZA plans for a 15 m access road to the site. Discussion of Traffic Situation.

Briefing of the Project Director on work done by the Consultants.

Requests for Expressions of Interests for 5 EZs are under preparation to be published within the next 6 weeks. We are invited to take part.

Further meetings are planned with:

- FB/DUW when on site end of August

05 August 2016

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Deputy Pre-Feasibility Study for Economic Zone Locations at Narayanganj and Jaliardip



On behalf of BEZA Bangladesh Economic Zones Authority

Protocol of Meeting: 1) BEZA "Round Table"

2) BEZA Development Section

Date & Time: 10 August 2016, 11.00 - 13.30

Participants:

Interview Partner: Mr. Mr Harunur Rashid, Project Director Mr. Shakil Ahmed, Environmental Specialist Mr. Abdoul Quader Khan Social/Resettlement Specialist plus two other officers	Interviewer: For the JV-Project-Team Ms. Tatiana Eggert, Environmental and Social Expert, Mr. Norbert Zimmert, Institutional Expert Mr. Ashikul Islam, Local Support Consultant
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Interview:

1) Round Table

BEZA representatives were informed about the two field trips as well as the interviews conducted during these trips. The findings have been lively discussed.

Environment / Social:

- Question: We were told that each company/facility at the EZ shall carry out pre-treatment of their effluent which then goes to central ETP of the EZ. How will this be enforced, is planning of pre-treatment and ETP condition of bid?
- Answer BEZA: The environmental responsibility is given to the developer. BEZA will function as a supervising and regulatory body. The requirements are stated in BEZA's development policy.
- The developer has to present a feasibility study and a masterplan as precondition for approval, and within the masterplan the ETP has to be planned accordingly.
- Question: If EZ is split into single plots that are given to companies (i.e. there is no developer for the whole EZ), is treatment facility required by contract with these companies?
- Answer: This is a new development; BEZA will develop rules and guidelines for this situation. However, Narayanganj and Jaliardip are EZs based on PPP envisaged to follow the general developer-investor rule (to be confirmed by Project Director)
- The consultants were requested to provide examples of "best practices"

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- Question: Up to now there is nothing at the island but ponds; a considerable amount of sand will be needed to fill up the area
- Answer: The Development Sector of BEZA has already plans for Jaliardip
- Question: Even when at Narayanganj most products will be transported by waterway, there will be a significant increase of traffic around the EZ. Will the inhabitants be compensated?
- Answer: There are just 60 households directly impacted; for several 100 there will be an indirect impact, however, relevant jobs will be provided. Furthermore, there will be outside development for neighbouring communities, e.g. roads, water network. For the traffic issue BEZA is thinking about compensation. For traffic and movement of people, Consultants shall provide traffic assessment. Also include traffic affected persons in the social assessment.
- It was suggested to combine the STP for Jaliardip with Sabrang and Teknaf for better utilization of capacity because of the seasonal wastewater production. BEZA agreed, however, they questioned if manpower is available to handle such facility. They also stated that it is only sewage water (no contamination) expected in the region and asked whether treatment is really necessary
- Question: The tourist areas in the south are separated, how can they be linked?
- Answer: Please consider this in your study

Cultural issues:

- Discussion: At some areas there is national tourism planned, at other international, some are mixed. This might lead to difficulties as different cultures meet. Local communities should be prepared for meeting different cultures. Consultants were asked to include this in the report and give recommendations.

Security:

- Discussion: How to ensure security
- BEZA: There is a tourist police in the Cox's area

2) BEZA Infrastructure Development Section

- For development of Jaliardip, the protection of mangroves will be required by contract with the developer
 - Other infrastructure?
 - Water supply is in the responsibility of the Department of Public Health
 - Cable bridge will be installed
 - Jetty is contracted to be designed
 - Bridge, if any, will be for pedestrians only, no cars on the island, but small electric vehicles are foreseen.
- Discussion: Will the new Jetty be big enough to accommodate larger tourist boats.

10 August 2016

Tatiana Eggert

Norbert Zimmert

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Pre-Feasibility Study for Economic Zone Locations at Narayanganj and Jaliardip

On behalf of BEZA Bangladesh Economic Zones Authority



Protocol of Meeting: Meeting at BEZA Headquarters Dhaka

Date & Time: 06 September 2016, 11.45 – 14.15

Participants:

Interview Partners: <ul style="list-style-type: none"> - Mr. Habibur Rahman, PD Phase 1 - Mr AKM Mahbubur Rahman (Zone Development Consultant, Ex-Member Finance BEPZA) - Mr. SM Nurul Alam (BEZA Joint Secretary) 	Interviewer: <p>For the JV-Project-Team</p> <ul style="list-style-type: none"> - Mr Dr. Witulski (Team Leader) - Mr. AZM Anisuzzaman, Civil Engineer - Mr. Ashikul Islam, Manager – Admin. & HR
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Interview:

Phasing of investments and responsibilities for construction

investment will be in three phases in which BEZA, Developer and Unit Investor will be involved:

1) BEZA is the owner of the land and will develop the off side structures and the minimum land development and embankment works if any. Off-side structure may be approach road, bridge of EZ, electrical substation and electrical line, gas line, T&T line if required from source to door of the EZ etc. Jaliardip EZ and Narayanganj EZ will be given to one developer (possibly Special-Purpose Company [SPC] for Jaliardip with equity sharing) each, because both EZs require preparatory works (pre-financed by BEZA), before tendered out. These works contain embanquement, reclamation, access bridge or road ... works which cannot be done individually by plot investors. BEZA will act as a regulatory body to control the Developer and Unit Investors. Scope of BEZA is to develop sharing partner. BEZA's aim is not profit maximization, but the Authority needs to calculate commercially (lending from Government is in form of loans plus small interest, retirement payments ...) under own accountability. RFP/PPP method. Major BEZA objectives are: Highest welfare for Bangladesh (high economic return), low environmental impact, good relations with developer (plus developer's good relations with plot investors). Economic benefits: indirect employment generation, decongestion of residential areas (less heavy traffic), attraction of foreign exchange, etc. Many linkage and service industries will be generated. Component management will be easy.

2) After that BEZA will ask for proposal from Developer for on-side development. It may be internal road, internal utility services gas line, electricity line, drainage, ETP with line, STP, water line, water treatment plant with intake / deep tube well, rain water reservoir, boundary wall, administrative area, etc. BEZA will request Developer to pay back BEZA's preparatory-works pre-financing (plus small service charge – max. 2% of works), preferably as (part of) up-front payment. Developer's aim is not necessarily profit maximization, but also short repayment period (maximum 15 years). Developer should provide all facilities and services to plot investors and charge commercial (bulk) tariff plus service charge (=> business facilitator).

3) Developer will invite the Unit Investor. Unit Investor will build according to the Master Plan. At open tender, BEZA will request tenderers' proposal stating four payments: 1) up-front, lease rent, 3) escalation, 4) revenue share (5% of total would be maximum), not profit sharing. BEZA would like to go through revenue sharing. Developer will collect their revenue+ interest from the unit investor with rental basis. At present BEZA don't know the land price or lease price. Plot investors' aim is selling property dearly and trying to build new more cost-effective plant on cheaper land out of return from property sale.

Unit costs and operation charges

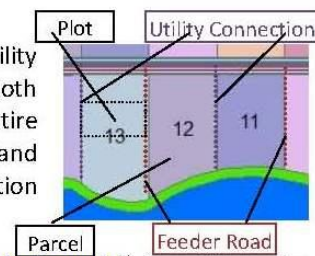
BEZA will give all facilities to Developer and will take some percentages as service charges. All utilities and facilities will be at EZ, BEZA will charge their cost price with 10% service charge except telephone.

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Environment management is very difficult in EZ, so BEZA advised to take own effluent treatment plan (ETP). However, compliance very difficult to control => perhaps pre-treatment, but central ETP more efficient (only possible with dedicated drainage system). In Bangladesh, Dhaka, Chittagong & Comilla EZs have their own ETP. BDT 500-550 million needed to set up ETP with 45,000 m³ capacity (Consultants need to calculate ETP capacity requirement). Charge BDT 29 / m³ for ETP. BEZA advised to also take dedicated drainage system, referred that BEPZA has no own proper drainage system. Water tariff charges for commercial use are BDT 23-24 / m³.

Mr. Mahbubur Rahman explained that BEPZA installs feeder roads and utility connections alternating at every 2nd parcel border. Thus, every plot has both feeder road and utility connection as long as it stretches across the entire parcel. Also, via feeder road, every plot has connection to access road and river side, where small landing quay could be installed. Last-mile connection is done and financed by Unit Investors.



Mr. Mahbubur Rahman advised to check BEPZA website (www.epzbangladesh.org.bd) for utility costs. BEPZA covers cost + 10% service charge for ETP, STP, water treatment plant etc..

Comparable tariffs for utilities

Name of EPZ	Electricity	Water	Gas
Chittagong	Tk. 7.50 /Kwh	Tk. 24.74/CM	6.45 /CM
Dhaka	Tk. 7.50 /Kwh	Tk. 24.74/CM	6.45 /CM
Comilla	Tk. 7.50 /Kwh	Tk. 25.79/CM	6.45 /CM
Karnaphuli	Tk. 10.26 /Kwh (peak) Tk. 6.56/Kwh (off peak)	Tk. 6.45/CM	6.45 /CM
Adamjee	Tk. 7.50 /Kwh	Tk. 25.74/CM	6.45 /CM
Ishwardi	Tk. 7.50 /Kwh	Tk. 24.74/CM	6.45 /CM
Mongla	Tk. 7.50 /Kwh	Tk. 24.74/CM
Uttora	Tk. 7.50 /Kwh	Tk. 24.74/CM

Source: <http://www.epzbangladesh.org.bd/details/tariff-for-utilities>

The EZ lease should be for 50 years, financial and economic return calculations for 20 years . financial and economic discount rates at 7%. Minimum EIRR of 12% for World Bank acceptance for soft loan or grant eligibility.

Comparable rent charges for land and plot

Name of EPZ	Land (US\$/sqm/year)	Ready-made Factory Building Plot (US\$/sqm/month)
Chittagong, Dhaka, Comilla, Adamjee, Karnaphuli	2.20	2.75
Mongla, Ishwardi, Uttara	1.25	1.60
01 square meter= 10.76 square feet		

Source: <http://www.epzbangladesh.org.bd/details/rent-of-land-and-space>

Duty-free principle applies: At time of landing, no import duties or custom charges paid, same for direct exports. For imports into Bangladesh proper, import duties and custom charges are levied.

Incentives apply (see Annex): After the incentive period, corporate tax applies (maximum 35% depending on financial amount). Income tax will be free for 10 years for the Developer and for 5 years for the Unit Investor.

Jaliadeep EZ construction

PD involved in construction works only. Preliminary BOQ under progress, not yet finalized. He will supply estimated cost of Jaliadeep EZ today by email. Cost for Narayanganj not yet prepared.

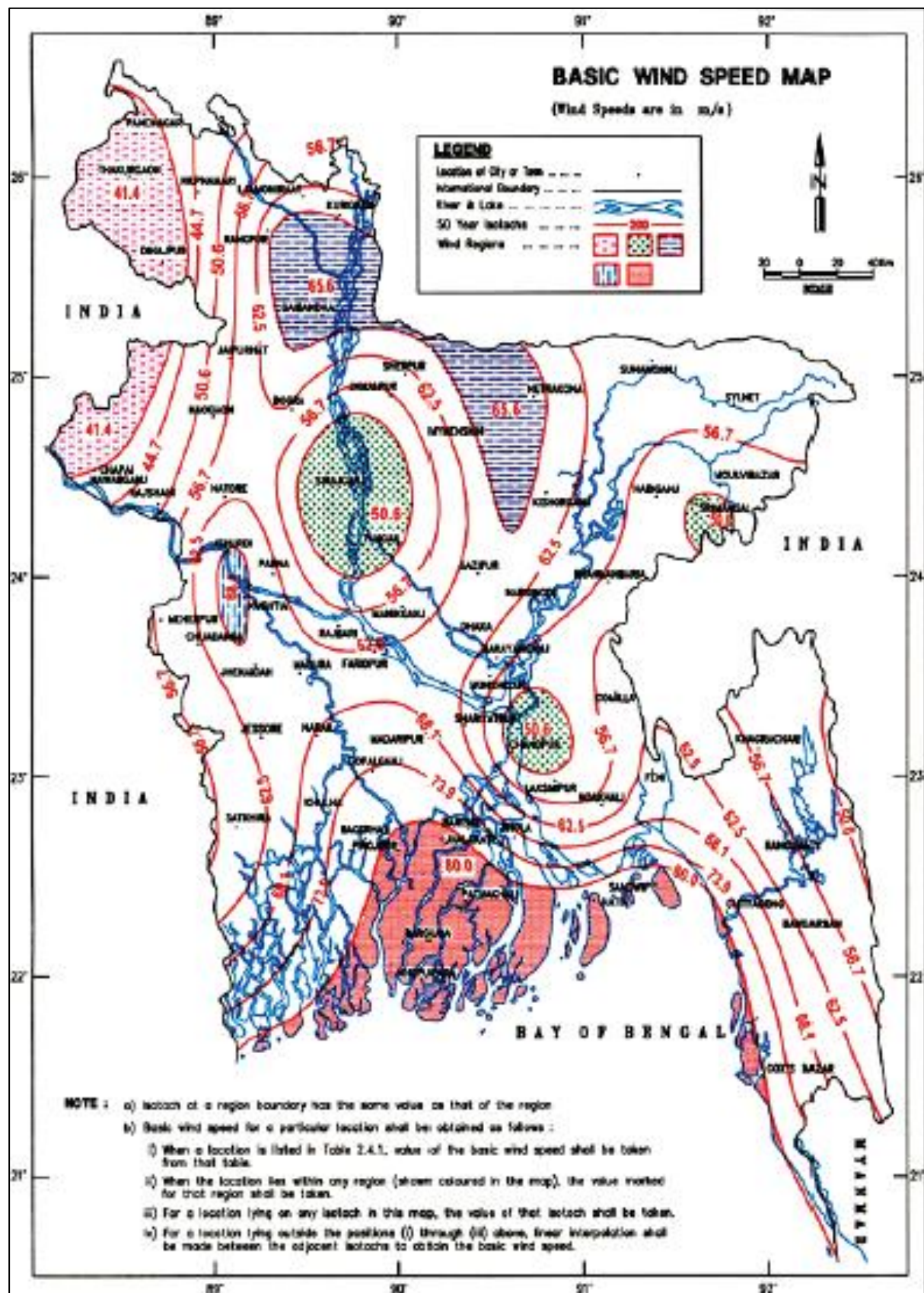
Signed by:

Dr. Udo Witulski / Mr. AZM Anisuzzaman / Md. Ashikul Islam

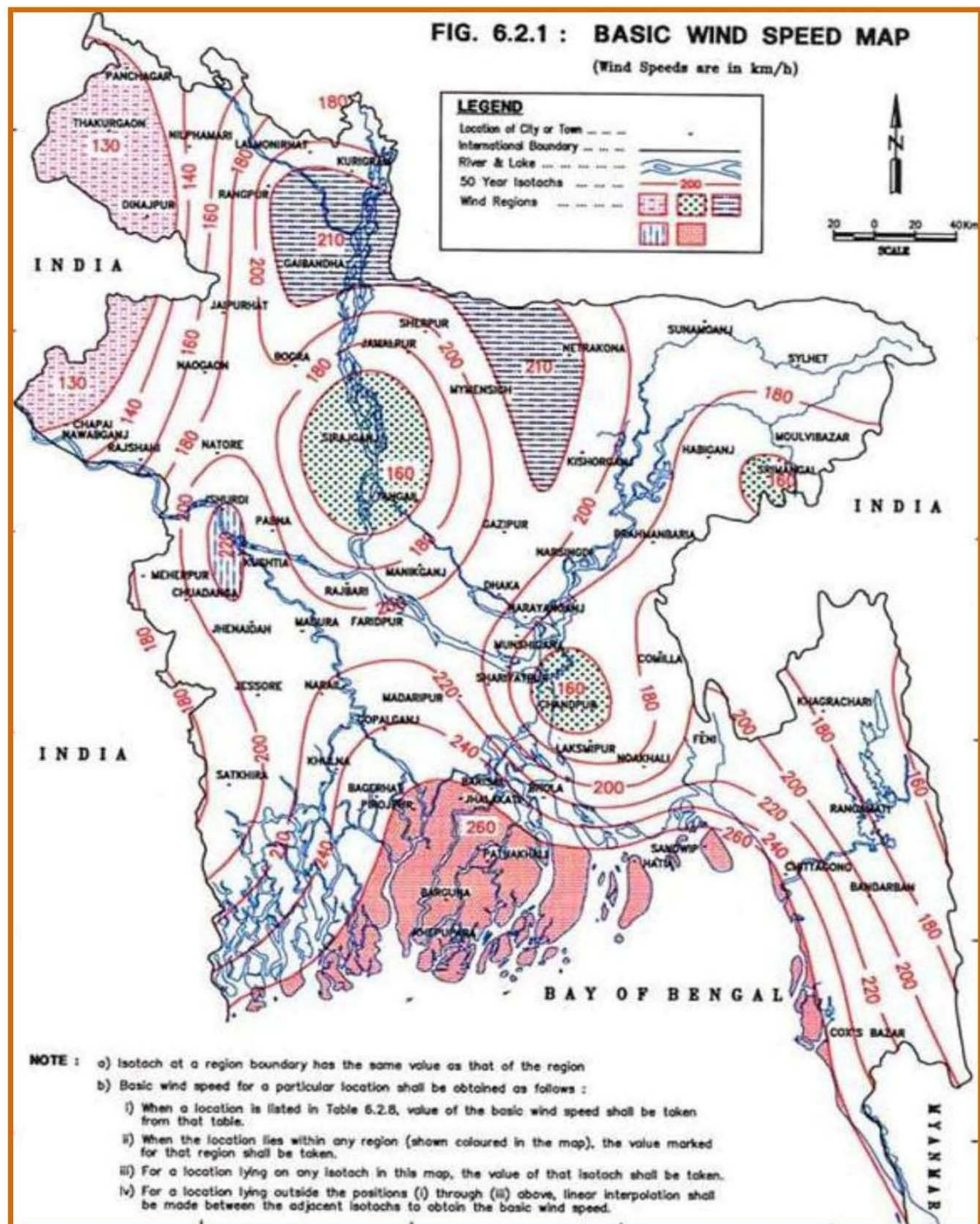
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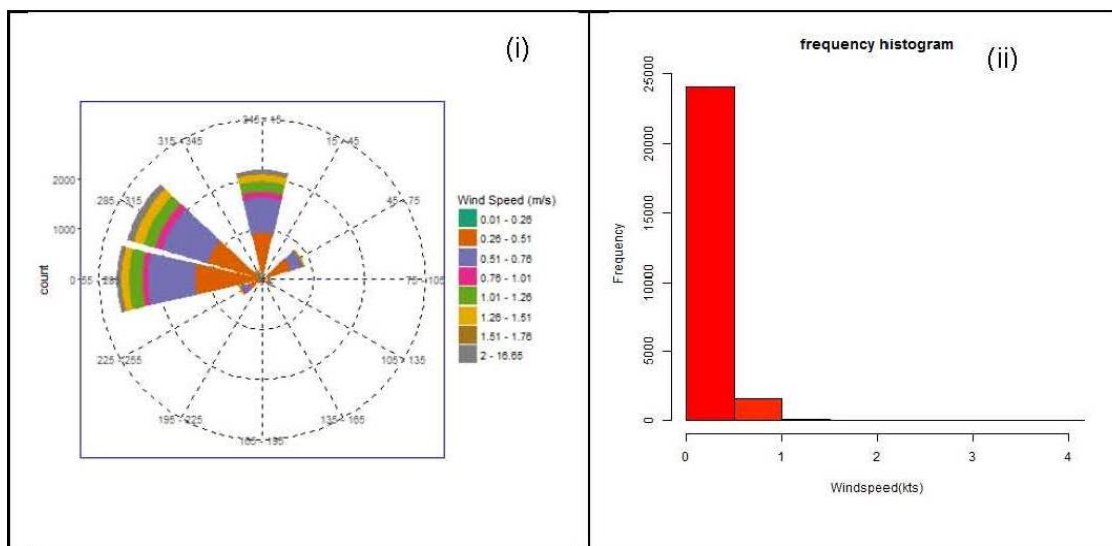
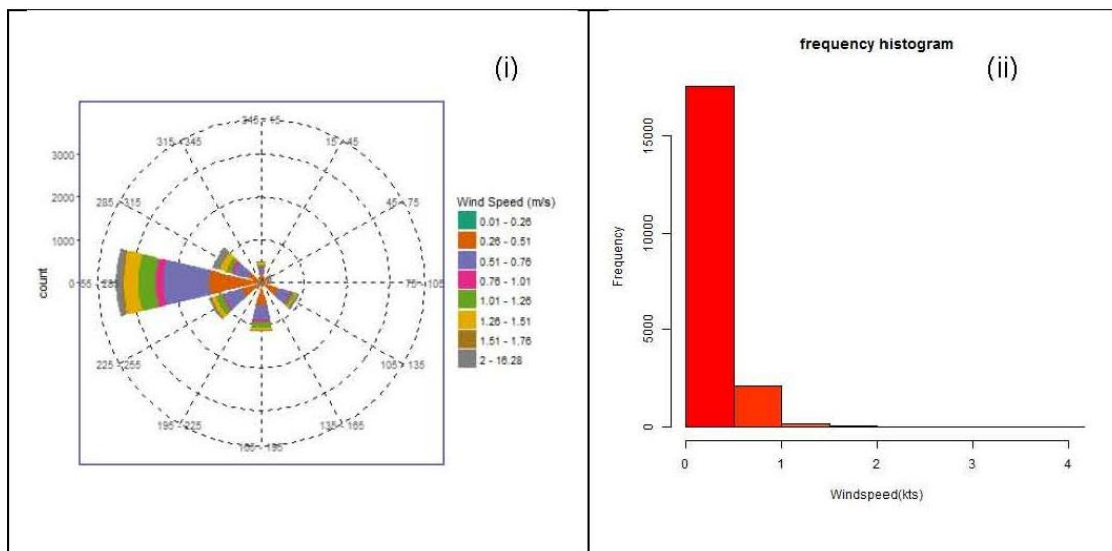
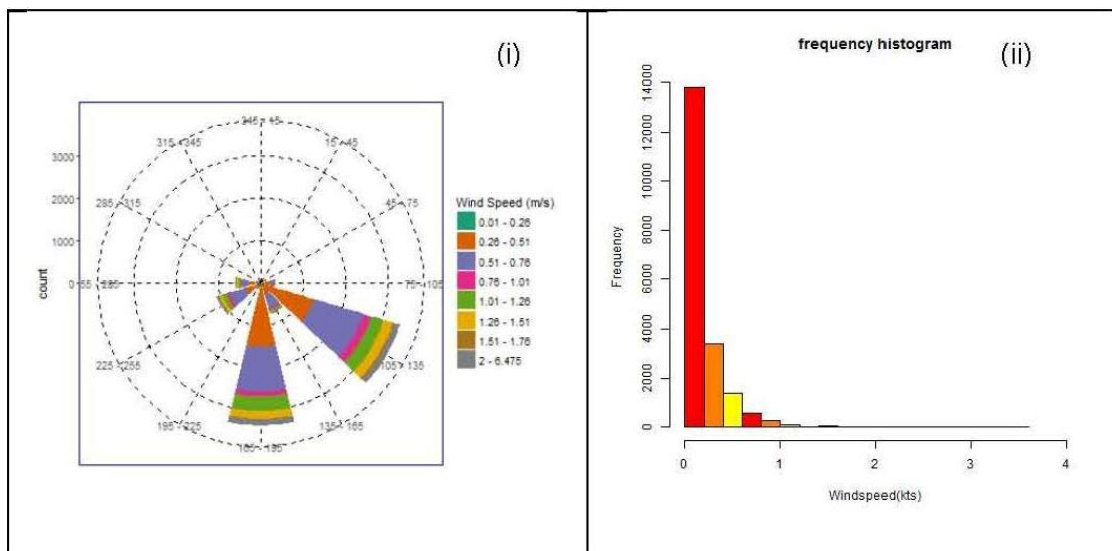
Appendix 4: Natural Constraints

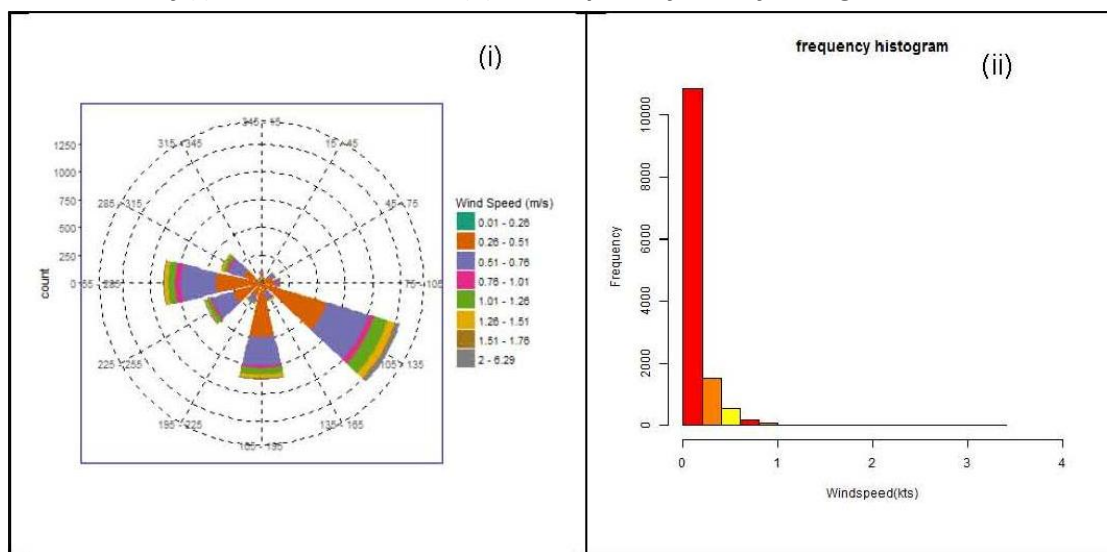
Basic Wind Speed Map of Bangladesh (new code)



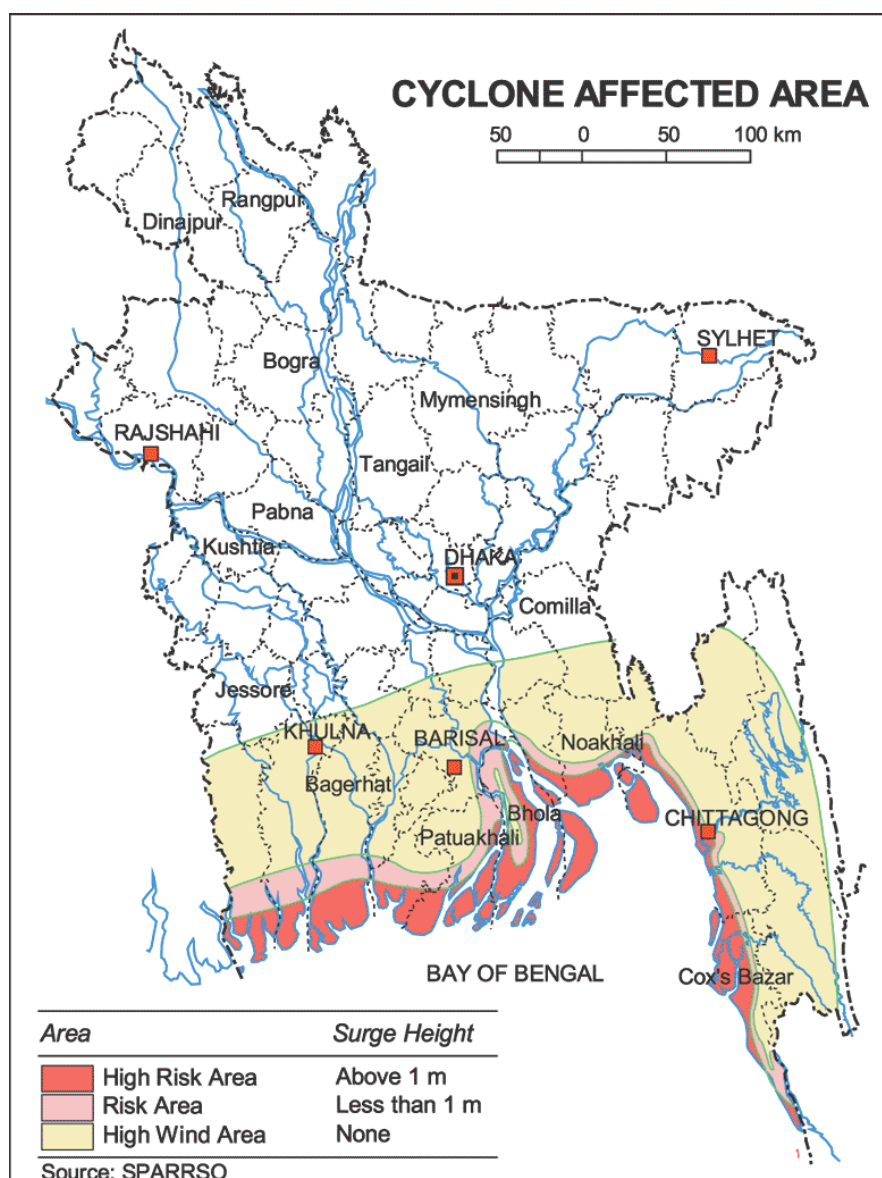
Source: BMD- Bangladesh

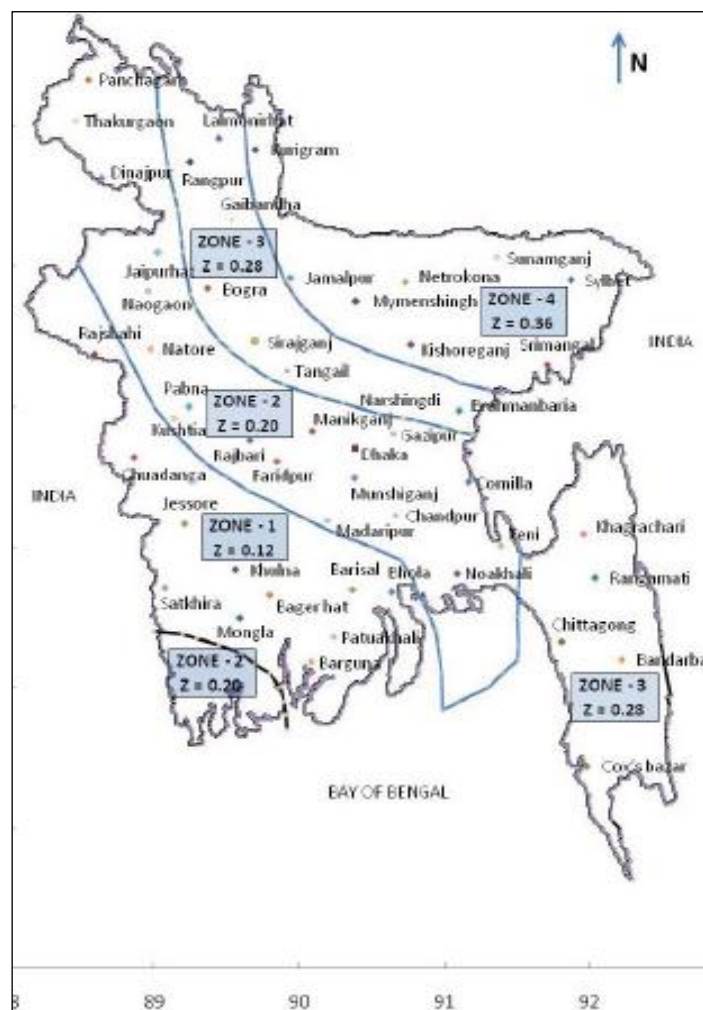
Wind speed according to old code:

Distribution of (i) Wind Direction and (ii) Wind Speed of Teknaf during Winter Season**Distribution of (i) Wind Direction and (ii) Wind Speed of Teknaf during Pre-monsoon Season****Distribution of (i) Wind Direction and (ii) Wind Speed of Teknaf during Monsoon Season**

Distribution of (i) Wind Direction and (ii) Wind Speed of Teknaf during Post-monsoon Season

Source: Mossammat Ayesha Khatun, Md. Bazlur Rashid, Hans Olav Hygen: Climate of Bangladesh, MET report No. 08/2016, Norwegian Meteorological Institute, Oslo, 31 May 2016, p. 133

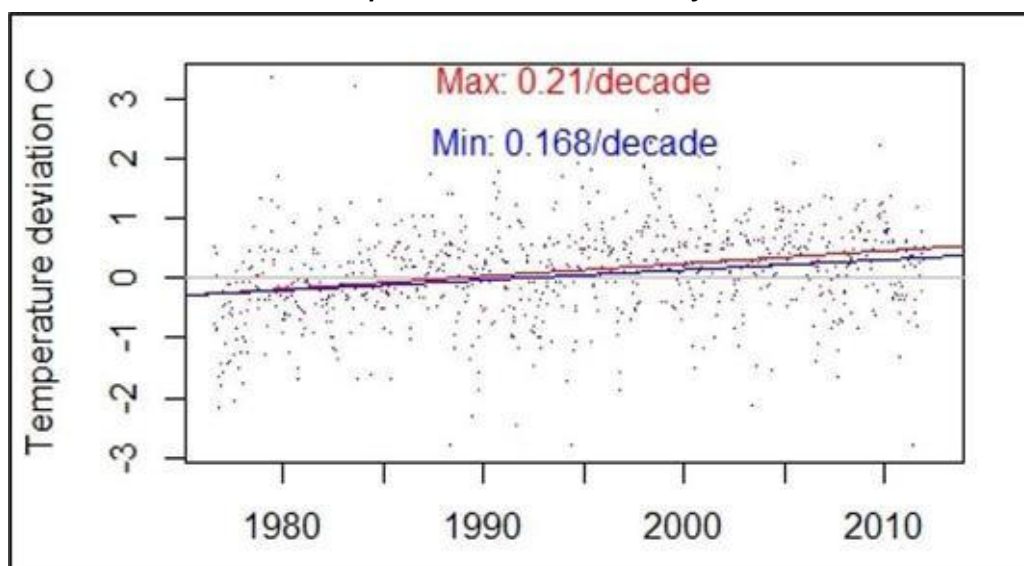


Seismic zone Map for upcoming code

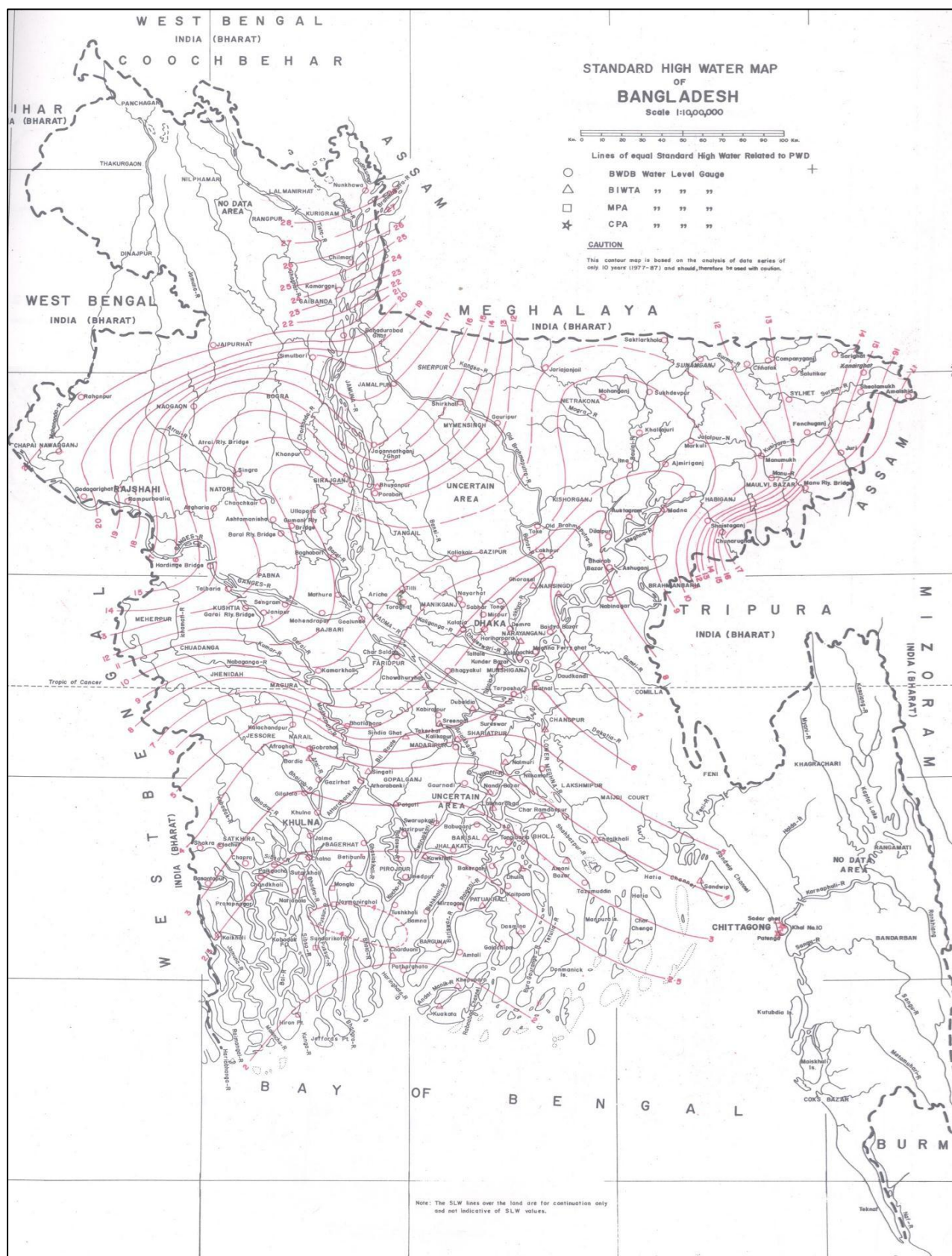
Landslides by Location in Bangladesh (as of 19 July 2012)

Districts	No of Affected Upazilas	No of Affected Families	No of Household fully damaged	No of death	Crops (Acre) Damaged	Livestock damaged	Water point Damaged
Cox's Bazar	8	154,648	16,118	51	28,216	1430	6709
Chittagong	15	347,479	11,139	37	11,410	1650	948
Bandarban	7	30,384	7,102	38	9,695	850	2455
Sylhet	11	118,521	3,328	3	25,797	261	389
Sunamganj	3	50,595	365	0	5,140	15	50
Sirajganj	9	55,309	2050	1	54,456	481	
Gaibandha	4	66,015	10,249	3			
Bogra	3	27,850	10,000	1	12,170		
Kurigram	9	123,806	22,609	4	52,899	129	
Jamalpur	7	55,088	5,110	1	30,638		
Total	76	1,029,695	88,070	139	230,421	4,816	10,551

Source: Statistical Yearbook Bangladesh 2014, Bangladesh Bureau of Statistics / Ministry of Planning, p. 18

Maximum and Minimum Temperature Trend over Teknaf

Source: Mossammat Ayesha Khatun, Md. Bazlur Rashid, Hans Olav Hygen: *Climate of Bangladesh*, MET report No. 08/2016, Norwegian Meteorological Institute, Oslo, 31 May 2016, p. 141

Standard-High-Water Map of Bangladesh

Source: Bangladesh Inland Water Transport Authority

Appendix 5: Benchmark Matrix Jaliardip EZ

Size of Jaliardip EZ 272 ac	in operation	in operation
	Pamalican Island Tourism Ecozone Pamalican Island, Philippines	Tinapa Free Zone and Tourism Resort near Calabar, Nigeria
Year of designation	2006 / 2008	2004
Area	36.42 ac	107.24 ac
Investment volume	9 million US\$	470 million US\$
Location	Located in west-central Philippines, Barangay Manamok, Palawan Province	Located south-east Nigeria about 10 km north from Calabar city centre (as it is a mixed zone; located close to port's free zone)
Industry branches	Tourism: hotel resort, diving, windsurfing	Leisure (hotel, shopping centre, water park, food court, entertainment)
No. of companies / investors	4	
No. of employees	-, about 40% of the employees are from the neighbouring Manamoc island.	
Developers, investors and ownership structure	Seven Seas Resort and Leisure Inc (100%)	Cross River State Government, Tinapa Business Resort Free Zone Company
National administration body	Philippine Economic Zone Authority	Nigeria Export Processing Zones Authority
Legal and regulatory framework	Special Economic Zone Act (1995)	Nigeria Export Processing Zones Act, Tinapa Free Zone and Resort Regulations (2009)

Size of Jaliardip EZ 272 ac	partly in operations	under construction
	Chan May - Lang Co Economic Zone near Da Nang, Vietnam	Mandalika Special Economic Zone Lombok Island, Indonesia
Year of designation	2009	2014
Area	1,315.23 ac (tourism dedicated)	505.86 ac
Investment volume	153.5 million US\$ (up to now)	168.00 million US\$
Location	Located in central Vietnam at the South China Sea between two major cities Hue and Da Nang	Located at the south side of the island of Lombok, east of Bali, West Nusa Tenggara Province
Industry branches	Tourism area: hotels, resorts, marine sports, ecotourism, adventure tourism, entertainment, business tourism. The 4 other functional areas are: non-tariff area, urban area, industrial area and seaport area.	Tourism: hotels, resorts, MICE, eco-tourism
No. of companies / investors	81 (up to now)	
No. of employees	3338 (1738 regular, 1600 seasonal) (up to now)	58700 (projected); project will absorb 8,000 employees (indirect)
Developers, investors and ownership structure	Management Board of Chan May Lang Co Economic Zone	Indonesia Tourism Development Corporation
National administration body	-	National Council for Special Economic Zones
Legal and regulatory framework	no law on SEZ so far	Decree on National Council for Special Economic Zones (2010)

Size of Jaliardip EZ 272 ac	under construction Baikal Haven Special Economic Zone Turka, Russia	poor developed Jin Fei Special Economic Zone Riche Terre, Mauritius	partly in operation Ganga Heritage River Cruise Circuit West Bengal, India
Year of designation	2007	2006	2008
Area	1,462.13 ac	85.39 ac	
Investment volume	550 (up to now: 38m US\$ invested) million US\$	720 million US\$	18.79
Location	Located in southern Siberia, at the eastern shore of Lake Baikal, in the Republic of Buryatia	Located in Riche Terre, about 3 km northwest of Port Louis city centre, near the Free Port	along the river Ganges from Kolkata to Murshidabad
Industry branches	Tourism: marina, entertainment, recreation, spa, all-season skiing	Real estate base complemented with tourism, high technology and logistics	Tourism: river crafts, access facilities, marinas, waterfront development, accommodation, guidance, transport services
No. of companies / investors	9	40 that have expressed interest (up to 2011)	
No. of employees			
Developers, investors and ownership structure		Jinfei Investment Co Ltd (100%) → owned by Taiyuan Iron and Steel (34%), Shanxi Coking Coal (21%), Tianli Enterprises Group (12.5%) and China-Africa Development Fund (32.5%)	Planning: Government of West Bengal, Promotion: West Bengal Tourism Development Corporation
National administration body	OJSC Special Economic Zones	-	Government of India's Ministry of Tourism
Legal and regulatory framework	Federal Law on SEZs in the Russian Federation (2005)	Mauritius Investment Act (2000), partly under Freeport Act	"Mega Destinations and Circuits" policy initiative; "Large Revenue Generating Projects" Financial Scheme

Size of Jaliardip EZ 272 ac		in operation city of Galle Sri Lanka	to be developed Songkhla Special Economic Zone Thailand
Year of designation			2015
Area	ac	89 (the Dutch fort alone) ac	136476.30 ac
Investment volume	million US\$	not available million US\$	not available million US\$
Location		southwestern shore, 173km from Colombo	South Thailand, bordering Malaysia, 950km south of Bangkok
Industry branches		tourism: accommodation, souvenirs, arts and craft	Tourism: ferry services or tour boat services, tour boat port services, amusement parks, cultural centers or arts and craft centers, open zoos, aquariums, international exhibition centers, health rehabilitation centers
No. of companies / investors			
No. of employees			
Developers, investors and ownership structure		small private enterprises, especially small shops of artists and related business	
National administration body		Sri Lanka Tourism Development Authority (SLTDA)	Thailand Board of Investment
Legal and regulatory framework			NC-SEZ Announcement No. 1/2558

Appendix 6: Economic Activities in Economic Zones compared to Bangladesh

Economic Indicators

District	Per capita Gross District Product at current price in Tk_2010-11	Savings rate , 2010	Per capita monthly consumption expenditure
Bangladesh	37610	14.37	2382.574813
Bagerhat	48696	14.73	1949.265
Bandarban	29220	8.57	2456.607
Barguna	40225	17.87	2856.288
Barisal	37934	14.46	1993.92
Bhola	37023	11.80	2329.241
Bogra	34396	17.77	2284.358
Brahmanbaria	28318	18.41	2487.604
Chandpur	31998	14.04	1970.103
Chittagong	55281	11.11	3681.251
Chuadanga	33955	16.20	2157.517
Comilla	24705	11.51	2355.168
Cox's Bazar	35225	7.14	2355.96
Dhaka	66548	15.60	3585.024
Dinajpur	34811	13.29	2073.377
Faridpur	30405	13.99	2187.757
Feni	26225	16.98	3522.263
Gaibandha	29090	12.17	1853.592
Gazipur	45481	16.93	3145.785
Gopalganj	31984	6.51	2171.743
Hobigonj	27915	14.48	2108.117
Joypurhat	39664	18.98	2381.313
Jamalpur	32922	11.75	1674.713
Jessor	39242	19.37	1923.669
Jhalakathi	30407	14.49	2355.318
Jhenaidah	34131	15.72	2869.783
Khagrachhari	24556	6.39	2462.383
Khulna	58346	10.52	2087.186
Kishoregonj	29325	12.23	2284.398
Kurigram	35107	9.58	1630.714
Kushtia	35036	15.78	3643.749
Lakshmipur	30862	9.25	2709.558
Lalmonirhat	32528	13.98	1727.961
Madaripur	33895	20.95	2216.291
Magura	35171	10.85	2274.399
Manikgonj	35347	19.29	2370.655
Meherpur	36414	29.62	2859.55
Maulavibazar	28797	17.50	2297.899
Munsigonj	29713	17.60	2387.93
Mymensingh	32629	9.77	2214.928
Naogaon	36223	15.96	2475.49
Narail	37911	18.02	2349.041
Narayanganj	47707	9.42	2645.79
Narsingdi	37021	26.63	2638.976
Natore	37940	14.50	1917.613
Nawabgonj	28442	17.16	2336.825
Netrokana	31780	21.69	2082.754
Nilphamari	27870	10.10	2023.115
Noakhali	29565	10.35	3946.559
Pabna	38938	16.48	2161.374
Panchagar	30477	12.58	2319.507
patuakhali	38582	16.24	2468.016
Pirojpur	33453	19.72	2048.377
Rajshahi	40008	15.92	2215.665
Rajbari	32615	17.64	1933.928
Rangamati	36934	7.72	2748.746
Rangpur	32232	16.89	2420.708
Shariatpur	30277	15.03	2077.256
Satkhira	37083	16.52	2014.214
Sirajgonj	29088	11.49	2005.792
Sherpur	34354	11.42	1769.927
Sunamganj	25872	9.96	1978.949
Sylhet	31966	15.23	2943.122
Tangail	30957	12.32	2540.786
Thakurgaon	36460	14.51	2524.921

Source: (Bangladesh Bureau of Statistics, 2010)

Infrastructure and Power

District	Infrastructure			Electricity
	Length of Paved Road in 2009 RHD (Km)	Length of Unpaved Road in 2009 RHD (Km)	Total Length of Road (Paved + Unpaved + not Survey) in 2009 RHD (Km)	% Distribution of Household Electricity 2010
Bangladesh	182	21.16	212.69	54.55
Bagerhat	298	38.47	396.86	49.71
Bandarban	271	68.64	460.68	49.13
Barguna	160	10.68	191.45	33.05
Barisal	244	10.00	366.88	58.11
Bhola	213	31.29	239.67	42.83
Bogra	566	48.60	628.47	54.44
Brahmanbaria	269	16.96	289.15	79.95
Chandpur	285	54.13	340.41	42.94
Chittagong	408	109.69	564.35	65.44
Chuadanga	85	49.27	84.95	69.83
Comilla	617	84.72	723.01	64.04
Cox's Bazar	363	95.68	539.45	38.51
Dhaka	289	15.74	344.38	86.73
Dinajpur	378	9.67	388.96	43.90
Faridpur	232	51.01	292.85	53.88
Feni	286	9.47	295.90	71.36
Gaibandha	261	6.43	276.66	32.72
Gazipur	366	8.32	374.74	74.23
Gopalganj	247	38.44	307.06	54.02
Hobigonj	320	.62	323.62	45.29
Joypurhat	185	5.97	193.12	52.91
Jamalpur	259	24.31	292.76	36.47
Jessor	317	21.08	355.44	61.66
Jhalakathi	197	15.52	320.75	56.09
Jhenaidah	386	7.19	402.33	63.03
Khagrachhari	312	6.97	388.51	59.47
Khulna	338	28.27	384.77	67.05
Kishoregonj	363	8.01	390.39	41.54
Kurigram	259	8.87	264.44	21.48
Kushtia	212	49.58	279.49	70.23
Lakshmipur	284	22.64	306.41	38.66
Lalmonirhat	172	3.27	176.71	18.10
Madaripur	144	.00	172.60	59.11
Magura	241	29.16	251.22	48.70
Manikgonj	195	13.36	209.29	48.45
Meherpur	133	38.47	165.77	#NULL!
Maulavibazar	260	4.20	263.85	56.29
Munsigonj	307	9.26	316.71	79.45
Mymensingh	462	27.21	489.62	52.94
Naogaon	452	70.09	526.43	66.57
Narail	145	.00	153.14	57.07
Narayanganj	226	6.08	242.58	89.03
Narsingdi	348	9.10	377.53	73.61
Natore	288	46.60	336.31	48.47
Nawabgonj	213	1.33	216.51	42.60
Netrokana	257	106.82	381.94	39.91
Nilphamari	219	8.28	242.90	34.90
Noakhali	322	48.84	371.74	66.37
Pabna	437	12.33	461.06	54.41
Panchagar	158	37.16	194.69	34.09
patuakhali	255	.07	281.68	36.52
Pirojpur	196	.17	292.42	49.05
Rajshahi	438	10.72	458.05	59.30
Rajbari	137	21.79	158.57	40.89
Rangamati	179	.00	236.13	47.03
Rangpur	333	19.51	352.12	43.90
Shariatpur	132	.00	153.40	47.02
Satkhira	193	49.57	252.70	48.22
Sirajgonj	#NULL!	47.79	416.43	58.13
Sherpur	213	29.73	271.85	39.55
Sunamganj	213	93.53	360.23	29.57
Sylhet	463	38.03	553.67	54.41
Tangail	362	41.09	459.97	62.71
Thakurgaon	165	.00	165.45	38.55

Source: (Bangladesh Bureau of Statistics , 2010), (Bangladesh Bureau of Statistics, 2010)

Population and Density

District	Density per squ. KM 2012 population	Population (adjusted) 2011
Bangladesh	1034	149772364
Bagerhat	395	1534012
Bandarban	92	404093
Barguna	516	927890
Barisal	883	2414730
Bhola	553	1846352
Bogra	1234	3539294
Brahmanbaria	1561	2953209
Chandpur	1502	2513837
Chittagong	1525	7913365
Chuadanga	1016	1174835
Comilla	1849	5602625
Cox's Bazar	973	2381816
Dhaka	8707	12517361
Dinajpur	921	3109628
Faridpur	977	1988697
Feni	1642	1496138
Gaibandha	1155	2471681
Gazipur	2007	3548115
Gopalganj	833	1218319
Hobigonj	838	2171064
Joypurhat	1003	950441
Jamalpur	1195	2384810
Jessor	1141	2876381
Jhalakathi	965	709915
Jhenaidah	957	1842571
Khagrachhari	241	638967
Khulna	558	2407680
Kishoregonj	1147	3028706
Kurigram	954	2150974
Kushtia	1287	2023657
Lakshmipur	1257	1797761
Lalmonirhat	1071	1305248
Madaripur	1078	1212198
Magura	927	954802
Manikgonj	1069	1447298
Meherpur	969	681332
Maulavibazar	726	1994252
Munsigonj	1602	1502449
Mymensingh	1240	5313163
Naogaon	801	2701907
Narail	772	750424
Narayanganj	4472	3074078
Narsingdi	2066	2314889
Natore	953	1774832
Nawabgonj	1025	1714249
Netrokana	840	2317191
Nilphamari	1229	1907497
Noakhali	914	3231832
Pabna	1127	2624684
Panchagar	744	1026141
patuakhali	505	1596222
Pirojpur	901	1157215
Rajshahi	1142	2699688
Rajbari	993	1091263
Rangamati	103	620214
Rangpur	1289	2996336
Shariatpur	897	1201464
Satkhira	545	2063610
Sirajgonj	2775	3220814
Sherpur	576	1412601
Sunamganj	712	2564541
Sylhet	1041	3567138
Tangail	1118	3749086
Thakurgaon	813	1444782

Source: (Population Census, Bangladesh Bureau of Statistics, 2012)

Appendix 7: Bangladesh-Tourism Profile

Constant 2013 Prices (BDT billion)

	Tourism Variables	2008	2009	2010	2011	2012	2013	2014 ^e	2024 ^p
1	Visitor Exports	6.7	5.9	7.7	7.3	8.5	8.3	8.9	15.5
2	Domestic Expenditure (include government individual spending)	303.6	300	308.5	331	346.5	370.6	396.7	699.9
3	Internal tourism consumption (=1+2)	310.3	305.8	316.2	338.3	355	378.9	405.6	715.4
4	Purchases by tourism providers, including imported goods (supply chain)	-119.6	-125	-129.7	-141.9	-148.8	-156.3	-165.8	-280.8
5	Direct contribution of travel and tourism to GDP (=3+4)	190.7	180.9	186.5	196.4	206.3	222.6	239.8	434.7
6	Other financial impacts (indirect and induced)	98.6	93.6	96.5	101.6	106.7	115.2	124.1	224.9
7	Capital investment	32.2	33.4	35.7	37.8	40.2	40.5	41.8	78.5
8	Government collective spending	7.6	8	8.7	10.1	10.8	11.5	12.2	22.9
9	Imported goods from indirect spending	-10.9	-17.8	-21.1	-25.4	-25.5	-23.3	-23.4	-31.3
10	Induced	79.8	78.1	78	78.2	83.6	94	102.2	205.8
11	Total contribution of travel and tourism to GDP (= 5+ 6+7+8+9+10)	398.1	376.2	384.4	398.8	422	460.3	496.8	935.5
	Employment impacts								
12	Direct contribution of travel and tourism to employment	1368.6	1246	1241.6	1254.6	1272.4	1328.5	1381.3	1808.9
13	Total contribution of travel and tourism to employment	2971.9	2697.6	2657.1	2640.9	2695.2	2846.5	2965.2	3974.3
	Other indicators								
14	Expenditure on outbound travel	65.4	50.6	66	61	63.9	58.2	58.1	94.9

Nominal Prices (BDT billion)

	Tourism Variables	2008	2009	2010	2011	2012	2013	2014 ^e	2024 ^p
1	Visitor Exports	4.7	4.4	6.1	6.2	7.9	8.3	9.6	27.1
2	Domestic Expenditure (include government individual spending)	212.7	223.6	245.2	282.8	322	370.6	424.7	1219.8
3	Internal tourism consumption (=1+2)	217.4	228	251.3	289.1	329.9	378.9	434.3	1249.9
4	Purchases by tourism providers, including imported goods (supply chain)	-83.8	-93.1	-103.1	-121.2	-138.2	-156.3	-177.5	-489.3
5	Direct contribution of travel and tourism to GDP (=3+4)	133.6	134.8	148.2	167.8	191.7	222.6	256.8	757.5
6	Other financial impacts (indirect and induced)	69.1	69.7	76.7	86.8	99.2	115.2	132.8	391.9
7	Capital investment	22.6	24.9	28.4	32.3	37.3	40.5	44.8	136.8
8	Government collective spending	5.3	6	6.9	8.6	10	11.5	13.1	40
9	Imported goods from indirect spending	-7.6	-13.3	-16.8	-21.7	-23.7	-23.3	-25.1	-54.5
10	Induced	55.9	58.2	62	66.8	77.7	94	109.5	358.7
11	Total contribution of travel and tourism to GDP (= 5+6+7+8+9+10)	278.9	280.4	305.5	340.8	392.2	460.3	531.9	1630.4
	Employment impacts								
12	Direct contribution of travel and tourism to employment	1368.6	1246	1241.6	1254.6	1272.4	1328.5	1381.3	1808.9
13	Total contribution of travel and tourism to employment	2971.9	2697.6	2657.1	2640.9	2695.2	2846.5	2965.2	3974.3
	Other indicators								
14	Expenditure on outbound travel	45.9	37.7	52.4	52.1	59.4	58.2	62.2	165.3

Source: Bazlul Haque Khondker, Tahera Ahsan: Background Paper on Tourism Sector, Dhaka University, February 2015

Area, Population and Literacy Rate – Cox's Bazar District (by Paurashava, 2011)

Sl No.	Zila and Upazila	Paurashava	Area (sq.km.)	Ward	Mahallah	Household	Population			Literacy Rate
							Total	Male	Female	
1	2	3	4	5	6	7	8	9	10	11
65	Cox's Bazar	Cox's Bazar Paurashava	7.94	12	95	31431	167477	94279	73198	55.7
66	Maheshkhali	Maheshkhali Paurashava	7.70	9	28	5061	27321	14069	13252	43.7
67	Teknaf	Teknaf Paurashava	4.04	9	16	4752	25056	13296	11760	40.9
68	Chhagalnaiya	Chhagalnaiya Paurashava	25.25	9	11	8702	45177	22337	22840	63.4
69	Daganbhuiyan	Daganbhuiyan Paurashava	12.76	9	20	6144	32080	16089	15991	65.1
70	Feni	Feni Paurashava	22.00	18	35	31468	156971	82554	74417	69.7
71	Parshuram	Parshuram Paurashava	22.38	9	15	5950	29691	14456	15235	59.1
72	Sonagazi	Sonagazi Paurashava	5.33	9	14	3784	19866	9760	10106	62.8
73	Khagrachhari	Khagrachhari Paurashava	13.05	9	71	10247	47278	25583	21695	71.0

Source: Statistical Yearbook Bangladesh 2014, Bangladesh Bureau of Statistics / Ministry of Planning, p. 43

Tourist Arrivals in Bangladesh by Nationality (numbers)

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Australia	3686	4878	6092	1609	1507	1306	1381	1395	862	1249
Canada	4519	5085	8701	2265	1289	1278	1410	1203	933	1076
France	2736	2674	2785	892	846	965	986	911	698	806
German F.R.	3128	3190	4372	1014	1131	1038	1227	1158	935	1090
Greece	164	180	97	59	101	51	60	54	49	74
Italy	1800	1667	2029	864	838	930	958	921	859	989
Japan	6269	4370	5020	3975	3731	5011	5675	5773	4456	5457
Netherlands	2431	1416	2116	703	772	684	791	752	671	746
New Zealand	1480	1084	1127	283	260	190	187	-	160	197
Norway	1025	725	861	344	336	259	262	227	284	209
Sweden	2364	1869	124	763	704	567	693	686	517	604
Switzerland	1264	978	808	321	336	348	322	344	274	286
Singapore	1562	2321	3309	-	-	-	-	811	469	887
Thailand	2955	3469	3166	570	610	571	853	644	505	715
U. K.	24955	37136	42692	19436	25901	35378	4171	3232	2425	3082
U.S.A.	13422	19604	28414	7721	5833	6103	5750	-	3882	4797
Russia	263	1122	1043	208	151	145	149	195	235	-
Yugoslavia	4	3	14	10	01	-	-	-	22	-
Others	47403	48024	67368	21713	20618	21915	24220	28518	51238	19720
India	86239	60516	69506	122974	100250	96444	105522	78119	78975	77177
Total	207662	200311	249644	185724	165215	173183	154617	124943	148349	119161

Source : Bangladesh Parjatan Corporation

Note : (-) Data not available.

Source: Monthly Statistical Bulletin, Bangladesh, April-2015, p. 138

Passenger Movement by Airports/Aerodromes (numbers)

Period	Shahzad International Airport	Chittagong Airport	Osmani Airport	Jessore Airport	Rajshahi Aerodrome	Saidpur Aerodrome	Cox's Bazar Aerodrome	Barisal Aerodrome	Total
2012-13	5840890	880249	193868	86206	2847	7205	62874	798	7074937
2013-14	6864340	1063619	248110	103196	4162	27130	27130	2926	7100484
2011-12	197361	4880	9441	2693	-	03	2211	-	208089
2012-13									
Feb	459055	75624	17165	8323	186	404	6407	-	567164
Mar	462128	75946	18720	7507	281	-	5559	-	570141
Apr	471836	69708	18485	6309	124	-	4068	64	570594
May	467943	72892	17040	8070	-	1081	4035	334	571395
June	474875	73781	17682	9336	391	1065	5622	400	583152
2013-14									
Jan	345489	89683	24187	8281	-	2269	6720	243	476872
Feb	512993	85199	18662	7720	471	2083	6618	494	634240
Mar	380875	92070	22472	8792	351	2164	7958	438	515120
Apr	379949	90646	22651	8501	180	1874	5953	289	510043
May	402698	92560	19446	8434	341	2211	5905	472	532067
June	446549	89401	17008	7353	316	2168	6006	779	569580
2014-15									
July	516601	74353	21801	7624	579	1568	2480	173	625179
Augu	554709	89890	17021	9620	574	1626	8160	38	681638
Sep	516096	94411	20814	8866	211	1182	6945	0	648525
Oct	559805	81740	18227	9843	512	4063	8552	0	682742
Nov	473314	86571	21226	8453	371	1800	8311	0	600044
Dec	475264	97095	24595	9709	256	4122	13393	0	624434

Source : Civil Aviation Authority of Bangladesh

Note : (-) data not available

Source: Monthly Statistical Bulletin, Bangladesh, April-2015, p. 139

Air Traffic Movement by Airports/Aerodromes (number of planes)

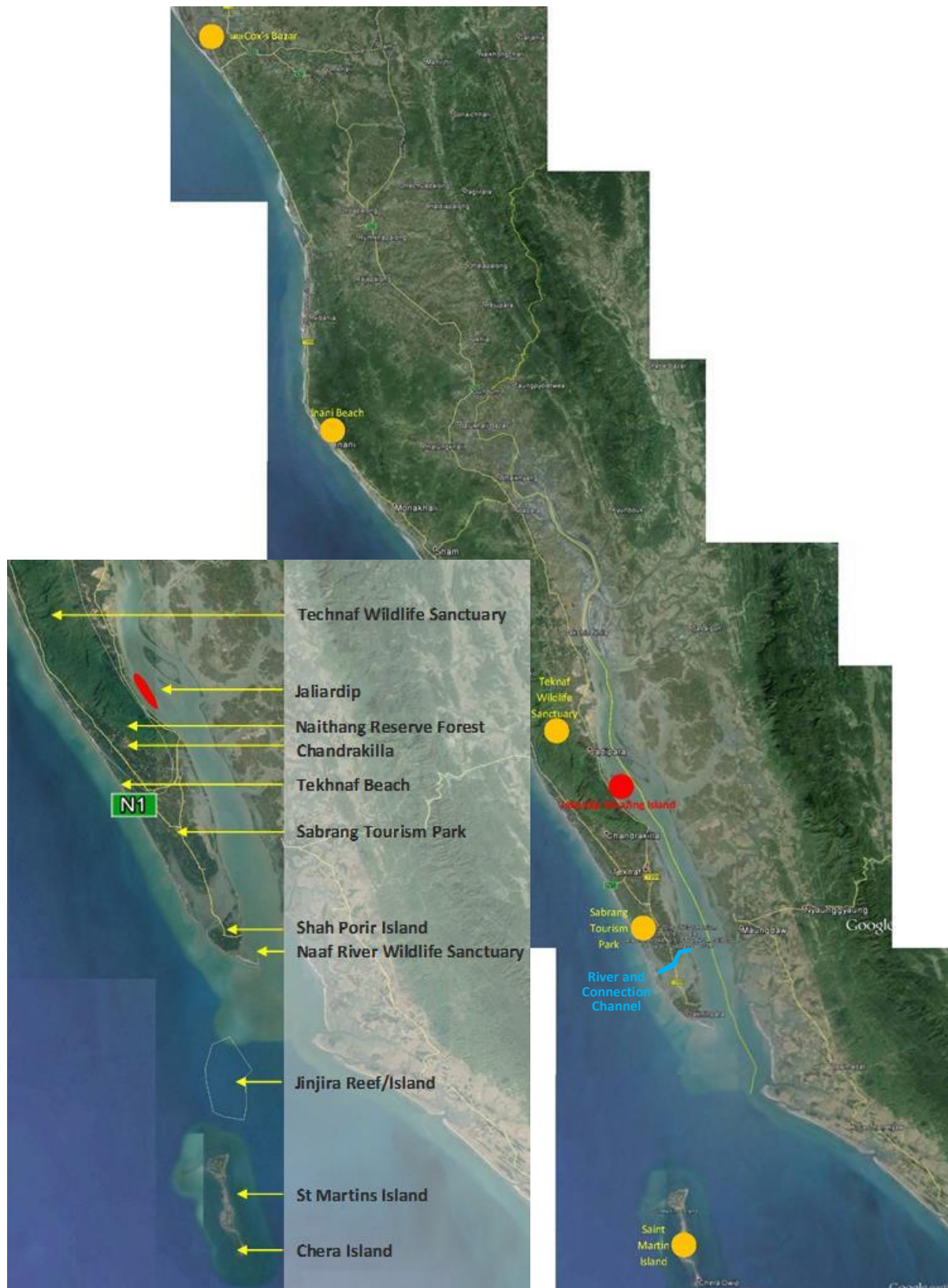
Period	Shahzamal International Airport	Chittagong Airport	Osman i Airport	Jessore Airport	Rajshahi Aerodrome	Saidpur Aerodrome	Cox's Bazar Aerodrome	Barisal Aerodrome	Total
2011-12	56896	24126	3389	26434	3567	995	2827	64	118298
2012-13	61109	23772	2630	24693	8426	407	2881	68	120151
2013-14	64390	25583	4864	28223	3765	863	3915	290	131893
2009-10									
May	6227	1358	238	1778	-	6	374	4	9985
Jun	4137	1258	170	1520	-	4	282	-	7371
2010-11									
Feb	4841	3131	254	2140	-	-	376	0	10742
Mar	5292	2100	289	3507	-	-	380	-	11568
Apr	5244	2075	326	2145	-	-	383	-	10173
May	4825	2371	199	2728	-	-	381	-	10504
Jun	8696	2148	184	1157	-	-	389	-	12574
2011-12									
Oct	4955	2130	233	3240	605	72	202	-	11437
Nov	4852	1939	258	1338	327	-	193	12	8919
Dec	4490	1828	271	669	22	6	188	12	7486
Jan	4541	2048	310	870	490	28	198	8	8493
Feb	4800	2195	406	1983	446	730	332	16	10908
Mar	5390	2199	250	2674	796	30	284	8	19401
Apr	4980	1762	393	3087	187	30	232	8	10679
May	4729	2024	302	2086	174	25	310	-	9650
June	5022	2139	318	2080	182	32	308	-	10081
2012-13									
Oct	5673	2245	158	2724	652	36	210	-	11698
Nov	6620	1955	157	1359	273	05	252	4	10625
Dec	6946	1950	228	1780	180	10	130	-	11224
Jan	4429	1774	213	1083	4371	36	250	02	8224
Feb	4130	1703	208	3313	711	92	323	02	10482
Mar	4667	2165	276	4058	306	42	370	02	11886
Apr	4666	2265	246	3353	200	30	350	12	11122
May	4639	1978	212	1887	209	28	286	08	9247
June	5091	2191	300	1159	467	38	254	20	9520
2013-14									
Jan	5195	2058	366	1352	351	68	308	20	9718
Feb	5089	1881	473	2124	302	54	336	38	10297
Mar	5716	2185	948	2722	399	61	492	50	12573
Apr	5313	2284	1366	3505	282	68	428	22	13268
May	5286	2168	298	3505	465	76	386	26	12210
June	5036	2080	204	3844	735	70	346	42	12357
2014-15									
July	4743	1673	204	1132	316	62	261	10	8401
Augu	5578	2046	199	2214	163	60	276	06	10542
Sep	5843	2534	268=	1873	129	69	292	64	11072
Oct	5770	2124	244	2582	1303	100	266	06	11395
Nov	5399	2479	294	2416	285	89	254	02	11218
Dec	5422	2071	0	954	35	86	270	04	8842

Source : Civil Aviation Authority of Bangladesh

Note: (-) Indicated Data Not Available.

Source: Monthly Statistical Bulletin, Bangladesh, April-2015, p. 140

Appendix 8: Cox's Bazar District and Teknaf Topography and Tourism Areas



Source: Google Earth, collated by Consultants, June, July 2016

Appendix 9: Detailed Demand Potential Forecast for Jaliardip Economic Zone

Forecast 1: Conservative Case (4% annual growth)

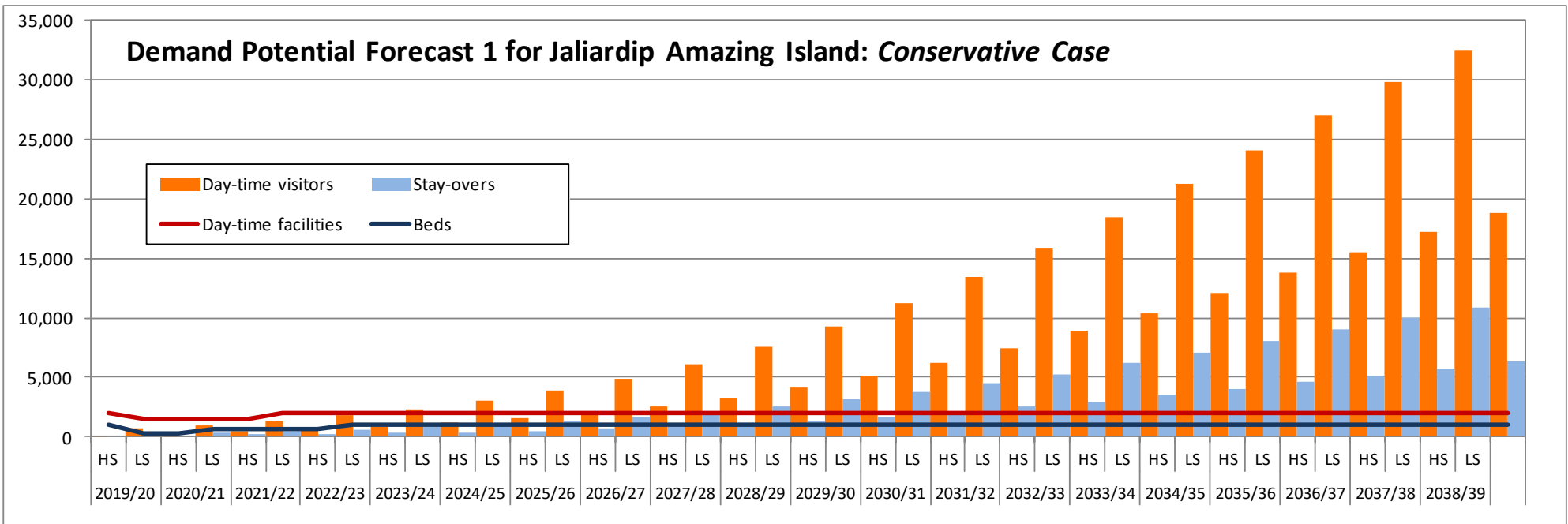
Cox Bazar (tourists 2019/20 total):		Project Year:	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39
2,500,000		Period:	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS
Growth	Jaliardip Multiplier	30%	29%	27%	26%	24%	23%	21%	20%	18%	17%	15%	14%	12%	11%	9%	7%	6%	4%	3%	1%	0%
Notes	Summer Marketing-Plus	1.0%	30%	31%	32%	33%	34%	35%	36%	37%	38%	39%	40%	41%	42%	43%	44%	45%	46%	47%	48%	49%
Potential Number of Jaliardip Tourists thereof	Stay-overs	0.03%	994	391	1,302	630	1,751	862	2,329	1,164	3,062	1,553	3,981	2,046	5,116	2,664	6,497	3,424	8,153	4,347	10,110	5,449
	Day-time visitors	25%	248	98	325	158	438	215	582	291	766	388	995	512	1,279	666	1,624	856	2,038	1,087	2,528	1,362
	Day-time facilities	75%	745	293	976	473	1,313	646	1,747	873	2,297	1,164	2,986	1,535	3,837	1,998	4,873	2,568	6,115	3,261	7,583	4,087
Capacities	Beds	950	316	316	633	633	633	633	950	950	950	950	950	950	950	950	950	950	950	950	950	950
	Day-time facilities	2,000	1,500	1,500	1,500	1,500	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Required Land	Accommodation area (acres)	32	32	63	63	63	63	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95
	Day-time activity area (acres)	133	133	133	133	133	133	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177

Key-Developments:

Cox' Bazar Airport expanded

Inauguration of Sabrang Tourism Park

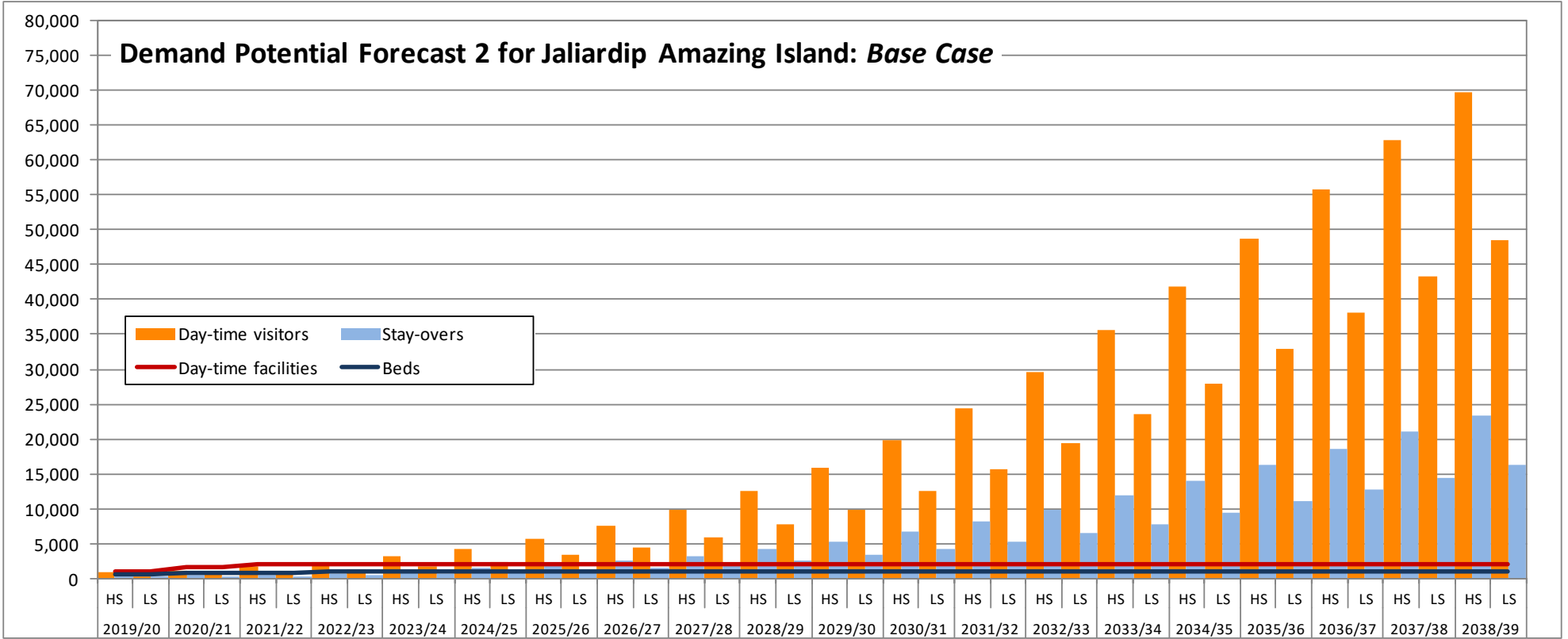
N1 and Marine Drive expanded



Forecast 2: Base Case (6% annual growth)

Cox Bazar (tourists 2019/20 total):		Project Year:	2019/20		2020/21		2021/22		2022/23		2023/24		2024/25		2025/26		2026/27		2027/28		2028/29		2029/30		2030/31		2031/32		2032/33		2033/34		2034/35		2035/36		2036/37		2037/38		2038/39		
2,700,000		Period:	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	
Growth Rates	Jaliardip Multiplier	35%	33%		32%		30%		28%		26%		23%		21%		19%		18%		16%		15%		14%		12%		11%		10%		9%		7%		5%		3%		0%		
	Summer Marketing-Plus	1.5%		30%		32%		30%		33%		35%		36%		38%		41%		42%		44%		45%		47%		48%		50%		51%		53%		54%		56%		57%		59%	
Potential Number of Jaliardip Tourists	Stay-overs	0.03%	1,128	465	1,551	797	2,183	1,153	3,034	1,645	4,164	2,314	5,643	3,208	7,547	4,383	9,962	5,904	12,976	7,837	16,674	10,250	21,135	13,209	26,418	16,769	32,561	20,967	39,561	25,819	47,374	31,305	55,902	37,367	64,986	43,901	74,409	50,757	83,896	57,737	93,124	64,752	
thereof	Day-time visitors	25%	282	116	388	199	546	288	759	411	1,041	578	1,411	802	1,887	1,096	2,491	1,476	3,244	1,959	4,169	2,563	5,284	3,302	6,605	4,192	8,140	5,242	9,890	6,455	11,844	7,826	13,975	9,342	16,246	10,975	18,602	12,689	20,974	14,434	23,281	16,188	
	Beds	75%	846	349	1,163	598	1,637	865	2,276	1,234	3,123	1,735	4,232	2,406	5,660	3,288	7,472	4,428	9,732	5,878	12,506	7,688	15,851	9,907	19,814	12,576	24,420	15,726	29,671	19,364	35,531	23,479	41,926	28,025	48,739	32,926	55,806	38,068	62,922	43,303	69,843	48,564	
Capacities	Day-time facilities	950	475	475	713	713	713	713	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950
Required Land	Accommodation area (acres)	2,000	1,000	1,000	1,500	1,500	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
	Day-time activity area (acres)	89	89	89	133	133	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177

Key-Developments: Cox' Bazar Airport expanded 5% Inauguration of Sabrang Tourism Park 5% N1 and Marine Drive expanded 5%



Forecast 3: Aggressive Case (7% annual growth)

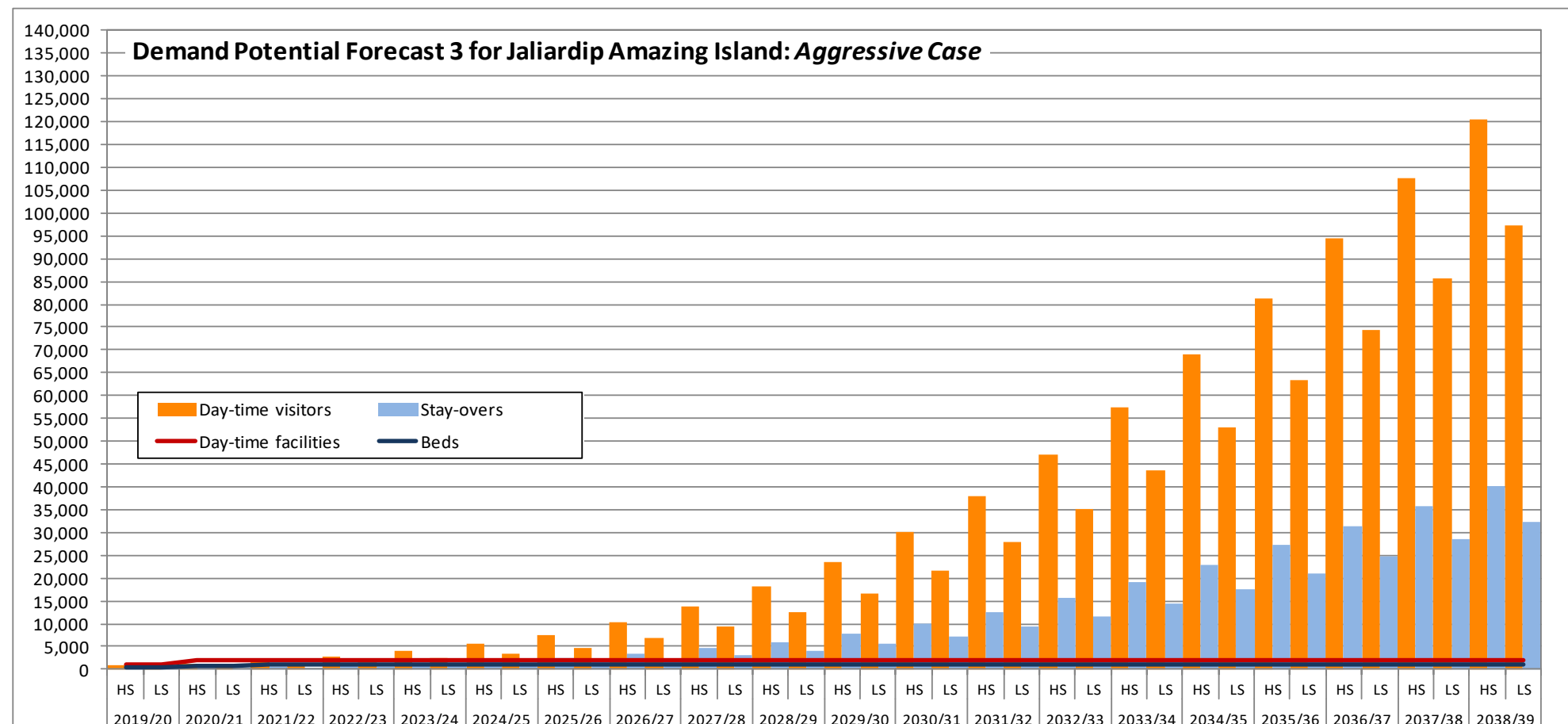
Cox Bazar (tourists 2019/20 total) Project Year: 2,800,000		2019/20		2020/21		2021/22		2022/23		2023/24		2024/25		2025/26		2026/27		2027/28		2028/29		2029/30		2030/31		2031/32		2032/33		2033/34		2034/35		2035/36		2036/37		2037/38		2038/39					
Period:		HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS	HS	LS				
Growth Rates	Jaliardip Multiplier 40%	38%		36%		34%	34%	32%	36%	30%	38%	28%	40%	26%	42%	24%	44%	22%	46%	20%	48%	18%	50%	16%	52%	14%	54%	12%	56%	10%	58%	8%	60%	6%	62%	4%	64%	2%	66%	0%	68%				
	Summer Marketing-Plus 2.0%		30%		32%		34%		36%		38%		40%		42%		44%		46%		48%		50%		52%		54%		56%		58%		60%		62%		64%		66%		68%				
Potential Number of Jaliardip Tourist thereof	0.03%	1,218	523	1,742	941	2,543	1,428	3,662	2,132	5,200	3,130	7,280	4,521	10,046	6,421	13,663	8,971	18,308	12,325	24,166	16,651	31,416	22,117	40,213	28,881	50,668	37,069	62,829	46,757	76,651	57,948	91,981	70,549	108,538	84,355	125,904	99,036	143,530	114,135	160,754	129,672				
	Stay-overs 25%	305	131	435	235	636	357	915	533	1,300	783	1,820	1,130	2,512	1,605	3,416	2,243	4,577	3,081	6,042	4,163	7,854	5,529	10,053	7,220	12,667	9,267	15,707	11,689	19,163	14,487	22,995	17,637	27,134	21,089	31,476	24,759	35,883	28,534	40,188	32,418				
	Day-time visitors 75%	914	392	1,306	706	1,907	1,071	2,746	1,599	3,900	2,348	5,460	3,391	7,535	4,816	10,247	6,728	13,731	9,244	18,125	12,488	23,562	16,588	30,160	21,661	38,001	27,802	47,121	35,068	57,488	43,461	68,986	52,912	81,403	63,267	94,428	74,277	107,648	85,601	120,565	97,254				
Capacities	950	570	570	633	633	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950			
	Day-time facilities 2,000	1,200	1,200	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000		
Required Land	Accommodation area (acres)	57	57	63	63	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95		
	Day-time activity area (acres)	106	106	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177

Key-Developments:

Cox' Bazar Airport expanded

Inauguration of Sabrang

N1 and Marine Drive expanded



Source: Consultants

Pre-Feasibility Study
Economic Zone Locations Narayanganj and Jaliardip

Appendix 10:
Jaliardip Amazing Island
- Proposed Facilities -

on behalf of BEZA
Bangladesh Economic Zone Authority

Uniconsult
Universal Transport Consulting GmbH



Impressions

Uniconsult
Universal Transport Consulting GmbH

Cable-Car Connection & Roller Coaster



Impressions

Uniconsult
Universal Transport Consulting GmbH

Teknaf Wildlife Sanctuary Safari Tour



Impressions

Uniconsult
Universal Transport Consulting GmbH

Accommodation



Impressions

Uniconsult
Universal Transport Consulting GmbH

Glas-Bottom Restaurant / Bedrooms



Impressions

Uniconsult
Universal Transport Consulting GmbH

Duty-Free Shopping



Impressions

Uniconsult
Universal Transport Consulting GmbH

Adventure Park



Impressions

Uniconsult
Universal Transport Consulting GmbH

Miniature & Water Golf



Impressions

Uniconsult
Universal Transport Consulting GmbH

Aqua Park



Impressions

Uniconsult
Universal Transport Consulting GmbH

Water Fun around the Island



Impressions

Uniconsult
Universal Transport Consulting GmbH

Glas-Bottom Boat



Impressions

Uniconsult
Universal Transport Consulting GmbH

River Cruises



Impressions

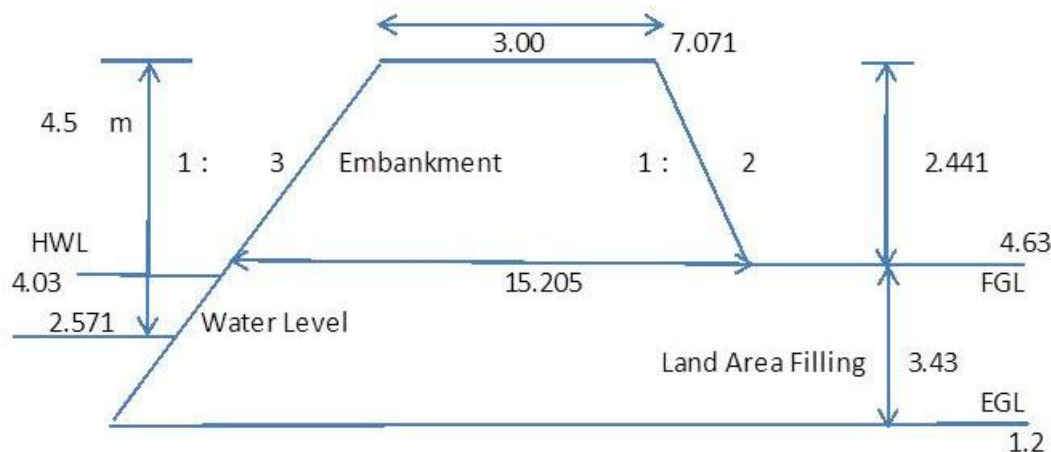
Uniconsult
Universal Transport Consulting GmbH

Open-Sea Cruising



Source: Consultants, based on Google Earth

Appendix 11: Cost Calculation for Sand-Filling at Jaliardip Economic Zone



A. Area of Land to be developed	=	262	Acre	=	1060576	Sqm
Average depth of filling	=			=	3.43	m
Volume of sand filling > FM 0.8	=			=	3637775.68	cum
Rate per cum as PWD rates of schedule	=			=	174	
Total Cost	=			=	632.97	MBDT
B. Length of the Embankment	=			=	2600	m
Width of the Embankment	=			=	400	m
Total Perimeter	=			=	6000	m
Area of Cross section	=			=	22.22	sqm
Volume of sand filling > FM 0.8	=			=	133315.22	cum
Rate per cum as PWD rates of schedule	=			=	174	
Total Cost for Embankment, B	=			=	23.197	MBDT
Total cost A+B	=			=	656.17	MBDT
Total Sand Filling	=			=	3771090.90	

Unit Rates:

Item No.	Description of Item	Unit	Unit Rate
02.16.2.1	By Other than dredging	cum	Tk. 284.25
02.16.2.2	By Dredging	cum	Tk. 188.00
02.16.3	For Rajshahi / Barishal / Khulna metropolitan area		
02.16.3.1	By Other than dredging	cum	Tk. 250.70
02.16.3.2	By Dredging	cum	Tk. 164.00
02.16.4	For other than Dhaka, Ctg., Sylhet, Rajshahi, Barishal, Khulna metropolitan area and N'ganj district		
02.16.4.1	By Other than dredging	cum	Tk. 217.16
02.16.4.2	By Dredging	cum	Tk. 140.00
02.17	Mechanical compaction of earth beyond plinth area, required for pre-approved specific engineering purpose in 150mm layers including leveling, watering and consolidation each layer with chain dozer, grader, roller etc. to achieve minimum dry density of 90% with optimum moisture content (modified proctor test) up to finished level all complete and accepted by the engineer subject to submission of the method statement.	cum	Tk. 364.00
02.16	Site Development/Improvement by carted earth or dredged sand, sandy silt (free from any organic, foreign, environmental hazardous substances) carried by head or truck or any other means in/cost of cutting or by dredging of sand, sandy silt, all, in/c local carrying, placing the earth/sand, sandy silt in the designated area, maintaining slopes, breaking lumps, levelling and dressing in layers up to finished level etc. all complete as per direction and accepted by the engineer in charge.		
02.16.1	For Dhaka Metropolitan Area		
02.16.1.1	By Other than dredging	cum	Tk. 441.73
02.16.1.2	By Dredging including necessary systems there off	cum	Tk. 266.00
02.16.2	For Chittagong / Sylhet/ Narayanganj Area		

Appendix 12: Economic and Financial Analysis Calculations for Jaliardip Economic Zone

Financial Analysis
Jaliardip EZ

Financial Cash Flow		Year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	Total
		Project Year	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
Up-Front Payment	US\$ million			18.1																						18.1
Infrastructure Development	US\$ million			10.6	10.6																					21.1
Investment Cost	US\$ million		0.0	28.6	10.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.2
Land Lease	US\$ million			8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	193.7
Maintenance and Repair	US\$ million					0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	15.5
Utilities	US\$ million				0.2	0.6	0.8	1.2	1.5	1.8	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	37.1
Operating Cost	US\$ million		0.0	8.8	9.0	10.1	10.4	10.7	11.1	11.4	11.6	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	246.4
Rent	US\$ million				8.5	12.8	15.6	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	343.9
Utilities	US\$ million				0.2	0.6	0.9	1.3	1.7	2.0	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	40.8
Revenues	US\$ million		0.0	0.0	8.7	13.4	16.5	18.3	18.7	19.0	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	384.7
Financial Cash Flow	US\$ million		0.0	-37.4	-10.8	3.3	6.1	7.6	7.6	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	99.1

Financial Net Present Value (FNPV) at 7.0% 21.7 US\$ million
 Financial Internal Rate of Return (FIRR) 11.8%
 Dynamic Payback Period (DPP) at 7.0% 12.7

Economic Analysis
Jaliardip EZ

Economic Cash Flow		Year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	Total
		Project Year	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
Infrastructure Pre-Development	US\$ million		15.9																							15.9
Infrastructure Development	US\$ million			9.5	9.5																					19.0
Maintenance and Repair	US\$ million					0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	14.0
Project Costs	US\$ million		15.9	9.5	9.5	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	49.0
Relocation Cost for Local Businesses	US\$ million		15.8																							15.8
Land Value of Jaliardip EZ	US\$ million		55.0																							55.0
External Costs	US\$ million		70.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	70.8
Direct Economic Effect of Tourism	US\$ million				2.4	8.6	12.7	18.0	23.8	28.4	31.6	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2	590.5
Induced Economic Effect of Tourism	US\$ million				2.9	10.6	15.6	22.1	29.3	34.9	38.9	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8	725.3
Benefits	US\$ million		0.0	0.0	5.3	19.2	28.2	40.0	53.1	63.3	70.5	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	1,315.8
Total Costs	US\$ million		86.8	9.5	9.5	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	119.8
Total Benefits	US\$ million		0.0	0.0	5.3	19.2	28.2	40.0	53.1	63.3	70.5	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	1,315.8
Economic Cash Flow	US\$ million		-86.8	-9.5	-4.2	18.5	27.5	39.3	52.4	62.6	69.8	73.3	73.3	73.3	73.3	73.3	73.3	73.3	73.3	73.3	73.3	73.3	73.3	73.3	73.3	1,196.0

Economic Net Present Value (ENPV) at 12.0% 233.7 US\$ million
 Economic Internal Rate of Return (EIRR) 28.3%
 Benefit Cost Ratio (BCR) at 12.0% 3.2

Source: Consultants