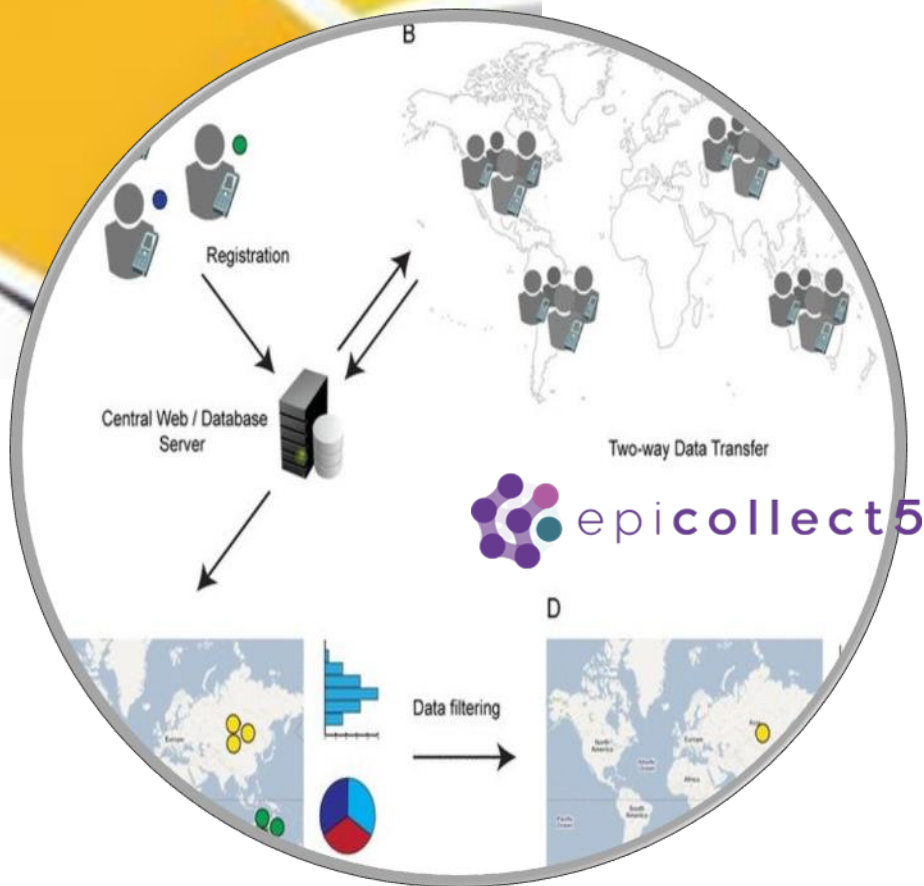




**URBAN DEVELOPMENT DIRECTORATE
(UDD)
GOVERNMENT OF THE PEOPLE'S**



INTERIM REPORT

**Socio-Economic and other Surveys under Preparation of
Development Plan for Mirsharai Upazila, Chittagong
District: Risk Sensitive Landuse Plan (MUDP), Package-3**



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

Interim Report

on

Package -3:

Socio-Economic and Other Surveys under Preparation of Development Plan for Mirsharai Upazila, Chittagong District: Risk Sensitive Landuse Plan (MUDP)

Submitted to

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Interim Report

Package-3: Socio-Economic and Other Surveys

Under "Preparation of Development Plan for Mirsharai Upazila, Chittagong District: Risk Sensitive land use Plan MUDP"

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, labour 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 utilised to accomplish the specified objectives of the study.

1.2 Background

Mirsharai Upazila (Chittagong district) area 482.88 sqkm (BBS)/509.80sqkm(GIS data), located in between 22°39' and 22°59' north latitudes and in between 91°27' and 91°39' east longitudes. It is bounded by Tripura state of India, Chhagalnaiya and Feni sadar upazilas on the north, Sitakunda upazila and Bay of Bengal on the south, Fatikchhari upazila on the east, Sonagazi and Companiganj (Noakhali) upazilas on the west. Mirsharai Thana was formed in 1901 and it was turned into an upazila in 1983. Mirsharai Upazila consists of 2 Municipality, 16 Union and 113 Mouza.

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Package-3: Socio-Economic and Other Surveys

Under "Preparation of Development Plan for Mirsharai Upazila, Chittagong District: Risk Sensitive land use Plan MUDP"

Map 0-1: Mirsharai upazila map



Source: LGED digital map

and existing land use pattern of the region. The proposed planning package would guide such probable changes in the socio-economic condition and land use pattern of the region, and would also address the adverse impact of such changes.

through smart device, data processing, data analysis and report writing.

1.3 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 Mirsharai Upazilas.

1.4 Scope of Work

UDD project team members' shall prepare the plan for the Preparation of Development Plan for Mirsharai Upazila, Chittagong District: Risk Sensitive Landuse Plan. 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.

CHAPTER 2

2. Understanding the Project

2.1 Project Objectives

The objectives of preparation of Strategic planning at MUDP 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:

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)

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. Sample size will be minimum 30 questionnaire each Ward level and 30 nos of each union level of Mirsharai Upazilas. (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, play ground and park, stakeholders participation for planning and development control etc.

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

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

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.

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

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 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 (formal and informal industries, formal and informal economy (both urban and rural), social infrastructure, recreational spaces (both open and closed), archaeology, social space studies, etc.) as specified in the ToR shall also be conducted in consultation with PD.

Step 3-II A We will collect data and information through other related surveys and studies as specified in the ToR. He/She 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.

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 Mirsharai Upazila area and MUDP (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 Mirsharai Upazila and its 16 unions. In this development planning package since its location is strategically important from the regional context because this upazila is situated on the way to Dhaka Chittagong highway as the highway runs through this upazila.

3.2.2 Description of the Project Area

A detailed description of the Project Area is given below:

Table 0-1: Area, population and density of the project Area

Municipality	Union	Mouza	Village	Population		Density (per sq km)	Literacy Rate (%)
				Urban and Other Urban	Rural		
2	16	103	208	31206	367510	826	55.1

Source: BBS, 2011

Mirsharai sea beach, hilly area, Mohamaya Chara Lake, Khaiya Chara region has the greater potential for tourism development as there are abundant resources to attract tourists. Mirsharai is developing in an unplanned and haphazard manner very rapidly due to the ample opportunity for tourism development, which is acting as pull factor for private sector developers. 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 MoHPW Minister expressed his heartiest interest to develop char of this Upazila as an

exclusive economic zone; as well as to establish a tourist zone and economic zone covering Mirsharai upazila.

3.3 List of Unions/Municipalities of the Study Area

Mirsharai Upazila is comprised of two municipalities and sixteen unions which covers an area of about 482.88 sq. km.

Table 0-2: Table: List of union/municipalities

SL	Municipality/Union	Name
1.	Municipality	Mirsharai Municipality
2.	Municipality	Baraiyarahata Municipality
3.	Union	Dhum
4.	Union	Durgapur
5.	Union	Haitkandi
6.	Union	Hinguli
7.	Union	Ichhakhali
8.	Union	Karerhat
9.	Union	Katachhara
10.	Union	Khayachhara
11.	Union	Mayani
12.	Union	Mirsharai
13.	Union	Mithanala
14.	Union	Maghadia
15.	Union	Osmanpur
16.	Union	Saherkhali
17.	Union	Wahedpur
18.	Union	Zorwarganj

Source: BBS 2011

3.4 Basic Statistics of the Study Area

In the present era Mirsharai upazila has a great opportunity in the development of economic growth in terms of local and national level. For socioeconomic and others survey a basic description have been demonstrated below-

Table 0-3: Number of households of the Mirsharai upazila

Households (HH)	2001	2011

Urban	2,236	5,906
Other urban	724	2,428
Rural	72,915	64,520
Total	69,184	79,545

Source: BBS 2011

Table 0-4: Population and growth rate of the Mirsharai upazila

Population	2001	2011
Both Sex	3,68,950	3,98,716
Male	1,83,358	1,87,323
Female	1,85,592	2,11,393
Urban	10,119	27,820
Other urban	12,867	3,386
Rural	3,45,964	3,67,510
Annual growth rate	1.25	0.77

Source: BBS 2011

Table 0-5: Occupation Pattern of the Mirsharai upazila

Main Source of Income	Percentage
Agriculture	38.93%
Non-agricultural labourer	3.61%
Industry	0.57%
Commerce	13.26%
Transport and communication	2.93%
Service	18%
Construction	1.19%
Religious service	0.34%
Rent and remittance	8.84%
Others	12.33%
Total	100.00%

Source: BBS 2011

Access to electricity all the wards and unions of the upazila are under rural electrification network. However 34.70% of the dwelling households have access to electricity (BBS 2011).

Interim Report

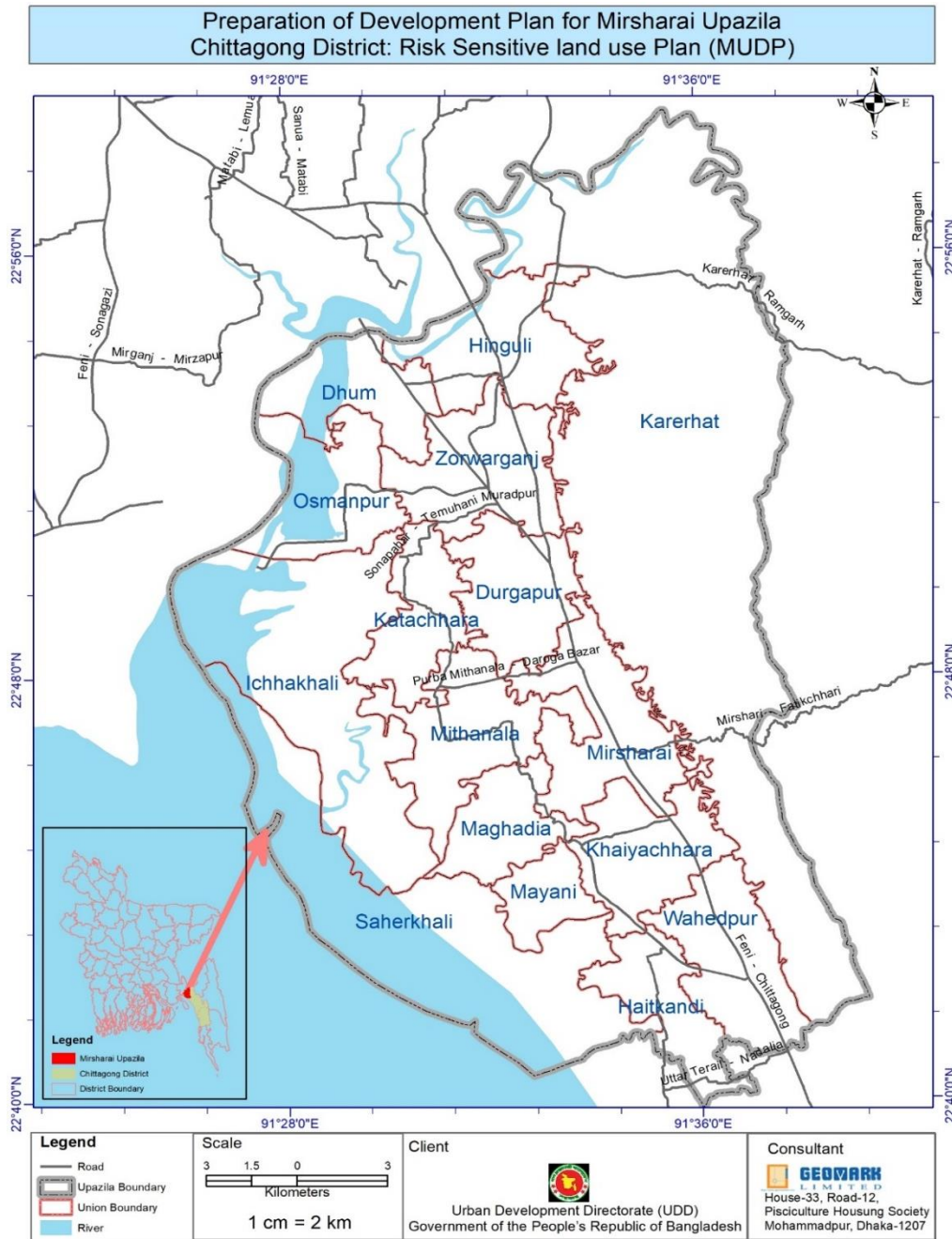
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Sources of drinking water Tube-well 92.04%, tap 0.67%, pond 3.24% and others 4.04%. The presence of arsenic has been detected in 39% of the shallow tube-well water of the upazila (BBS 2011).

Sanitation 56.98% (rural 56.04% and urban 71.73%) of dwelling households of the upazila use sanitary latrines and 34.30% (rural 35.13% and urban 21.11%) of dwelling households use non-sanitary latrines; 8.73% of households do not have latrine facilities (BBS 2011).

Map 0-1: Union map of Mirsharai upazila



Source: GIS section, Geomark Ltd.

CHAPTER 4

4. Approach and Methodology

4.1 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.

4.2 Activity -1 Mobilization

The Survey firm recognize that one of the key requirements for the success of the work programme 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 it's particularly true for the time constrained survey work of the Project

4.3 Activity-2 Discussion and Meeting with PD and Questionnaire Preparation

We have done a number of meeting with project director and authorized person for socioeconomic and others survey components like- questionnaire preparation, software integration, sample size delineation etc. and developed questionnaire and software for socioeconomic and others survey. The questionnaire have been attached in the annexure. The survey firm have also visited the related Pouroshava, and union office.

4.4 Activity -3 Collection of Documents

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 programmes, government publications, public authorities, statistical digests, documentation of external agencies.

4.5 Activity -4 Reconnaissance survey

We have already completed the reconnaissance survey and submitted the report to UDD. In conjunction with the data gathering, we will conduct reconnaissance survey of the entire project area to devalued particularly the space zoning with the respect layout considering the overall service levels.

4.6 Activity -5 Survey Plan

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

4.6.1 Quality Control in the Field

- Use of online software 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

4.6.2 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

4.7 Methodology of Database Preparation

Socioeconomic and others survey like-formal and informal economy, archeology, Education, Religious, Sports, Recreation, Community and Socio-Cultural Services/Facilities etc. will be done according to the ToR and discussion with project director (PD).

4.7.1 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, UDD. Checking and compilation of data will be carried out simultaneously for quality control.

4.7.2 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.

4.7.3 Data Delivery

Final data (socioeconomic and others) will be produced and delivered to client for approval.

4. 8 Digitalization of Data Collection Method

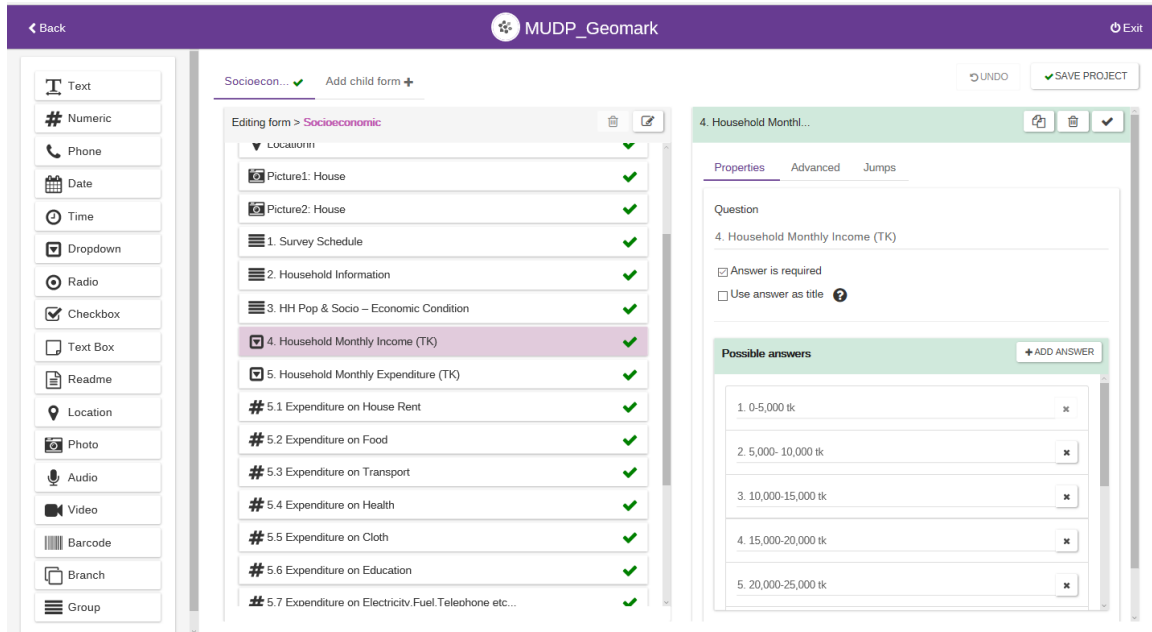
4.8 .1 Overview

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.

4.8.2 Questionnaire Intermigration in Software and Presentation

The questionnaire have 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 officials.

Picture: Questionnaire design in Epicollect 5



4.8.3 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.

Picture 0-1: Snap view of uploaded data in Epicollect5

4.8.4. Sample Size Delineation

House -hold sample survey will be done using the approved Questionnaire based on specified Questionnaire format indicated in TOR. Sample size will be minimum 30 questionnaire each Ward level and 30 nos of each union level of Mirsharai Upazilas. (Sample size shall be determined in consultation with PD).

4.8.5 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 16 Union boundaries. In further, household of urban or rural area will be selected randomly.

4.8.6 Sample size Calculation:

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

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.

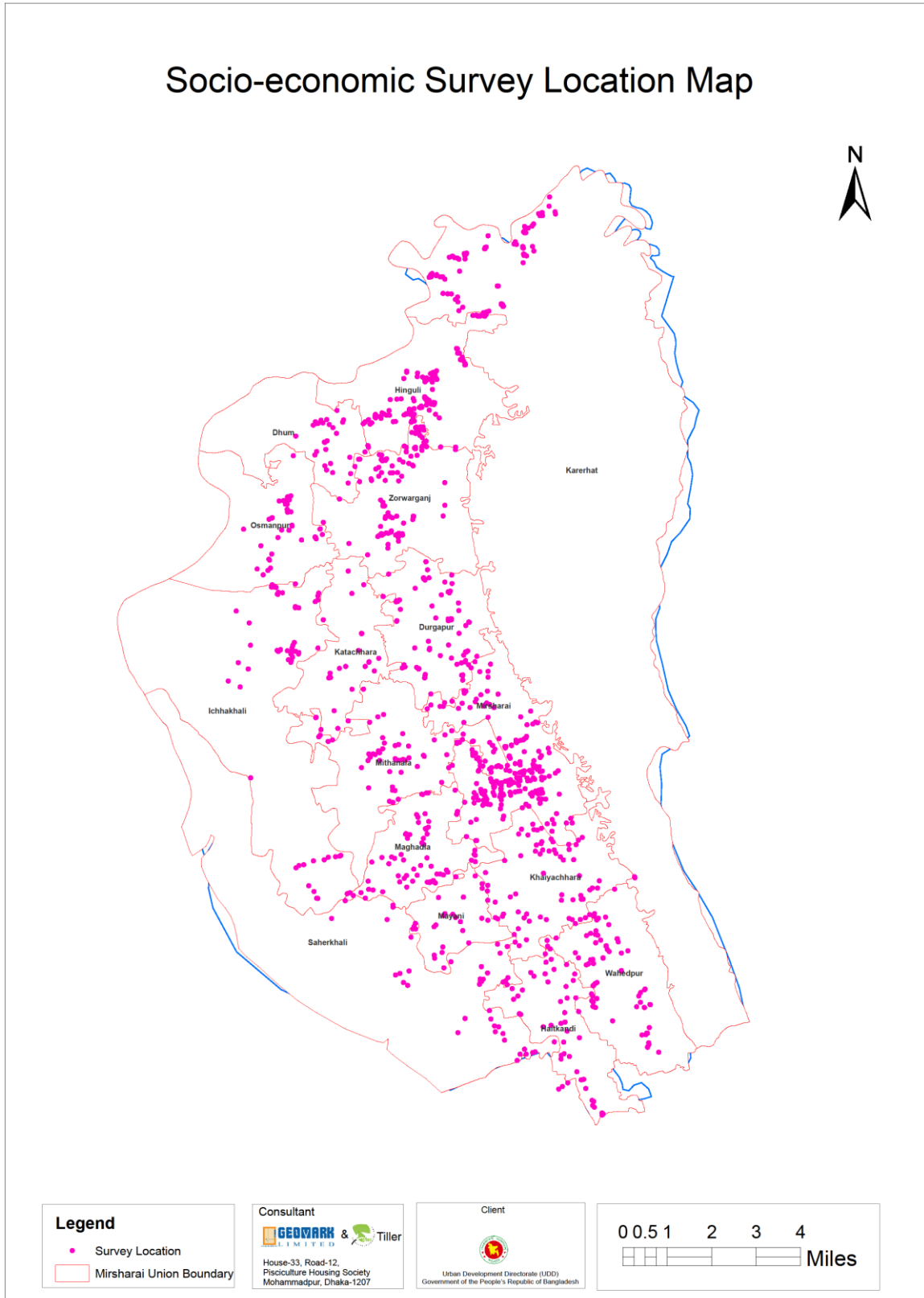
$$r = 0.05, f = 1.2, k = 1.1, p = 1, \bar{n} = 5, e = 0.13, r = 0.007$$

Therefore,

$$n_h = (1.96^2) (0.05) (.95)(1.2)(1.1)/(1)(4.99)(0.007^2)$$

$$n_h = 985$$

The desire sample size will be taken as 1000.



4.8.7 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 and others 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, drainage, water logging, unauthorized encroachment, waste disposal, playground and park, stakeholders participation for planning and development control etc.

4.8.8 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,
- Urban and Rural Economy including informal economic and industrial sector
- Waste Management and Pollution
- People's participation and Social space
- Historical Importance, archaeology and Tourism etc.

4.8.9 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.

4.8.10 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 upazila. And we will assist the UDD planning team for necessary modification of the planning package and finalization of the report.

CHAPTER 5

Finding through Questionnaire Survey

In field level we have surveyed 1350 nos questionnaire and found the variable as follows

5 Household Characteristics:

5.1 Age and Sex distribution of Respondents:

In table-5.1, the age and sex composition of the Mirsarai is presented. It Shows that no respondents of female below 10 years. Of the 56.80% males and 43.20% female's respondents belong to the age group of 10-19 years. At the age range of 30-39 and 40-49 shows that the response rate of both of the genders are almost equal. But overall response rate of respondents are 44.80% female and 55.20% male.

Table5.1: Age Sex Distribution of Respondents

Age	Sex		Total
	Female	Male	
<10		100.00%	100.00%
10-19	43.20%	56.80%	100.00%
20-29	45.50%	54.50%	100.00%
30-39	52.00%	48.00%	100.00%
40-49	52.90%	47.10%	100.00%
50-59	46.20%	53.80%	100.00%
60-69	35.00%	65.00%	100.00%
70-79	22.50%	77.50%	100.00%
80+	40.00%	60.00%	100.00%
Total	44.80%	55.20%	100.00%

5.2: Sex distribution of Respondents: In the table 5.2 shows that the sex distribution of Mirsarai Upazila. Of the Table represents 43.1% female and 53% male

Table5.2: Sex Distribution of Respondents

Sex of the respondents	Frequency	Percent
Female	580	43.1
Male	713	53
Total	1293	96.1

5.3: Family Type and Number of Family Members: Family members below 5 persons, majority of them belongs to the single type, 95% that type of family represent the single family and only 5% are belongs to the Join family type. At the range of family member 05-09 maximum number of single type family belongs here than that of Join type. At the increase of family members causes decrease the number of single family type.

In the Table5.3 shows that the overall percentages of distribution of Family Type and Family Members, Where 72.90% of single Type of family and 27.10% join type Family

Table 5.3 Distribution of Family Type and Number of Family Members

Number of Family Member	Family Type	
	Single	Join
<5	95.00%	5.00%
05-09	66.80%	33.20%
10-14	12.90%	87.10%
15-19		100.00%
20+		100.00%
Total	72.90%	27.10%

5.4: Educational Status and Occupation: The education level of this area not representative of the high level of literacy rate. In the education Status 23.8% of residents are illiterate and 32.90% are belongs to the primary level education.

Higher level of educations are also not very rich. In the Table5.4 shows that the only 4.60% of the resident having education level of Degree/Honors/ Fazil and only 1.20% belongs to the Masters or higher degree.

Occupations are not well diversified in this area, In the Table5.4 shows that the majority (37.00%) of the residents are illiterate as well as day laborer. Service sector represent both government and private service which represent the 27.80% illiterate residents and less than 2% higher educated residents.

Table 5.4: Educational Status and Occupation

Occupation	Educational Status							Total
	Illiterate	Primary	SSC/Dhakil	HSC/Alim	Degree/Honors/ Fazil	Masters or Higher	Others	
Agriculture	24.60%	48.50%	21.60%	3.00%	1.50%		0.70%	100.00%
Business(Small/Medium)	15.00%	36.40%	32.70%	9.30%	5.60%	0.90%		100.00%
Service	27.80%	32.40%	30.20%	4.40%	3.40%	1.40%	0.50%	100.00%
Skilled labor	15.20%	36.40%	33.30%	9.10%			6.10%	100.00%
Day Labor	37.00%	34.60%	23.50%	3.70%	1.20%			100.00%
Self-independent	17.80%	28.20%	41.30%	6.10%	4.20%	1.40%	0.90%	100.00%
Student	2.10%	4.20%	20.80%	29.20%	35.40%	6.30%	2.10%	100.00%
Total	23.80%	32.90%	30.70%	6.10%	4.60%	1.20%	0.70%	100.00%

5.5: Family Income Family Expenditure and Savings:-

Majority of the Monthly income distributed in the below TK 5,000, in the Table1.5 shows that the 77.60% households monthly income are less than TK 5,000 as the way 77.60% also represents the Household monthly expenditure. So it is clear that majority of household savings is zero.

On the other hand Table5.5 also shows that the income of household more than TK 50,000 are not more than 1%

Table5.5: Distribution of family income Expenditure and Savings

Household Monthly Expenditure (TK)	Household Monthly Income (TK)							Total
	<5,000	05,000 - 14,000	15,000-24,000	25,000-34,000	35,000 - 44,000	45,000-54,000	55,000 +	
<5,000	77.60 %	12.10 %	8.60%	1.70%				100.00 %
05,000-14,000	0.60 %	88.50 %	8.80%	1.00%	0.50%	0.20%	0.50%	100.00 %
15,000-24,000		0.50%	83.30%	12.50%	2.80%	0.90%		100.00 %
25,000-34,000			1.90%	79.20%	13.60 %	3.20%	1.90%	100.00 %
35,000-44,000					70.00 %	16.70%	13.30%	100.00 %
45,000-54,000						43.80%	56.30%	100.00 %
55,000 +							100.00%	100.00 %
Total	3.60 %	41.20 %	30.80%	13.50%	5.80%	2.00%	2.80%	100.00 %

5.6: Monthly Expenditures of Household Head:-

Bar diagram of expenditure shows the graphical representation of different types of expenditures,

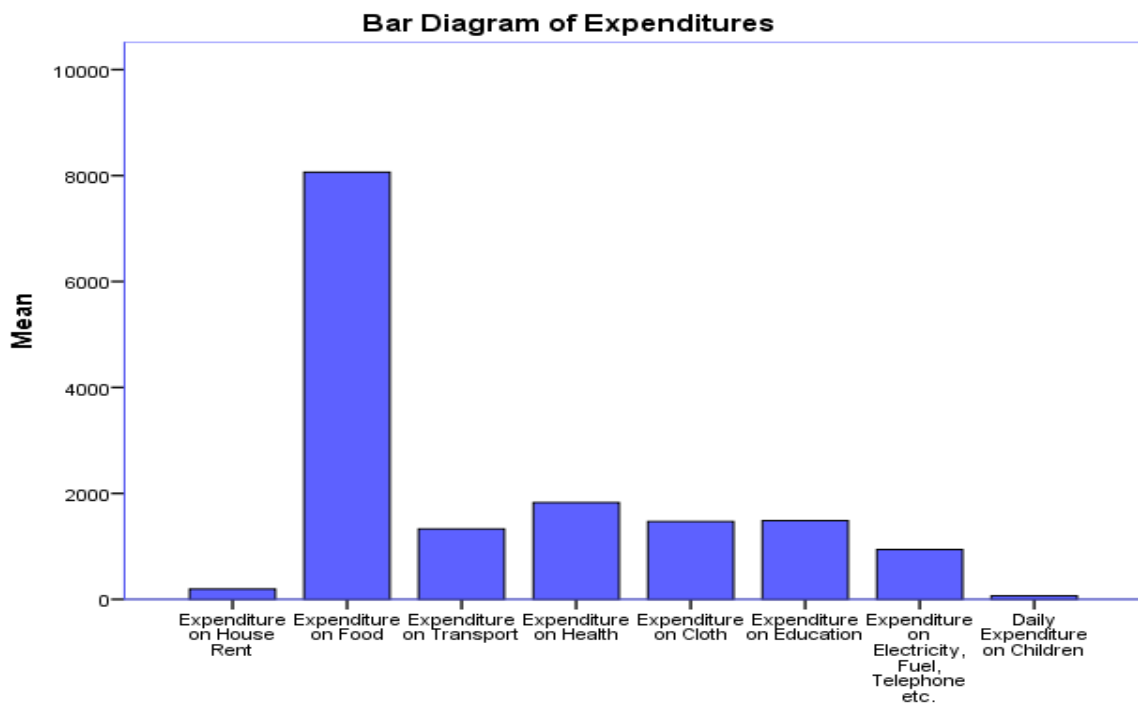


Figure: Bar diagram of expenditure shows the graphical representation of different types of expenditures,

where expenditure on food having mean of TK 8,000(approx.) represent the highest expenditure of household per month

5.7: Land Area and Structure

5.7: Distribution of owner of the House: Residents of the area 98.33% of them are owner of their house. Only a few percent’s not having their own house in this area.

Bar Diagram of Owner of Household

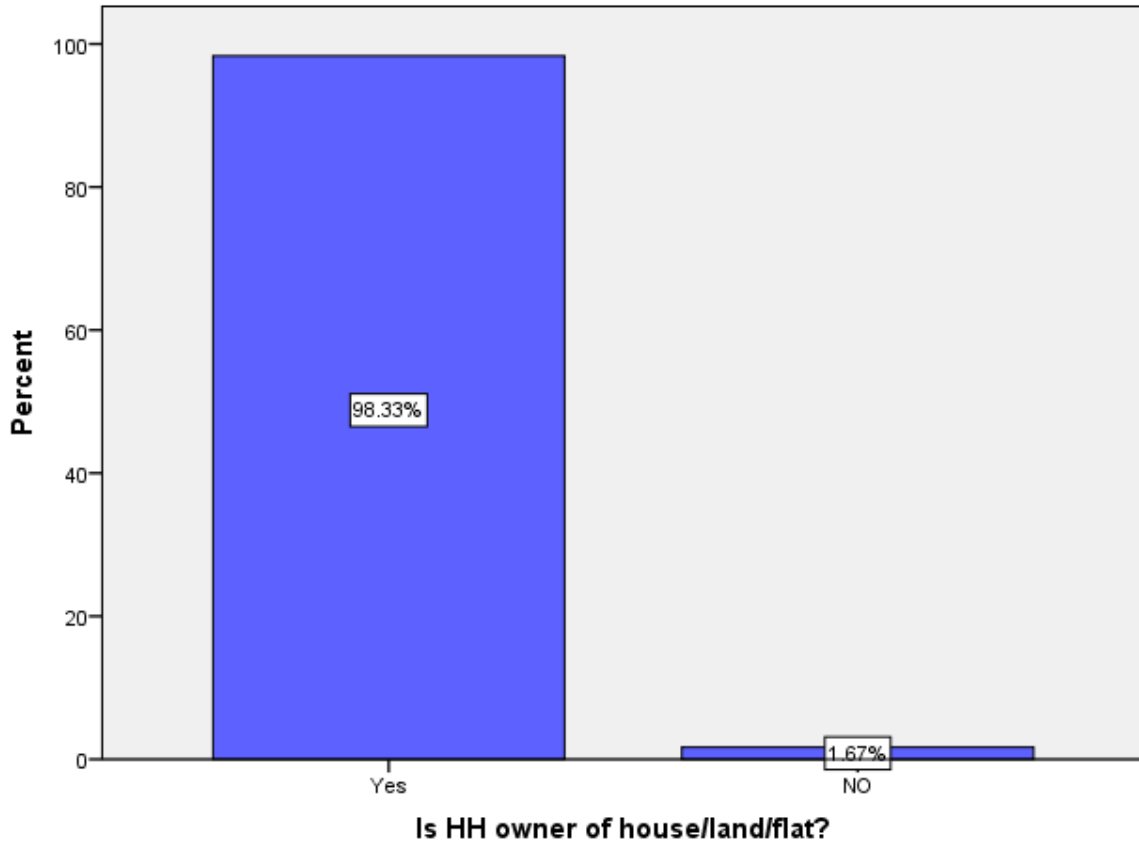


Figure: Bar Diagram of HH owner of house

5.8 Distribution of House Structure and House Area: Katcha structure of house are represent the majority of 52.8% in the Table5.8, and Jhupri represent minimum percentages only 1.1% in the table

Table5.8: Distribution of House Structure and House Area

House area including yard (Sqft)	Structure of House				Total
	Jhupri	Katcha	Semi Pucca	Pucca	
<1000	22.7%	63.8%	6.1%	7.4%	100.0%
1000-2000	15.6%	52.2%	13.0%	19.3%	100.0%
2000-3000	9.3%	55.4%	14.2%	21.1%	100.0%
3000-4000	1.7%	55.6%	18.8%	23.9%	100.0%
4000-5000	2.4%	39.3%	27.4%	31.0%	100.0%
5000-6000	2.6%	44.7%	19.7%	32.9%	100.0%
6000-7000	4.2%	35.4%	25.0%	35.4%	100.0%
7000-8000		28.0%	20.0%	52.0%	100.0%
8000 & above	1.1%	36.8%	14.9%	47.1%	100.0%
Total	8.8%	52.8%	14.9%	23.5%	100.0%

Source: Field Data

In the table5.8 Shows that the 52.0% of Pucca structure having the house area of 7000-8000 range, which is the maximum. Overall 23.5% structure are pucca.

5.9 Foundation & Soil Type of House:

Foundation type of House are mainly classified in two categories like Brick and RCC. Brick and RCC foundations are common in muddy Land. But in the red soil type having 62.5% of Brick foundation.

Table5.9: Distribution of Foundation & Soil Type of House

House Soil Type	Foundation Type of House		Total
	Brick	RCC	
Muddy Land	41.4%	58.6%	100.0%
Red Soil	62.5%	37.5%	100.0%
Rock Soil		100.0%	100.0%
Sand Soil	41.3%	58.7%	100.0%
Total	41.6%	58.4%	100.0%

In the table5.9 shows that Rock soil Brick foundation is totally absent. But in the Sand Soil bothe Brick and RCC foundation are common

5.10: House Soil Type & Ground water Layer (ft):

Ground water level below 10-25(ft) range is not available without sand soil, although Table5.10 shows only 1% availability of water.

From the Table2.4 ground water layer ranges 26-50(ft) is good for availability of water mainly in Muddy Land (56.5%).

Overall range (26-50) and (51-100) are the main available water layer

Table5.10: Distribution of House Soil Type & Ground water Layer

House Soil Type	Ground Water Layer (ft)				Total
	10-25	26-50	51-100	100 & above	
Muddy Land		56.5%	37.6%	5.9%	100.0%
Red Soil		12.5%	66.7%	20.8%	100.0%
Rock Soil		100.0%			100.0%
Sand Soil	1.0%	43.5%	40.7%	14.8%	100.0%
Total	.2%	53.7%	38.5%	7.6%	100.0%

5.12: Comparison of Land Prices:

The line diagram below present the comparison of land price from 2002 to 2017 with 5 years interval.

It is an upward sloping raph, which shows that increase of land price over the year.



Figure: Line Diagram of Land prices

5.13: Main Road Distance and condition:

Main road categories in two types represent the Table5.13 and main road distance from the household in between below 1000 meters to 10000 meters

Table5.13: Main Road Distance

Main Road distance from House(m)	Condition of Main Road		Total
	Good	Not Good	
<1000	57.8%	42.2%	100.0%
1,000-2,900	42.9%	57.1%	100.0%
3,000-4,900	20.4%	79.6%	100.0%
5,000-6,900	47.7%	52.3%	100.0%
7,000-8,900	36.8%	63.2%	100.0%
9000-10000	44.8%	55.2%	100.0%
Total	50.7%	49.3%	100.0%

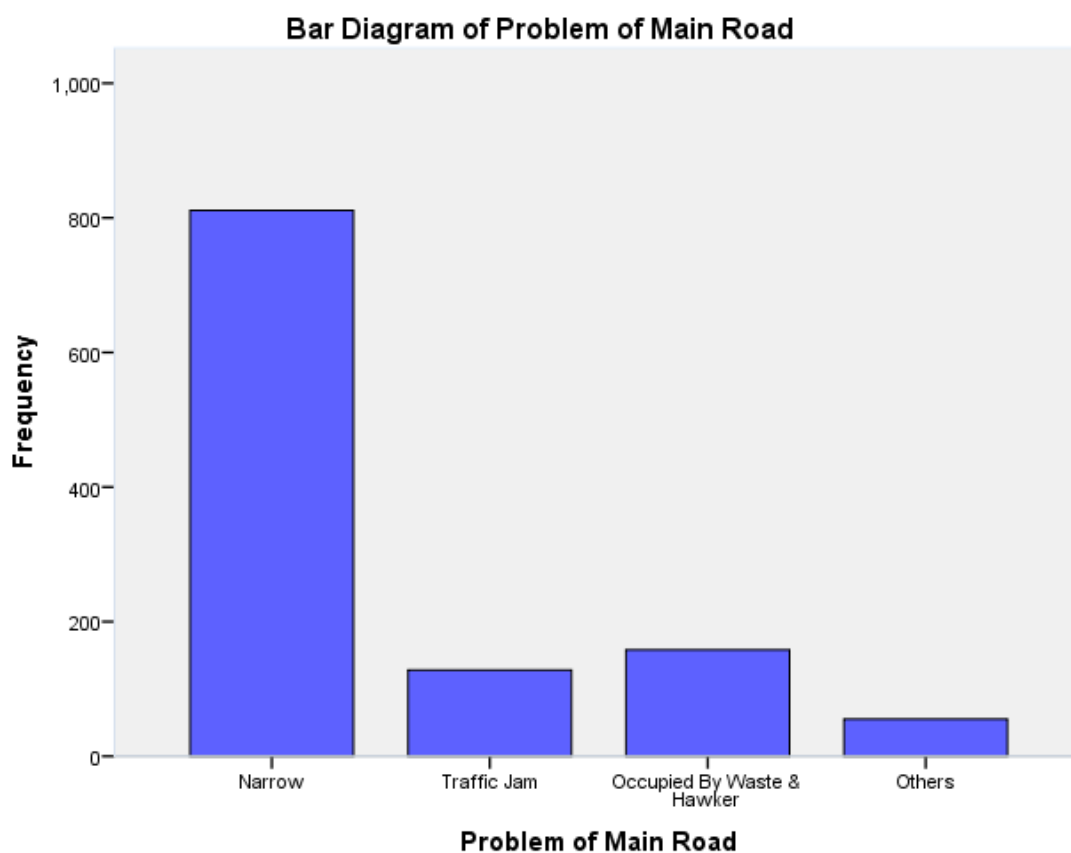


Figure: Bar Diagram of Problem of Main Road

5.14: Source of Water & Quality:

Regarding changing water sources during the study period, for drinking, tube-well water is commonly chosen.

In the Table5.14 Tubewell water represent the 96.6% of the main water source and overall 96.9% Tubewell waters are drinkable.

But Arsenic contaminated only in Tubewell water. Which happens that 72.4% water not drinkable.

Table5.14: Source of Water & Quality

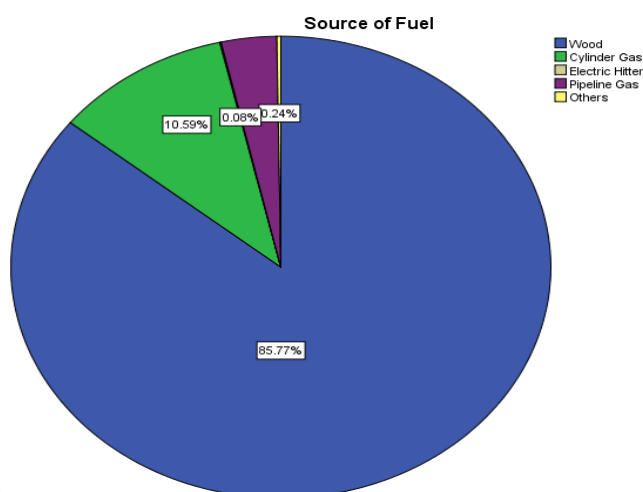
Quality of Water	Source of Water			Total
	Tubewell	Comon Tubewell	River/Canal/Pond	
Drinkable	96.9%	2.9%	.2%	100.0%
Arsenic Contaminated	100.0%			100.0%
Not Drinkable	72.4%	17.2%	10.3%	100.0%
Total	96.6%	3.0%	.4%	100.0%

Other sources of water mainly river canal ponds and others.

5.15: Fuel Sources:

Majority of fuel sources are coming from the wood.

Pie-chart of the sources of fuel shows other sources like pipeline gas, Electric hitter and



Cylinder gas

Figure: graphical representation of Fuel Sources

5.16: Sources of Light:

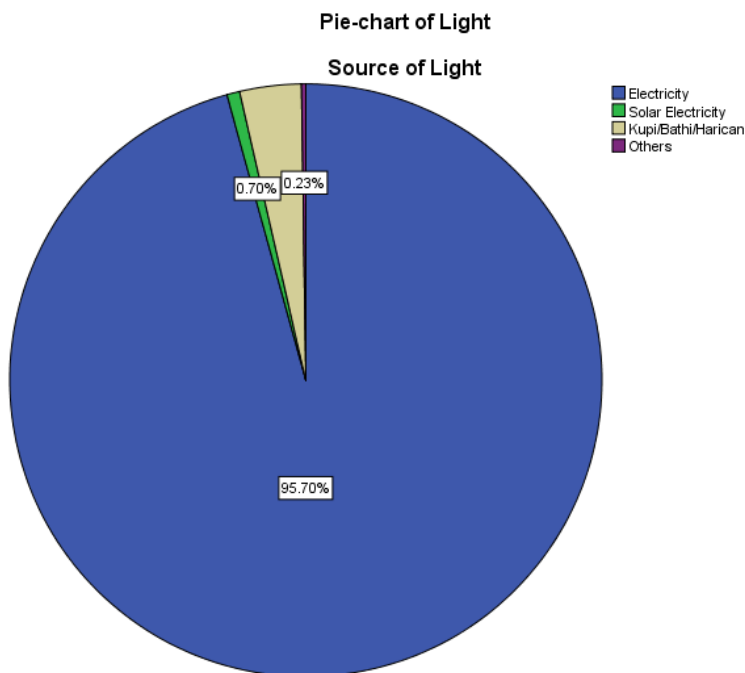


Figure: Graphical representation of sources of Light

5.17: Sanitation & Hygienic Level: Three types of sanitation structure which are Katcha semi pucca and Pucca.

Pucca Structure having 93.9% hygienic shows the Table 5.17.kathca structure most non hygienic, but not in large percentages only 14.5% .

Table5.17: Type of Sanitation & Hygienic level

Type of Sanitation	Is sanitation is hygienic?		Total
	No	Yes	
Katcha	14.5%	85.5%	100.0%
Semi Pucca	6.7%	93.3%	100.0%
Pucca	6.1%	93.9%	100.0%
Others		100.0%	100.0%
Total	11.3%	88.7%	100.0%

Overall, all sanitation type carrying the 88.7% hygienic and 11.3% are not. Khaiyachara/Napittachara Waterfalls are the most visited (15.5%) recreation location in this

area. 14.4% and 14.6% residents like to visit local playing field and Mohamaya Lake respectively.

5.18: Location for Recreation: Number of options for local residents.

Location for Recreation	Frequency	Percent	Valid Percent	Cumulative Percent
Chittagong City/Cox's Bazar/Feni/Others	35	2.6	2.6	2.6
Khaiyachara/Napittachara Waterfall	209	15.5	15.5	18.1
Local Town/Playing Field/Backyard	196	14.6	14.6	32.7
Mohamaya Lake	194	14.4	14.4	47.1
Others	442	32.9	32.9	80.0
Shopping Mall	174	12.9	12.9	92.9
Sitakundo Hill Area	95	7.1	7.1	100.0
Total	1345	100.0	100.0	

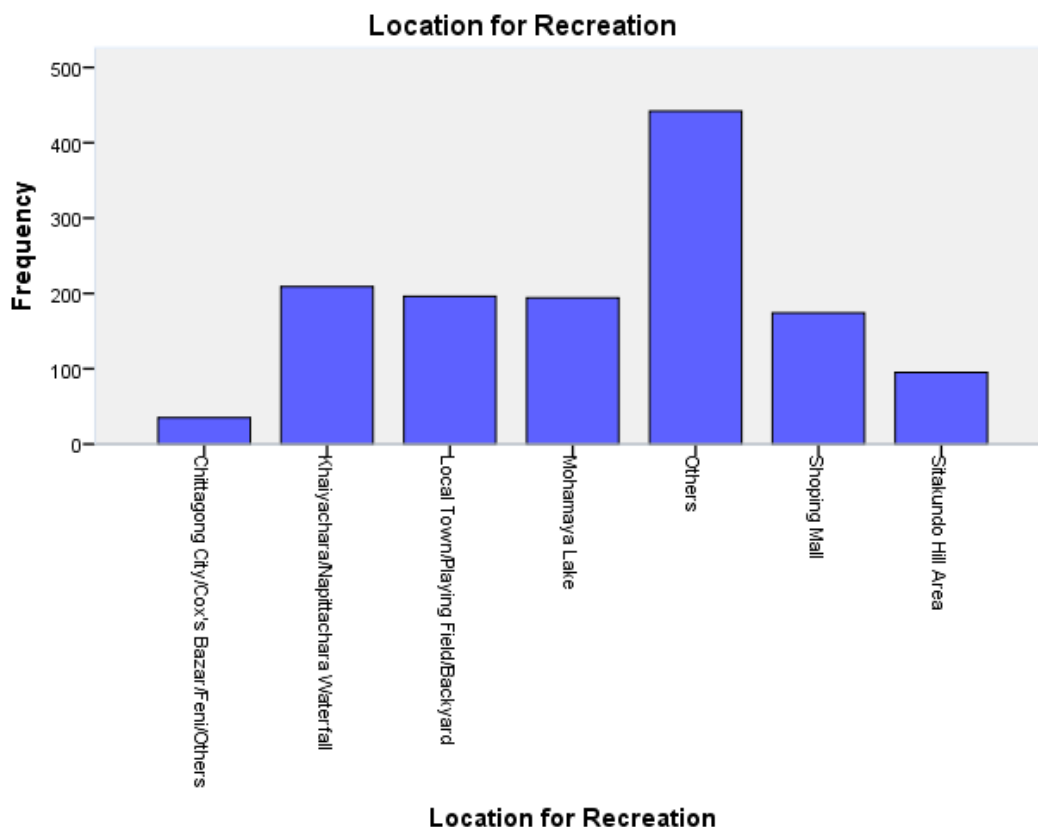


Figure: Bar diagram of Location of Recreation

From the Bar diagram maximum response lying in the "Others" which represented the respondents were not willingly to say anything about their recreation location or they have no much knowledge about the locations

5.19: First Problem in the Area: Every area definitely has some socioeconomic problem like crime, drugs, and other unethical practices.

Table5.19: Distribution of First problem in the Area

Category	Frequency	Percent	Valid Percent	Cumulative Percent
	160	11.9	11.9	11.9
Disorganization of Law	25	1.9	1.9	13.7
Lack of Eligible Educational Institution	101	7.5	7.5	21.2
Flash flood	11	.8	.8	22.1
Lack of Drinking water	8	.6	.6	22.7
Lack of Waste disposal point	61	4.5	4.5	27.2
Load Shedding	510	37.9	37.9	65.1
Long Distance of Bazar	21	1.6	1.6	66.6
Road	272	20.2	20.2	86.8
Transportation	51	3.8	3.8	90.6
Water Logging/Sewerage Problem	126	9.4	9.4	100.0
Total	1346	100.0	100.0	

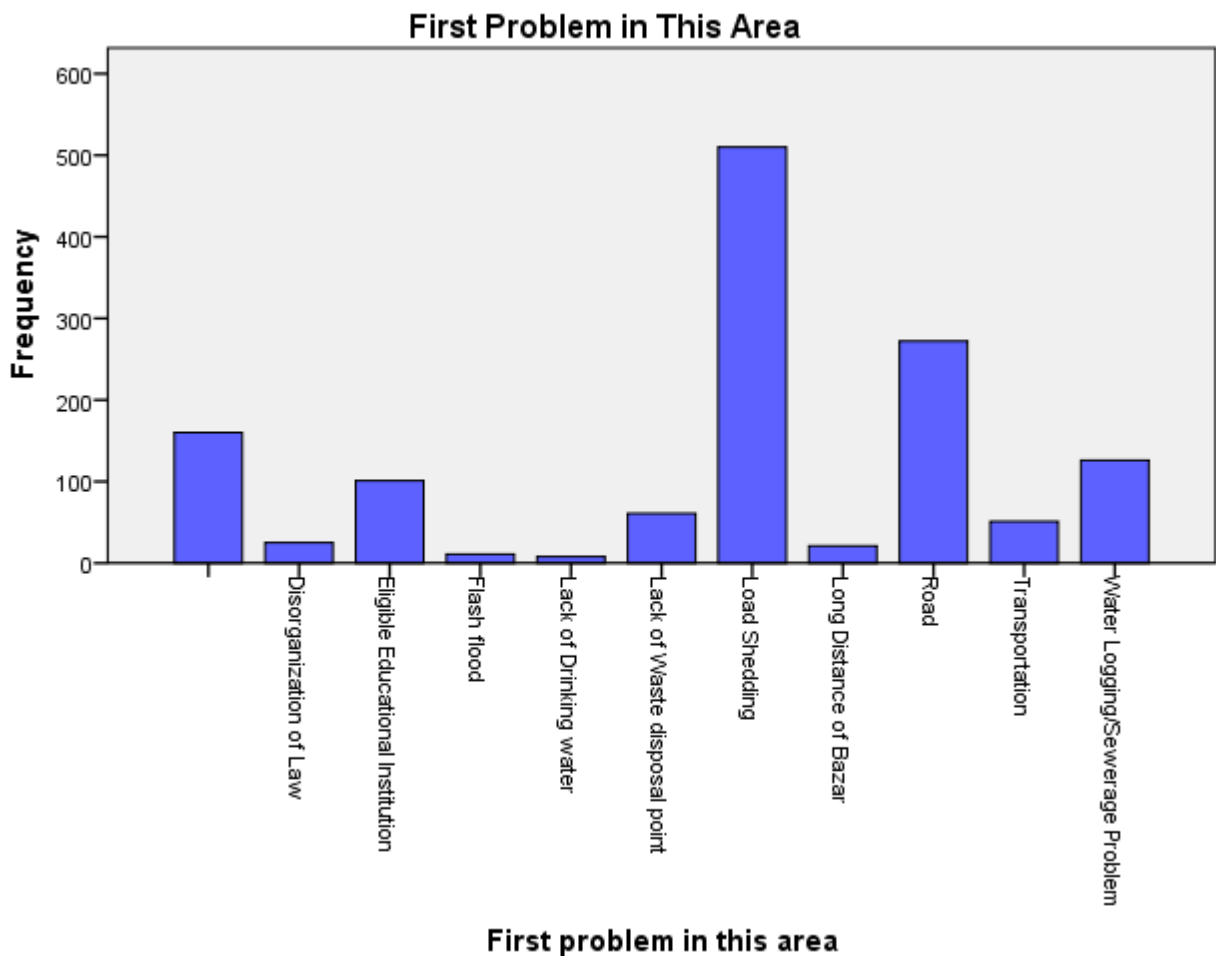


Figure: Bar Diagram of First Problem in this Area

First Problem of the area recognized by residents of area is Load Shedding. In the Table2.11, 37.9% residents recognize the problem. Most nearly 20.2% think that road related problems are their first problem.

5.20: Land mark/icon/historical place is known to all in mirsharai upazila:

Majority (29.8%) of the residents did not response about this option.

From the Table5.20 10.5% identified that the Khoiyachora Waterfall represent the Mirsarai Upazilla. Mohamaya lake is very important to the local residents, 22.8% are recognize the representative place for Mirsarai upazilla.

Engineer Mosharraf Hossain honorable Minister of Current Peoples Republic of Bangladesh also carrying 8.8% representativeness of Mirsaria Upazila.

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Under "Preparation of Development Plan for Mirsharai Upazila, Chittagong District: Risk Sensitive land use Plan MUDP"

Table5.20:Land mark/icon/historical place is known to all in mirsharai upazila				
	Frequency	Percent	Valid Percent	Cumulative Percent
Not Mentioned	401	29.8	29.8	29.8
Abu Torab	35	2.6	2.6	32.4
Arshi Nogor Future Park	6	.4	.4	32.8
Baraiyarhat	48	3.6	3.6	36.4
Dilip Barua	5	.4	.4	36.8
Engineer Mosharraf Hossain	118	8.8	8.8	45.5
Khoiyachora Waterfall	142	10.5	10.5	56.1
Korarhat Bazar	63	4.7	4.7	60.8
Mirsarai Economic Zone	78	5.8	5.8	66.6
Mirsarai stadium	8	.6	.6	67.2
Mohamaya Lake	307	22.8	22.8	90.0
Muhuri Project	19	1.4	1.4	91.4
Napittachora Waterfalls	9	.7	.7	92.1
Nizampur Govt. College	61	4.5	4.5	96.6
Olinagor L.B High School	8	.6	.6	97.2
Poragol Kha Dighi	11	.8	.8	98.0
Shantir Hat	2	.1	.1	98.1
Sofia Road	5	.4	.4	98.5
Zorargonj Textile College	20	1.5	1.5	100.0
Total	1346	100.0	100.0	

2.12

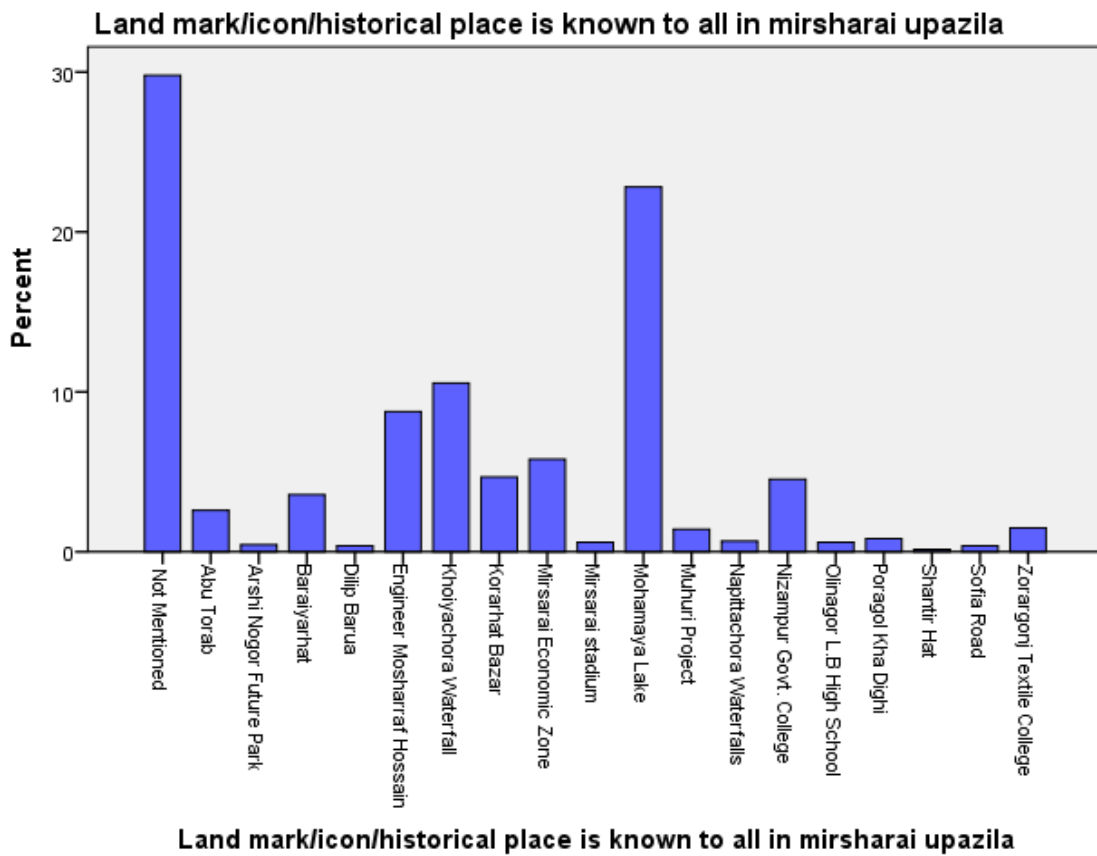


Figure: Bar diagram of Land mark/icon/historical place is known to all in mirsharai upazila

Interim Report

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CHAPTER 6

6. Conclusion

Socioeconomic and others survey data collection, approach and methodology has a great influence and inception report clarify the approach and methodology. This project works program and time schedule have been developed based on ToR. The review of the data collection from Questionnaire Survey , data has given a clear demonstration on the Mirsharai upazila project area. Modern tools and technologies have been included for socioeconomic and other surveys to deliver the data in a comfortable format for data analysis and visualization.

Interim Report

Package-3: Socio-Economic and Other Surveys

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