

URBAN DEVELOPMENT DIRECTORATE (UDD)
Government of the People’s Republic of
Bangladesh

Inception Report

on

Package -6:

Socio-Economic & other related Survey under “Preparation of Payra-Kuakata Comprehensive Plan focusing on Eco-Tourism (PKCP)”

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Chapter 1

1. Introduction

1.1 Report Overview

Physical Plan aims to improve the living condition of the residents of the area for which such a plan has been prepared. In order to ascertain the felt needs, expectations and the level of prevailing services it is necessary to conduct socio-economic surveys. Socio-economic Survey provides the socio-economic profile of an area as well as attitudes/aspirations of the residents which help the planners to decide on the requirement of land for different uses as well as level of services that needs to be ensured and incorporated in the plan document. The TOR provides for survey households of the project area to get information on the following aspects:

- Demographic information: Age, sex, growth rate, household size, migration, etc.
- Religious Group: Religious status.
- Education Status: Primary, secondary, higher & others
- Occupation Pattern: Government, private, business, farming, labor and others
- Income Level: Lower, medium and higher (income range)
- Ownership Pattern: Land ownership information, type of dwelling houses etc.
- Land Value: Low land, ditch land, built-up & buildable land etc.
- Health Facilities: Type of facilities in hospital, private clinic and dispensary etc.
- Recreation facilities: Type of facilities (Active and Passive).

Data from both the secondary and primary sources will be utilized to accomplish the specified objectives of the study.

1.2 Socio-Demographic Status of Patharghata Upazila

1.2.1 Background of Barguna Sadar Upazila

Among five Upazilas of Barguna sadar upazila ranks 2nd both in area measuring scale and in respect to population. Barguna sadar upazila became a police station in 1904. It was upgraded to an upazila in November, 1982. There are different opinions about the origin of the name Barguna. The general belief is that at remote past wood traders from the north had to wait here for Baragun meaning big rope to pull their boats against strong current of the Khagdun river. It is believed that the Upazila might have derived its name from the very ward Bara Gun. It appears from the District gazetteer that the original inhabitants of this area might belong to the Austric origin. The upazila occupies an area of 454.39 sq.km. of which 8.26 sq.km is under forest. It is located between 21° 15' north latitudes and between 89° 59' and 90° 14' east. longitudes. The upazila is bounded on the north by Mirzaganj upazila of patuakhali upazila and Betagi upazila, on the east by Amtali upazila, on the south by the Bay of Bengal and on the West by Patharghata and Bamna upazila. The upazila consists of 1 Paurashava, 10 Unions, 9 wards, 51 mauzas, 18 mahallahs and 191 villages. The number of households enumerated in the census for

upazila are 50,765. Of them, the dwelling households are 98.08%. The remaining 0.87% and 1.05% households are institutional and others respectively.

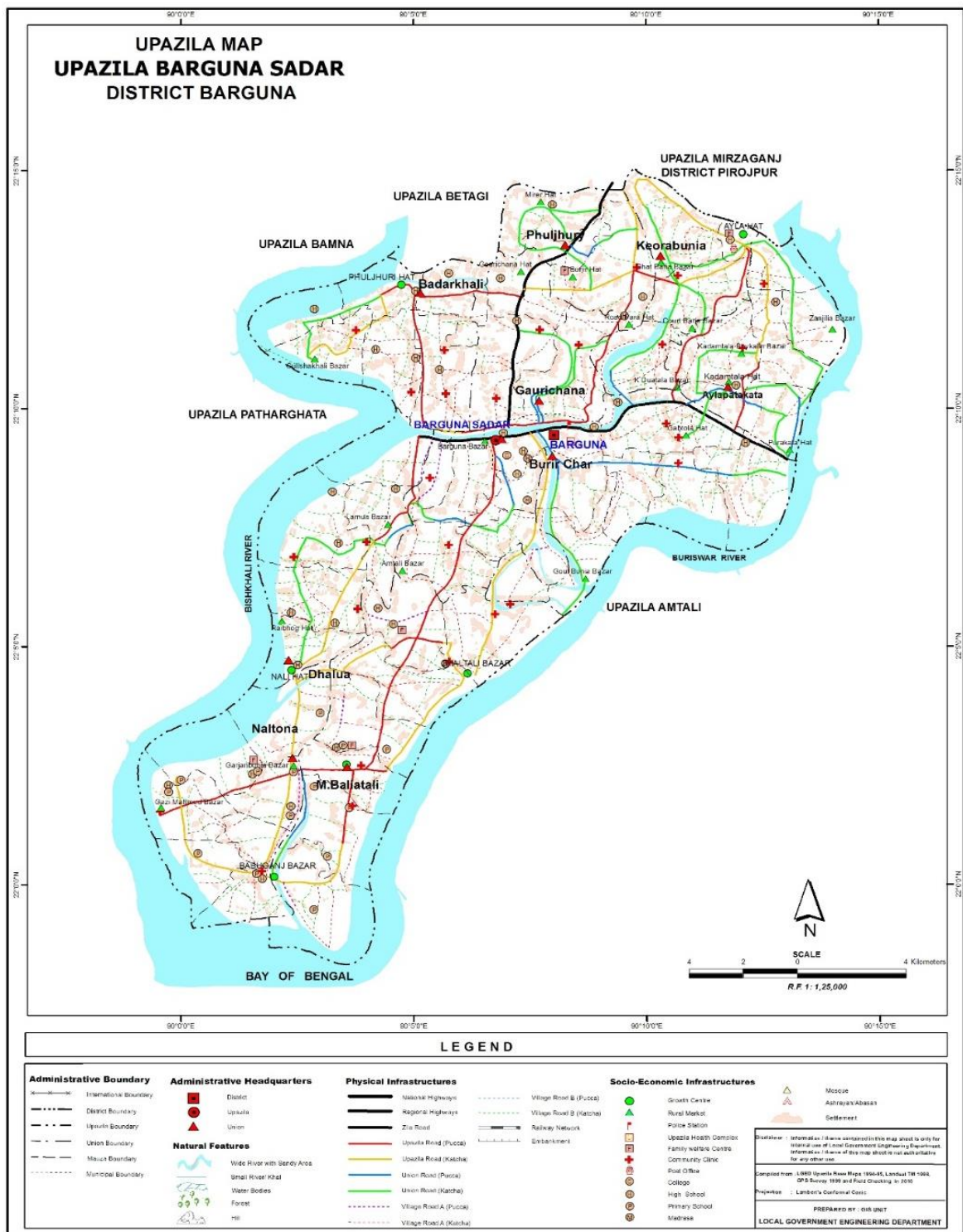


Figure 1: Barguna Sadar Upazila Map

Source: LGED Map

1.2.2 Housing Structure

Housing structures observed for dwelling households are jhupri, kutcha, semi-pucca and pucca. Among housing structures in the upazila, predominant is kutcha structure. Dwelling households having such structures are 76.61% in the upazila. The kutcha housing structures is reported as 78.86% for rural Dwelling households compared to 57.37% Urban Dwelling households. Dwelling households with pucca housing structures are only 1.45% in the upazila. Rural and Urban Dwelling households are better in housing standard because as many as 35.09% of them are found having semi-pucca and pucca structure, in contrast to merely 1.57% Rural Dwelling households.

1.2.3 Access to Electricity

Dwelling households Connected to the power network are found 15.24% in the upazila. 56.49% urban households and 10.41% rural households are found connected to power supply.

1.2.4 Drinking Water Sources

In Barguna sadar upazila among source of drinking water, tube-well is predominant. Dwelling households reported using this source is 70.68% on the other hand Dwelling households found drink deep tube-well water are 22.0%, tap water 1.27%, pond water 5.82% and water of other sources 0.24%.

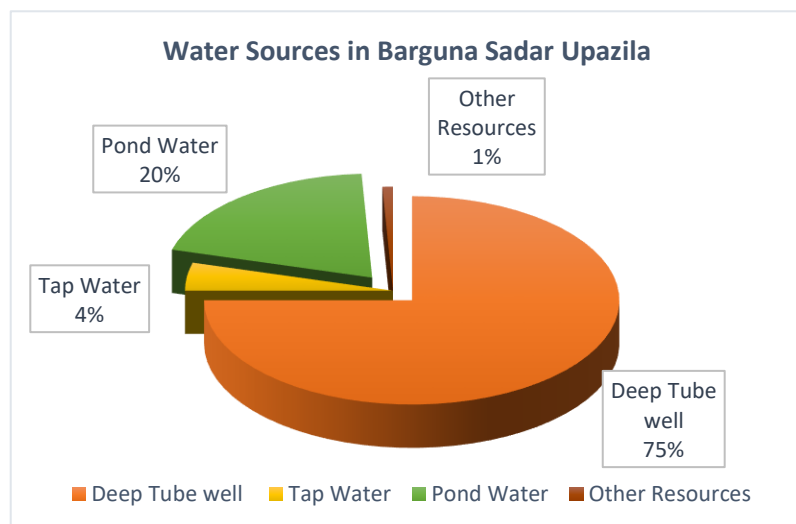


Figure 2: Water Sources in Barguna Sadar Upazila

1.2.5 Access to Sanitary Latrine

Access to sanitary latrines in the upazila is recorded for 44.15% Dwelling households; in rural segment such households are counted 38.69% and in urban locality much higher 90.80%. Non sanitary latrines are found being used by 50.97% dwelling households. In rural and urban regions such households are 56.32% and 5.18% respectively. Dwelling households making use of open spaces in the upazila are 4.89%.

1.2.6 Occupational Pattern

Dwelling households owning agriculture land in the upazila are 66.15%. The remaining 33.85% are either landless or owning lands not used for agriculture. In rural and urban areas the agriculture land owning Dwelling households are 67.70% and 52.94% respectively. Dwelling households having agriculture as the main source of income are

55.82%. of them, those earning main income from crop and non-crop (livestock, forestry& fishery) farming are 39.65% and the rest 16.17% are agriculture labour.

1.2.7 Population Size

The Upazila aggregate population is 2,37,613 out of which males are 1,20,830 and females 1,16,783. The sex ratio is 103 as it was in 1991. Over the period 1991-2001, the population growth rate is estimated 8.14%; the annual growth being 0.79%.

1.2.8 Educational Status

Literacy Among population aged 7 years and over the literacy rate is 55.18% in the upazila. School attendance of the upazila among 5 to 24 age group population of the upazila, those who are males and have reported attending schools are 48.92%. In case of females in the same age group, the school attendance is 42.86%. The respective rural and urban males of the group have school attendance 48.45% and 52.49% compared to school attendances 42.30% and 47.45% of rural and urban females. Female enrolment ratios in age groups 15-19 and 20-24 are found significantly lower as compared to male enrolment ratios of the respective age groups.

1.3 Socio-Demographic Status of Patharghata Upazila

1.3.1 Background of Patharghata Upazila

Among five upazilas of Barguna zila, Patharghata upazila ranks 3rd both in area measuring scale and respect to population. Patharghata as a thana came into existence in 1925 and was upgraded into upazila in 1983. Nothing is definitely known about the origin of the name of this upazila. But there is a popular hearsay that the famous saint Khawaja Khan Jahan Ali took rest at the river station (ghat) situated at the meeting place of the rivers. The upazila might have derived its name from the very words *Pathar* and *Ghat*. Baleswar and Bishkhali while carrying stones (pathar) from Chittagong to Bagerhat for constructing the Sat Gombuj Mosque. It appears from the district gazetteer that the original inhabitants of this area belong to Austric origin. The upazila occupies an area of 387.36 sq.km.with 37.29 sq.km. forest area. It is located between 21°58' and 22°14' north latitudes and between 89°53' and 90°05' east longitudes. The upazila is bounded on the north by Baman upazila, on the east by Barguna sadar upazila, on the south by Bay of Bengal and on the west by Sarankhola upazila of Bagerhat zila and Mathbaria upazila of Pirojpur zila. The upazila consists of 1 paurashava, 7 unions, 9 wards, 42 mauzas, 9 mahallahs and 66 villages-]The average population size of each union, ward, mauza, mahallah, and village are 21107, 1586, 3518, 1586 and 2239 respectively.

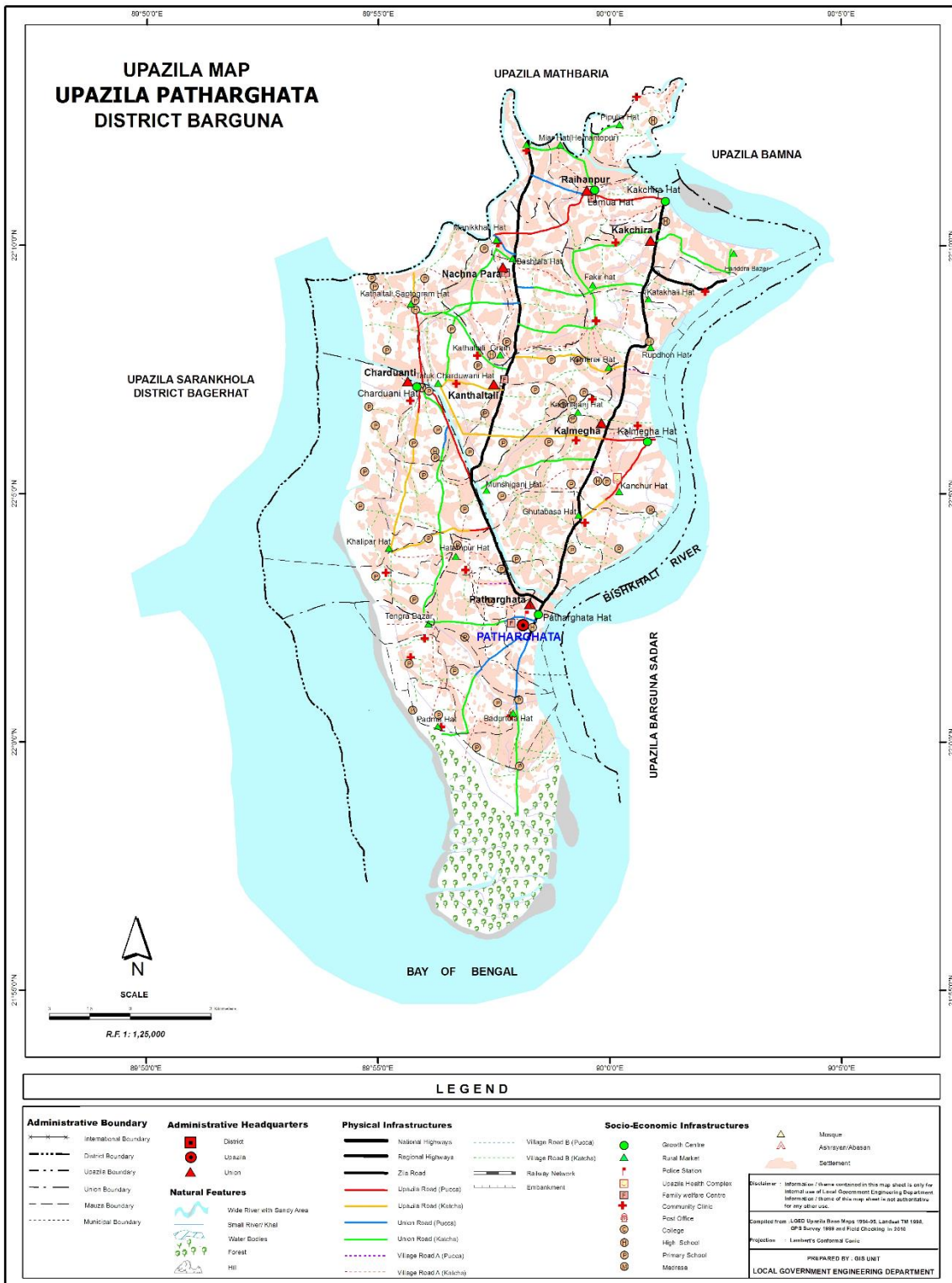


Figure 3: Patharghata Upazila Map

1.3.2 Housing Structures

The number of households enumerated in the census for upazila are 34,477. Of them, the dwelling households are 98.29%. The remaining 0.52% and 1.19% households are institutional and others respectively.

Housing structures observed for dwelling households are jhupri, kutcha, semi-pucca and pucca. Among housing structures in the upazila, predominant is kutcha structure. Dwelling households having such structures are as many as 68.40%. The kutcha housing structure is reported as 67.54% for rural dwelling households compared to 73.22% urban dwelling households. Dwelling households with pucca housing structure are only 0.62% in the upazila. Rural and urban dwelling households with pucca housing structure are found 0.22% and 2.79% respectively. Urban dwelling households are better in housing standard because as many as 9.29% of them are found having both semi-pucca and pucca structures, in contrast to merely 1.59% rural dwelling households.

1.3.3 Drinking Water Sources

Among sources of drinking water, pond water is predominant. Dwelling households reported drinking pond water is 51.25%. On the other hand, dwelling households found drink tube-well water is 30.09%, deep tube-well water 15.76%, tap water 1.75% and water of other sources

1.3.4 Access to Sanitary Latrine

Access to sanitary latrines in the upazila is recorded for 47.64% dwelling households; in rural-segment such households are counted 44.02% and in urban locality much higher 67.63%. Non-sanitary latrines are found being used by 46.66% dwelling households. In rural and urban regions such households are 49.82% and 29.24% respectively. Dwelling households making use of open spaces in the upazila are 5.70%.

1.3.5 Access to Electricity

Dwelling households connected to the power network are found 5.43% in the upazila. 25.41% urban households and 1.81% rural households are found connected to power supply.

1.3.6 Occupational Pattern

Dwelling households owning agriculture land in the upazila are 64.49%. The remaining 35.51% are either landless or owning lands not used for agriculture. In rural and urban areas the agriculture land owning dwelling households are 66.25% and 54.75% respectively. Dwelling households having agriculture as the main source of income are 60.30%. Of them, those earning main income from crop and non-crop (livestock, forestry & fishery) farming are 42.17% and the rest 18.13% are agriculture labour. Other dwelling households reported earning main income from non-agriculture labour are 3.87%, business 15.88%, regular employment 6.42%, construction 1.46%, religious service 0.19%, rent & remittance 0.25%, transport & communication 2.21%, industry 0.55% and

others 8.87%. The rural dwelling households are observed getting main incomes from agriculture are 64.81%, non-agriculture labour 4.00%, business 13.41%, regular employment 5.23%, construction 1.29%, religious service 0.17%, rent and remittance 0.24%, transport and communication 1.83%, industry 0.48% and others 8.52%. In urban area dwelling households having main income from agriculture are 35.41%, non-agriculture labour 3.15%, business 29.53%, regular employment 13.01%, construction 2.38%, religious service 0.25%, rent and remittance 0.29%, transport and communication 4.27%, industry 0.94% and others 10.77%.

1.3.7 Population Size

The upazila aggregate population is 1,62,025 out of which males are 82,687 and females 79,338. The sex ratio is 104. The ratio was 102 in 1991. Over the period 1991-2001, the population growth rate is estimated 20.34%; the annual growth being 1.87%.

1.3.8 Age-wise Occupational Pattern

The upazila population 10 years of age is 23.97%. Among population of age of 10 years and above, those idle are 27.22%, looking for work 1.69%, doing household work 36.40% and employed the remaining. The employed people identified working in agriculture are 19.33%, industry 0.18%, business 6.05%, 0.70%, constructions 0.68%, transport and communication 0.94% and others 6.81%. Among population aged 7 years and over in the upazila, the literacy rate is 63.2%.

1.3.9 Age-wise Education Level

Among 5 to 24 age group population of the upazila, those who are males and have reported attending school are 51.85%. In case of females in the same age group, the school attendance is 48.00%. The rural and urban males of the group have school attendance levels 51.58% and 53.37% wed to school attendances 47.50% and 50.83% of rural and urban females.

1.4 The Executing Agency

Urban Development Directorate (UDD) was established through a government order in 17th July 1965. This directorate is working under the Ministry of Housing and Public Works. Since its inception, UDD is contributing in developing Master Plan/Land Use Plan for small, medium and large town and cities of Bangladesh. Thus it is contributing in development of the localities and lifestyle of peoples of Bangladesh in direct and indirect ways.

Vision of UDD is to augment the quality of life of the people by improving the environment through planned development activities for adequate infrastructure, services and utility provision, to make optimum utilization of resources especially land and to ensure a geographically balanced urbanization. It also aims to reduce local and regional disparity by alleviating poverty and to create good governance in the country through people participation and empowering of woman. Urban Development Directorate would welcome any co-operation, assistance and patronage from national and international quarters.

1.5 The Consultant

TILLER a consultancy firm having expertise on socioeconomic survey through smart device, data processing, data analysis and report writing.

1.6 The Project Location

The proposed project would be prepared on a regional development perspective considering the region as a part of whole of Barguna Sadar and Patharghata Upazila and its 16 unions and 2 municipalities. In this development planning package since its location is strategically important from the regional context because this upazila is situated on the riverside area of the ocean. And Sundarbans, the largest mangrove forest of the world is also there. So geographically it carries a great importance.

1.7 Objectives

- Identify the socio-economic condition of the people of different strata and minority group including tribes and also identify people's aspiration, attitude, opinion towards development of the area especially tourism industry; and their need, demand for their development and the project area as a whole.
- Identify the scenario of interrelated complex system that are co-existent the project area covering various sectors including hydrology and coastal characteristics, environment and disaster, traffic and transportation, socio-economic and demographic characteristics, agriculture, forest and, flora and fauna etc.
- Prepare people oriented demand driven planning especially for tourism development of the region.
- Develop a development scenario which is compatible to all biotic and non-biotic interrelated, co-existent systems functioning in the project area to prepare tourism development plan for Barguna Sadar and Patharghata Upazila.

1.8 Scope of Work

UDD project team members shall prepare the plan for the Preparation of Comprehensive Plan for Barguna Sadar and Patharghata Upazila, Barguna District focusing Eco-Tourism. The survey firm shall conduct all necessary socio-economic and other surveys and studies for the project, and prepare working paper on the relevant fields under study, and also assist the UDD team members in preparation of final plan and all relevant reports till completion of the project.

The survey firm would extend all necessary assistance particularly in gathering and procuring all relevant socio-economic and cultural attribute data of each feature within the project area; SPSS & GIS database operation and management, analysis and preparation of all maps and reports till completion of the project.

The survey firm would also conduct different type of other surveys and studies covering hydrological and coastal surveys and studies, environmental studies, traffic and transportation surveys, socio-economic surveys and demographic studies, agricultural surveys and studies, baseline survey of flora and fauna etc. The survey firm shall also arrange workshops/seminar on collected data and information, findings, interpretation and working paper and conduct other ancillary activities relating to the project activities as directed by the PD wherever necessary. UDD project team would conduct all PRA session and the survey firm would extend necessary assistance in communication with the Mayor, ward councilors of the Paurashava, Union Parishad Chairman and other stakeholders as directed by PD for arranging the PRA sessions.

The survey firm shall collect all relevant data and information through digital survey and upload the collected data to website instantly through online communication device; at the end of each month submit a report containing all information have been uploaded to website and ensure that all data and information are accessible to viewer.

The survey firm shall be responsible for quality of data and information collected, data processing, cleaning and editing, and presentation into tabular form including preparation of working paper as required by PD. The survey firm shall deliver all raw and processed data along with working papers containing guidelines for preparing the planning package.

Traditional practice of Development Plan is to expand urban facilities, ignoring or suppressing the priority of agriculture, fisheries, forestry or ecology. The current project would emphasize over the coastal activities focusing on tourism. It would emphasize over the tourism development in and around the targeted upazilas and also livelihood of the local people, who are very much depended on coastal resources. The current project would also emphasize over the change in land category, land use and livelihood pattern. Spatial development planning is an evolving process. Socio-economic Survey firm will be conducted 1000 Socio economic Questionnaire preparation and printing, field survey, cross checking Data entry, Data quality checking, analysis, report writing and printing etc.

A. Socio-Economic Survey, Study of Formal and Informal Sector (Both Urban and Rural) Economy, and Social Infrastructure

a-1. Socio-Economic Survey:

The objective of socio-economic survey for Barguna Sadar and Patharghata Upazilas is to identify the existing socio-economic condition of the region including their development potential with special reference to tourism development in the region. The survey would also reveal their opinion, needs, demands and perception relating to their socio-economic development emphasizing tourism. The survey firm shall prepare the socio-economic questionnaire in online communication device (tablet) compatible format (apps), and also responsible for editing, piloting and finalization of questionnaire. Then shall conduct digital survey at household level (both in urban and rural area) through the structured questionnaire, acquire geo-coordinate of the household and also picture of the

respondent and household; and upload the data and information including geo-coordinate and picture of both respondent and household to website instantly through online communication device (tablet) in consultation with PD.

The survey firm shall also check and ensure the quality of the field level surveyed data and upload the surveyed data to computer at the same day. The socio-economic database shall be linked with that of other related spatial and attribute database collected from different other surveys and studies conducted by other survey firm. He/ she would also ensure the quality of database (data editing, data cleaning) and would perform data analysis, tabulation, present it in graphs and figures, and preparation of report.

The survey firm shall have to identify the household and/or locations surveyed on physical feature map and also inter-link the collected socio-economic data with different steps of other related activities conducted by other different survey firms'.

a-2. Study of Formal and Informal Sector (Both in Urban and Rural) Economy:

Preparation of questionnaire for studying formal and informal sector economy both in urban and rural areas in online communication device (tablet) compatible format (apps) covering trade, commerce, shopping and other related activities, editing, piloting, finalization and printing of questionnaire by the survey firm. Then, a digital questionnaire survey shall be conducted both in urban and rural areas in consultation with PD, also take photograph and geo-coordinate of the enterprise surveyed' and shall check the quality of the field level surveyed data and upload the surveyed data to website instantly and also upload to computer at the same day. The attribute data of surveyed commercial and industrial enterprises shall be linked with spatial data collected from physical feature and land use survey. He/ she would also ensure the quality of database (data editing, data cleaning) and would perform data analysis, tabulation, present it in graphs and figures, and preparation of report.

Trade encompassing banking and other financial institutions, shopping centers and shop, and commercial establishments differentiated into wholesale and retail shopping should be recorded. Growth or decline in economy during the last 10 years should be collected and presented in a report with explanatory notes on the causes for growth or decline covering a possible quality of existing and future trade, commerce and shopping facilities for the project area with tentative pedestrian linkage (missing link) considering manmade and natural disasters for the Project area. All the collected attribute and spatial economic data shall be linked with other spatial database by the survey firm.

a-3. Study of Social Infrastructure (Education, Religious, Sports, Recreation, Community and Socio-Cultural Services/Facilities etc.):

Preparation of questionnaire for studying social in online communication device (tablet) compatible format (apps), editing, piloting, finalization and printing of questionnaire by the survey firm. Then, a digital questionnaire survey shall be conducted both in urban and rural areas in consultation with PD, and shall check the quality of the field level surveyed data and upload the surveyed data to computer at the same day. The attribute

data of surveyed social infrastructure shall be linked with spatial data collected from physical feature survey. He/ she would also ensure the quality of database (data editing, data cleaning) and would perform data analysis, tabulation, present it in graphs and figures, and preparation of report.

Chapter 2

2. Understanding the Project

2.1 Project Objectives

The objectives of preparation of Strategic planning at PKCP area, laid down in the TOR are as follows:

- 1) A review of the work plans and time schedule for the remaining period of the contract.
- 2) Activities to be performed by the survey firm for Socio-Economic Survey Report:
- 3) All survey data including Socio-Economic and Other related survey (traffic survey, bathymetric study report, tidal data and information, survey of Urban and Rural Economy, environment studies, disaster studies, social space studies, baseline survey of flora and fauna, hotel/motel accommodation survey etc. as specified in the ToR).
- 4) Collection of Socio Economic data from published sources.

2.2 Step-wise detailed activities

The detailed activities to be performed by the survey firms are described below:

2.2.1 Step 3-I Socio-Economic Survey

STEP 3-I-A A questionnaire shall be designed in online communication device (tablet) compatible format (apps) in consultation with PD

STEP 3-I-B House -hold sample survey will be done using the approved Questionnaire based on specified Questionnaire format indicated in TOR. According to the TOR sample size will be minimum 200 questionnaires at each municipality and 200 at the rural areas of each Upazila. (Sample size shall be determined in consultation with PD).

STEP 3-I-C Surveys will be conducted on the issues like tourism development, housing for disadvantaged group, land value, informal economic activity, traffic congestion, drainage, water logging, unauthorized encroachment, waste disposal, playground and park, stakeholders' participation for planning and development control etc.

STEP 3-I-D During conducting the survey, geo-coordinate and photograph of the household including photograph of the respondent has to be taken and would be uploaded to website instantly by using online communication device (tablet).

STEP 3-I-E The survey firm shall check the quality of data and upload the data to computer at the end of same day.

STEP 3-I-F The survey firm shall identify the location of the household on physical feature map and link the household surveyed with that of spatial database in Arc GIS.

STEP 3-I-G The survey firm shall link the attribute data of socio-economic survey with that of spatial data base in Arc GIS.

STEP 3-I-H The survey firm shall provide spatial translation of the interpretation obtained from data analysis to draw a scenario of output of socio-economic survey on space.

STEP Step 3-I-I Inventory of survey will have to be prepared as per format prepared in consultation with PD. Data processing, analysis of survey data, mapping, working paper containing planning strategy and development options, and reporting will be made as per requirement of TOR.

2.2.2 Step 3-II Other Related Surveys

Other related surveys and studies (traffic survey, hydrological studies, bathymetric report studies, environment studies, disaster studies, pollution studies, formal and informal industries, formal and informal economy (both urban and rural), social infrastructure, recreational spaces (both open and closed), archaeology, social space studies, baseline survey of flora and fauna etc.) as specified in the ToR shall also be conducted in consultation with PD.

Step 3-II A The survey firm shall collect data and information through other related surveys and studies as specified in the ToR. The firm shall prepare questionnaire concerning each surveys and studies (wherever necessary) in online communication device (tablet) compatible format (apps) and conduct digital surveys. For those components of other related surveys and studies, digital survey may not be possible, manual survey shall be conducted in consultation with the PD.

Step 3-II B At the time of conducting surveys geo-coordinate and photograph of the feature and/or location and respondent (if conducting questionnaire surveys) shall be taken and shall upload them on website instantly through online communication device (tablet).

Step 3-II C If any anomaly is found in the collected data and/or wrong data entry/data missing etc. to be corrected by the survey firm and again re- upload them to website indicating corrected questionnaire. But the previous questionnaire shall not be removed from website.

Step 3-II D The data and information including photograph collected from digital surveys shall also be uploaded to computer at the end of the same day for processing and analysis.

Step 3-II E All the collected data and information (both spatial and attribute) shall be interlinked with that of different other surveys (including physical feature, topographic, land use etc.) conducted by different other survey firms. The survey firm shall also identify the location/ household/ feature surveyed on base map and also locate in spatial database.

2.2.3 Step 3-III Final Submission

Step 3-III After completion of all survey work and linking all attribute and spatial database with each other the survey firm will submit survey report stating actual methodology explaining detailed procure adopted in the field survey, problems faced during survey work, how the problems were solved, interlinking of database with that of different other surveys (including physical feature, land use, topography etc.). The report shall also contain detailed information relating to data uploaded to website. The survey firm shall submit all raw database including map, questionnaire, photograph etc. and spatially linked database along with survey report.

2.3 Data processing, analysis, interpretation, presentation, formulation of working paper and submission of interim report

(1) A review of the work plans and time schedule for the remaining period of the contract.

(2) Activities to be performed by the survey firms for Interim Report:

- Preparation of working paper for all relevant components of the survey components under the planning package including, but not limited to the following:
 - Housing and socio-economic condition
 - Social and Urban Infrastructure
 - Agriculture
 - Utilities and Services including water supply, sanitation, sewerage disposal,
 - Transportation and traffic
 - Hydrology and bathymetric studies (if any)
 - Urban and Rural Economy including informal economic and industrial sector
 - Environment, Disaster Risk Assessment, Waste Management and Pollution
 - People's participation and Social space
 - Historical Importance, archaeology and Tourism etc.

Interim report containing requisite working papers (if more than above stated required) shall be prepared by the survey firms as directed by the PD.

Step 4-I: All the working papers (number and content of working papers shall be determined in consultation with the PD) shall contain analysis of existing situation and local demand; people's view, attitude and opinion regarding development problem.

Step 4-II: SWOT analysis, and Identification of problem area and requirement on space and analyzing them with respect to surveyed data and information.

Step 4-III: Assist the Project team members in formulation of planning standard with respect to spatial variation in character and natural setting with respect to analysis from socio-economic and other related surveys and studies and also by integrating results of different other surveys (including physical feature, land use, topography, geology etc.) in close co-ordination with different other survey firms, who conducted such surveys and studies.

Step 4-IV: Assist the Project Team members in formulation of policies for planning package and development of alternate strategies to attain the policies in close co-ordination with different other survey firms, who conducted different surveys and studies including physical feature, land use, topography, geology etc.

Step 4-V: Assist the Project Team members in analysis of alternative strategies and selection of most appropriate option among the developed alternatives in close co-ordination with different other survey firms, who conducted different surveys and studies including physical feature, land use, topography, geology etc. for preparing the planning package.

Step 4-VI: Submission of Interim Report along with all working papers containing the issues as stated in step 4-I to step 4-V.

Chapter 3

3. Location of the Project area

3.1 Introduction

This chapter describes the basic information about the Barguna Sadar and Patharghata Upazila area and PKCP (Urban & Rural) area. The information presented in this chapter has been collected directly from the field as well as from many other secondary sources including National Population Census Reports of BBS and other relevant document.

3.2 The Project Location

The proposed project would be prepared on a regional development perspective considering the region as a part of whole of Barguna Sadar and Patharghata Upazila and its 17 unions and 2 municipalities. In this development planning package since its location is strategically important from the regional context because this upazila is situated on the riverside area of the ocean. And Sundarbans, the largest mangrove forest of the world is also there. So geographically it carries a great importance.

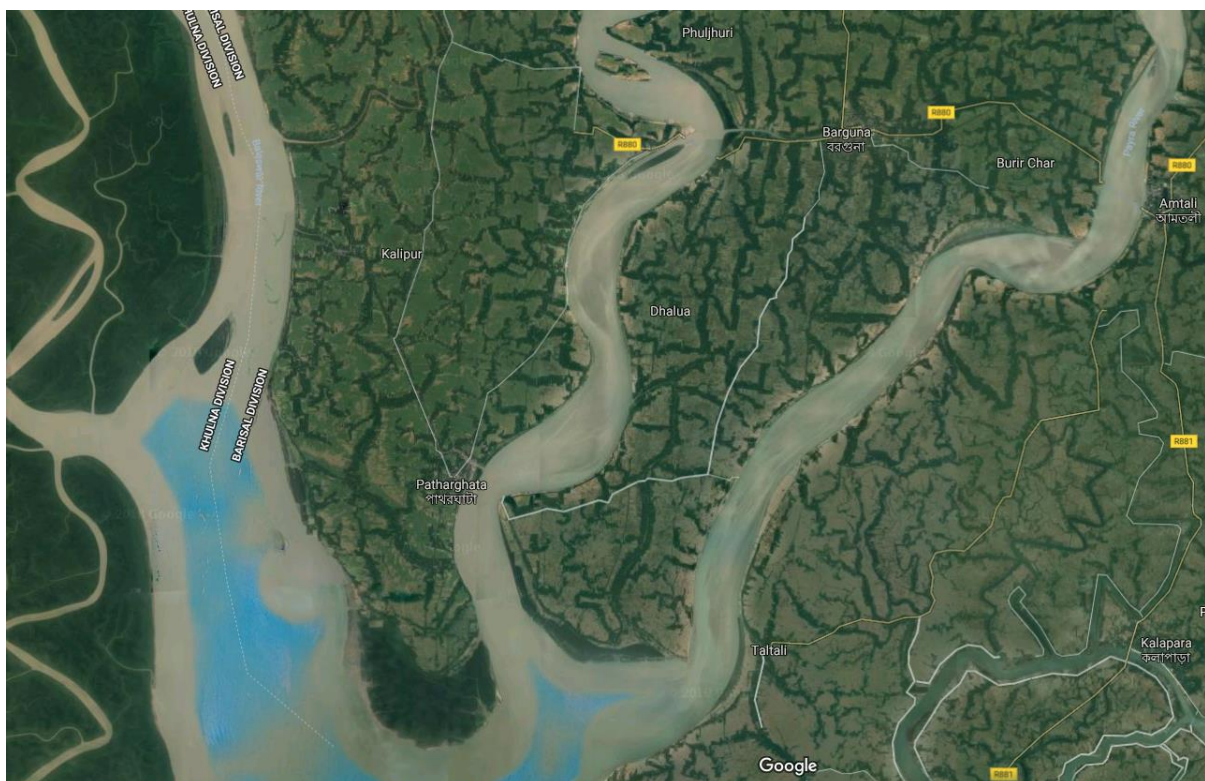


Figure 4: Project location in Google Map (Online)

Source: Google Map

3.2.1 Description of the Project Area

A detailed description of the Project Area is given below:

Table 1: Area, Population and Density of the Project Area

Barguna Sadar Upazila								
Municipality	Union	Mouza	Village	Population		Density (per sq km)	Literacy Rate (%)	
				Urban	Rural		Urban	Rural
1	10	51	191	26954	210659	523	71.9	52.9
Patharghata Upazila								
Municipality	Union	Mouza	Village	Population		Density (per sq km)	Literacy Rate (%)	
				Urban	Rural		Urban	Rural
1	7	42	66	24488	137537	418	67.4	62.4

Haringhata Forest Eco Park, Laldia Forest of Patharghata Upazila and Padma Parjatan Kendra of Barguna Sadar Upazila - regions have the greater potential for tourism development as there are abundant resources to attract tourists. Especially Patharghata is developing very rapidly due to the ample opportunity for tourism development, which is acting as pull factor for private sector developers but the development was in an unplanned way. Hence, this project has been under taken to protect the region from depletion of its natural resources and character and tourism development as well. Moreover, honorable Prime Minister has already expressed his heartiest interest to develop char of this Upazila.

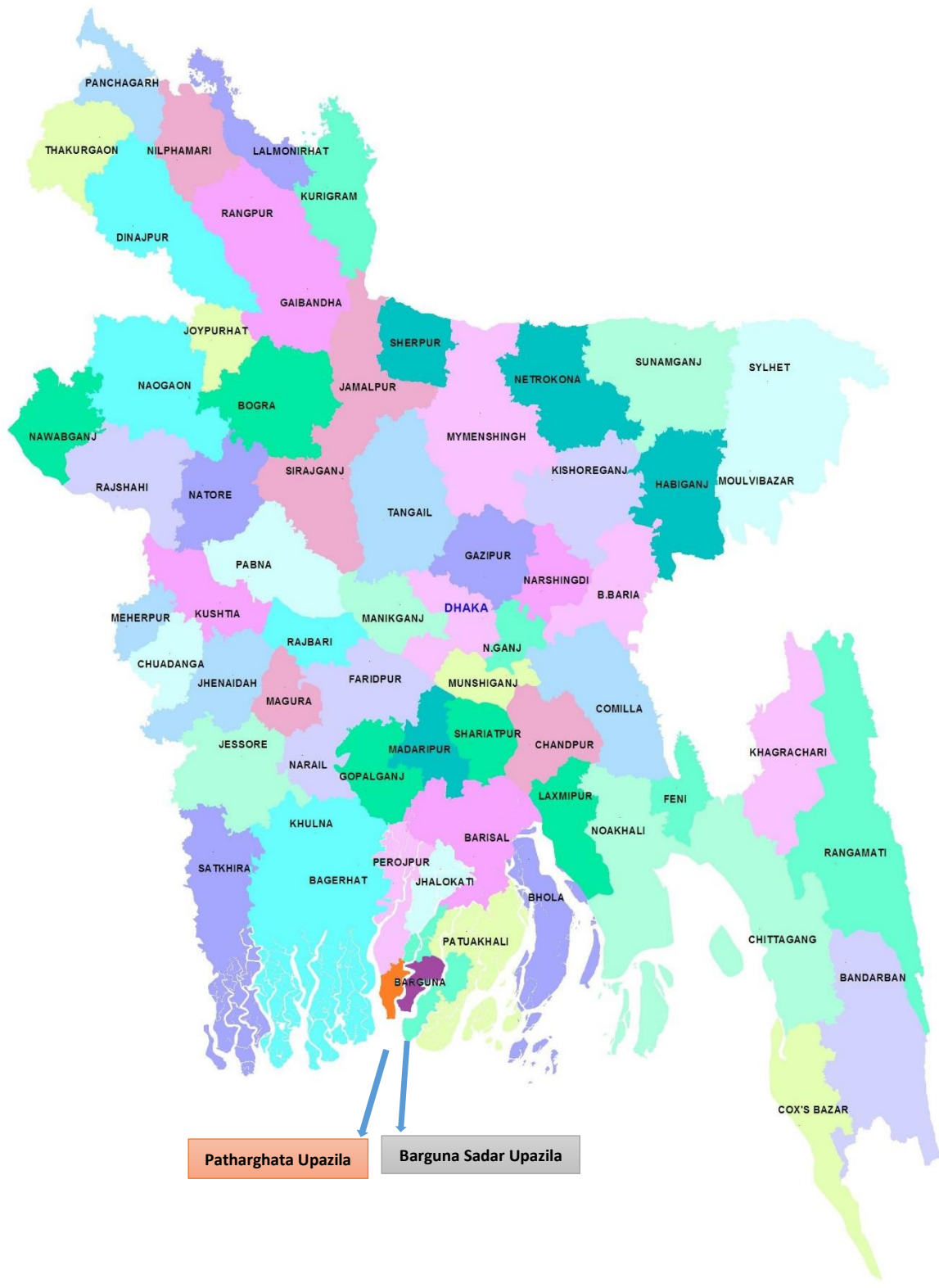


Figure 5: Project location in Bangladesh Map

Source: Edited from LGED Map, 2018

3.7 List of Unions/Municipalities of the Study area

Patharghata Upazila is comprised of 1 municipality and 7 union which covers an area of about 387.4 sq. km and Barguna Sadar Upazila is comprised of 1 municipality and 10 union which covers an area of about 454.4 sq. km.

Table 2: List of union and municipalities

SL	Municipality/Union	Name
1.	Municipality	Barguna Municipality
2.	Union	Aylapatakata
3.	Union	Badarkhali
4.	Union	Burir Char
5.	Union	Dhalua
6.	Union	Fuljhury
7.	Union	Gaurichana
8.	Union	Keorabunia
9.	Union	M.Baliatali
10.	Union	Naltona
11.	Union	Aylapatakata
12.	Municipality	Patharghata Municipality
13.	Union	Patharghata
14.	Union	Charduani
15.	Union	Kakchira
16.	Union	Kalmegha
17.	Union	Kanthaltali
18.	Union	Nachna Para
19.	Union	Raihanpur

Source: LGED 2017



Figure 6: Union Map of Barguna Sadar Upazila

Source: Banglapedia, 2018

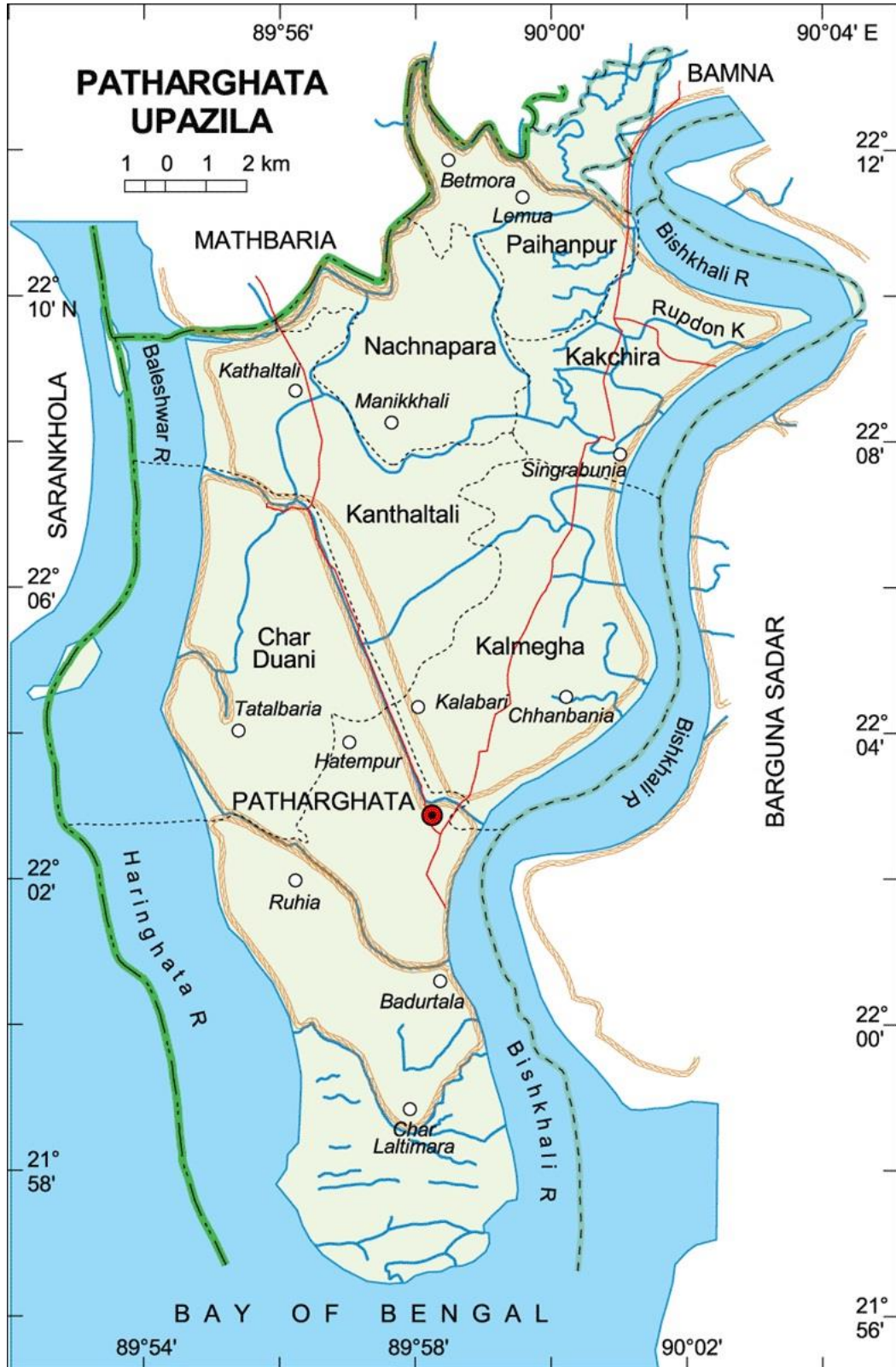


Figure 7: Union Map of Patharghata Upazila

Source: Banglapedia, 2018

4. PKCP and Linkage with National Development Plan

4.1 Introduction

This chapter explains the inter-relationship between the Payra-Kuakata Comprehensive Plan and the national development plans of the country. The national development plans studied in this report include, The Seventh Five Year Plan and the Poverty Reduction Strategy Paper (PRSP). It is more rational to study on going and current plans instead of plans that were prepared long back.

4.2 Special Consideration

National development plans are prepared considering the overall needs and aspirations of the country with respect to different sectors of development. Policies, strategies and objectives are set and budget allocation is made to realize development targets. Sectoral budgets are again splited down into program and projects under each sector for implementation through various ministries. Any development initiative at the local level must relate to the national level plans in order to achieve cohesion and integrity with overall development of the country to attain the national development objectives. It is therefore necessary to study how the Development plans are related to the national development plans of the country.

4.2.1 Aspects of development planning framework

Development frameworks and processes are complex and multi-faceted encompassing a range of elements that make up development as a whole. Many countries like disaster vulnerable, within the region use a similar framework on which the details of each component can be built upon to form the development process as a whole. These frameworks can be loosely broken down into three key areas, Visioning, policy and planning, and implementation. Planning, however is not a linear process and is achieved through a range of planning cycles.

Vision serves as the overall guide to the planning process. Based on the learnings from the implementation of the previous plans, building on the strengths and also addressing the weaknesses, a long term vision is set where all citizens reap the benefits of socio-economic development and are empowered. Though the vision does not specifically mention disaster risk reduction or safety from natural hazards, however, reducing the risk from natural hazards in the country would only contribute to the achievement of the said vision.

Policy is necessary to meet the Vision; the identified challenges of the present and the perceived threats and opportunities of the future. These policies guide identification of goals, objectives, targets, strategies and projects and programs which is detailed out in the development plan. For example, the national physical framework is a broad policy

determining the spatial feature of proposed development in terms of settlement, production and protection land use, infrastructure etc. The physical framework in turn helps in identifying the socio-economic goals, objectives, targets and ultimately leading to programs and projects. As development factors such as society, economics and environment, are ever changing aspects of daily life and developmental growth, the formulation and implementation of policy must evolve to make sure that it does not become outdated. With this in mind, decision makers and policy developers, while creating policy, often use a cyclical process with clearly defined steps to ensure policy does not become outdated.

4.2.2 Integrating DRR into Physical Planning/Land Use Planning

DRR integration is best undertaken during the formulation stage of a physical framework/land use plan. It is at this planning stage that a risk assessment is invaluable in coming up with DRR-sensitive land use plan. The risk assessment forms the basis for understanding implications of current and future land use management and development. Given the levels of risk in identified geographical areas, the broad objectives/strategies for risk reduction in relation to land use management and development are to be determined. These include: avoidance; prevention; reduction; offsetting the impacts.

The analysis of risk impacts to land use guides planners and policy makers in determining where and what development could be further undertaken in their localities, as well as what could be done to improve current development conditions, thereby reducing risks to population and properties. The goals and objectives of land use and development plans should reflect this analysis and translate them into the planned specific programs and projects.

Population and urban development places a huge challenge in land use and development planning. Land use regulations or controls are important in this respect as they are the principal mechanisms for local governments to manage and regulate growth. The management and regulation of growth and development ensures the protection of fragile ecosystems and the reduction of vulnerability to risks posed by natural hazards. Zoning has been the principal land use regulation used by municipalities and cities. Zoning identifies and distributes the location of different types of land uses (e.g. residential, commercial, industrial, agricultural, forests and protected areas) for purposes of regulating density of population and development.

Disaster risk reduction and land use planning are both multi-disciplinary arenas, they require a multi-stakeholder participation. Within government, both are collaborative endeavors that need to be undertaken together by various ministries/departments Land use planning goes beyond inter-ministry and agency collaboration, from the national to the local levels of government. As land use is an arena of competing interests, planning requires the participation of communities, e.g. farmers, urban settlers, environmental managers, indigenous peoples, as well as developers.

4.2.3 Mainstreaming DRR in National Development Plan

Mainstreaming DRR in the medium-term national planning process helps to ensure that longer-term concerns such as risk reduction are not overshadowed by more immediately pressing issues, and relative political stability, implying the potential ability to sustain long-term programs and initiatives. (Benson, 2009). Typically, the national development plan provides the link between the social, economic and institutional agenda with the spatial development agenda and acts as the blueprint for development of the country over a specified period of time. It provides an opportunity to apply the lessons learned from the past and provide strategies for growth.

The national development plan also reflects a shared vision of the future of the country as a whole and hence attempts to be inclusive. Along with the sectoral priorities, the national development plan also provides an opportunity to outline the cross-cutting development themes which needs to be addressed as they have implications on the performance across all sectors. The themes typically include decentralized governance, women in development and environment.

Typically all development plans includes a specific section on the performance of the previous plan or challenges which have been hindering the process of development in the country. This analysis covers all the major sectors, individual sub-sector plans, the parameters and/or indicators by which they were based on, as well as internal and external developments that may have affected the implementation of the plan.

4.2.4 HYGO Framework for DRR Management

In 2004, Bangladesh experienced one of the most devastating floods in nearly 50 years. About 38% of the country went under water. The damage caused by the flood was to the tune of US\$ 2 billion. Millions of people were affected. The most affected were the poor the most vulnerable in such disasters.

On January 18-22, 2005 the World Conference on Disaster Reduction was held in Kobe Japan. About 4,000 participants from 168 States, 78 observer organizations from the UN and other inter-governmental organizations, 161 NGOs and 154 media organizations attended the conference. The broad objective of the conference was building the resilience of nations and communities to substantially reduce the losses in lives and social, economic and environmental assets of communities. The conference produced a 10 year Framework document called “**Hyogo Framework for Action 2005-2015: Building the resilience of nations and communities** Drawing on the conclusions of the review of the Yokohama Strategy, and on the basis of deliberations at the Conference and especially the agreed expected outcome and strategic goals, the World Conference on Disaster Reduction adopted the following five priorities for action:

- Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation
- Identify, assess and monitor disaster risks and enhance early warning
- Use knowledge, innovation and education to build a culture of safety and resilience at all levels
- Strengthen disaster preparedness for effective response at all levels
- Reduce the disaster related risk factors

4.3 Disaster Management Strategy in the SFYP

The SFYP will carry forward the implementation of the approved National Disaster Management Plan 2010-2015. It will continue the comprehensive all hazard, all risk and all sector approach and be built on the foundations laid in the last several years and learn from the positive experiences. The Bangladesh Disaster Management Model which made the basis for revising the disaster management policy and planning documents has mainly comprised of two inter-related elements: Disaster Risk Reduction and Emergency Response. The plan will focus more on Disaster Risk Reduction (DRR) in order for reducing the relief and recovery needs and also be prepared to deal with any emergencies. The government accords the focus on community level preparedness, response, recovery and rehabilitation emphasizing the following three broad-based strategies:

1. Disaster management would involve the management of both risk and consequences of disasters that would include prevention, emergency response, and post disaster recovery.
2. Community involvement for preparedness programs to protect lives and properties would be a major focus. Involvement of local government bodies would be an essential part of the strategy. Self-reliance should be the key for preparedness, response, and recovery.
3. Non-structural mitigation measures such as community disaster preparedness training, advocacy, and public awareness must be given a high priority; this would require an integration of structural mitigation with non-structural measures.

The priorities on DRR during the SFYP will broadly include:

- Professionalizing the Disaster Management systems and institutions through execution of the Disaster Management Regulatory Framework already established.
- Strengthening the Disaster Management Bureau's capacity to monitor and take part in cross government mainstreaming of disaster risk reduction through pre, during and post disaster assessment.
- Strengthening institutional capacity of government sectoral ministries, departments and other technical and academic actors in ensuring inclusion of DRR and Climate Change adaptation (CCA) issues and agendas within their respective sectoral policies, plans, programs and allocations of businesses.
- Empowering at risk communities to withstand and cope up with the disastrous situations through community and household level risk reduction interventions and livelihood support services.
- Reducing vulnerabilities of at risk communities through social safety nets – ensuring protection of women, children, the aged and differently able people giving due attention to their special needs.
- Preparedness for Earthquake

- Building Knowledge on DRR and CCA through piloting and adaption research
- Strengthening and improving an all Hazard Early Warning Systems through technical, technological and physical capacity strengthening of Bangladesh Meteorological Department and Flood Forecasting and Warning Center.
- Establishing and strengthening regional networks for real time data/information sharing
- Establishing an effective Community Alerting System through capacity strengthening of Cyclone Preparedness Program and Disaster Management Committees (DMC) at District, Upazila and Union levels.
- Introducing Contingency Planning and Disaster Preparedness across all sectors and at all levels.
- Establishing and improving Search and Rescue Mechanism
- Strengthening GO-NGO and private sector co-ordinations on relief and emergency management.
- Developing and establishing a well-coordinated multi-sectoral post-disaster recovery and reconstruction mechanism.
- Establishing and operational a National Disaster Management Information Centre connected with all the 64 Districts and high-risk Upazila DMCs

4.4 Poverty Reduction Strategy Paper (PRSP)

In September 2000, at the Millennium Summit, the United Nations issued the Millennium Declaration, signed by 189 countries, committing themselves to a series of targets, most of which are to be achieved by 2015. This is known as Millennium Development Goals (MDGs); they represent a framework for achieving human development and broadening its benefits. The Millennium Development Goals provide a road map for the international community's efforts for development. They encompass a set of eight goals:

- (1) Eradicate extreme poverty and hunger.
- (2) Achieve universal primary education.
- (3) Promote gender equity and empower women.
- (4) Reduce mortality.
- (5) Improve maternal health.
- (6) Combat HIV/AIDS, malaria and other diseases.
- (7) Ensure environmental sustainability.
- (8) Develop a global partnership for development.

In persuasion of achieving the MDGs in 2003 Poverty Reduction Strategy Paper (PRSP) was prepared. PRSP has taken over the place of Five-Year Plans. The Planning Commission under the Ministry of Finance initiated the Interim Poverty Reduction Strategy (IPRSP) in March 2003 and a full blown Poverty Reduction Strategy Paper (PRSP) was prepared in 2005. PRSP aims to targets of at least 20 sectors on special priority basis.

Physical planning, water supply and housing sector in the Planning Commission is now implementing development programme of nine Ministries through the Annual Development Programme (ADP) under Ministry of Planning. UNDP & UNICEF assisted "Reduce Urban Poverty through Local Partnership" project is under implementation, which is very relevant with the objectives of the Poverty Reduction Strategy Paper (PRSP). The completion of the Interim Poverty Reduction Strategy Paper (I-PRSP) titled *A National Strategy for Economic Growth, Poverty Reduction and Social Development*, in March 2003, marked an important milestone in the process of renewing the national goal of policy ownership over the formulation of Poverty Reduction Strategies (PRS). PRSP is prepared for unlocking the potentials using government's own resources and by local experts; thematic reports, prepared by the Ministries in their own areas, serve as background papers for the PRSP.

4.4.1 Strategy for Poverty Reduction in the SYFP

The review of past progress with poverty reduction has a number of important implications for poverty reduction strategy in the SFYP.

First, poverty still remains at a very high level and the number of people living below poverty line remains almost the same as it was in 1991–92 (about 56 million). The most startling consequence of widespread poverty is that a quarter of the country's population- 36 million people- cannot afford an adequate diet, according to the 2005 estimates of food poverty or extreme poverty. Chronically underfed and highly vulnerable, they remain largely without assets (other than their own labour power) to cushion lean-season hunger or the crushing blows of illness, flooding, and other calamities.

Second, faster poverty reduction during the 1990s was also accompanied by rising inequality measured by income as well as expenditure distribution, which is a major concern for policy makers. Rising inequality has the potential to dampen the pace of economic growth and poverty reduction outcomes while also contributing to social instability and must be addressed comprehensively.

Third, there are significant regional variations in poverty. Poverty is more pronounced in some areas and regions of the country which suffer from flooding, river erosion, mono cropping and similar disadvantages. Poverty is highest in the western region of the country (Rajshahi Division) followed by Khulna, Barisal and Chittagong. This lagging regions problem is a serious social challenge.

Finally, while these static point-in-time poverty estimates are useful for a snapshot of the poverty situation, they are not much useful to explain the gross movement of households in and out of poverty. Empirical evidence suggests that the gross movements in and out of poverty are much larger than the net aggregate poverty outcomes indicated by static estimates. In light of the above lessons of experience, the main elements of the poverty reduction strategy in the SFYP will consist of policies and programs to:

- promote growth by sustaining increases in labor productivity and job creation in manufacturing and services;
- increase farm income through better productivity;
- enhance the access of the poor to production inputs (fertilizer, seed, irrigation water, power, rural roads) and to institutional finance
- expand employment opportunities in lagging regions by improving connectivity with growth poles through better infrastructure and by investing in human capital;
- facilitate migration from poor areas given the poverty-reducing impact of remittances;
- Undertake entrepreneurship development scheme/strategy/mechanism for the Returnee Migrant;
- stimulate women's participation in the labor force;
- Promote overseas employment including women migration to the new destination and expand the existing overseas labour market;
- sustain Bangladesh's past successes in reducing fertility;
- improve poor households access to and quality of education, health and nutrition services;
- strengthen the coordination, targeting and coverage of social protection programs; enhance the access to micro finance;
- ensure stable food prices; and
- to mitigate the adverse consequences of climate change

Based on the projected acceleration of real economic activity, the shift in employment to more productive sectors of the economy, and implementation of related measures to enhance the human and physical capital of the poor a significant reduction in poverty is expected throughout the Plan period. The reduction in the head count poverty rate is projected to range between 8-10 percentage points depending on the elasticity of poverty reduction with respect to GDP growth and assuming unchanged income distribution.

The reduction in poverty will essentially be driven by the growth in the per capita income which is projected to grow on average at more than 6% per year with the growth in per capita income steadily accelerating to 6.9% in the terminal year of the Plan. The poverty elasticity of growth method is used to project the head-count poverty rates for the plan years. However, there are different estimates of Bangladesh's poverty elasticity of growth. Using the long-term decline in poverty between 2000 and 2010, the value of the elasticity turns out to be 0.76. Based on this value, the head-count poverty rate in the terminal year of the Sixth Five Year Plan becomes 24.5 percent. However, using the more recent 2005-2010 poverty figures, the elasticity estimate becomes 0.89, which is significantly higher. Based on this higher elasticity value the head-count poverty rate in the terminal year becomes 22.5 percent. The Sixth Plan aims to achieve this lower poverty rate target.

4.4.2 Review of PRSP and Linkage between National Plans and Local Level Plans

The PRSP needs to gear up specially the improvement of slum living condition and accelerated poverty reduction programmes. But as the fund allocation by the donor agency remains insufficient by this fiscal year PRSP has been extended up to June, 2008 instead of June 2007. Besides this PRSP implementation committee noted that the indicators which have been used to measure the economic growth of our country has not been sufficient enough. Due to lack of data, it becomes difficult to calculate the employment generation rate through the government allocation in different development sectors for poverty reduction (The Prothom Alo, 2012). So it is necessary to fix relevant indicators and also prepare adequate data base for the measurement of allocation of resources for overall growth and development.

Moreover, the process of PRSP implemented so far, is not sufficiently responsive to the uniqueness of Bangladesh. In order to prepare a genuine strategy document for the core of government's mainstream five-year planning process, it needs to be locally conceived rather than formulated under the guidance of the Bank and the Fund. The voice of grassroots people is so crucial for devising responsive and pragmatic programmes is noticeably missing. To achieve MDGs for cities, four distinct groups of policies can be identified:

- (a) Overall macro-economic policy for cities which affects economic growth.
- (b) City infrastructure and planning, including planned towns and improving local governance mechanisms through capacity building,
- (c) Employment generation.
- (d) Law and order measures.

The present system of national level planning hardly links the local level plans with that of the national level. The present system of national development budget allocation for urban local government is a top down approach, which is highly influenced by political objectives. Population is a loosely followed basis for budget allocation, instead of actual need. As a result local people's needs and aspirations are not always reflected in national development plans. Through political power, the local ruling party strongmen often manage development projects according to his own will, setting aside the desire of the local people. As a result many problems of the local level remain unresolved. Therefore, it is important to establish a linkage between the local plans and the national development plan so that aspirations of the people can be realized. This necessitates following a top down approach of development planning and the budget allocation should be made according to the choice of the local governments who are accountable to the people directly. Budget should be allocated according to the priority list of the projects prepared by the local authority that is supposed to reflect the needs of the Pourashava and rural people as the list will be prepared by the Councilors and the Mayor who are directly elected by the people.

The aim of the current project is to prepare a development plan for the Mirsharai upazila. In the process of planning large number of development projects will be identified in different sectors. Implementation of development projects will require improved infrastructure which intern will help improve infrastructure and services facilities much needed for a healthy environment and for harnessing local resources. This will attract more investment in the locality to generate new employment. New employment, again, will generate income for the poor people and shall improve the poverty situation, which is the main objective of PRSP. New jobs will also be created during implementation of various development projects. New and improved road infrastructure will also increase mobility vis- a -vis economic activities of the Pourashava and its adjacent rural area that will help address the problems of unemployment.

4.5 A Review of past Policies and Programs for Management of Urbanization

During the last two decades, Bangladesh has followed broad sector directions while policies on specific themes have been issued periodically. The national Housing Policy 1993 aimed for “housing for all” and recognized the importance of planned development of human settlements. The Urban Management Policy statement 1994 envisioned sustainable and equitable urban development through decentralized development, public awareness and sector participation. Later on, the government updated the statement and issued Urban Management Policy Statement 1999 which provides a basic policy framework to guide and sustain the process of gradual decentralization. The purpose of this policy statement is to improve upon and augment the existing policy statement, with a view toward efficient urban management and increased decentralization in the longer term. The National Urban Sector Policy drafted in 2006 envisioned a decentralized and participatory process of urban development in which the national and local government, private sector and civil society play complementary roles. The policy prescribes far reaching actions on multiple dimensions of urban management and national level institutional changes and public participation structures at the city and sub-city levels. Other developments relevant to the urban sector includes the national Policy for Safe Water Supply and sanitation (1998), Water Supply and Sanitation Sector Development Plan, National Policy for Arsenic Mitigation, The National Sanitation Strategy and the pro-poor water and sanitation and cost sharing strategies. Many of these policies have attempted to give coherent directions to developments in the urban sector including adoption of principles like devolution of powers, resources and responsibilities to local governments and community groups, treating resources as economic goods, using awareness generation and mobilization and motivational tools for sanitation and solid waste management, tempering off subsidies on sanitation hardware and promoting private-public partnerships. The recommendations made by the Committee on Urban Local Governments for long-term municipal development and urban sector programming, property tax system, improved financial system management etc. are now under active consideration of the government. Past urban sector interventions mostly

tried to address the long neglected infrastructure maintenance and rehabilitation needs and to develop the capacity of the Municipalities especially to raise income, improve financial management capacity and design municipal services in a planned way. But not much has been done to establish strong urban institutions that are capable of meeting the future service demand of the projected urbanization pattern

4.5.1 Lessons Learned from Past Development Initiatives and Key Constraints

Municipalities in Bangladesh have witnessed nearly two decades of urban infrastructure initiatives with STIDP-I and II, MSP and the on-going UGIIP-1 since 2003. The MSP and its successor institution, Bangladesh Municipal Development Fund, presented a model of supporting decentralization especially by opening up access to infrastructure funding based on objective financial and institutional criteria outside the government's inter-governmental fiscal transfer frame. UGIIP-1 made a radical departure from earlier initiatives in linking performance of Municipalities in achieving action based governance improvements to access infrastructure funding in phases. Focusing on governance improvements and a performance based approach urban infrastructure improvements have proved very successful;

- It addresses a wide range of areas simultaneously from improved participation of various stakeholder groups in service delivery to increased financial accountability and improved administrative procedures;
- Local governments feel full ownership in improving governance reforms, considering these reforms as an opportunity to improve their financial and administrative shortcomings.

They have been able to adapt to the new governance practices within a short period of time.

The following lessons learned:

- The performance of the Municipalities has been particularly good in areas where the identified governance indicators are concise and output oriented;
- municipalities took greater ownership and interests in areas where their legitimacy and performance in the local public eye improved immediately and turned out to be credible;
- Adopting governance improvements require substantive and timely capacity building inputs.
- Based on an extensive review of previous projects focusing on governance improvement and a performance based approach, the following opportunities for improving this approach have been identified;
- Ensure that mechanisms are in place to deepen participatory planning ensuring prioritization of the needs of the poor;
- Refine the governance improvement action plan to include more qualitative achievements and ensure that the achievements will sustain beyond project implementation;

- Inculcating the practice of responsible financial decisions and discipline through financing and repayment mechanisms;
- Strengthening citizen’s interface and accountability of the municipalities;
- Greater focus on capacity building of institutions at the municipality level
- Improvements in O&M management. One of the most significant lessons is the criticality of national level support to municipalities in terms of sector wide policy support, legislative and executive actions to enable more effective functioning of municipalities and supportive measures to improve their finance and financial management.

In this regard the parliament has recently passed the Pourashava Bill 2009 and City Corporations Bill 2009.

4.5.2 Urbanization Strategy under the SFYP

A review of past policies, institutions and programs suggest that the urbanization strategy needs to change substantially to meet the challenges of future urbanization in Bangladesh. In the past much of the focus has been on implementing piecemeal programs. Multitudes of local government agencies, weak planning, poor governance, inadequate resources and weak project implementation capacity have limited the progress with meeting the urban challenge. The SFYP will internalize these lessons of experience and shift the emphasis to the development of sound urban institutions, improve city governance and emphasize urban resource mobilization.

- Improving City Governance
- Promoting Balanced Development of Urban Centers
- Urban Resource Mobilization
- Developing a Sound Real Estate Market
- Facilitating NGO Involvement in Housing
- Taking Steps for Better Urban Land Management
- Better Environmental Management
- Developing Sustainable Urban Transportation
- Making Provision of Infrastructure and Services
- Reducing Urban Poverty

Chapter 5

5. Approach and Methodology

5.1 Introduction

The approach & methodology, and work task to be performed to accomplish the stated objectives and activities stated in the TOR and as summarized in Section 4 are presented in this chapter. However, before presenting the methodologies, in the light of TOR our understanding regarding the scope of work and the major steps of activities are discussed.

5.2 Activity -1 Mobilization

The Survey firm recognize that one of the key requirements for the success of the work program will be rapid and effective mobilization of the team members to start the required work without delay. This is generally true for all project but its particularly true for the time constrained survey work of the Project

5.3 Activity-2 Discussion and meeting

Discussion with project authority

The Survey Firm after initiation of office would call on PD. They will conduct an in depth discussion with

*Project Director PD

*project Manager PM

The survey firm also visit the related Pouroshava and its union office.

5.4 Activity -3 Collection of Documents

5.4.1 Collection and review of Database

Basic data will be needed of population, holding numbers, social, economic and physical conditions in the project area etc. Most of this information will be collected from existing studies, plans and programs, government publications, public authorities, statistical digests, documentation of external agencies.

5.5 Activity -4 Reconnaissance survey

In conjunction with the data gathering, the survey firm will conduct reconnaissance survey of the entire project area to devalued particularly the space zoning with the respect layout considering the overall service levels.

5.6 Activity -5 Survey Plan

This will be a highly qualified group of well-equipped and well-organized staff for its field survey.

5.6.1 Quality Control in the Field

- Use of satellite based advanced survey technique,
- Maintain & monitor daily log sheets and level books in the field,
- Daily checking of the field equipment before starting the work,
- Routine check and calibration of the survey equipment,
- Frequent field visit by the joint team comprising the senior staff of Consultants and project officials of UDD, and
- Interaction with project officials in the field level

5.6.2 Quality Control in the Office

- Daily review meeting with survey groups,
- Spatial and temporal Comparison of the survey data,
- Daily updating and processing data and Maps, and
- Frequent interaction and review meeting with project officials

In addition to those, progress as well as quality control of survey and data processing work will be reviewed in the progress meeting by the project authority. Major data gaps will be identified and will be collected through sector studies/surveys to be Undertaken.

5.7 Methodology of Database Preparation

5.7.1 Development of Database and GIS Analysis

One of the project aims is to develop database for storing attribute data and linking them with spatial data for GIS analysis. Spatial database will be developed using all map features available in physical features survey and land use survey map. Spatial database comprises the information captured during digitization of map using Arc/Info NT under coordinate reference system.

Various attribute data will have to be linked with the spatial data for GIS development. A relational database management system will be developed using Dbase environment. The data collected from the secondary source and the primary source through socio-economic survey and inventory of existing infrastructure will be entered and stored in dbase file. The structure of the database file will be designed in consultation with the Project Director, LGED. Checking and compilation of data will be carried out simultaneously for quality control.

5.7.2 Linking Attribute Data with Spatial Data

Integration of spatial data and attribute data is essential for GIS analysis. Attribute data database will be linked with the layers of themes to create various GIS analysis and queries using VIEW and TABLE MODULES of most popular ArcGIS software.

5.7.3 Data Delivery

Final data will be produced and delivered to client for approval.

Chapter 6

6. Future Tasks and Activity Schedule

6.1 Data Collection

Socio-Economic and Other related survey (traffic survey, bathymetric study report, tidal data and information, survey of Urban and Rural Economy, environment studies, disaster studies, social space studies, baseline survey of flora and fauna, hotel/motel accommodation survey etc. as specified in the ToR) will be collected through smart technology and manpower. And secondary data will be collected from different authentic sources.

6.2 Survey Equipment

Socioeconomic data will be collected through online communication device (tablet) compatible format (apps) Epicollect5 which have been already developed in consultation with UDD planner and project Director (PD).

6.3 Sample Size Delineation

House -hold sample survey will be done using the approved Questionnaire based on specified Questionnaire format indicated in TOR. According to the TOR sample size will be minimum 200 questionnaires at each municipality and 200 at the rural areas of each Upazila. (Sample size shall be determined in consultation with PD).

6.4 Sampling Design

The sampling design in this case is taken as a stratified two-stage cluster sampling method. At first stage, the project area is divided into Urban and Rural part then further the urban part is divided into grid (200mX200m) and Rural part is divided into 17 Union boundaries. In further, household of urban or Rural area will be selected randomly.

6.4.1 Sample size Calculation:

$$n_h = (z^2) (r) (1 - r) (f)(k)/(p)(\tilde{n})(e^2)$$

n_h is the parameter to be calculated and is the sample size in terms of number of households to be selected;

z is the statistic that defines the level of confidence desired;

r is an estimate of a key indicator to be measured by the survey;

f is the sample design effect, deff, assumed to be 1.2 to 2.0 (default value);

k is a multiplier to account for the anticipated rate of non-response;

p is the proportion of the total population accounted for by the target population and upon which the parameter, r , is based;
 \bar{n} is the average household size (number of persons per household);
 E is the margin of error to be attained.

Recommended values for some of the parameters are as follows:

The z-statistic to use should be 1.96 for the 95-percent level of confidence.

$r = 0.05, f = 1.2, k = 1.1, p = 1, \bar{n} = 4.51, e = 0.12, r = 0.006$

Therefore,

$$n_h = (1.96^2) (0.05) (.95) (1.2) (1.1) / (1) (4.51) (0.006^2)$$

$n_h = 1484$

The desired sample size will be taken as 1500.

6.5 Data Processing and Analysis

We will check the quality of data and upload the data to computer at the end of same day. The data contain location of the household for physical feature map and link the household surveyed data with that of spatial database in Arc GIS. We will link the attribute data of socio-economic survey with that of spatial data base in Arc GIS. Then different analysis will be done to collect the information issues like tourism development, housing for disadvantaged group, land value, informal economic activity, traffic congestion, drainage, water logging, unauthorized encroachment, waste disposal, playground and park, stakeholders' participation for planning and development control etc.

6.6 Interim Report Preparation

Interim report will be prepared with all relevant components of the survey components under

the planning package including, but not limited to the following:

- Housing and socio-economic condition
- Social and Urban Infrastructure
- Agriculture
- Utilities and Services including water supply, sanitation, sewerage disposal,
- Transportation and traffic
- Hydrology and bathymetric studies (if any)
- Urban and Rural Economy including informal economic and industrial sector
- Environment, Disaster Risk Assessment, Waste Management and Pollution
- People's participation and Social space
- Historical Importance, archaeology and Tourism etc.

6.7 Preparation of Draft Final Report

After the interim report the draft final report will be prepared with the economic disparity among the Upazila within districts under study shall be figured out by using “shift-share analysis” and “input-output analysis” technique for drawing the future socio economic development scenario.

6.8 Preparation of Final Report

After approval of the draft final report by the Project Implementation Committee, we will assist the UDD Planning team in public hearing at the respective upazilas. And we will assist the UDD planning team for necessary modification of the planning package and finalization of the report.

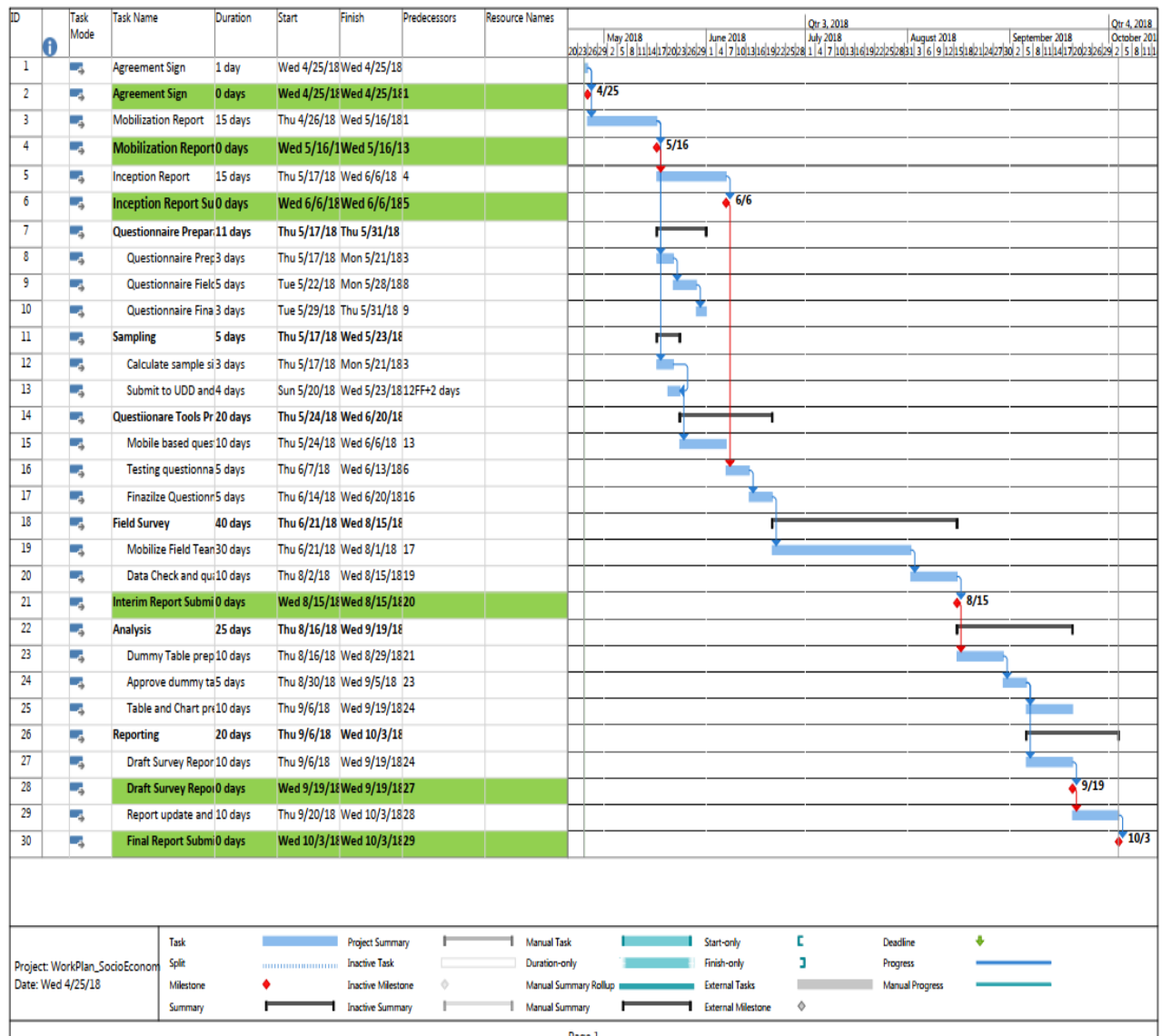
7. Work Plan with Time Schedule

7.1 Overview

The consultancy service would commence with the debriefing meeting. This meeting would help the consultant team to introduce themselves to the Counterpart with UDD, and would facilitate to delivery better working relation during the project works in performing the reconnaissance survey of PKCP project area. At the meeting the team would get in in-depth overviews of the relevant materials that PKCP has in their possession and share their experience in preparation an exhaustive list of collection of documents and drawings to be reviewed.

7.2 Work Plan

Table 3: Tentative work plan to complete the project (get from Office PC)



7.3 Team composition and task assignment

Table 4: Team composition and task assignment for the project

Name of Staff	Firm/ Organization	Area of Expertise	Position Assigned	Task Assigned
Ripan Debnath	Tiller	Field investigation, monitoring, evaluation, social survey, economic survey, database management, preparation of development plan etc.	Socio economic survey expert	<ul style="list-style-type: none"> i. To prepare, piloting, editing and finalization of socio-economic and other related survey questionnaire; ii. To conduct, supervise and monitor socio-economic and other related questionnaire survey; iii. To conduct, supervise and monitor socio-economic and other related questionnaire survey; iv. To analyze the data as directed by PD and presentation in graphs and figures.
Mostafiqur Rahman	Tiller	Experienced in preparing development plan, GIS, RS, Photogrammetry etc.	Data management expert	<ul style="list-style-type: none"> i. Survey and database design for socio-economic survey data for the study area; ii. Supervise and monitor data entry and maintain the quality of database; iii. Management, processing, editing and cleaning of collected data; iv. To assist the socio-economic survey expert in data analysis and interpretation; v. Spatially link socio-economic and other related survey data with base map
Tamzidul Islam	Tiller	Experience in GIS/RS, Digital Data Management, Mapping for City and Town Master Plan, Town Infrastructure Development and Regional Development Project	GIS expert	<ul style="list-style-type: none"> i. Survey and database design for socio-economic survey data for the study area; ii. Supervise and monitor data entry and maintain the quality of database; iii. Management, processing, editing and cleaning of collected data; iv. To assist the socio-economic survey expert in data analysis and interpretation;

3.4 Staffing Schedule

A tentative staffing schedule have been presented below-

Table 5: Staffing Schedule to Accomplish the Project

No	Name of Staff	Staff-month input by month ¹														Total Staff-month input		
		1	2	3	4	5	6	7	8	9	10	11	12	n	Home	Field	Total	
1	Socio-economic Survey Expert															2 month	15 day	2.5
2	Data Management Expert															3 month	15 day	3.5
3	Surveyor															1 month		1
										Total				5	2	7		

8. Digitalization of Data collection Method

8.1 Overview

There are a wide range of data collection tools available online and a number of options. Most of these options provide both free and paid subscription plans with varying levels of features. These tools are a great way to replace paper forms that allow you, or members of your team, to gather data in the field such as pictures, barcodes, signatures and more. Most of the applications like-Device Magic, Magpi, TrackVia, Formhub, Epicollect5, Open Data Kit etc. will allow for collection of data on a mobile device even whilst offline. And for this project we will use Epicollect5 which have been approved by the project director.

8.2 Questionnaire Intermigration in Software and Presentation

The questionnaire has been developed in Epicollect5 software to collect data with geographic location (longitude and latitude) and picture. Online data collection through Epicollect5 have been presented in the meeting of UDD in front of UDD director and Officials. A sample of taking information through Epicollect5 also have been shown in the meeting by collecting data from an official.

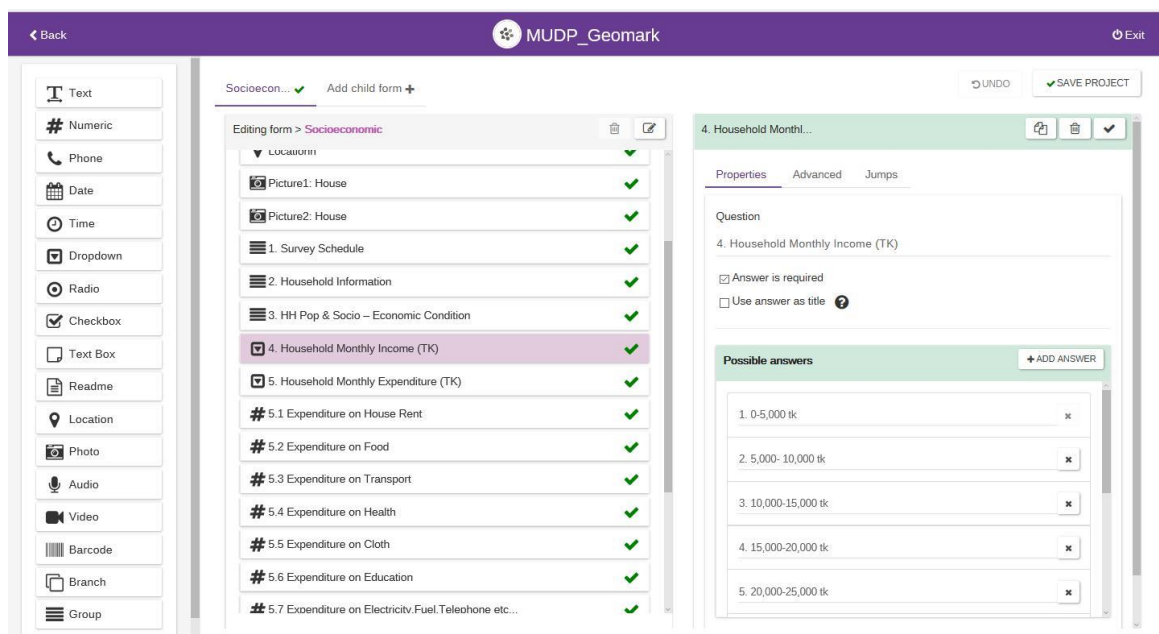


Figure 8: Questionnaire Design in Epicollect 5

8.3 Data integration, Visualization and Processing

The field data will be collected by the Epicollect5 software on the basis of questionnaire has developed in the program. After collecting the data it will be uploaded in the server for downloading. The data can be downloaded in .CSV format that can be visualized in online google map.

View	Delete	Edit	Title	Created At	Spara GPS-position
			väg	14th Dec, 2017	60.490361, 26.900197
			12ceb745-eb21-4b03-...	14th Dec, 2017	60.490326, 26.900126
			väg	14th Dec, 2017	60.497878, 26.895186
			öppen plats	14th Dec, 2017	60.490207, 26.900223
			väg	14th Dec, 2017	60.489427, 26.870444
			skog	14th Dec, 2017	60.486373, 26.886568
			park	14th Dec, 2017	60.48955, 26.886596
			park	14th Dec, 2017	60.486386, 26.886562
			skog	14th Dec, 2017	60.494248, 26.881215
			bostadsområde	14th Dec, 2017	60.494242, 26.881291
			öppen plats	14th Dec, 2017	60.494853, 26.892732
			65dbf995-a72d-42d7-...	14th Dec, 2017	60.494825, 26.893825

Figure 9: Snap view of uploaded data in Epicollect5

Source: Tiller

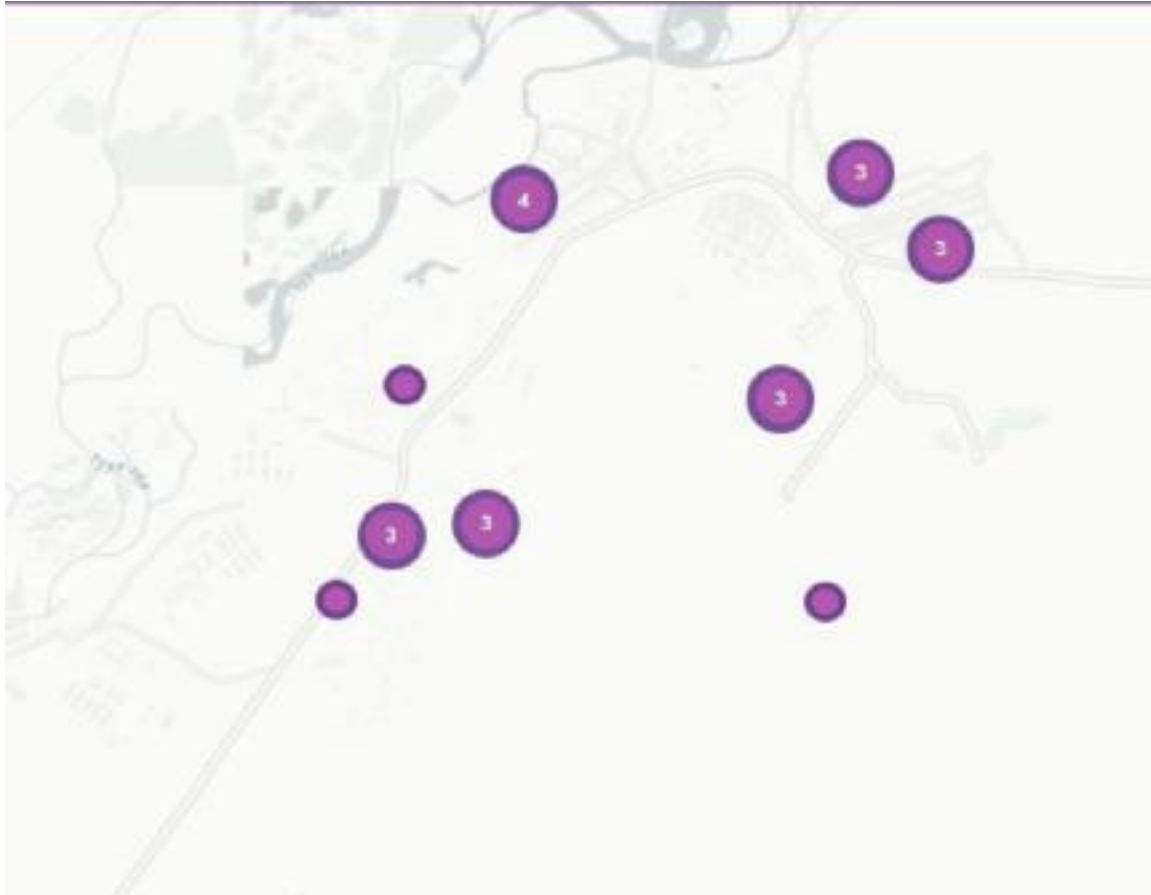


Figure 10: Snap view of data visualization in online map

Source: Tiller

ec5_uuid	created_at	title	lat_1_Spara_GPS	long_1_Spara_GPS	accuracy_1
6539fa52-b30	2017-12-14T11:5	vÅng	60.490361	26.900197	1414
12ceb745-eb	2017-12-14T11:4	12ceb745-eb2	60.490326	26.900126	1414
f47e4a7b-c20	2017-12-14T11:4	vÅng	60.497878	26.895186	1414
494fc2b7-4dc	2017-12-14T11:3	Ålppen plats	60.490207	26.900223	1414
9be1a47c-aak	2017-12-14T11:2	vÅng	60.489427	26.870444	1414
a66e7d8a-b6	2017-12-14T11:2	skog	60.486373	26.886568	1414
c348fb9a-dbt	2017-12-14T11:0	park	60.48955	26.886596	10
7873137f-96f	2017-12-14T11:0	park	60.486386	26.886562	1414
8f87bc16-fae	2017-12-14T10:5	skog	60.494248	26.881215	1414
8cd4461f-0a3	2017-12-14T10:4	bostadsomrÅ	60.494242	26.881291	1414
586fc8ba-207	2017-12-14T10:3	Ålppen plats	60.494853	26.892732	10
65dbf995-a72	2017-12-14T06:4	65dbf995-a72c	60.494825	26.893825	24

Figure 11: Snap view of data after downloading in .CSV format

Source: Tiller

Chapter 9

9. Conclusion

For socioeconomic and others data collection the approach and methodology has a great influence and inception report clarify the approach and methodology according to ToR. For this project works program and time schedule have been based on the outcome of the review of the preliminary data and information including reconnaissance surveys under taken in PKCP area. And analytical methods of the surveys and investigations have been developed with modern tools and technologies.

Annexure 1

পায়রা বন্দর নগরী ও কুয়াকাটা উপকূলীয় অঞ্চলের পরিবেশ-পর্যটনভিত্তিক সমন্বিত পরিকল্পনা প্রণয়ন

নগর উন্নয়ন অধিদপ্তর

৮২, সেগুনবাগিচা, ঢাকা-১০০০, বাংলাদেশ

নমুনা নম্বর..... ফিজিক্যাল ফিচার আই ডিজরিপের তারিখ.....

১. জরিপ তালিকা :

১.১ গ্রাম / মহল্লার নাম : ১.২ মৌজার নাম/ওয়ার্ড.....

১.৩ সাক্ষাতকার প্রদানকারীর নাম :

২. পরিবার পরিচিতি (Household Info.)

২.১ পরিবার প্রধানের নাম : ২.২ পরিবারের মোট সদস্য :.....

২.৩ পরিবারের ধরণ : ১. একক ২. যৌথ

২.৪ ধর্ম : ১. মুসলিম ২. হিন্দু ৩. বৌদ্ধ ৪. খ্রীষ্টান ৫. অন্যান্য

২.৫ বর্তমান ঠিকানা : বাড়ীর নম্বর/দাগ নম্বর : ল্যান্ড মার্কঃ রাস্তার নাম/নম্বর :

৩. খানার জনসংখ্যা ও আর্থ সামাজিক বৈশিষ্ট্য (HH Pop & Socio – Economic Condition)

খানা প্রধানের সাথে সম্পর্ক	বয়স	লিঙ্গ ১= পুরুষ, ২= মহিলা	বৈবাহিক অবস্থা ২. কোড	শিক্ষা (বয়স ৫+) ৩. কোড	পেশা ৪. কোড

কোড :

১-খানা প্রধানের সাথে সম্পর্ক ১. খানা প্রধান ২. স্ত্রী/স্বামী ৩. পুত্র/কন্যা ৪. পিতা/ মাতা ৫. ভাই/বোন ৬. চাচা/চাচি ৭. ভাতিজা/ভাতিজি ৮. মামা/মামি ৯. ভাগ্নে/ভাগ্নি ১০. নাতি/নাত্নি ১১. পুত্রবধু/জামাতা ১২. অন্যান্য (উ.ক.)
২- বৈবাহিক অবস্থা ১. অবিবাহিত ২. বিবাহিত ৩. বিধবা/বিপত্নিক ৪. তালাক প্রাপ্ত ৫. পৃথক
৩- শিক্ষা ১. নিরক্ষর ২. প্রাথমিক ৩. নিম্ন মাধ্যমিক ৪. মাধ্যমিক ৫. এস.এস.সি/ দাখিল ৬. এইস.এস.সি/ আলিম ৭. ডিগ্রি/অনার্স/ফাযিল ৮. ডাঃ/প্রকৌঃ/এ্যাডঃ ৯. মাস্টার্স ও উর্ধে ১০. টেকনিক্যাল ডিগ্রী ১১. অন্যান্য
৪- পেশা ১. সরকারী ২. স্বায়ত্তশাসিত ৩. বেসরকারী ৪. স্বনিয়োজিত (উ.ক.) ৫. ব্যবসা (ক্ষুদ্র / মাঝারি) ৬. কৃষি কাজে ৭. দক্ষ শ্রমিক ৮. অদক্ষ শ্রমিক ৯. শিল্প কারখানায় ১০. নির্মাণ কাজ ১১. পরিবহন কাজ ১২. গৃহস্থালী কর্মি ১৩. দিন মজুর ১৪. মুদি দোকান ১৫. ছাত্র ১৬. অন্যান্য (উ.ক.)

৪. পরিবারের মাসিক আয় (Income)

৪.২ বিদেশ থেকে প্রাপ্ত আয় কত?

৪.৩ পরিবারের মোট আয়

৫. পরিবারিক মাসিক ব্যয় (টাকায়)

বাড়ী ভাড়া বাবদ	খাদ্য	যাতায়াত	স্বাস্থ্য	পোশাক	শিক্ষা	বিদ্যুৎ, জ্বালানী, টেলিফোন ইত্যাদী

৬. আপনার মাসিক সঞ্চয় কত?.....

৬.১ কোথায় সঞ্চয় করেন? ১। ব্যাংক ২। সমিতি ৩। এন জি ও ৪। নিজের কাছে

৭. ঋন (Savings)

৭.১ আপনার ঋন আছে কিনা? ১. হ্যাঁ ২. না

৭.২ ঋন কোথা থেকে নিয়েছেন?

৭.৩ আপনার মাসিক কিস্তির পরিমাণ কত?

৮. অভিবাসন তথ্য (Migration)

৮.১ খানা প্রধানের জন্মস্থান কি এই এলাকায়? ১. হ্যাঁ ২. না

উত্তর না হলে খানা প্রধানের আন্তঃগমন (অন্য জেলা থেকে) সম্পর্কিত তথ্য দিন :

৮.২ খানা প্রধান কোন এলাকা থেকে এসেছেন?

৮.৩ কত সালে এসেছেন?

৮.৪ কার সাথে এসেছেন?

৮.৫ খানা প্রধানের আন্তঃ গমনের কারণ (টিক চিহ্ন দিন)

১. কর্মস্থল	২. রাজনৈতিক	৩. বৈবাহিক	৪. ব্যবসায়িক	৫. উন্নত শিক্ষা
৬. নদী ভাঙ্গন	৭. আর্থিক স্বচ্ছলতা	৮. ঘূর্ণিঝড়	৯. বন্যা	১০. অন্যান্য

৮.৬ পরিবারের কোন সদস্য নিজ এলাকার বাহিরে থাকেন কি না (টিক চিহ্ন দিন) ১. না ২. দেশে(স্থায়ী/অস্থায়ী) ৩.

বিদেশে(স্থায়ী/অস্থায়ী)

৮.৭ নিজ এলাকার বাহিরে থাকার কারণ কি (টিক চিহ্ন দিন)

১. চাকুরী/ কর্মস্থল	২. বৈবাহিক কারণ	৩. পরিবেশগত কারণে	৪. উন্নত শিক্ষা	৫. দারিদ্র
৬. সামাজিক অস্থিরতা	৭. ব্যবসায়িক	৮. অন্যান্য (উ.ক.)		

৮.৮ কতদিন পর পর নিজ এলাকায় ফিরে আসেন (টিক চিহ্ন দিন) ১. ১-৭ দিন ২. ৭-১৫ দিন ৩. ১৫-৩০ দিন ৪. ৩০+ দিন

৯. জমি ও গৃহ (Land and Housing)

৯.১ খানা প্রধান বসবাসের বাড়ি / জমির / ফ্ল্যাটের মালিক কি না? ১. হ্যাঁ ২. না (৯.৪ থেকে ৯.১৩ পর্যন্ত বাদ দিন)

৯.২ বাড়ীর কাঠামোর ধরণ (টিক চিহ্ন দিন) ১. পাকা ইমারত (তলা.....) ২. সেমি পাকা ৩. কাঁচা ৪. ঝুপড়ি

৯.৩ আপনার বাড়ির উঠানসহ ১) আয়তন (বর্গফুট).....২) ঘরের সংখ্যা ৩) অন্যান্য :

৯.৪ বাড়িটির নির্মাণ কাজ কাল ?.....

৯.৫ বাড়ির ভিটর/ পীড়ার উচ্চতা (Plinth Height) কত?.....

৯.৬ বাড়ীর প্লান পৌরসভা কর্তৃক অনুমোদিত কি না (টিক চিহ্ন দিন) ১. হ্যাঁ ২. না

৯.৭ বাড়ী নির্মাণে আইন মেনে না থাকলে কারন কি?

১. এ ব্যাপারে অবগত নন	২. তেমন বাধ্যবাধকতা নেই	৩. ঝামেলা মনে করে	৪. জায়গা কম তাই	৫. অন্যান্য(উ.ক.)
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১০. অবকাঠামোগত সুবিধাদি (Infrastructural Facilities)

১০.১ প্রধান রাস্তার সমস্যা (টিক চিহ্ন দিন): ১.যানজট ২.অপ্রশস্ত ৩.বর্জ্য ও হকার দ্বারা রাস্তা দখল ৪.অন্যান্য(উ.ক.)

১০.২ বেড়াবাঁধের উচ্চতা কত?..... বাড়তে হবে কি না? ১. হ্যাঁ ২.না

১০.৩ ড্রেন (টিক চিহ্ন দিন): ১.পাকা ২.কাচা ৩.নাই

১০.৪ পানির উৎস (টিক চিহ্ন দিন): ১.পাইপ লাইন ২.টিউবয়েল ৩.কমন টিউবয়েল ৪.খাল/নদী ৫.পুকুর ৬.অন্যান্য (উ.ক.)

১০.৫ বন্যাকালীন খাবার পানির ব্যবস্থা কি?

১০.৬ পানির সরবরাহ পর্যাপ্ত কি-না (টিক চিহ্ন দিন): ১. হ্যাঁ ২.না

১০.৭ পানি মান (টিক চিহ্ন দিন): ১.পানযোগ্য ২.পানযোগ্য নয় ৩.আর্সেনিক যুক্ত ৪.গন্ধ যুক্ত ৫.অন্যান্য(উ.ক.)

১০.৮ পানি সংগ্রহের সমস্যা (টিক চিহ্ন দিন): ১.সংগ্রহে দীর্ঘ সময় লাগে ২. উৎস দূরে ৩. অনিয়মিত সরবরাহ ৪. অন্যান্য

১০.৯ বৃষ্টির পানি সংগ্রহের কোন ব্যবস্থা আছে কি না? ১. হ্যাঁ ২.না

১০.১০ জালানী উৎস (টিক চিহ্ন দিন): ১.সিলিন্ডার গ্যাস ২.পাইপ গ্যাস ৩.কেরোসিন ৪.লাকড়ি ৫. বৈদ্যুতিক হিটার ৬. বায়োগ্যাস ৭.অন্যান্য

১০.১১ আলোর উৎস (টিক চিহ্ন দিন): ১.বিদ্যুৎ ২.কুপি/বাতি/হেরিকেন ৩ মোমবাতি ৪ সৌর বিদ্যুৎ ৫.অন্যান্য (উ.ক.)

১০.১২ পয়ঃনিষ্কাশনের ধরন (টিক চিহ্ন দিন): ১.কাচা ২ সেমি পাকা ৩.পাকা ৪.অন্যান্য

১০.১৩ পয়ঃনিষ্কাশন ব্যবস্থা স্বাস্থ্যসম্মত কি-না (টিক চিহ্ন দিন): ১. হ্যাঁ ২.না

১০.১৪ আবর্জনা ফেলার স্থান (টিক চিহ্ন দিন): ১.খাল/নদীতে ২.বাড়ীর বাইরে ৩.ডাষ্টবিন ৪.বাড়ী থেকে সংগ্রহ কও নেওয়া হয় ৫.মাটির গর্তে ৬. অন্যান্য

১১. সামাজিক সুবিধাদির অবস্থা : স্বাস্থ্য, শিক্ষা, চিকিৎসাবিনোদনের সুবিধাদির অভাব

১১.১ গত এক বছরে আপনার পরিবার কি কি রোগে আক্রান্ত হয়েছিল? (টিক চিহ্ন দিন) ১. হ্যাঁ ২. না

পানিবাহিত :	১. আমাশয়	২. ডায়রিয়া	৩. চর্ম	৪. জন্ডিস	৫. অন্যান্য
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বায়ু বাহিত :	১. সর্দি কাশি	২. যক্ষ্মা	৩. অন্যান্য
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অন্যান্য রোগ :	১. হার্ট এ্যাটাক	২. ডায়বেটিকস	৩. কিডনি	৪. মশাবাহিত	৫. অন্যান্য (উ.ক.)
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১১.২ চিকিৎসার জন্য কোথায় যান (টিক চিহ্ন দিন):

১. ডিগ্রিধারী ডাক্তার	২. সরকারী হাসপাতাল	৩. গ্রাম্য চিকিৎসক	৪. দাতব্য চিকিৎসালয়	৫. প্রাইভেট ক্লিনিক
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৬. কমিউনিটি ক্লিনিক	৭. ঔষাধলয় (প্রাকটিশনার)	৮. হোমিও ডাক্তার	৯ হেকিম / কবিরাজ	১০. অন্যান্য
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(উ.ক.)

১১.৩ আপনার সন্তান বিদ্যালয়ে যায় কি না (টিক দিন) ১. হ্যাঁ ২. না (হলে ১১.৮ প্রশ্ন হবে)

১১.৪ আপনার সন্তান শিক্ষা প্রতিষ্ঠানে না যাওয়ার কারন : (টিক চিহ্ন দিন) ১. আর্থিক অস্বচ্ছলতা ২. শিশু শ্রমিক ৩. শিক্ষায় পরিবারের অনিচ্ছা ৪. পিতামাতার অনাগ্রহ ৫. অন্যান্য (উ.ক.)

১১.৫ চিত্ত বিনোদনের জন্য কোথায় যাওয়া হয় (টিক চিহ্ন দিন)

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১. খেলার মাঠ	২. প্রাকৃতিক সৌন্দর্যমন্ডিত স্থান	৩. শপিং মল	৪. পার্ক	৫. ক্লাব
৬. পর্যটন স্থান	৭. মেলা	৮. জিমনেসিয়াম	৯. সিনেমা দেখা	১০. নদীর পাড়ে
				১১. সমুদ্র সৈকতে

১১.৬ চিত্ত বিনোদনের ধরণ (টিক চিহ্ন দিন) : ১. নিয়মিত ২. অনিয়মিত

১১.৭ বাসস্থান থেকে চিত্ত বিনোদনের স্থানের দূরত্ব : মি.

১১.৮ আপনার অবসর সময় কিভাবে কাটান (টিক চিহ্ন দিন) : ১. টেলিভিশন দেখে ২. বই পড়ে ৩. আত্মীয়ের বাসায় বেড়ানো

৪. গৃহস্থালীর কাজ করে ৫. অন্যান্য (উ.ক.)

১১.৯ সার্ভিস :

সার্ভিস	বাহন	সময়	সেবার মান
বাজার			
বিপণী কেন্দ্র			
পোস্ট অফিস			
ফায়ার সার্ভিস			
হাসপাতাল			
অ্যাম্বুলেন্স			
কমিউনিটি সেন্টার / মিলনায়তন			

বাহন : ১. হেটে ২. রিকসা ৩. ভ্যান ৪. সাইকেল ৫. মোটর সাইকেল ৬. গাড়ী ৭. বাস ৮. মাইক্রোবাস ৯. অন্যান্য (উ.ক.)

সেবার মান : ১. ভাল ২. মোটামুটি ৩. খারাপ

১১.১০ ফায়ার সার্ভিসে যোগাযোগের মাধ্যম (টিক চিহ্ন দিন) : ১. হেটে ২. রিকসা ৩. ভ্যান ৪. সাইকেল ৫. মোটর সাইকেল ৬. গাড়ী
৭. বাস ৮. মোবাইল / টেলিফোন

১২. প্রাকৃতিক ও অন্যান্য দুর্যোগ (Natural and others Disaster)

১২.১ আপনার এলাকার জলাবদ্ধতা আছে কি না? (টিক চিহ্ন দিন) ১. হ্যাঁ ২. না

১২.২ জলাবদ্ধতা থাকলে তার কারন (টিক চিহ্ন দিন) : ১. নিচু এলাকা ২. পানি নিষ্কাশনের ব্যবস্থা নেই ৩. পানি নিষ্কাশন ব্যবস্থা বন্ধ ৪. অন্যান্য (উ.ক.)

১২.৩ জলাবদ্ধতা কত সময় পর্যন্ত স্থায়ী হয় (টিক চিহ্ন দিন) ১. ০-১ ঘন্টা ২. ১-৩ ঘন্টা ৩. ৩-৫ ঘন্টা ৪. ৫ ঘন্টার উর্ধে

১২.৪ স্লুইস গেটগুলো কার্যক্ষম আছে কি না? ১) হ্যাঁ ২) না

১২.৫ ২০০৭ এবং ২০০৯ এ যে ক্ষতি হয়েছে তার মাত্রা এবং বর্তমানে তার পুনরুদ্ধারের মাত্রা:

খাতসমূহ	সময়কাল					
	২০০৭ ও ২০০৯			২০১৮		
	সামান্য ক্ষতি	ক্ষতি হয়নি	সম্পূর্ণ ক্ষতি	সামান্য পুনরুদ্ধার	পুনরুদ্ধার সম্ভব হয়নি	সম্পূর্ণ পুনরুদ্ধার
ঘর-বাড়ি						
গৃহপালিত পশু						
কৃষি জমি ও শস্য						

১২.৬ আপনার এলাকায় ঘূর্ণিঝড় হলে, ১) সাল..... ২) ক্ষতির পরিমাণ (টাকা)..... ৩) প্রয়োজ্য নয়

১২.৭ আপনার এলাকায় আগুন লাগলে, ১) সাল..... ২) ক্ষতির পরিমাণ (টাকা)..... ৩) প্রয়োজ্য নয়

১২.৮ এলাকার খালগুলো ভরাট হয়ে গেছে কি না? ১) হ্যাঁ ২) না

১২.৯ জলোচ্ছ্বাস হলে, ১) সাল..... ২) ক্ষতির পরিমাণ (টাকা)..... ৩) প্রযোজ্য নয়

১২.১০ দূর্যোগ মোকাবেলায় সবচেয়ে জরুরী কি কি বা কোন কোন পদক্ষেপ গ্রহণ করা উচিত বলে মনে করেন? ১.....

২..... ৩..... ৪.....

১২.১১ লবনাক্ততার পরিমাণঃ ১. অনেক বেশি ২. বেশি ৩. মোটামুটি ৪. কম ৫. অনেক কম

১২.১২ এলাকায় নদীভাঙন আছে কিনা?

১২.১৩ আপনার এলাকাতে কোন ধরনের জলবায়ু পরিবর্তন লক্ষ্য করছেন? (টিক চিহ্ন দিন) ১) হ্যাঁ ২) না

১৩. এলাকার অন্যান্য সমস্যা (Other Problem)

১৩.১ এলাকার সর্বাপেক্ষা গুরুত্বপূর্ণ সমস্যা কোনটি (প্রথম হলে ১. দ্বিতীয় হলে ২. তৃতীয় হলে ৩. চতুর্থ হলে ৪. পঞ্চম হলে ৫. হিসেবে চিহ্নিত করুন) ?

লোডশেডিং যানজট	জানবাহন নেই	রাস্তাঘাট নেই বা খারাপ	বর্জ নিক্ষেপনের জায়গার অভাব
বিদ্যুৎ সমস্যা	জলাবদ্ধতা	পয়ঃনিষ্কাশন	ভাল শিক্ষা প্রতিষ্ঠানের অভাব আইন শৃঙ্খলার অবনতি
খাবার পানির অভাব	বাজার দূরে	লবনাক্ততা	অন্যান্য (উ.ক.)

১৩.২ আপনার এলাকার অর্থনৈতিক ভিত্তি কি (টিক চিহ্ন দিন) ১) কৃষি পণ্য উৎপাদন ও বিপণন ২) শিল্প পণ্য উৎপাদন ও বিপণন ৩) সেবা খাত ৪) মৎস্য ৫) অন্যান্য (উ.ক.)

১৩.৩ আপনার এলাকা তে কনও ভূমি (Land-use) ব্যবহার এর পরিবর্তন হয়েছে? (টিক চিহ্ন দিন) ১) হ্যাঁ ২) না

১৩.৪ কেন ভূমি (Land-use) ব্যবহার এর পরিবর্তন হয়েছে : ১. ভূমিকম্প ২. বন্যা ৩. বাড় ৪. অর্থনৈতিক ৫. সামাজিক ৬. অন্যান্য (উ.ক.)

১৩.৫ আপনার বাড়ির সামনের রাস্তা প্রশস্ত করনে জমি ছাড়তে ইচ্ছুক কি না (টিক চিহ্ন দিন) ১) হ্যাঁ ২) না

১৩.৬ উত্তর হ্যাঁ হলে জমির পরিমাণ

Annexure 2

Other Study

Agricultural land demarcation

- Agricultural Land Demarcation (Soil Map)
- Height of land and flood level (source, topographic map)
- Cropping pattern, cropping type, and land utilization (source, soil map)
- Growth or decline of agricultural map (source, Agricultural Extension Office)

Archeology

Selection of buildings

The map indicates location of heritage buildings in Barguna Sadar and Patharghata Areas. Following direction of this map, location of historical heritage can be identified in these areas.

Data collection

Data collection will be conducted through questionnaire survey. Questionnaire survey will include following information

History		
Year of construction		
Use during establishment		
Current use		
Attached facilities		
Maintenance	No. of staff	
	Staff type	

Education

- Location of school, college and university (source, physical feature survey)
- Other necessary information will be collected through questionnaire survey given as follows

Institution	Institution category	Area (sq m)	No. of student		No. of teacher	Attached facilities (yes/No)		No. of dropout students	
			Male	Female		Hostel	Transport	Primary	Secondary

Code: Institution- 1= school, 2= college, 3= university

Health facilities

- Location of hospital, clinic, health center and dispensary (source, physical feature map)
- Capacity, number of doctor and working hour of hospitals and other health facility centers (tool- questionnaire survey; source- hospital or other health facility center authority)
- Questionnaire

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Name	No. of patient	No. of doctor (Permanent)	No. of doctor (Consultant)	
			No.	Working hour

- Forward and backward linkage will be identified through interview of doctors (i.e. reference)

Recreational open space

- Location and area of park, playground, river bank, historical place (source, physical feature map)
- Built area and open area measurement (tool- reconnaissance survey)
- Attached facilities and visitor number (tool- observation and interview of authority)
- Questionnaire given as follows

Location	Area (sq ft)	Built area (sq ft)	Open space (sq ft)	Attached facilities	Number of Visitor (daily)

Urban and Rural Economy

Agri-product:

Agri-product information will be collected through questionnaire survey (given as below)

Item	Production		Local market price		Local demand
	2018	2008	2018	2008	

(Source, Union Parishad)

Trade:

Bazaar and Hat:

- ✓ Location of Hats and Bazars (source, Union Parishad)
- ✓ No. of shops (retail and wholesale) in each Hat and Bazar (source, Union Parishad and bazar committee)
- ✓ Revenue collection and lease amount trend (10 years) of Hat and Bazar (source, Union Parishad and bazar committee)
- ✓ Daily trade (source, shop owner and bazar committee)
- ✓ Trade license

Shops (excluding hat and bazar)

- ✓ Number of shops i.e. retail and wholesale (source, chamber of commerce)
- ✓ Types of shops (categorized according to physical feature survey)
- ✓ Daily trade of shops (source, chamber of commerce)

Industry

- ✓ Location of industries
- ✓ Type of industry (categorized by product)
- ✓ Type of raw materials used in Industries
- ✓ Find out the employees of these industries
- ✓ Production volume trend (10 years) of industry

(source, interview of industry authority)

Forward- Backward linkage

- ✓ Agri-product (farmer → local seller → Goodown → Hat and Bazar → consumer/buyer)
- ✓ Industry product (industry → wholesale → retail → end consumer)

(source, field survey, interview of market committee)

Industry

Sample no:
 Date:/...../2013

Physical feature ID:

1. Basic information

- a) Name of Industry: _____ b) Area: _____ c) Building footprint: _____
 c) Size: 1) Small 2) Medium 3) Large d) Type: 1) Formal 2) Informal
 e) Nature: 1) Green 2) Yellow 3) Red
 f) Finance: 1) Self 2) Loan 3) Joint venture 4) PPP 5) Govt. owned
 g) Land Ownership: 1) Own 2) Rental h) Year of Establishment: _____

2. Input (Raw material)

Item	Source	Carrier	Vol. required/month	Unit buying price	Seller

3. Output

Output	Item	Outlet location	Carrier	Production Vol./month		Unit selling price	Buyer
				2018	2008		
Product							
By-product							

4. Labor information:

a) Total Number of Labor:

b) Type:

Category		Skilled			Unskilled		
Sub-category		Top	Mid	Lower	Top	Mid	Lower
No. of labor							
Wage/month							
Labor source (location)							
Housing	type						
	HH size						
	No. of room						

Code: Type: 1= pacca, 2= semi-pacca, 3= katcha

c) Facilities:

Type		Yes/No	No. of labor
Accommodation			
Transport			
Health	Health insurance		
	Health Support (Financial)		
	Campaign		

5. Pollution Control System:

a) Industrial discharge:

Pollutant		Non-pollutant	
Name (effluent)	State	Name (effluent)	State

Code: State: 1= Solid, 2= Liquid, 3= Gas

a) Pollution Control Device

Device name	Installation Cost	Maintenance Cost/Month	Followed by govt. regulation (yes/no)

b) Effluent disposal place: 1) Pond 2) Land 3) Marshy land 4) River 5) Other

.....

c) ETP:

ETP	Capacity	Number of chambers	Standard
1.			
2.			
3.			
4.			