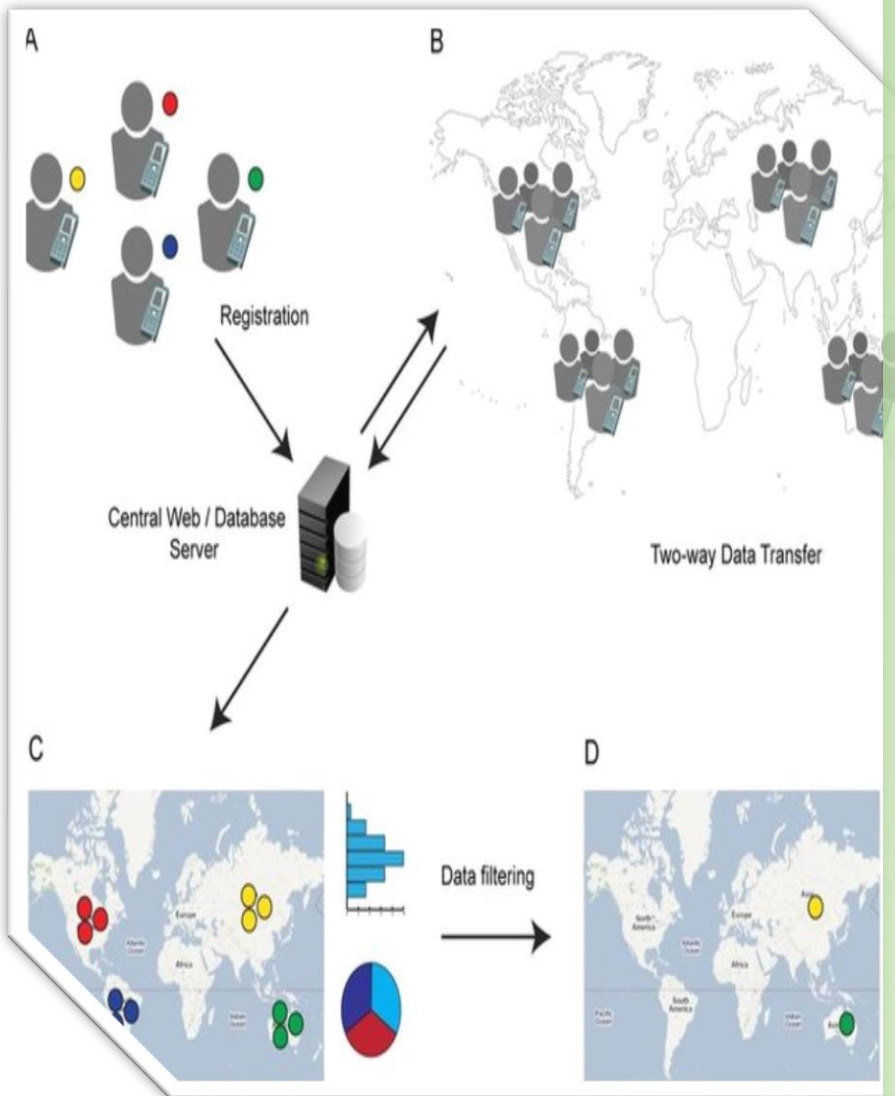**URBAN DEVELOPMENT DIRECTORATE (UDD)**

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

Final Report

On

Package -3:

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

Consultant

GEOMARK LIMITED
www.geomarkbd.com

&

Tiller (JV)

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*Socio-Economic and Other Surveys under Preparation of Development Plan for Mirsharai
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Executive Summary:

Different Socio-economic factors like income, expenditure, religious believe, hygienic habit, recreation, occupation pattern, social connection and norms, social status etc. has significant impact on overall development of the area. From this survey, we have found out some socioeconomic factors which are directly related to the socioeconomic status of the survey area.

For this survey work, we tried to incorporate latest online technologies to ensure efficiency in time management and data reliability at the same time. We have used Epicollect 5 Online based data collection software to collect the data from field with geo-coordinate values. After conducting the survey, we extracted the values and done necessary analysis. Results from the analysis are shown in this report afterwards.

In the Mirsharai Upazilla, we have found out the 53.3%of the male respondent and 44.7% of the female respondents. In the report, we find out the 23.3% residents are illiterate and 6% of total residents are highly educated. Though, in Mirsharai Upazilla 76.7 % people are educated, highly educated people are pretty rare. So, education sector of the area still needs improvement.

Because most of the female respondent responses about their occupations as housewife, in the report maximum percentages (39.5%) of occupation is housewife. We found Maximum number of family in the survey area are single family type, which contains 72.2% of the total percentages, and family members at the age range 05-09 contains maximum 53.2% in the count.

Religion distribution in the survey area seems to be predominately Muslim covering almost 85%, Hindu covering 13.8% got the second position and Buddhist has 1.2% in the survey area. We find out 37 autism cases in the survey area, where maximum 33 cases having Autistic Disorder/Classic Autism, and other autism types are Asperger Syndrome and Pervasive Developmental Disorder.

In the survey we found that, 36% of the resident have earned less than TK5, 000 per month in the survey area, and only 2.8% have earned more than TK50000 per month in the survey area. 40.2% of the resident expressed that they are staying outside the country temporarily.

Majority of the expenses belongs to expenditure on food, 52.45% belongs to the expenditure on food, expenditure on house rent presents 1.27% because of the maximum

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of the residents in the survey area reside their own house. 9.66% of their expenses belongs to the educational purpose, 11.88% to the health and so on.

75.1% respondents in the survey area are with zero savings. Less than TK 1000 saves by the 9% of the respondents. Only 2.7% respondents are manage to save TK 7,000 and more.

Half of structures in the survey area are katcha, 52.8% structure is katcha, and 23.5% belongs to the pucca structure. Road types are divided in five categories, 31.9% of them are Asphalt, similarly 31.6% are BS, Katcha roads belongs to the 29.8%. HBB and RCC are belongs to the less than 10%, as 2.1% and 4.6% respectively. 9% of the respondents said that the condition of the main road is good. Three main problems identified in the survey, 61.2% of the respondents said that the main problem of the main road is narrow road, 12.7% belongs to the occupied by wastages & Hawker.

Majority percent of fuel come from the wood, which belongs to the 82.5%, second fuel source is cylinder gas. Electricity (91.2%) is the main source of light in this area. Solar panel belongs to the 5.5% of the light source in this area. Though, the percentage of solar electricity usage is not so significant, it is a potential alternative source of electricity.

Drinkable water is available here, 88.8% water is drinkable, but 93.0% ground water sources have arsenic contamination. So, surface water can be a good source of drinking water. Khaiyachora and Mohamaya Lake are two most favorite travel destination across the country situated in this area.

Among the all problems recorded in the survey area, load shedding having the maximum percentage (42.9%). Road problem also have the significant percentage (22.5%) in the survey area. Sewerage problem and water logging problems are related, due to interrupted sewerage facilities then definitely there would water logging problem as well.

From education survey we found that student dropout is not in big numbers, but transport and hostel facilities are not impressive in this area. Municipalities are trying to collect and dispose waste properly. Some of the area like hill tracts and lakes have standard noise level (70dB), but others area is not at standard noise level.

We produced a map with 3 (Low, moderate, high) types of potentially based on savings intensity. This map is not based on actual willingness to invest but based on local people's savings pattern from which we can draw a clear understanding about the economic strength

and potentiality. In Mirsharai upazila, highly potential areas are concentrated within the proximity of urban areas.

We have prepared a GIS based Spatial Model to calculate people's affordability on spatial perspective. The model output map represents the relative affordability for different land parcels of the project area. The higher the affordability score, the better the affordability of the people living on that particular region. In Mirsharai Upazila, most of the areas are indicated as less affordability oriented.

To map the Need and Demand oriented areas in the project area we formed another model. In Mirsharai Upazila, only a small portion of the areas were found as demand-oriented area.

In this survey, we have collected data in prescribed format and fulfilled the required number of samples. In this report, we've provided some analysis and visual representation using maps and figures to summarize our survey findings.

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CHAPTER 1

1. INTRODUCTION

1.1 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. Mirsharai, the combination of lake and hilly area contains attractive scenic beauty on the southernmost part of Bangladesh. The most important attraction of the upazila is that one can travel Mohamaya Chara Lake by speed boat and explore hilly area and can enjoy Khoiyachora, Baghbiani, Napitachora, Sonaichora, Mithachora and Boyalia waterfalls.

This area is located 192.2 km far from DHAKA and 4.5 hour bus journey. Anyone can travel by rail and it is 197 km of rail journey and it takes 4.5 hour from Dhaka to Mirsharai Upazila. 56 km from the CHITTAGONG Divisional headquarters and takes 1.5 hour travel by bus. The Bangladesh Road Transport Corporation introduced a direct bus service from Dhaka to Mirsharai via comilla. (Source: Banglapedia, 2012)
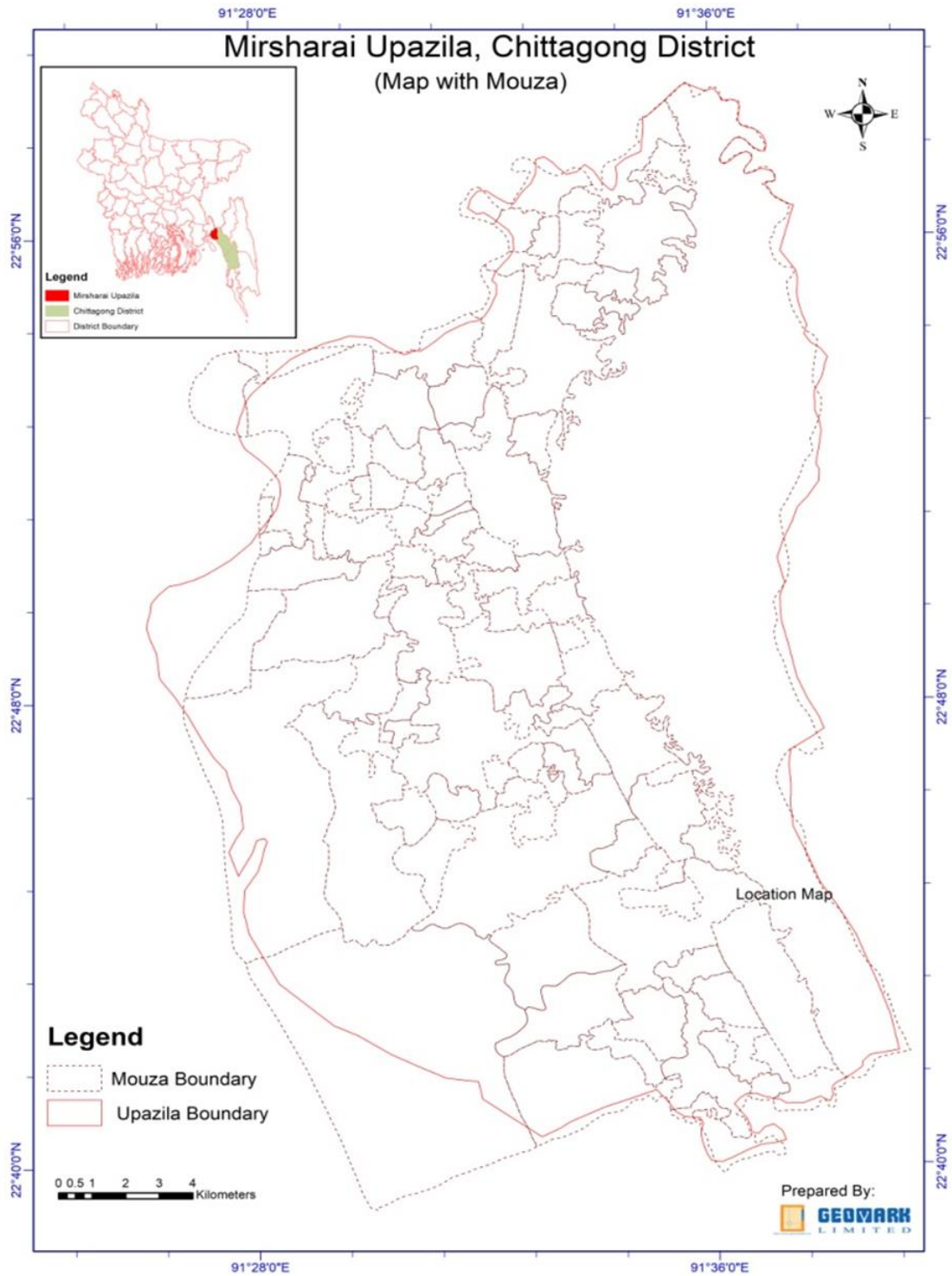
Map 1: MUDP Project Area   Map Source: GIS section, GEOMARK Ltd.

This area is located 192.2 km far from DHAKA and 4.5 hour bus journey. Anyone can travel by rail and it is 197 km of rail journey and it takes 4.5 hour from Dhaka to Mirsharai Upazila. 56 km from the CHITTAGONG Divisional headquarters and takes 1.5 hour travel by bus. The Bangladesh Road Transport Corporation introduced a direct bus service from Dhaka to Mirsharai via comilla. (Source: Banglapedia, 2012)

At Mirsharai Upazila main river is Feni; Sandwip Channel is notable; canal 30, most noted of which are Feni Nadi, Isakhali, Mahamaya, Domkhali, Hinguli, Moliaish, Koila Govania and Mayani Khal. The hills range on the northern and eastern side of this upazila along the bank of the Feni River extended up to Chittagong and the Chittagong hill tracts

Historical Events: Sultan Fakhruddin Mobarak Shah conquered Chittagong in 1340 AD and established the Muslim rule in this region. During the reign of Gaur Sultans Hussain Shah and Nusrat Shah, Paragal Khan and Chhuti Khan were the rulers of this area. Subsequently Nizam Shah, brother of emperor Sher Shah, was the ruler of this area. Nizampur Pargana is named after Nizam Shah and the whole area of Mirsharai came under the control of Nizampur pargana. From the beginning of the 16th century this region was very rich in Bangla literature. Most of the time between 1580 and 1666 this region was under the control of the Arakanese. The place at which (of the present Mirsharai thana) Bujurg Umed Khan, son of Subadar Sayesta Khan, landed after crossing the Feni River was named as Bujurg Umedpur. With the conquest of Chittagong by Bujurg Umed Khan in 1666, this region came permanently under the Mughal rule. Towards the end of British rule in India, Durgapur and Karerhat areas of Mirsharai upazila were the centres of revolutionary activities of Chittagong. A fierce battle was fought between the freedom fighters (under Capt. Wali Ahmed) and the Pak army at a place adjacent to the Fenafuni Bridge on the south of Mirsharai sadar in which about 100 Pak soldiers were killed. Besides, direct encounters were held between the freedom fighters and the Pak army at many' places including Shuvapur Bridge, Hinguli Bridge, Aochi Mia Bridge and Mostan Nagar.

Main occupations: Agriculture 38.93%, non-agricultural laborer 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% and others 12.33%. Total cultivable land 22,896.40 hectares, fallow land 147713 hectares; single crop 38.91%, double crop 42.46% and treble crop land 18.63%. At present Cultivable land under irrigation is 6,917.85

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hectare. Ownership of agricultural land Landowner 51.30%, landless 48.70%; agricultural landowner: urban 38.82% and rural 52.09%.

Value of land: The market value of the first grade arable land is TK. 30000 per 0.01 hectare. Main crops Paddy, potato, aborigine, bean, tomato, pumpkin and radish. Extinct or nearly extinct crops Sugarcane, jute, arahar, mustard, sesame, linseed, and ground nut. Main fruits Mango, blackberry, jackfruit, banana, papaya, litchi, pineapple, water-melon.
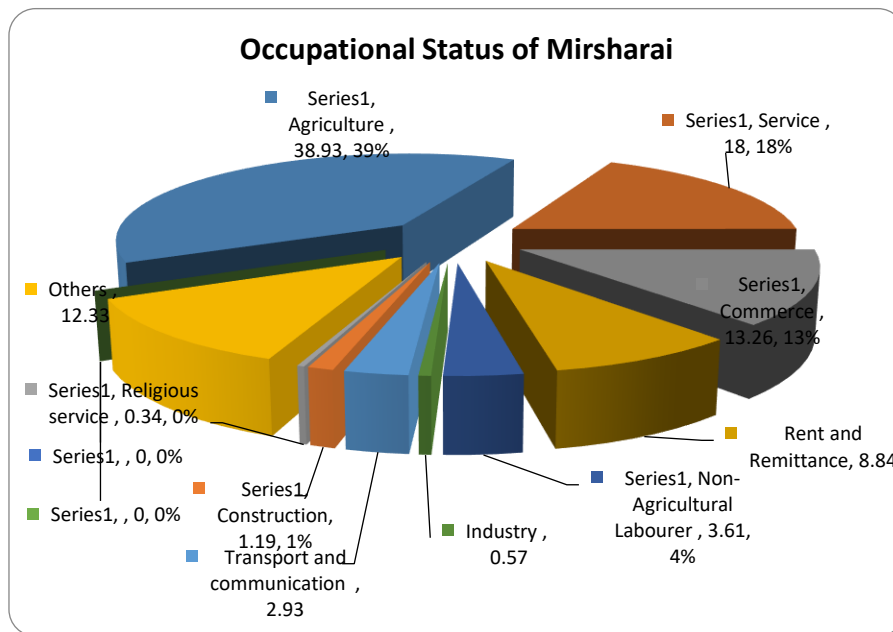
Communication facilities Roads: Pucca road 230 km, semi-pucca road 119 km, mud road 1435 km; railway 16 km; waterway 11 nautical miles, Rail junction 4. Extinct or nearly extinct traditional transport Palanquin, bullock cart. Noted manufactories Carpet industry, pipe mill, ice factory, rice mill, bakery, brick-field, steel furniture, fish- poultry' feed' factory, bidi factory. There are also Cottage industries, Goldsmith, blacksmith, potteries, weaving, tailoring, bamboo and wood work. Hats, bazars and fairs Hats and bazars are 52, fairs 5, most noted of which are Abu Torab Bazar, Kamar Ali Bazar, Bara Daroga Hat, Mahajan Hat, Karer Hat, Baraia Hat, Shantir Hat, Zorwarganj Baishakhi Mela, Baruni Snan Mela and Shadhinata Mela. Main exports product is Bamboo, fish, paddy, potato, banana, vegetables.

NGO Activities: Operationally important NGOs are BRAC, Proshika, ASA, Sheba, CARE, and Hunger Project. Upazila health complex 1, family planning center 16, satellite clinic 11.

Opportunity: Bangladesh can earn money in local and also in foreign exchange by opening a tourist resort at Mirsharai. The spot, if properly developed will become an excellent holiday resort and tourist centre. Rowing facility can be arranged easily; fishing and hunting facilities are already there. The success of developing Mirsharai as a tourist centre and Special Economic Zone depends much on good communication facilities and availability of modern amenities. Moreover, the proposed Special Economic Zone would generate many industry related new activities including huge vehicular traffic such as air, rail, road and water. This phenomenon would have both positive and negative impact on the socio-economic condition 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.

1.2 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 balance 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.

1.3 The Consultant

GEOMARK LIMITED -TILLER a Joint venture Organisation having expertise on socioeconomic survey through smart device, data processing, data analysis and report writing.

1.4 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.

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

Municipality	Union	Mouza	Village	Population		Density (per sq km)	Literacy Rate (%)
				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, honourable 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.

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CHAPTER 2

2. Methodology

2.1 Reconnaissance: The reconnaissance survey is an extensive study of an entire area that might be used for a road or airfield. Its purpose is to eliminate those routes or sites which are impractical or unfeasible and to identify the more promising routes or sites. Existing maps and aerial photographs may be of great help.

2.2 Data Collection: Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes.

We have collected data from Field Survey 2018 with open-ended, close-ended questionnaire and also focus group discussion.

Sample Size:-

AS a descriptive study we had to needed the data as a main aim the estimation of rates, proportions and means in a population with a secondary aim being to examine whether the rates are related to demographic variables. The main results to be reported might be the percentage of different type of socioeconomic variables.

Sample size determination for descriptive studies is based on confidence intervals; that is, the level of precision required in providing estimates of the rates, proportions and means. Here we collect 1350 sample for this survey.

Population Size —Population size would be the total number of households in the Mirsharai. Not all populations' sizes need to be large. Even if population size is small, it's not being worried about the population size. The Population of our survey area is more than three hundred thousand.

Margin of Error (Confidence Interval) — No sample will be perfect, so we have decided how much error to allow. The confidence interval determines how much higher or lower than the population mean we are willing to let our sample mean fall. We have carried out of the survey with a margin of error of +/- 5%.

Confidence Level — How confident about the actual mean falls within your confidence interval? The most common confidence intervals are 90% confident, 95% confident, and 99% confident. We have been selected the 95% confidence interval.

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2.3 Database Preparation: We researchers spend a lot of time interviewing our clients to determine their needs. Then we go about carefully creating a plan to collect the data that will be most useful. Having done that, the appropriate instrument is carefully crafted that will generate data that can ultimately be transformed into knowledge. All this up-front work necessitates and lot of time and effort. And well it should! But sooner or later we will have collected data and need to start the grunt work of data preparation.

So what is involved in data preparation? There are several simple, but sometimes overlooked steps, required to properly prepare data. They are:

- **Questionnaire checking**: Questionnaire checking involves eliminating unacceptable questionnaires. These questionnaires may be incomplete, instructions not followed, little variance, missing pages, past cutoff date or respondent not qualified.

- **Editing**: Editing looks to correct illegible, incomplete, inconsistent and ambiguous answers.

- **Coding**: Coding typically assigns alpha or numeric codes to answers that do not already have them so that statistical techniques can be applied.

- **Cleaning**: Cleaning reviews data for consistencies. Inconsistencies may arise from faulty logic, out of range or extreme values.

- **Statistical adjustments**: Statistical adjustments applies to data that requires weighting and scale transformations.

- **Analysis strategy selection**: Finally, selection of a data analysis strategy is based on earlier work in designing the research project but is finalized after consideration of the characteristics of the data that has been gathered.

2.4 Tabulation: - Making a table for rearrange the data we have, using excel to clean the data for making the usable for the SPSS import. Tables like cross section data, different type of categorical variables are represented in the table.

2.5 Preparation of Thematic Map: - Best representation of socioeconomic data is presentation of thematic map about the different type of socioeconomic variables, Using GIS software and actual coordinate system the thematic map shows the authentic information about the socioeconomic condition of the Mirsharai.

CHAPTER 3

3. MOBILIZATION AND ORIENTATION

3.1 Consultant's Organization

Geomark Ltd. is brand with specific focus to the emerging IT Enabled Services (ITES) specializing in the geospatial applications including consultancy on engineering & Architectural Design, Drawing, Supervision, planning GIS, LIS, MIS, AM/FM, processing of remote sensing data, digital mapping/surveying using GPS, geo-spatial and textual data conversion, application software and web page/solutions development and so forth. Apart from ITES, provides professional consulting services particularly for undertaking research and development studies/projects covering and not limited to land, natural resources, environment, urban/real estate development, infrastructure development, institution and organization studies, land related legislation study, human resources development studies, general education related studies, and so forth.

Tiller was founded in 2009 and grown up with focus on Urban & Regional context, developing the avenues in Urban Designing & Planning, Infrastructure Design, Disaster Management, Social Research, GIS Mapping and IT services. **Tiller** is led by a robust, talented & experienced group of Urban Planner, Engineer, Architect, Social Scientist, Environmental scientist and IT professionals.

The agreement between Urban Development Directorate (UDD) and consultant Geomark ltd.-Tiller has been held on 14th November, 2017 for Package-3: socioeconomic and others survey under the project Preparation of Development Plan for Mirsharai Upazila, Chittagong District: Risk Sensitive Landuse Plan. Some picture of the contract signing ceremony have been given in the next page.

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Picture: Project contract signing ceremony between Urban Development Directorate (UDD) and Geomark ltd.-Tiller join venture on 14th November, 2017.

3.2 Mobilization of THE Consultant's Team

The contract signed on 14th November 2017, the Joint Venture (JV) team of the Geomark-Tiller has initiated their project activities with immediate action. A progress line-up from the consulting JV team is being reported here on different components of work:

Mr. ANM Safiqul Alam Managing Director, GEOMARK , Md Tamzidul Islam Proprietor, Tiller meet with PMO about some issue like questionnaire design, software platform design etc.

Photograph 1: Meeting with Project Director (PD)

3.3 INITIAL MEETINGS

1. **Work Schedule:** preparation and adjustment work is undergoing with Microsoft Project. The submission has scheduled to be made within 18th onward.

2. **Questionnaire preparation:** A questionnaire have been prepared in according to consolidate with Project director (PD) and planners of UDD. The questionnaire have attached in the annex of this report.

3. **Online data collection software preparation:** For socioeconomic data collection an online free software have been used named Epicollect 5. The questionnaire already developed on Epicollect 5 software platform which have been presented in the meeting of UDD in front of all the officials of UDD including Director.
   Picture: Demo picture of online data collection in the meeting.

4. **Inception Report Preparation:** For inception report preparation it has scheduled to submit within 18th onward.

5. **Survey Activities:** Team formation is in progress. As soon as the inception report will be approved, the team will be mobilized to the field.

CHAPTER 4

4. FINDINGS:

4.1 Household Characteristics:

4.1.1 Age and Sex distribution of Respondents:

In table-4.1., the age distribution of the survey area in Mirsharai is presented. It Shows that no respondents of female below 10 years. Age distribution 50-59 belongs to the highest percent of responses having 23.3%, which is quite similar (22.2%) to the preceding category 40-49 age distribution.

Table 1: Age distribution of Respondents

Age of the Respondents				
Categories	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
10-19	39	3.0	3.0	3.0
20-29	134	10.3	10.3	13.3
30-39	203	15.6	15.6	28.9
40-49	289	22.2	22.2	51.2
50-59	303	23.3	23.3	74.5
60-69	227	17.5	17.5	91.9
70-79	80	6.2	6.2	98.1
80+	25	1.9	1.9	100.0
Total	1300	100.0	100.0	

Source: Field Survey 2018

Figure 4.1.1 represents the different bars having different percentages. Age category 50-59 having the highest percentage (23.3%) in figure and age category above 80 years presenting the lowest percentage (1.9%) in the bar diagram
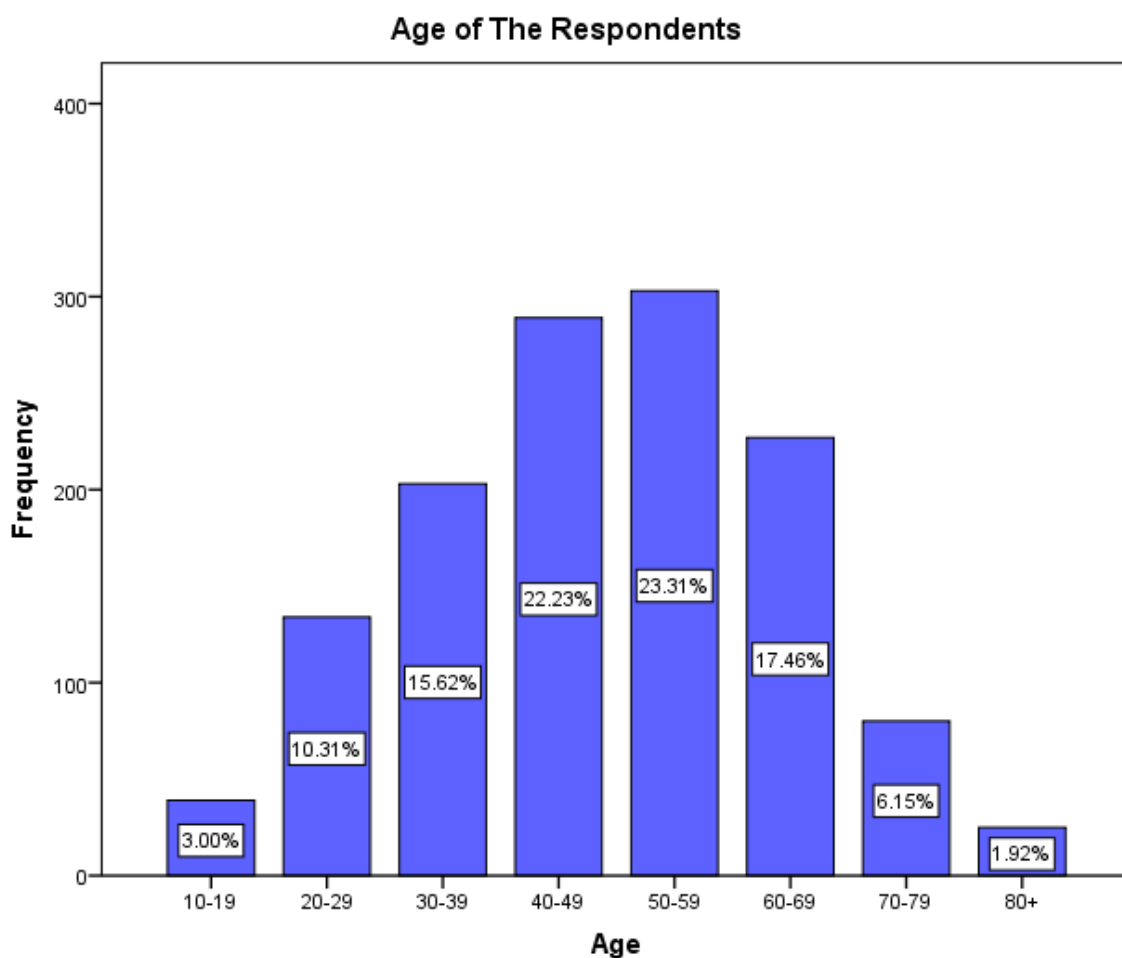
Figure 1: Age distribution of the Respondents

4.1.2 Sex distribution of Respondents: 55.3% male respondent responses against the 44.7% female respondents in the survey

Table 2: Sex distribution of Respondents

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
Male	719	55.3	55.3	55.3
Female	581	44.7	44.7	100.0
Total	1300	100.0	100.0	

Source: Field Survey 2018

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4.1.3 Educational Status: Total eight categories in education status where illiterate considered the lowest status as usual. Total 23.3% resident in the survey area is illiterate. Maximum 33.1% of residents are observed primary education category. Higher study category as Degree/Honours/ Fazil belongs 4.7% and Masters or Higher (PhD. Doctors, lawyer, Engineer et cetera) only 1.3% in this study.

Table 3: Education Status of the respondents

Educational Level

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
Illiterate	303	23.3	23.3	23.3
Primary	430	33.1	33.1	56.4
Junior Secondary	133	10.2	10.2	66.6
SSC/Dhakil	268	20.6	20.6	87.2
HSC/Alim	79	6.1	6.1	93.3
Degree/Honours/ Fazil	61	4.7	4.7	98.0
Masters or Higher	17	1.3	1.3	99.3
Technical	9	.7	.7	100.0
Total	1300	100.0	100.0	

Source: Field Survey 2018

4.1.4 Occupational Status: Majority of the female in survey area work at their home, so the study shows the highest percentage to occupational status Housewife, belonging 39.5%. Second highest percentage 16.55% belongs to the category Self-Independent. Self-Independent refers who are not disclose their occupational status.12.2% of the resident work in the agricultural sector in the survey area. Lowest percentage belongs to the Transport worker only 1.4% in the survey.

Table 4: Occupational Status of the Respondents

Level of Occupation

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
Agriculture	158	12.2	12.2	12.2
Business(Small/Medium)	92	7.1	7.1	19.2
Construction Work	36	2.8	2.8	22.0
Day Labour	96	7.4	7.4	29.4
Government Job	36	2.8	2.8	32.2
Housewife	513	39.5	39.5	71.6
Skilled labour	24	1.8	1.8	73.5
Private Job	43	3.3	3.3	76.8
Self-independent	215	16.5	16.5	93.3
Shopkeeper	18	1.4	1.4	94.7
Student	51	3.9	3.9	98.6
Transport Work	18	1.4	1.4	100.0
Total	1300	100.0	100.0	

Source: Field Survey 2018

4.1.5: Marital Status: Marital Status divided into four categories-Married, Unmarried, Widow/Widower and Separated, 86% respondent in the survey is married, 8.4% are unmarried, Widow/Widower and Separated categories are approximately same 2.8% and 2.3% respectively.

Table 5: Marital Status of the Respondents

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
Married	1124	86.5	86.5	86.5
Unmarried	109	8.4	8.4	94.8
Widow/Widower	37	2.8	2.8	97.7
Separated	30	2.3	2.3	100.0
Total	1300	100.0	100.0	

Source: Field Survey 2018
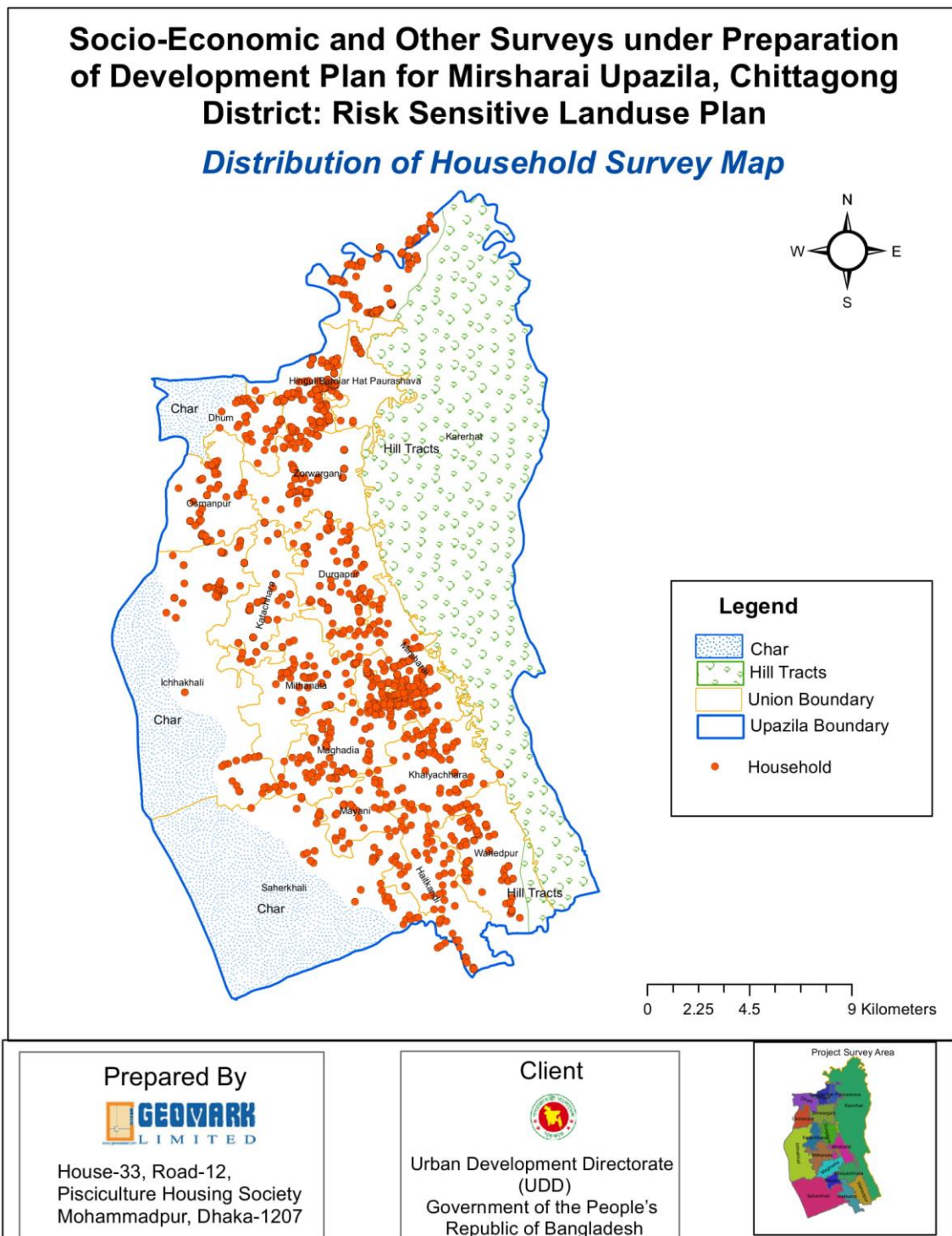
Map 2: Distribution of House Hold Survey

Source: GeoMark GIS Lab

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4.1.6: Family Type: Majority of the family in the survey are single type, 72.7% of the total families are single family in this area, and rest of the percentage (27.3%) belongs to the Join Family.

Map 3: Distribution of Family Type

Family Type				
Categories	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
Single	982	72.7	72.7	72.7
Join	368	27.3	27.3	100.0
Total	1350	100.0	100.0	

Source: Field Survey 2018

Map 4: Distribution of Family type

Source: GeoMark GIS Lab

4.1.7: Family Members: Majority of the Family size (53.2%) lies in the category 05-09. In the Table 4.1.7 shows that only .2% having the 20 or family members. 38.4% family size is less than five members.

Table 6: Distribution of Number of Family Members

Number of Family Members				
Categories	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
<5	519	38.4	38.4	38.4
05-09	718	53.2	53.2	91.6
10-14	93	6.9	6.9	98.5
15-19	17	1.3	1.3	99.8
20+	3	.2	.2	100.0
Total	1350	100.0	100.0	

Source: Field Survey 2018

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Map 5: Distribution of Family members

Source: GeoMark GIS Lab

4.1.8: Religion: Muslim Hindu and Buddhist are the main three religion in the survey area. Majority of 85% belongs the Muslim, 13.8% to the Hindu and rest of the percentage (1.2%) belongs to the Buddhist.

Table 7: Distribution of Religion

Religion

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
Muslim	1148	85.0	85.0	85.0
Hindu	186	13.8	13.8	98.8
Buddhist	16	1.2	1.2	100.0
Total	1350	100.0	100.0	

Source: Field Survey 2018

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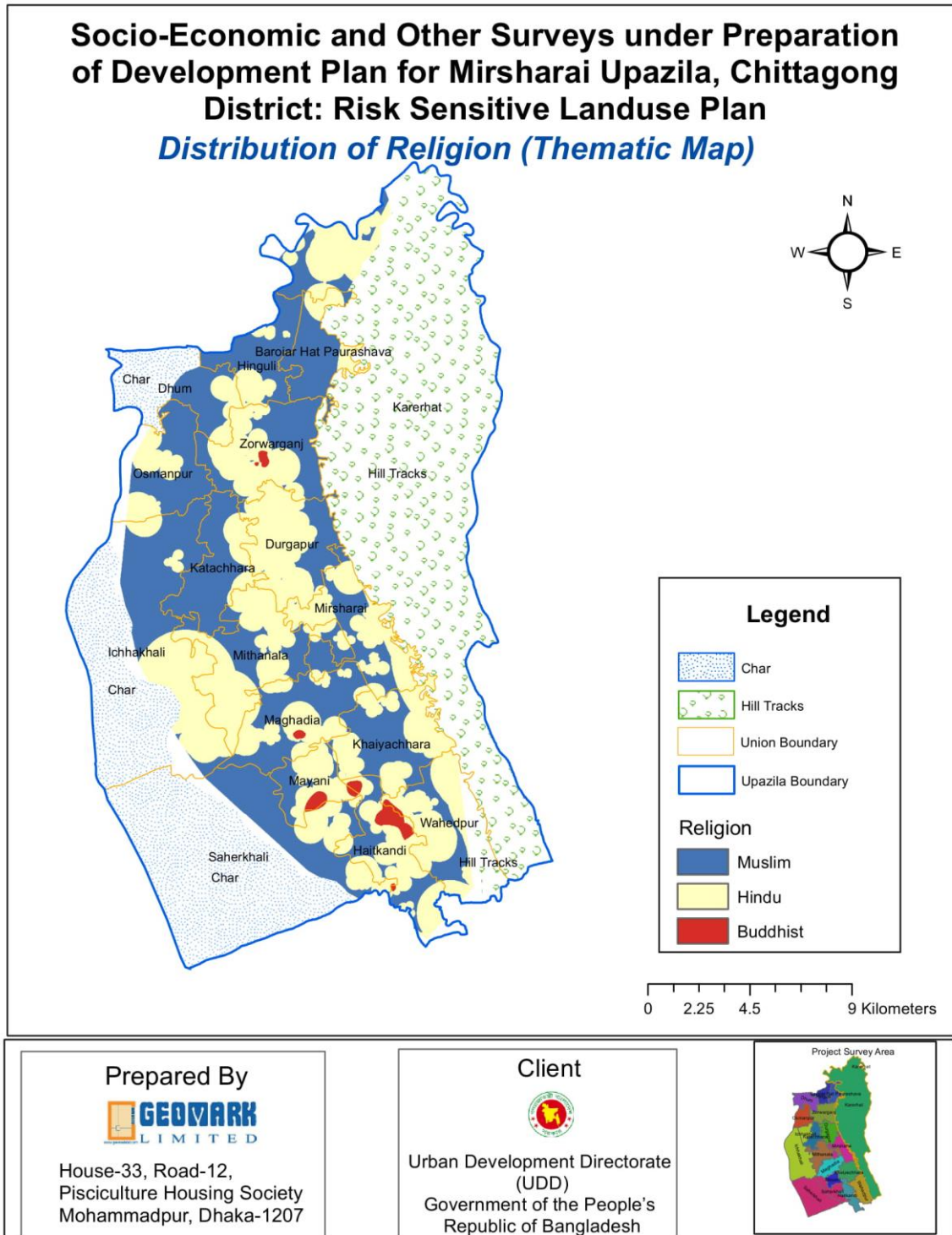
Map 6: Distribution of Religion

Source: GeoMark GIS Lab

4.2: Characteristics of Autism and Disability

4.2.1 Autism: Asperger Syndrome, Autistic Disorder/Classic Autism and Pervasive Developmental Disorder these three kinds of autistic case found in the survey area. Total 37 cases were found in the survey area. Among the total of the cases 33 cases were Autistic Disorder/Classic Autism, which represent the 89.2% of the total autism in the Table 4.2.1.

Table 8: Distribution of Autism

Types of Autism

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
Asperger Syndrome	1	.1	2.7	2.7
Autistic Disorder/Classic Autism	33	2.4	89.2	91.9
Pervasive Developmental Disorder	3	.2	8.1	100.0
Total	37	2.7	100.0	

Source: Field Survey 2018
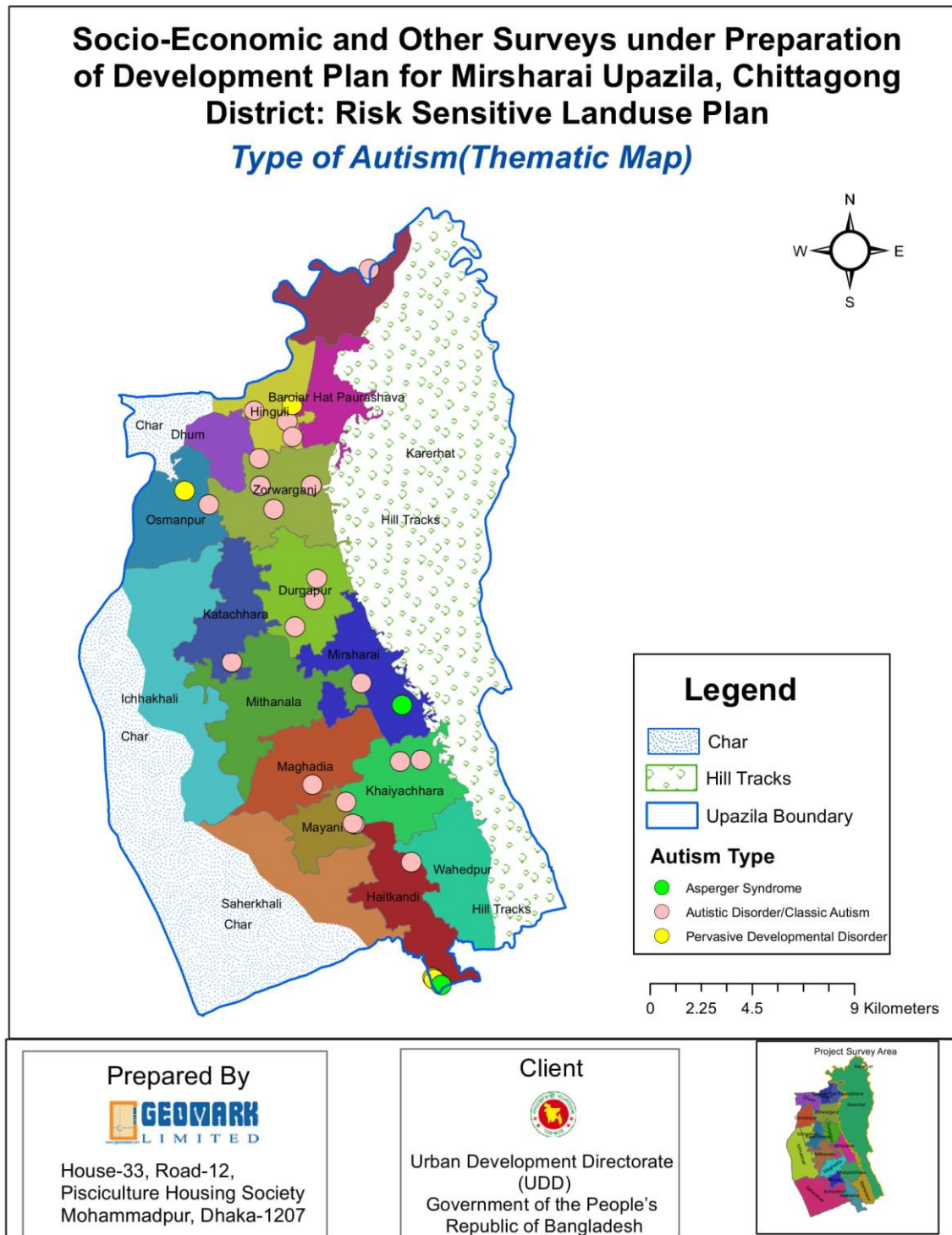
Map 7: Type of Autism

Source: GeoMark GIS Lab

4.2.2: Disability: Majority of the disability found as a physical disabilities, which belongs to the 54.5% of the total categories.

Table 9: Distribution of Disable Family Members

Types of Disability				
Categories	Frequency	Percent	Valid **Percent**	Cumulative **Percent**
Hearing Disabilities	1	.1	9.1	9.1
Learning Disabilities	1	.1	9.1	18.2
Mental Health Disabilities	2	.2	18.2	36.4
Physical Disabilities	6	.5	54.5	90.9
Visual Disabilities	1	.1	9.1	100.0
Total	11	.8	100.0	

Source: Field Survey 2018
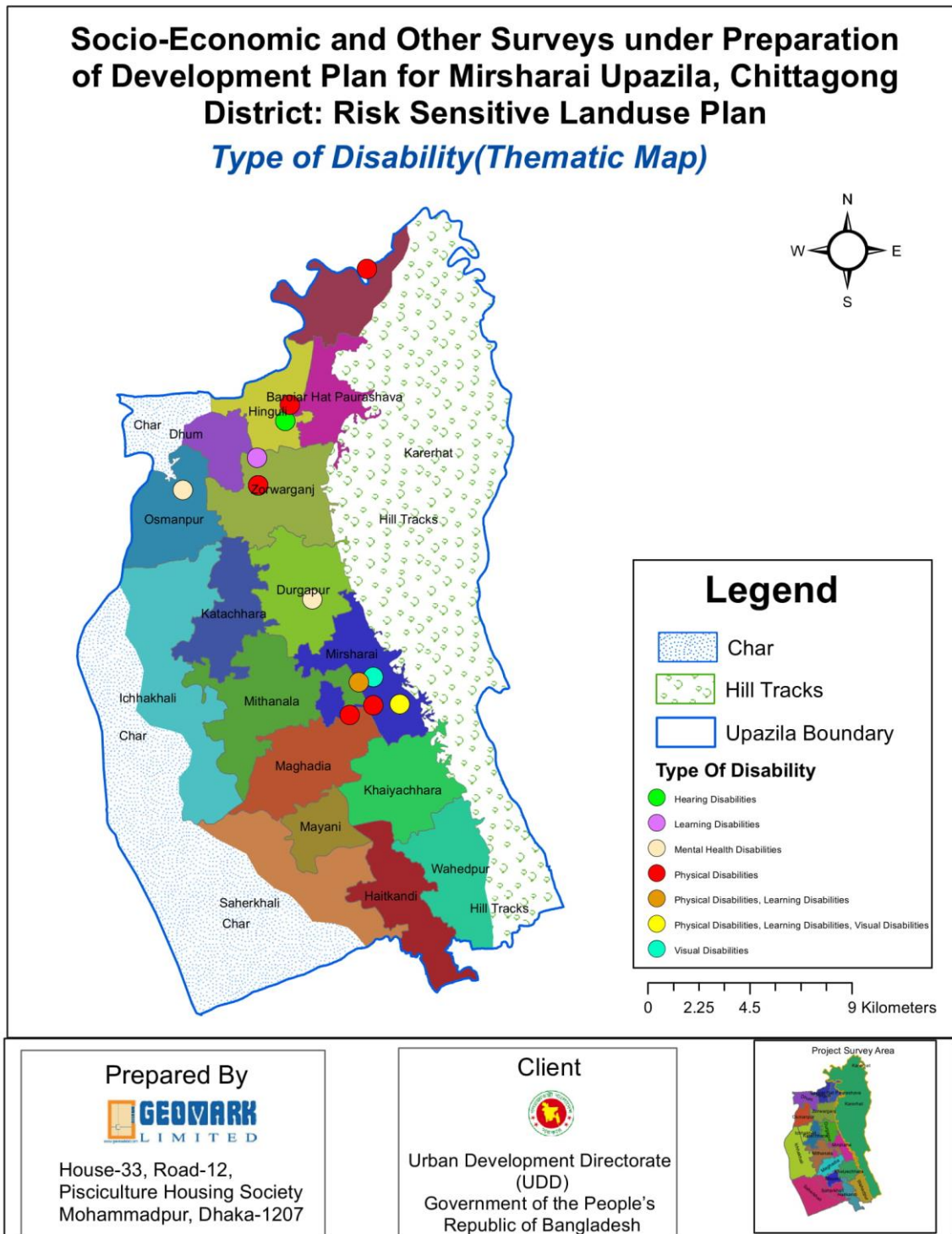
Map 8: Distribution of Disable Family Members

Source: GeoMark GIS Lab

4.3 Household Income, Expenditure and Savings

4.3.1: Income of the Household: In the Table 4.3.1, showing the maximum income category is (TK10,000-TK14,000) belongs to the 22.1%.

Table 10: Percentage distribution of Household income

Household Monthly Income (TK)

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
<5,000	49	3.6	3.6	3.6
05,000- 09,000	261	19.3	19.3	23.0
10,000-14,000	298	22.1	22.1	45.0
15,000-19,000	228	16.9	16.9	61.9
20,000-24,000	188	13.9	13.9	75.9
25,000-29,000	112	8.3	8.3	84.1
30,000-34,000	70	5.2	5.2	89.3
35,000-39,000	50	3.7	3.7	93.0
40,000-44,000	28	2.1	2.1	95.1
45,000-49,000	28	2.1	2.1	97.2
50,000 +	38	2.8	2.8	100.0
Total	1350	100.0	100.0	

Source: Field Survey 2018

TK50,000 and more income belongs to the only 2.8% of the resident in the survey area.

Monthly income below TK5,000 belongs to the 3.6% of the residents.
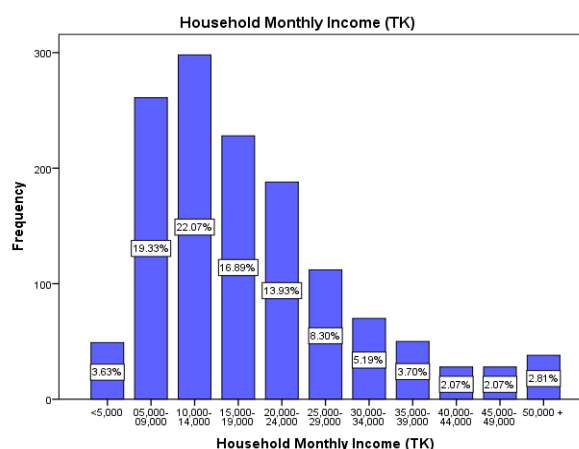
Figure 2: Bar diagram of Household monthly Income
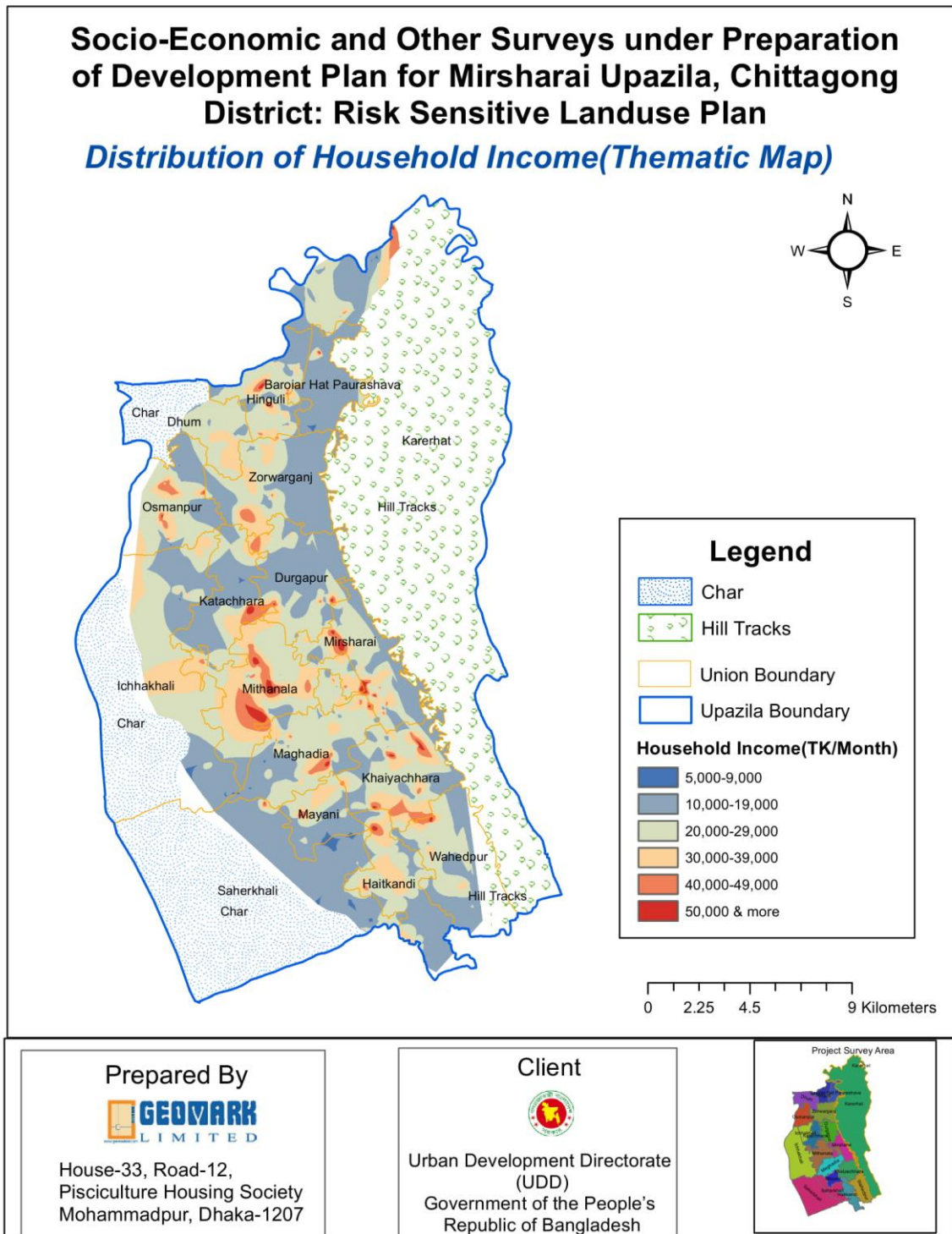
Map 9: Percentage distribution of Household income

Source: GeoMark GIS Lab

4.3.2: Expenditure of Household: Majority of the expenses belongs to expenditure on food, In the Figure 4.3.2, showing the 52.45% belongs to the expenditure on food, expenditure on house rent presents 1.27% because of the maximum of the residents in the survey area reside their own house. 9.66% of their expenses belongs to the educational purpose, 11.88% to the health and so on. Fig. 04 is showing a relative comparison among expenditures in different sectors. Maps for all sectors are shown below,
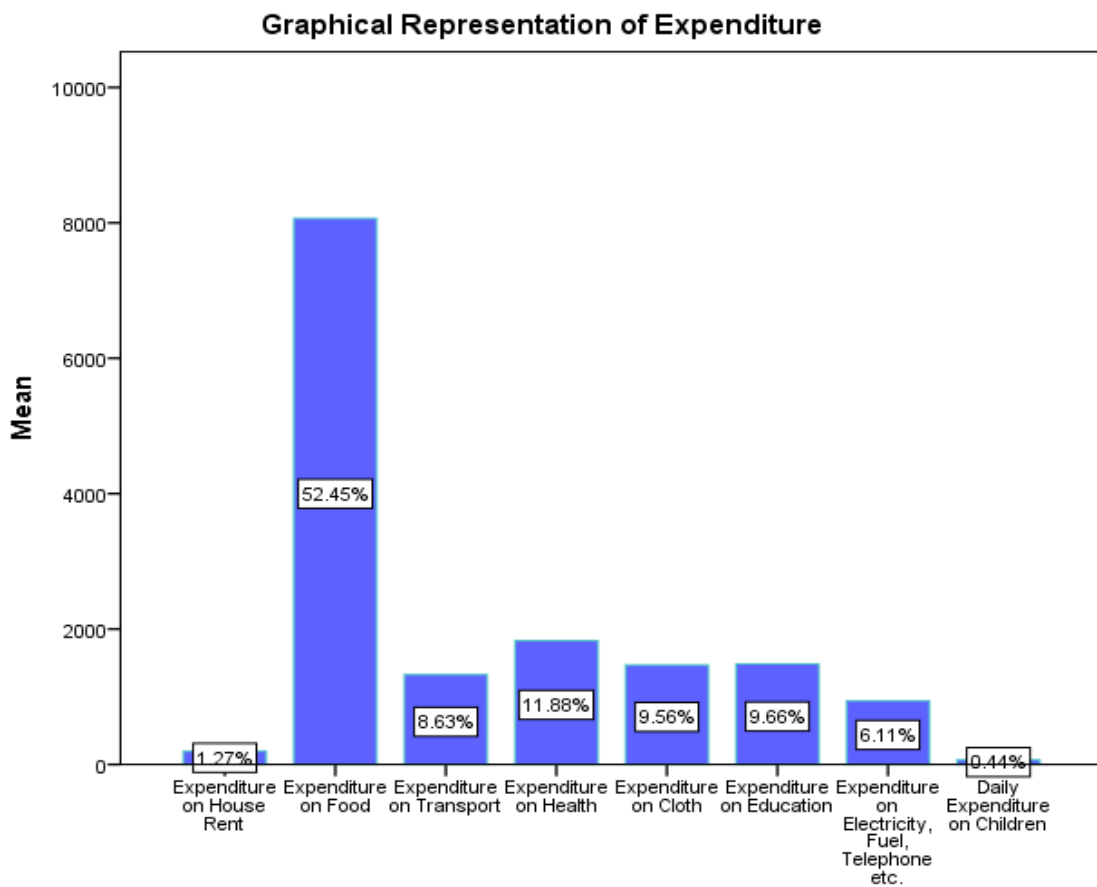
Figure 3: Bar Diagram of Household Expenditures
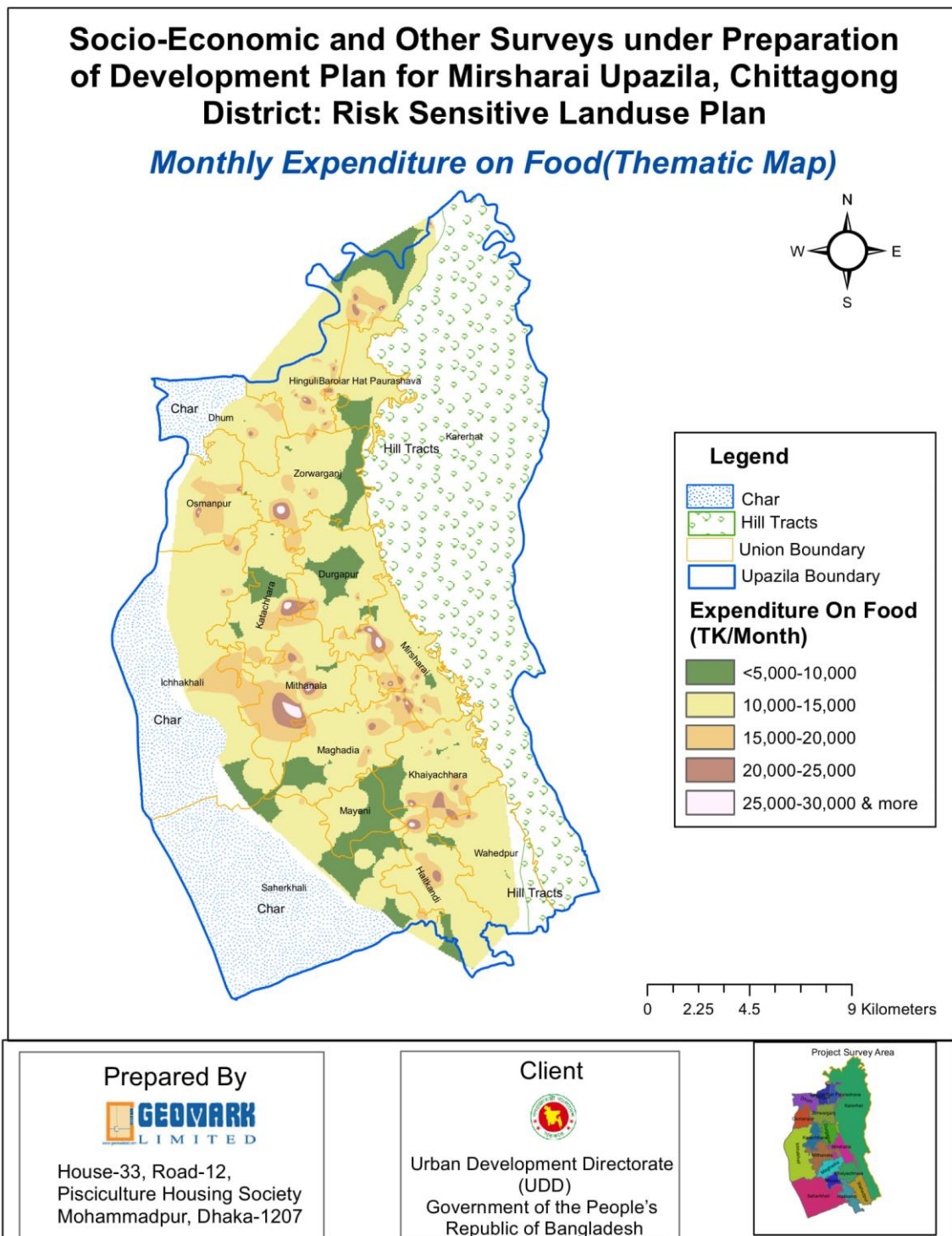
Map 10: Monthly expenditure on food

Source: GeoMark GIS Lab

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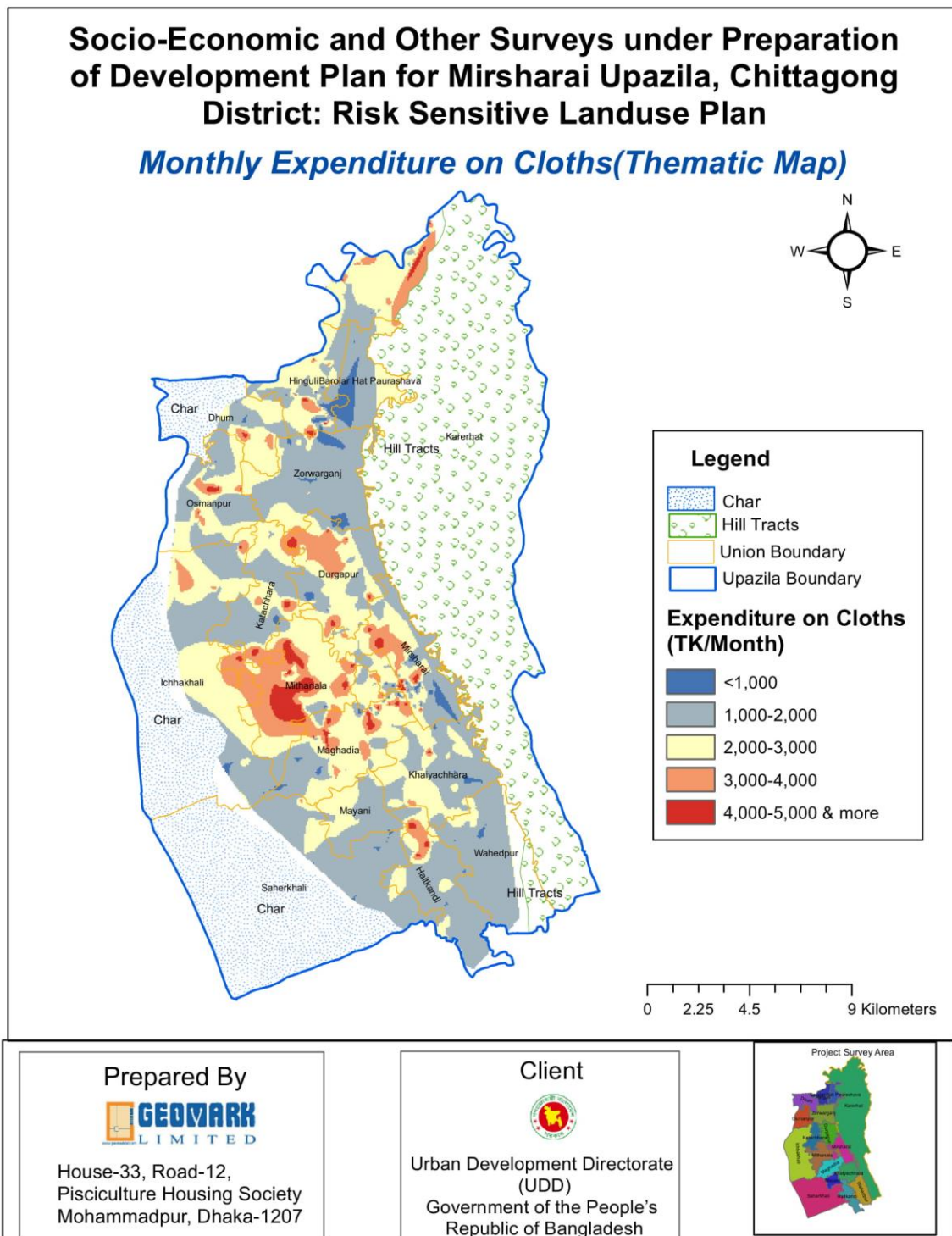
Map 11: Monthly expenditure on Cloths

Source: GeoMark GIS Lab
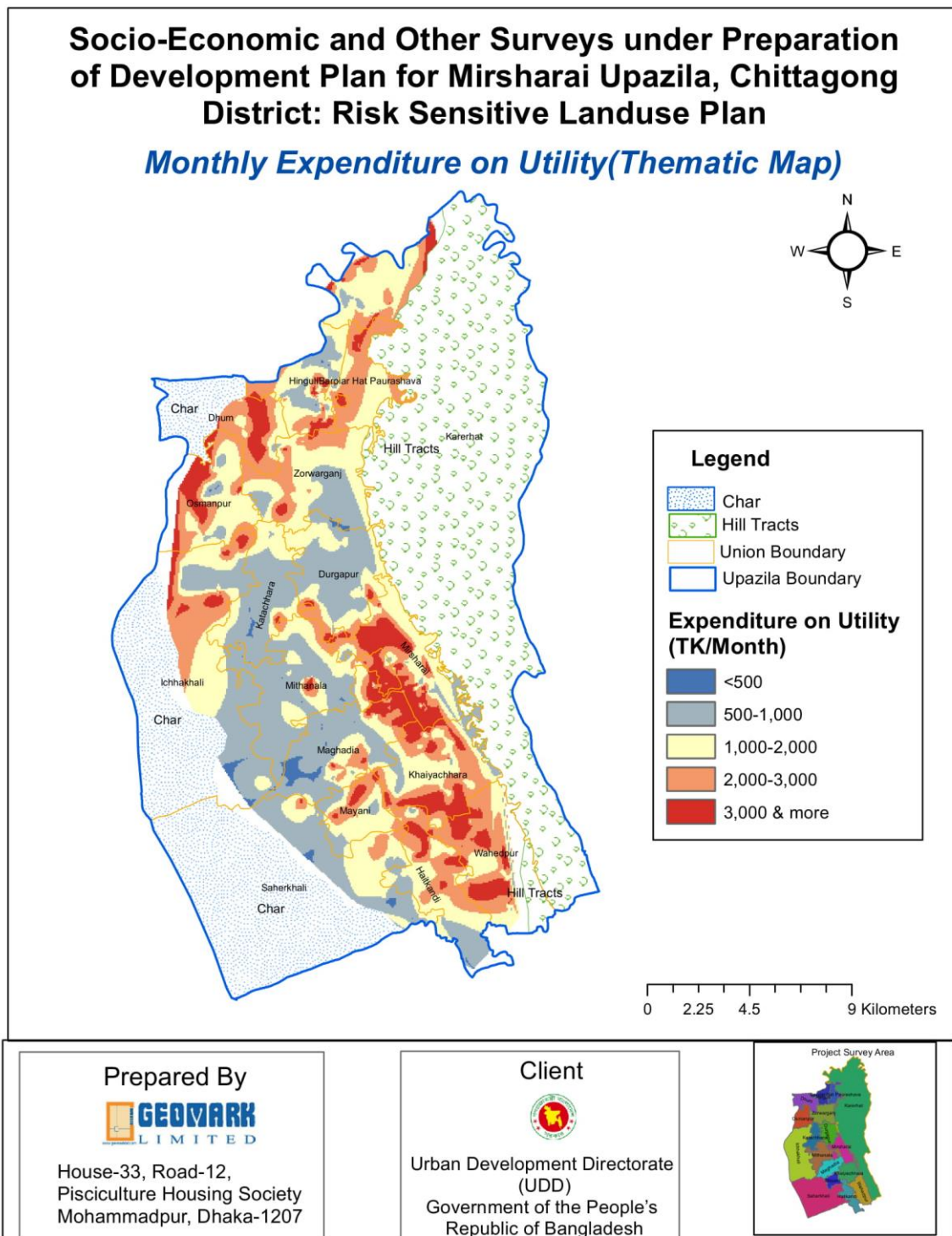
Map 12: Monthly expenditure on Utility

Source: GeoMark GIS Lab
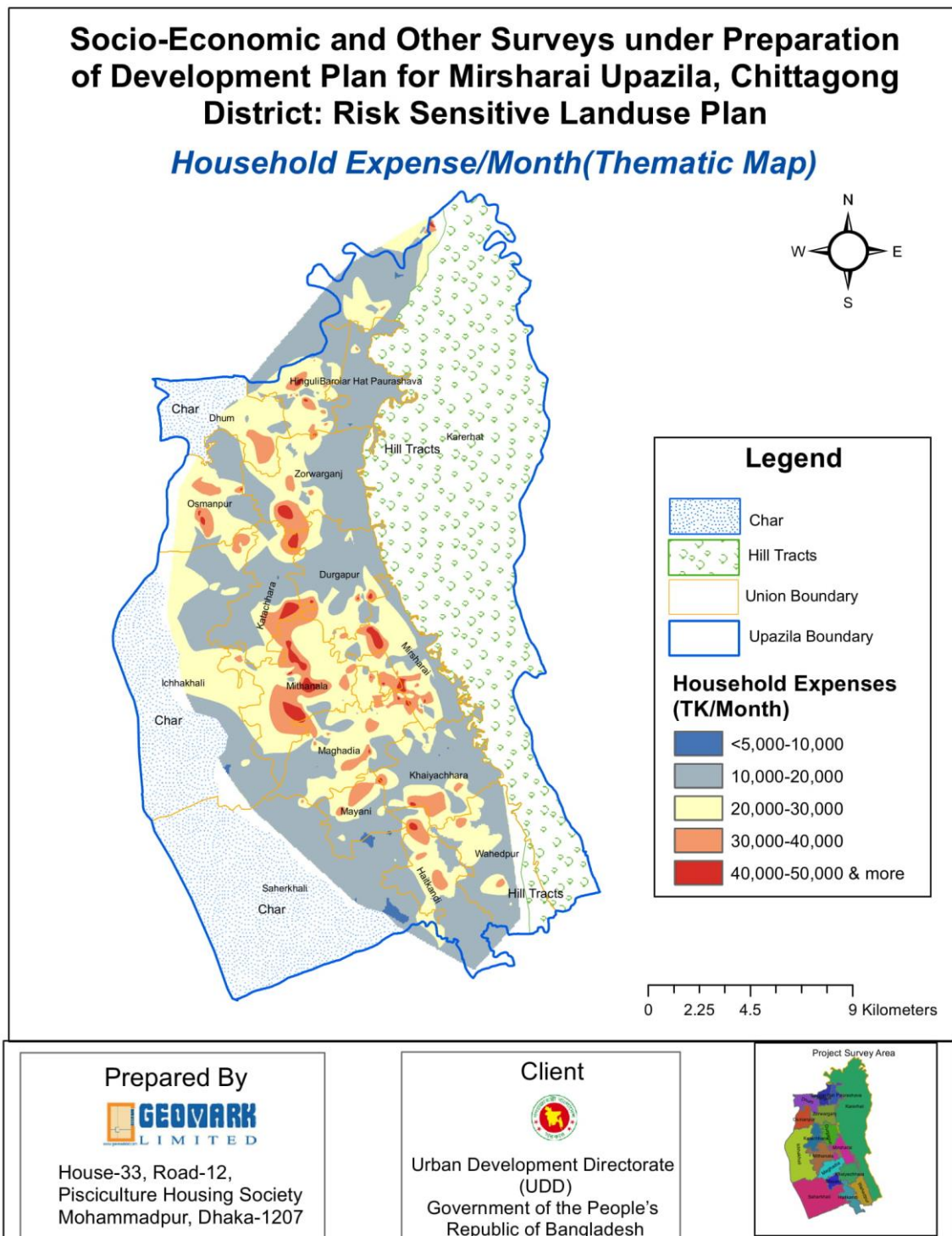
Map 13: Total household expenditure

Source: GeoMark GIS Lab

4.3.3: Savings of Household: In the Table4.3.3 showing the 75.1% respondents in the survey area are with zero savings. Less than TK1,000 saves by the 9% of the respondents. Only 2.7% respondents are manage to save TK 7,000 and more.

Table 11: Distribution of Household Savings

Monthly Savings

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
0	1014	75.1	75.1	75.1
<1000	122	9.0	9.0	84.1
1,000-1,900	69	5.1	5.1	89.3
2,000-2,900	39	2.9	2.9	92.1
3,000-3,900	10	.7	.7	92.9
5,000-5,900	53	3.9	3.9	96.8
6,000-6,900	6	.4	.4	97.3
7,000+	37	2.7	2.7	100.0
Total	1350	100.0	100.0	

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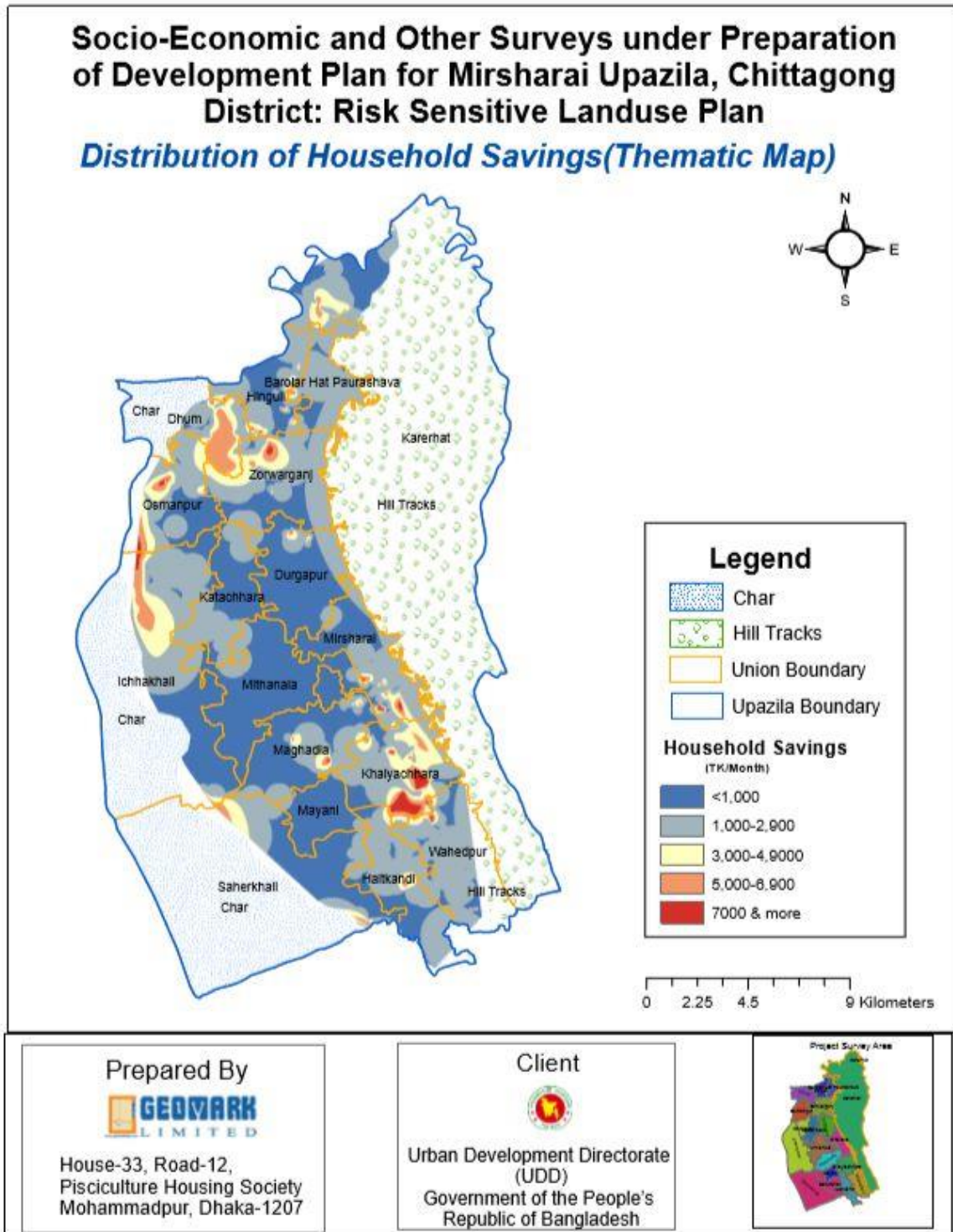
Map 14: Distribution of household saving

Source: GeoMark GIS Lab

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4.4: Family Members Staying outside

4.4.1: Distribution of family members staying outside: Staying outside of the home could be in two categories-Permanent & Temporary. Among the resident of total number of people staying outside the Mirsharai, 44.2 % belongs to the people who are staying outside country temporarily. Only 4.8% are staying outside of the country permanently.

In the Table 4.4.1, showing the 40.2% belongs to the category people who are staying other parts of the country temporarily.

Table 12: Distribution of family members staying outside

Staying Outside of Mirsharai Upazila

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
Country(Permanent)	43	10.8	10.8	10.8
Country(Temporary)	160	40.2	40.2	51.0
Outside Country (Permanent)	19	4.8	4.8	55.8
Outside Country (Temporary)	176	44.2	44.2	100.0
Total	398	100.0	100.0	

Source: Field Survey 2018

4.4.2: Reasons for Living outside Mirsharai Upazila: It could be different reasons for staying outside, In the Table 4.4.2, Job/Workplace category one of the main reason to staying outside of the home, which belongs to the 68.8%.Business responsible for only 5.8% for staying outside. For higher education one of the reason to staying people staying outside the home, because higher educational institutions are not available here, so that 14.6% are staying outside of the Mirsharai.
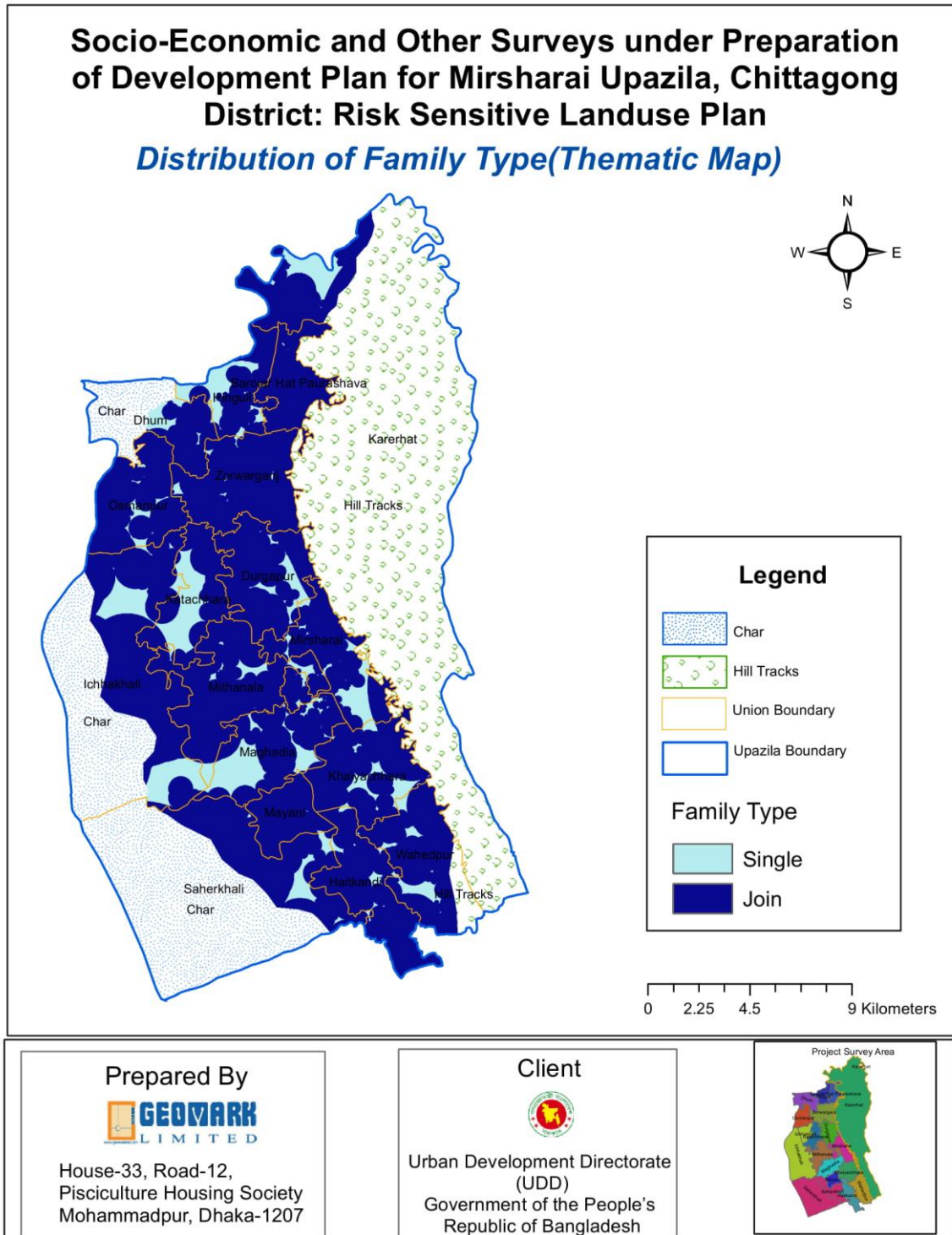
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Table 13: Distribution of reasons for living outside

Reasons for Living Outside Mirsharai Upazila				
Categories	Frequency	Percent	Valid **Percent**	Cumulative **Percent**
Business	23	5.8	5.8	5.8
Environmental Reasons	43	10.8	10.8	16.6
Job/Workplace	274	68.8	68.8	85.4
Higher Education	58	14.6	14.6	100.0
Total	398	100.0	100.0	

Source: Field Survey 2018

4.5: Structure

4.5.1: Structure of House: Half of structures in the survey area are katcha, 52.8% structure is katcha, and 23.5% belongs to the pucca structure,

Table 14: Distribution of House Structure

Structure of House

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
Jhupri	112	8.8	8.8	8.8
Katcha	671	52.8	52.8	61.6
Semi Pucca	189	14.9	14.9	76.5
Pucca	299	23.5	23.5	100.0
Total	1271	100.0	100.0	

Source: Field Survey 2018

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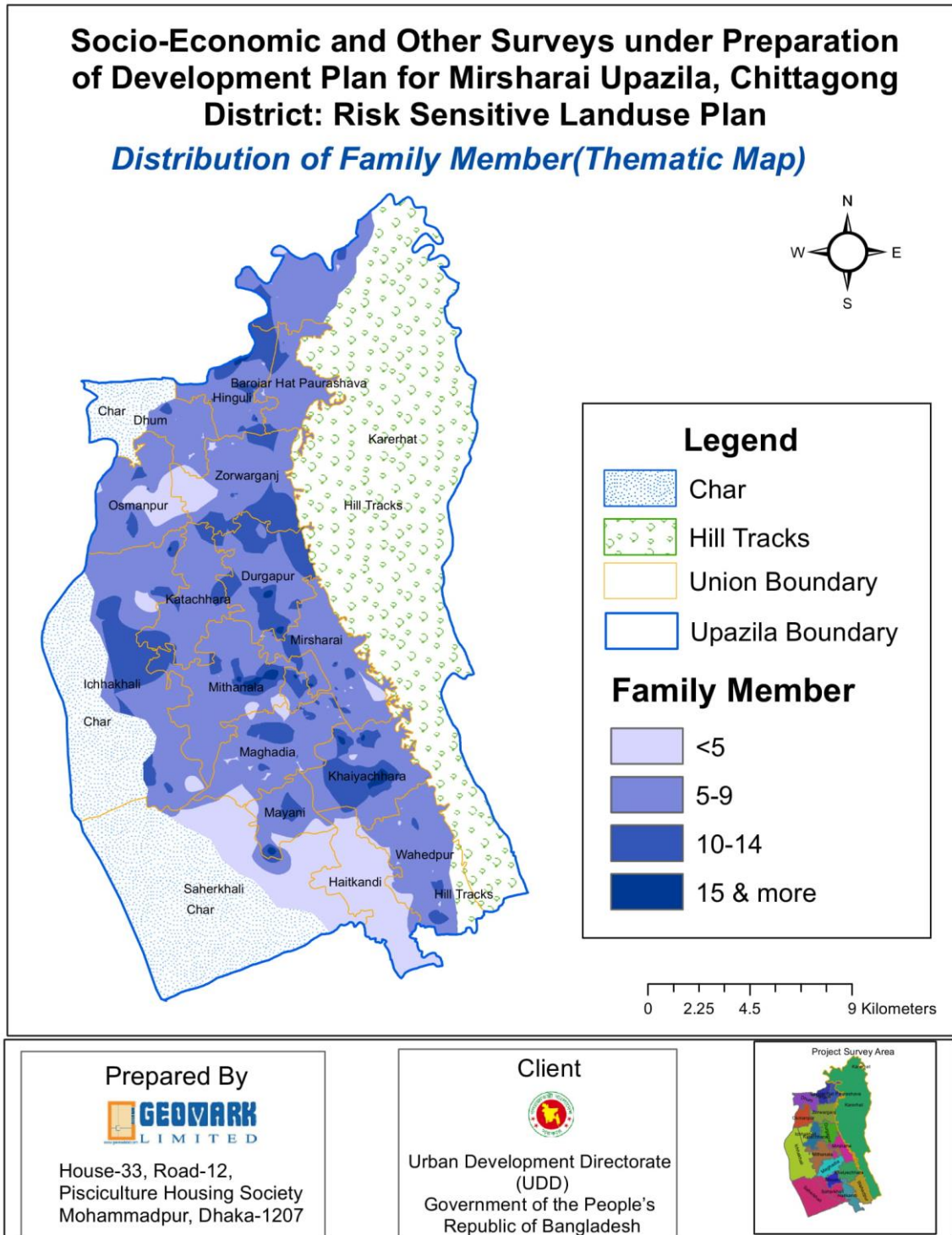
4.5.2 Number of Floor of Pucca Structure: Majority of the pucca structures are having one storied building, 85.5% structures belongs to the one-storied. 9.9% structures are two storied, only 1.5% having the four storied.

Table 15: Distribution of Number of Floor (Pucca Structure)

Number of Floor (Pucca Structure)

Number of Floors	Frequency	Percent	Valid Percent	Cumulative Percent
1	224	85.5	85.5	85.5
2	26	9.9	9.9	95.4
3	7	2.7	2.7	98.1
4	4	1.5	1.5	99.6
5	1	.4	.4	100.0
Total	262	100.0	100.0	

Source: Field Survey 2018

4.5.3 Construction Year of House: In the Table 4.5.3, showing the 63.5% of the home structure constructed in the 1980 to 2010.Old structure which are constructed in the year 1890 to 1920, belongs to .6%.

Table 16: Distribution of Construction year of House

Construction Year of House				
Year	Frequency	Percent	Valid Percent	Cumulative Percent
1890-1920	7	.6	.6	.6
1920-1950	18	1.6	1.6	2.2
1950-1980	76	6.7	6.7	8.9
1980-2010	723	63.5	63.5	72.4
2010-2018(current year)	314	27.6	27.6	100.0
Total	1138	100.0	100.0	

Source: Field Survey 2018

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4.5.4 Foundation Type of House: Majority of the foundations are RCC foundation in the survey area. RCC foundation belongs to the 49%, Brick foundation belongs to the 34.5% and rest of the foundations are count as an others belongs to the 16.6%

Table 17: Distribution of Foundation Type

Foundation Type of House				
Categories	Frequency	Percent	Valid **Percent**	Cumulative **Percent**
Brick	233	34.5	34.5	34.5
RCC	331	49.0	49.0	83.4
Others	112	16.6	16.6	100.0
Total	676	100.0	100.0	

Source: Field Survey 2018

4.5.5 House Soil Type: In the Table 4.5.5, showing the 79% of the house soil type is Muddy land, minimum 1.9% belongs to the Red Soil in the survey area. Sand soil belongs to the 17.2% as house soil type.

Table 18: Distribution of house soil type

House Soil Type

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
Muddy Land	1066	79.0	79.0	79.0
Red Soil	25	1.9	1.9	80.8
Rock Soil	27	2.0	2.0	82.8
Sand Soil	232	17.2	17.2	100.0
Total	1350	100.0	100.0	

Source: Field Survey 2018

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4.5.6 Land Price: In the figure 4.5.6, the upward sloping line diagram showing the increases of land prices during the year 2002 to 2017.
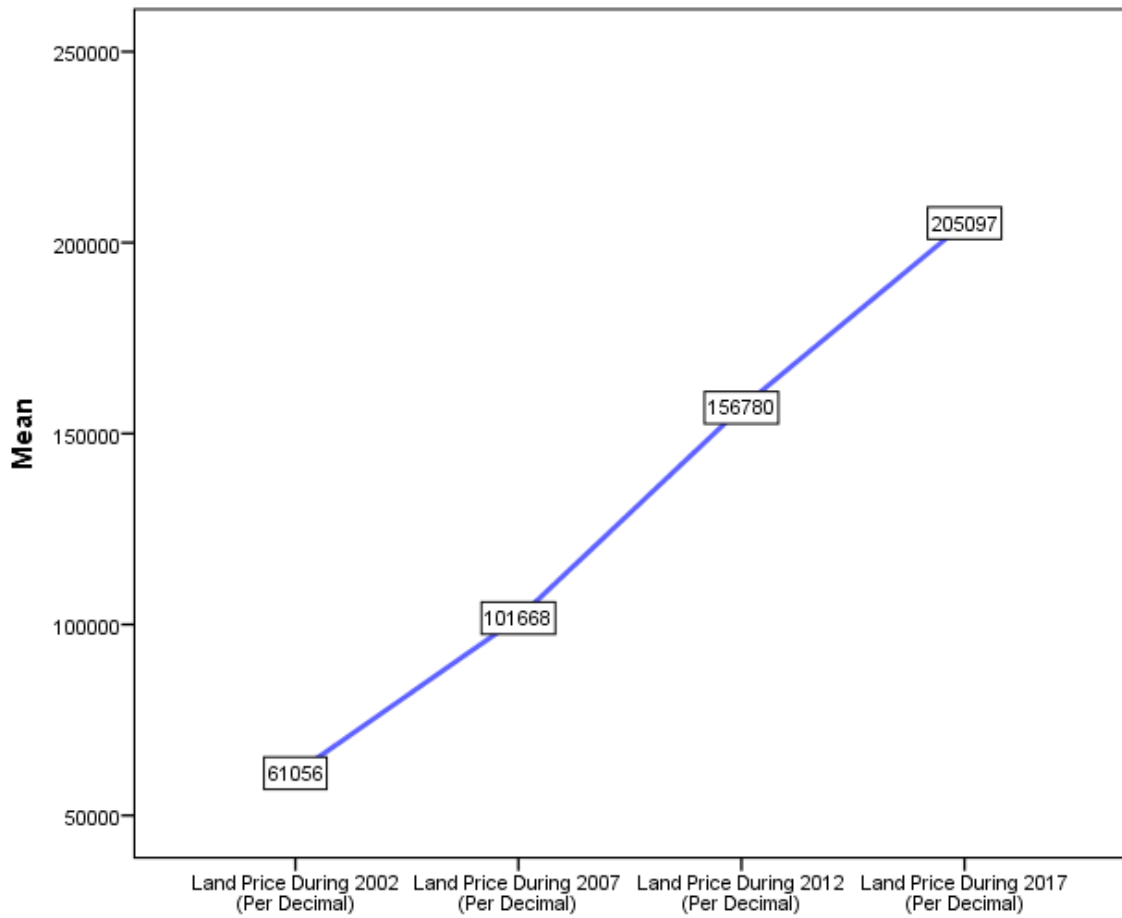
Figure 4: Line Diagram Showing the land prices in different years (2002-2017)

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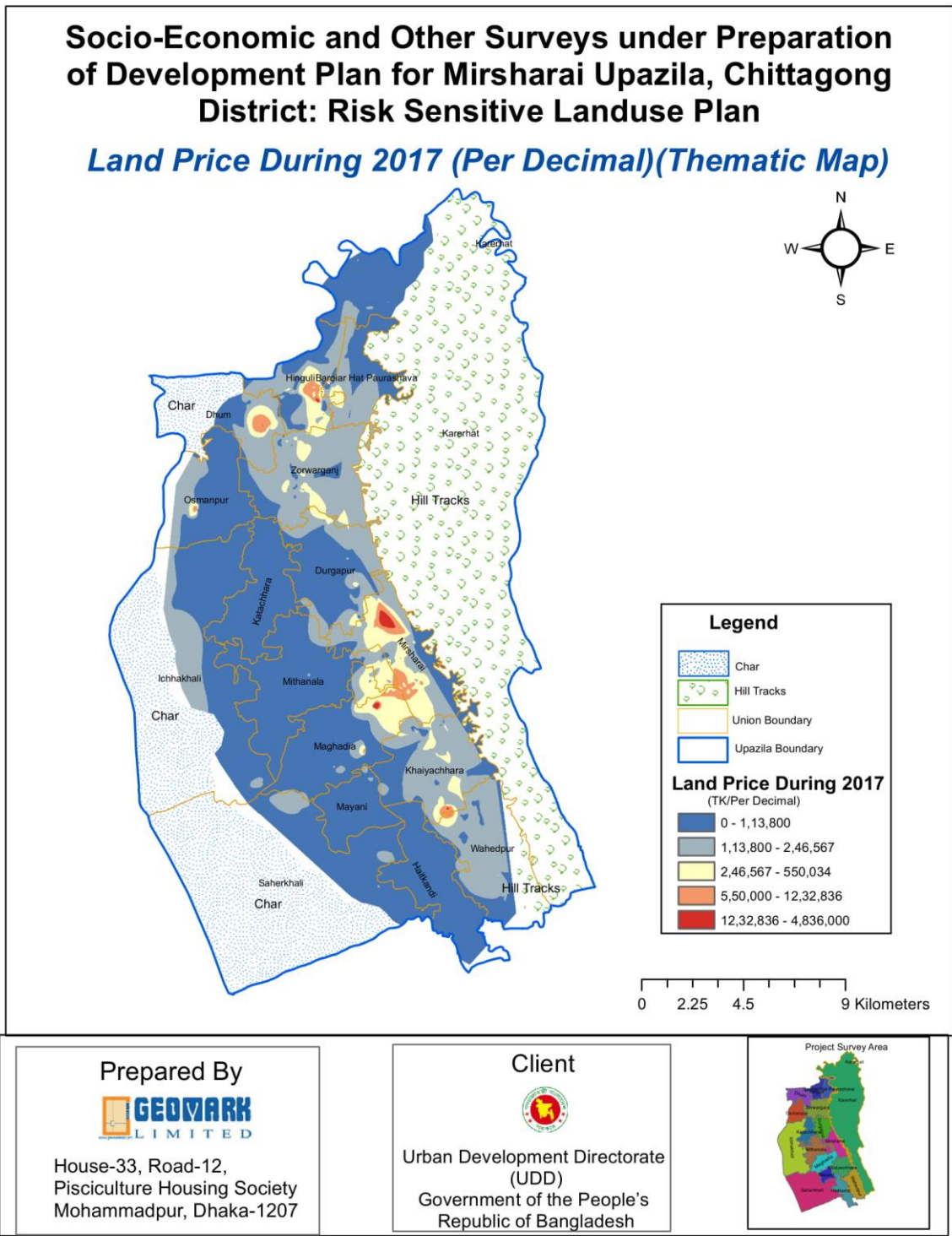
Map 15: Distribution of Land price

Source: GeoMark GIS Lab

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4.6 Road

4.6.1 Road width in-front of House (meter): Road width in front of house represent the 29.4% roads are two meter width, 25.3% are three meter width, only .1% are 7 meter width in the count

Table 19: Road width in-front of House (meter)

Road width in-front of House (m)?				
Categories(m)	Frequency	Percent	Valid **Percent**	Cumulative **Percent**
1	268	19.9	19.9	19.9
2	397	29.4	29.4	49.3
3	341	25.3	25.3	74.5
4	54	4.0	4.0	78.5
5	139	10.3	10.3	88.8
6	33	2.4	2.4	91.3
7	1	.1	.1	91.3
8	117	8.7	8.7	100.0
Total	1350	100.0	100.0	

Source: Field Survey 2018

4.6.2 Road Type: Road types are divided in five categories, 31.9% of them are Asphalt, similarly 31.6% are BS, Katcha roads belongs to the 29.8%. HBB and RCC are belongs to the less than 10%, as 2.1% and 4.6% respectively.

Table 20: Distribution of Road Type

Road Type				
Categories	Frequency	Percent	Valid **Percent**	Cumulative **Percent**
Asphalt	431	31.9	31.9	31.9
BS	426	31.6	31.6	63.5
HBB	29	2.1	2.1	65.6
Katcha	402	29.8	29.8	95.4
RCC	62	4.6	4.6	100.0
Total	1350	100.0	100.0	

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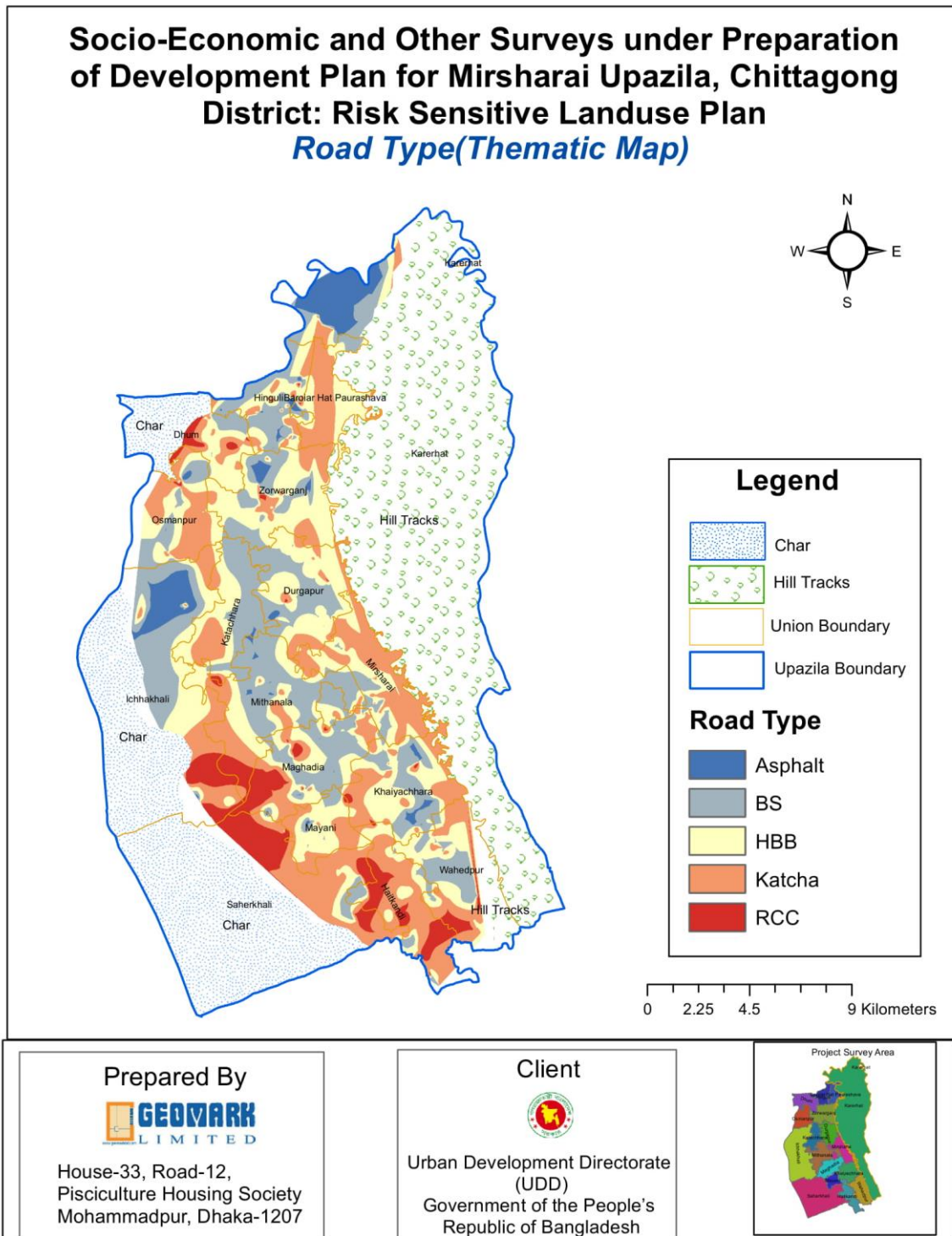
Map 16: Distribution of Road Type

Source: GeoMark GIS Lab

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4.6.3 Main Road distance from House (meter):47.9% distances are less than 1000 meters, highest distance category 8000-9000 belongs to the 10.1%, other distance categories not more than the 10% in count.

Table 21: Distribution of distances

Main Road distance from House(meter)				
Categories	Frequency	Percent	Valid **Percent**	Cumulative **Percent**
<1000	646	47.9	47.9	47.9
1000-2000	111	8.2	8.2	56.1
2000-3000	73	5.4	5.4	61.5
3000-4000	80	5.9	5.9	67.4
4000-5000	67	5.0	5.0	72.4
5000-6000	104	7.7	7.7	80.1
6000-7000	40	3.0	3.0	83.0
7000-8000	45	3.3	3.3	86.4
8000-9000	48	3.6	3.6	89.9
9000-10000	136	10.1	10.1	100.0
Total	1350	100.0	100.0	

Source: Field Survey 2018

4.6.4 Condition of Main Road: in the Table 4.6.4, showing the 49% of the respondents said that the condition of the main road is good, 51% rest of the respondents said that not good.

Table 22: : Distribution of Main Road Condition

Categories	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
Good	662	49.0	49.0	49.0
Not Good	688	51.0	51.0	100.0
Total	1350	100.0	100.0	

Source: Field Survey 2018

4.6.5 Problem of Main Road: Three main problems identified in the survey, 61.2% of the respondents said that the main problem of the main road is narrow road, 12.7% belongs to the occupied by wastages & Hawker. Traffic jam is the main problem said only 3.3%.

Table 23: Distribution of Main Road Problem

Problem of Main Road

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
Narrow	826	61.2	61.2	61.2
Occupied by Wastages & Hawker	171	12.7	12.7	73.9
Traffic Jam	44	3.3	3.3	77.1
Others	309	22.9	22.9	100.0
Total	1350	100.0	100.0	

Source: Field Survey 2018

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Map 17: Distribution of Main Road Problem

Source: GeoMark GIS Lab

4.6.6 Light post: In the table 4.6.6, showing the 94.2% of the road without having light post, and rest of 5.8% are having light post.

Table 24: Distribution of light Post

Light post				
Categories	Frequency	Percent	Valid **Percent**	Cumulative **Percent**
Yes	78	5.8	5.8	5.8
No	1272	94.2	94.2	100.0
Total	1350	100.0	100.0	

4.6.7: Drain: In the table 4.6.7, 84.7% areas are without drainage system, 15.3% having the drain, among the 15.3%, 10.4% drains are katcha and 4.9% are pucca drain.

Table 25: Distribution of Drain

Drain				
Categories	Frequency	Percent	Valid **Percent**	Cumulative **Percent**
Katcha	140	10.4	10.4	10.4
Pucca	66	4.9	4.9	15.3
No Drain	1144	84.7	84.7	100.0
Total	1350	100.0	100.0	

Source: Field Survey 2018
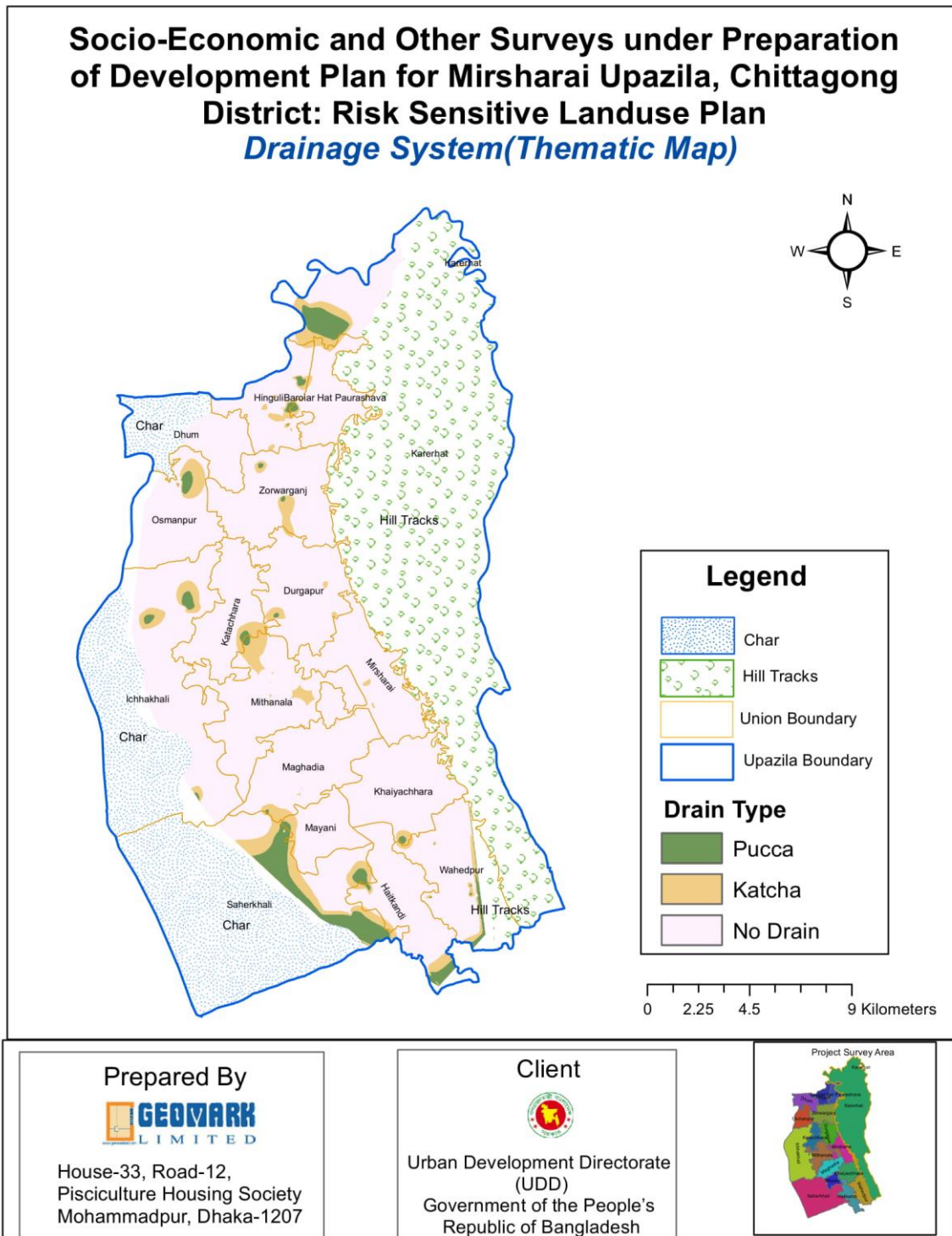
Map 18: Distribution of Drain

Source: GeoMark GIS Lab

4.7 Water Sources

4.7.1 Sources of Water: Majority percentage of water sources (85.9%) belongs to the Tube well. 2.8% water sources belongs to the pipeline, and the rest of the sources not more than 5%, pond and river/canal source belongs to the 3.2% and 2.9% respectively.

Table 26: Distribution of Water sources

Source of Water				
Categories	Frequency	Percent	Valid **Percent**	Cumulative **Percent**
Comon Tube well	70	5.2	5.2	5.2
Pipeline	38	2.8	2.8	8.0
Tubewell	1160	85.9	85.9	93.9
Pond	43	3.2	3.2	97.1
River/Canal	39	2.9	2.9	100.0
Total	1350	100.0	100.0	

Source: Field Survey 2018

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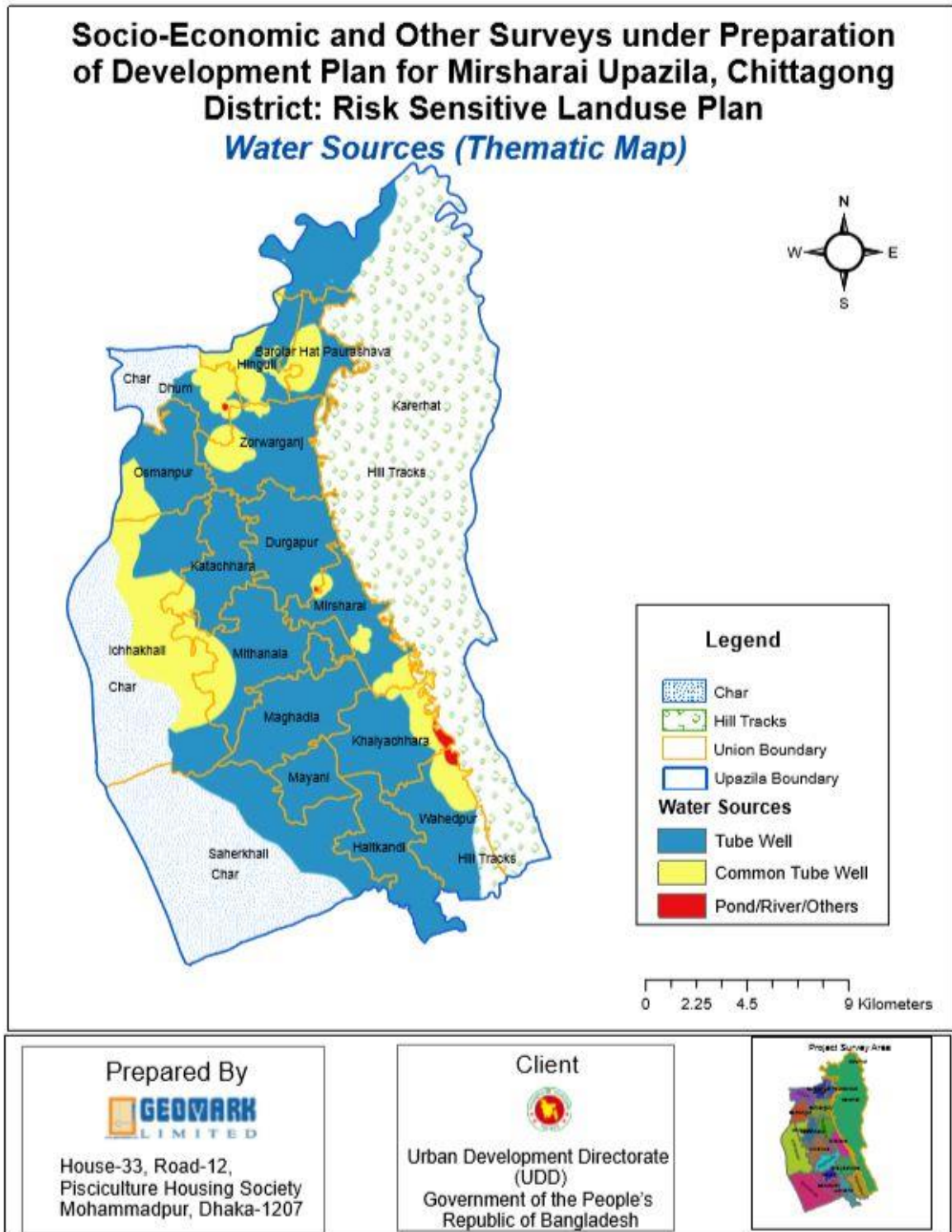
Map 19: Distribution of water sources

Source: GeoMark GIS Lab

4.7.2 Quality of water: Among all the water sources 88.8% water is drinkable, 9% sources are Arsenic Contaminated, and the rest of the sources (2.1%) are not drinkable.

Table 27: Distribution of water Quality

Quality of Water				
Categories	Frequency	Percent	Valid **Percent**	Cumulative **Percent**
Arsenic Contaminated	122	9.0	9.0	9.0
Drinkable	1199	88.8	88.8	97.9
Not Drinkable	29	2.1	2.1	100.0
Total	1350	100.0	100.0	

Source: Field Survey 2018
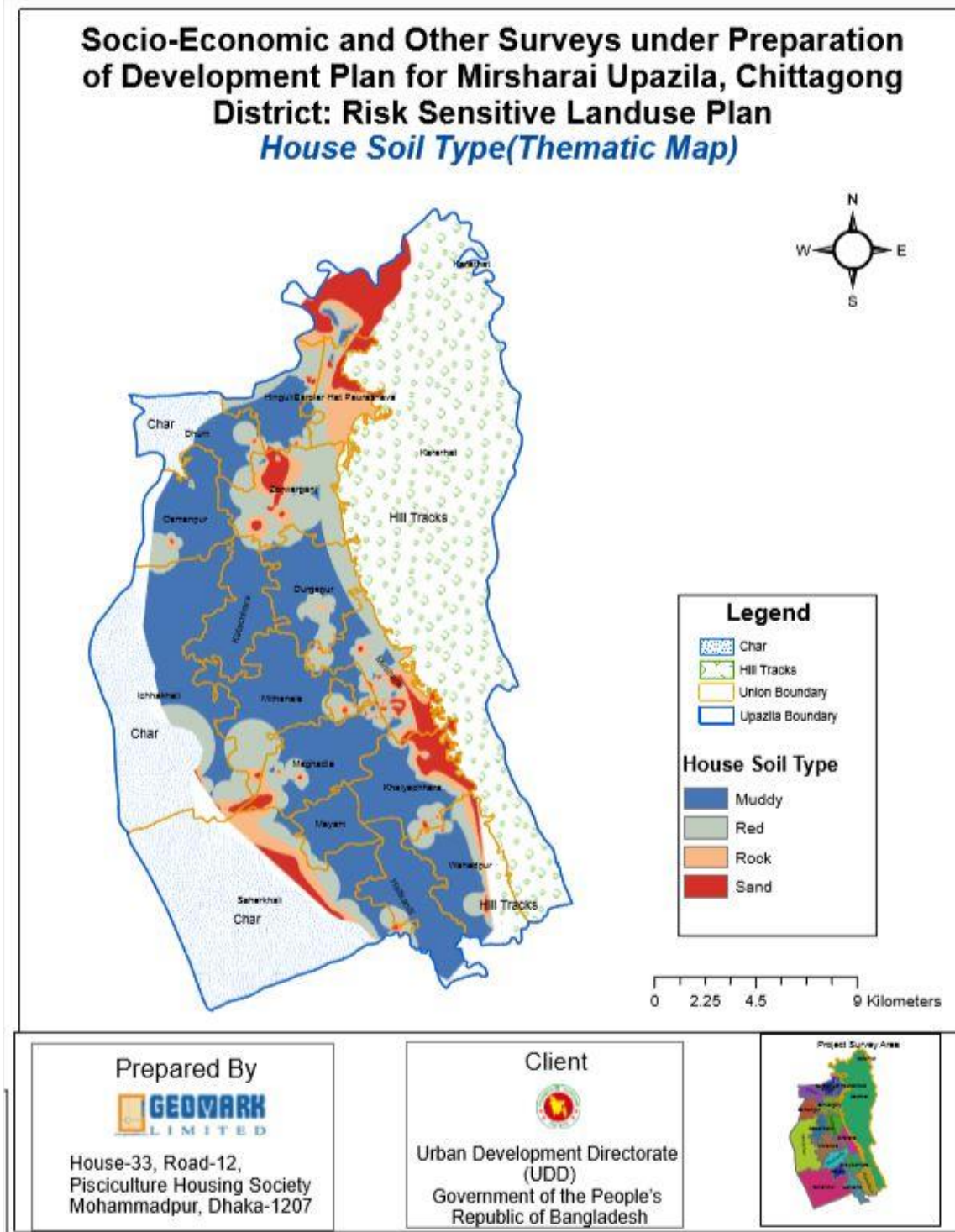
Map 20: Distribution of Soil type

Source: GeoMark GIS Lab

4.8 Source of Fuel

4.8.1 Sources of Fuel: In the Table 4.8.1, showing the majority percent of fuel source come from the wood, which belongs to the 82.5%, second maximum fuel source is cylinder gas (13.15), and the rest of the sources are pipeline gas and others belongs to the 3.1% and 1.3% respectively.

Table 28: Distribution of Fuel Sources

Source of Fuel				
Categories	Frequency	Percent	Valid **Percent**	Cumulative **Percent**
Cylinder Gas	177	13.1	13.1	13.1
Wood	1113	82.5	82.5	95.6
Pipeline Gas	42	3.1	3.1	98.7
Others	17	1.3	1.3	100.0
Total	1349	100.0	100.0	

Source: Field Survey 2018

4.8.2 Sources of Light: Electricity (91.2%) is the main source of light in this area. Solar panel belongs to the 5.5% of the light source in this area.

Table 29: Distribution of Light Source

Source of Light				
Categories	Frequency	Percent	Valid **Percent**	Cumulative **Percent**
Electricity	1230	91.2	91.2	91.2
Kupi/Bati/Harican	45	3.3	3.3	94.5
Solar Electricity	74	5.5	5.5	100.0
Total	1349	100.0	100.0	

Source: Field Survey 2018

4.9 Sanitation

4.9.1 Types of Latrine: Latrine types divided into three categories, the majority of the percentage (58.0%) belongs to the katcha latrine. It is observed that in the table 4.9.1, Pucca latrine is 24.7% and the rest 17.3% belongs to the Semi pucca latrine. The data has been shown in table **4.9.1** and scenario has presented on spatial map.

Table 30: Distribution of types of latrine

Type of Sanitation				
Categories	Frequency	Percent	Valid **Percent**	Cumulative **Percent**
Katcha	783	58.0	58.0	58.0
Pucca	334	24.7	24.7	82.7
Semi Pucca	233	17.3	17.3	100.0
Total	1350	100.0	100.0	

Source: Field Survey 2018

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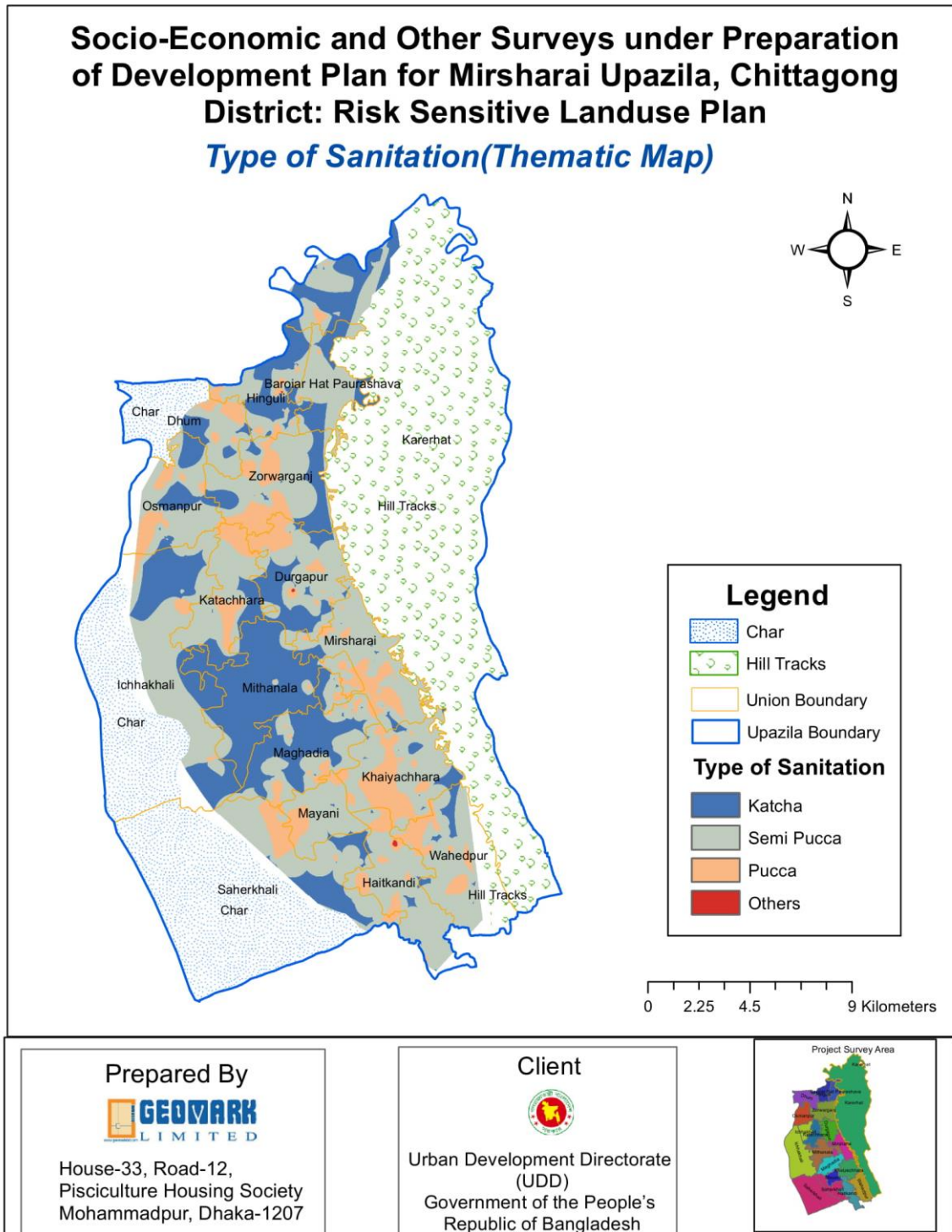
Map 21: Distribution of types of latrine

Source: GeoMark GIS Lab

4.9.2 Is latrine hygienic? During the identification of hygienic latrine, 83.0% respondent's response to the hygienic latrine, and the rest of the respondents (17.0%) said that latrine is not hygienic.

Table 31: Distribution of hygienic latrine

Is sanitation is hygenic?				
Categories	Frequency	Percent	Valid **Percent**	Cumulative **Percent**
Yes	1121	83.0	83.0	83.0
No	229	17.0	17.0	100.0
Total	1350	100.0	100.0	

Source: Field Survey 2018
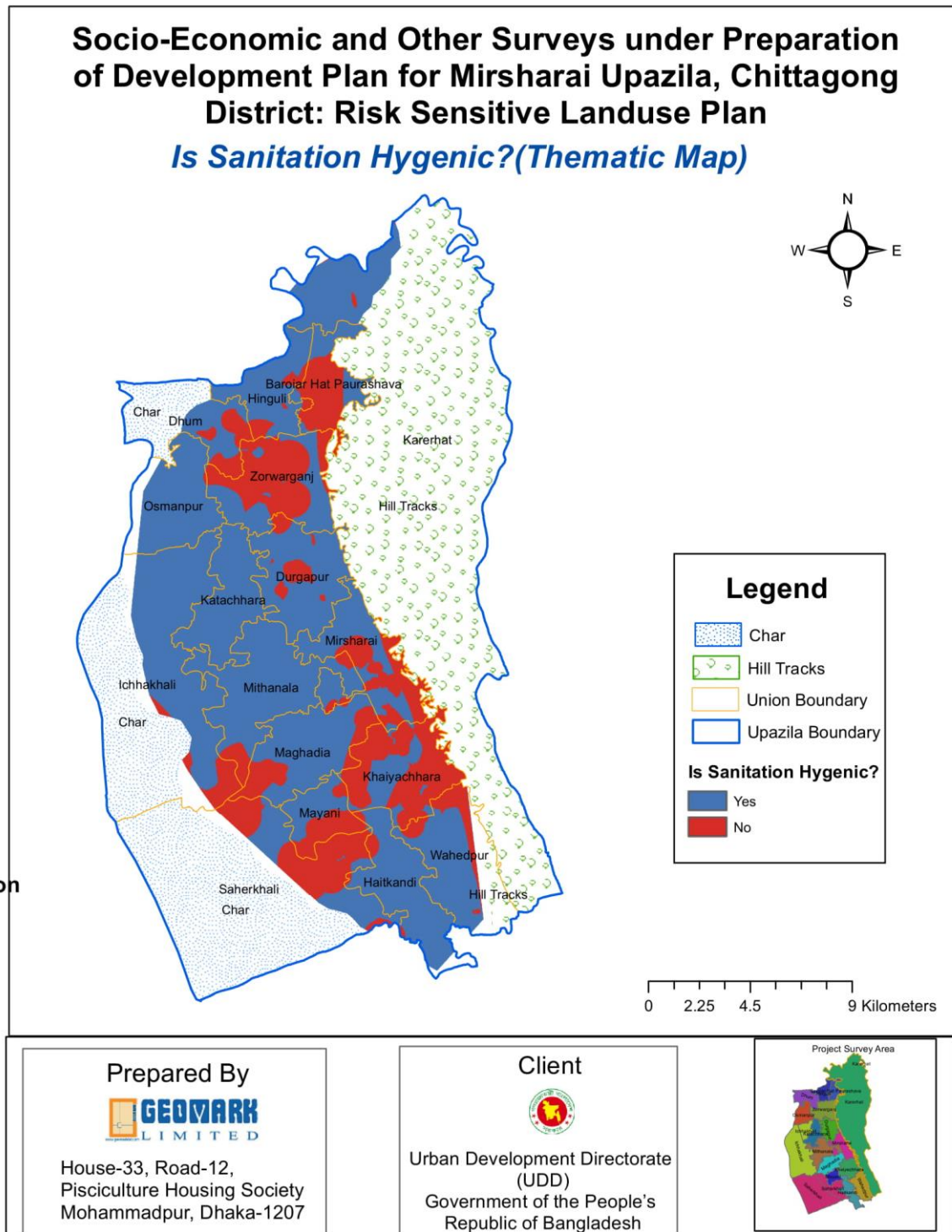
Map 22: Distribution of hygienic latrine

Source: GeoMark GIS Lab

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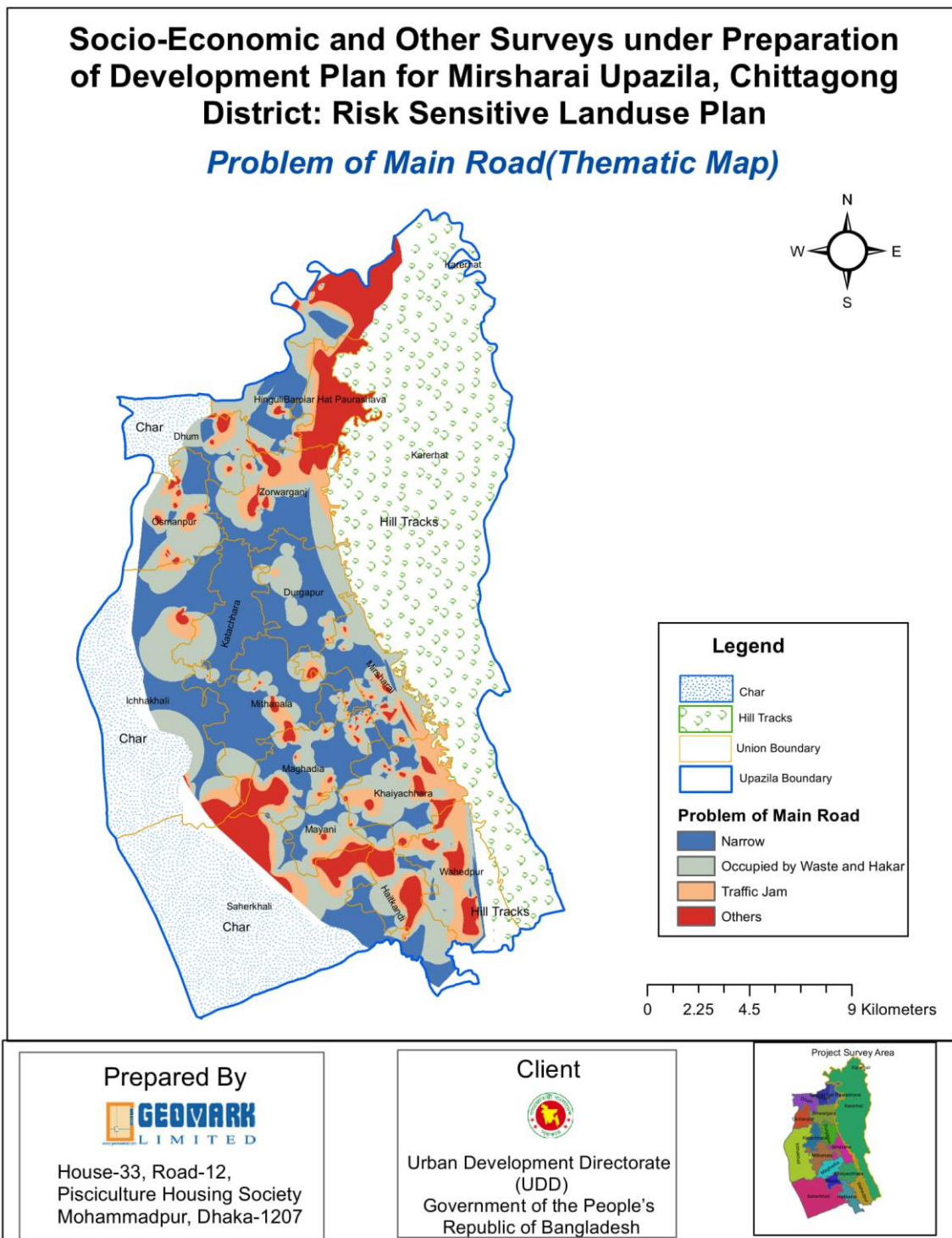
4.10 Diseases

4.10.1 Attacked by diseases in the last year: Regarding the categories of different kinds of diseases, it is found that 64.8% of the respondents having cough in the last year. 8.4% response to the dysentery, 14.6% respondents did not identify any specific disease, but respondent had been attacked by the disease

Table 32: Distribution of Diseases

Disease Name Attacked By Last Year				
Categories	Frequency	Percent	Valid **Percent**	Cumulative **Percent**
Cough	377	30.5	64.8	64.8
Diabatic	18	1.5	3.1	67.9
Hart attack	23	1.9	4.0	71.8
Kidney Diseases	1	.1	.2	72.0
Diarrhoea	17	1.4	2.9	74.9
Dysentery	49	4.0	8.4	83.3
Skin Diseases	6	.5	1.0	84.4
Jaundice	6	.5	1.0	85.4
Others	85	6.9	14.6	100.0
Total	582	47.0	100.0	

Source: Field Survey 2018

4.10.2 Hospital/Medical facilities distance from house (meter): Distance between nearest hospital and respondent's house has been divided into five categories, categories of 1000-5000 meter belongs to the 42.8% respondents. Below 1000 meter observed that the 22.1%, and minimum response (5.2%) belongs to the category 15000-20000 meter.

Table 33: Distribution of Hospital/Medical facilities Distance from House

Hospital/Medical facilities distance from house(m)

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
<1000	242	22.1	22.1	22.1
1000-5000	470	42.8	42.8	64.9
5000-10000	235	21.4	21.4	86.3
10000-15000	93	8.5	8.5	94.8
15000-20000	57	5.2	5.2	100.0
Total	1097	100.0	100.0	

Source: Field Survey 2018

4.11 Educational Institution

4.11.1 Nearest Primary School Distance (m): Nearest primary school distances from the respondent's house is represented in the Table 4.11.1, 75.3% response belongs to the 1000-2000 (m) category. 17% schools, distance below 1000 meter, and the rest of (7.5%) belongs to the 2000-3000 meters category.

Table 34: Distribution of distances of nearest Primary School

Nearer Primary School Distance (M)

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
<1000	78	17.2	17.2	17.2
1000-2000	342	75.3	75.3	92.5
2000-3000	34	7.5	7.5	100.0
Total	454	100.0	100.0	

Source: Field Survey 2018

4.11.2 Nearest High School Distance (m): The Majority of the high school (55.6%) situated in the 1000-2000 meters range. Only 5.6% high school situated 1000 meter in the survey area. 4000 meters & above distance from the house belongs to the 2.8%.

Table 35: Distribution of distance of nearest high school

Nearer Secondary School Distance (m)

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
<1000	28	5.6	5.6	5.6
1000-2000	277	55.6	55.6	61.2
2000-3000	141	28.3	28.3	89.6
3000-4000	38	7.6	7.6	97.2
4000 & above	14	2.8	2.8	100.0
Total	498	100.0	100.0	

 Source: Field Survey 2018

4.12 Recreation

4.12.1 Location for Recreation: The study shows the most favorite destination for recreation in the survey is Local Town/Playing Field/Backyard, which is represented 56.5% respondents.

Khaiyachora waterfall and Mohamaya Lake are the very popular travel destination in Bangladesh. But in the survey area 18.1% resident chooses Mohamaya Lake as their recreation destination and Khaiyachora/Napittachora chosen 8.8% residents as their recreation site.

Table 36: Distribution of Recreation Location

Location for Recreation

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
Chittagong City/Cox's Bazar/Feni/Others	7	2.0	2.0	2.0
Khaiyachara/Napittachara Waterfall	31	8.8	8.8	10.7
Local Town/Playing Field/Backyard	200	56.5	56.5	67.2
Mohamaya Lake	64	18.1	18.1	85.3
Shoping Mall	43	12.1	12.1	97.5
Sitakundo Hill Area	9	2.5	2.5	100.0
Total	354	100.0	100.0	

 Source: Field Survey 2018

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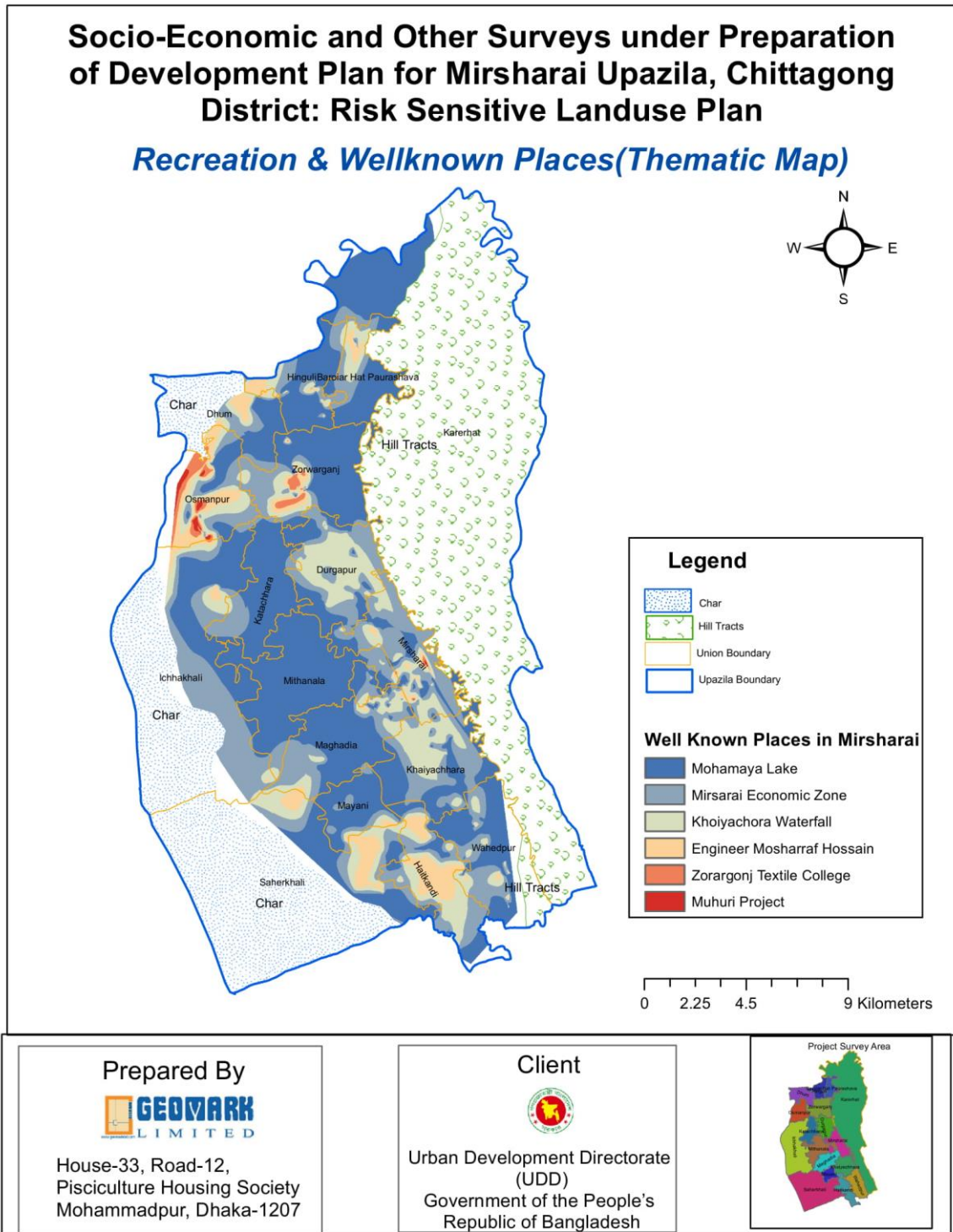
Table 37: Recreation & Well-Known Place

Source: Geomark GIS Lab

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4.13 Natural Disaster

4.13.1 Cyclone/Tornedo in survey area (Year): Cyclone/Tornado is one of the most destructive natural disaster in our country, in the table 4.13.1, showing the year interval 1991-2000 was the most vulnerable year presenting 38.3% cyclone/Tornedo hits that decade. In the year category 1971-1980 belongs to the only .5% Cyclone/tornedo recorded.

Table 38: Distribution of cyclone/Tornedo

Cyclone/Tornedo in your area(Year)

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
1971-1980	3	.5	.5	.5
1981-1990	21	3.5	3.5	4.0
1991-2000	230	38.3	38.3	42.3
2001-2010	169	28.2	28.2	70.5
2011-2017	177	29.5	29.5	100.0
Total	600	100.0	100.0	

Source: Field Survey 2018

4.13.2 Water Logging in survey area: Because of low area 64.9% area faces water logging in the survey area. No drainage system in the area causes for 13.4% water logging.

Table 39: Distribution of water logging

Cause of water logging

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
Lock of Drainage System	83	9.5	9.5	9.5
Low Area	566	64.9	64.9	74.4
Low Area, No drainage system	106	12.2	12.2	86.6
No drainage system	117	13.4	13.4	100.0
Total	872	100.0	100.0	

Source: Field Survey 2018

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4.13.3 Duration of water logging: The majority of the water logging time in the survey area is more than 5 hours, which belongs to 63.4% of the total. Minimum 8.3% duration belongs to 3-5 hours category. 13.4% water logging causes less than 1 hour duration.

Table 40: Distribution of water logging Time

Duration of Water logging				
Categories	Frequency	Percent	Valid **Percent**	Cumulative **Percent**
Less than 1 hours	119	13.4	13.4	13.4
1-3 Hours	133	14.9	14.9	28.3
3-5 hours	74	8.3	8.3	36.6
More than 5 hours	565	63.4	63.4	100.0
Total	891	100.0	100.0	

Source: Field Survey 2018

4.14.1 First problem in this area: Among the all problems recorded in the survey area, load shedding having the maximum percentage (42.9%). Road problem also have the significant percentage (22.5%) in the survey area. Sewerage problem and water logging problems are related, due to interrupted sewerage facilities then definitely there would water logging problem as well.

Table 41: Distribution of First Problem in Area

First Problem In This Area

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
Disorganization of Law	13	1.1	1.1	1.1
Flash Flood	11	.9	.9	2.0
Lack of Drinking water	8	.7	.7	2.7
Lack of Eligible Educational Institution	86	7.2	7.2	9.9

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Lack of Waste Disposal Point	20	1.7	1.7	11.6
Load Shedding	511	42.9	42.9	54.5
Long Distance of Bazar	21	1.8	1.8	56.3
Road	268	22.5	22.5	78.8
Sewerage Problem	25	2.1	2.1	80.9
Traffic Jam	6	.5	.5	81.4
Transportation	57	4.8	4.8	86.1
Water Logging	119	10.0	10.0	96.1
Others	46	3.9	3.9	100.0
Total	1191	100.0	100.0	

Source: Field Survey 2018

In the figure 4.14.1, showing the water logging problem is one of the main problem in the survey area, which belongs to 10%, and 2.1% belongs to the sewerage problem.
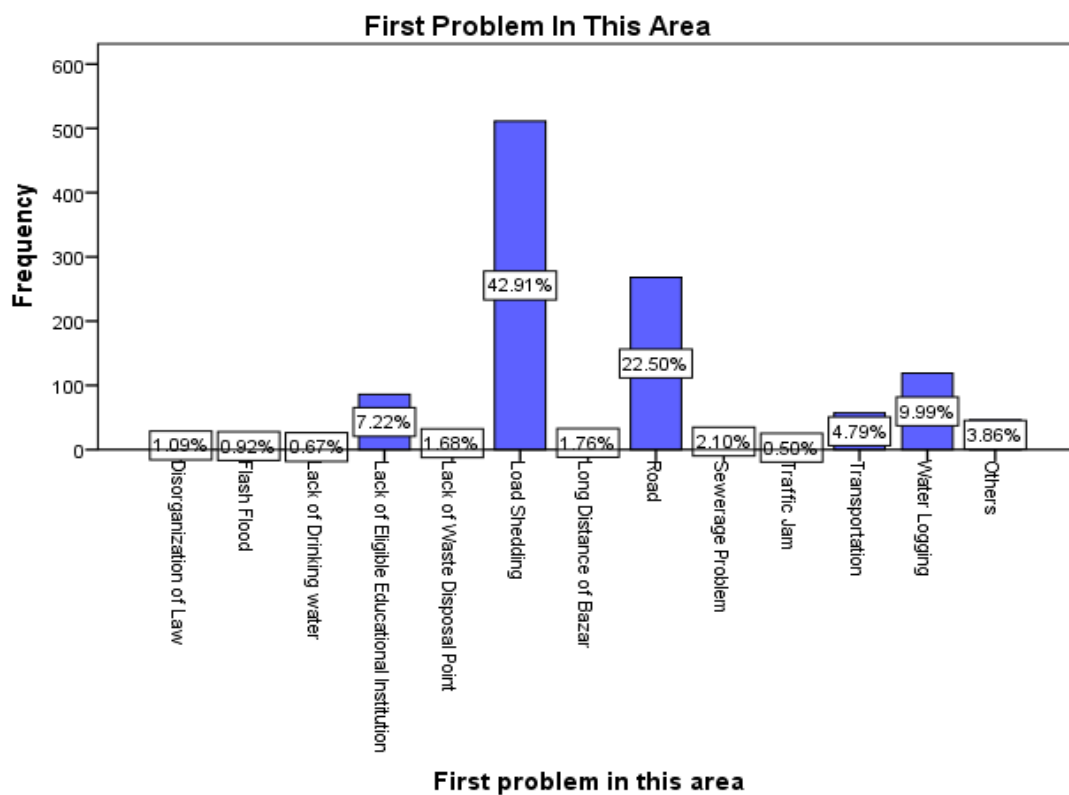
Figure 5: Bar Diagram of First problem of the Area

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4.14.2 Land mark/icon/historical place is known to all in Mirsharai Upazila: In the

Figure 4.14.2, respondents are consider their choice how to describe their area in one word,

in this way 32.32% residents chooses the Mohamaya Lake which is better describe the

Mirsharai upazila they think. Khoichora waterfall is one of the important natural beauty in

Mirshari which belongs to 15.05%.
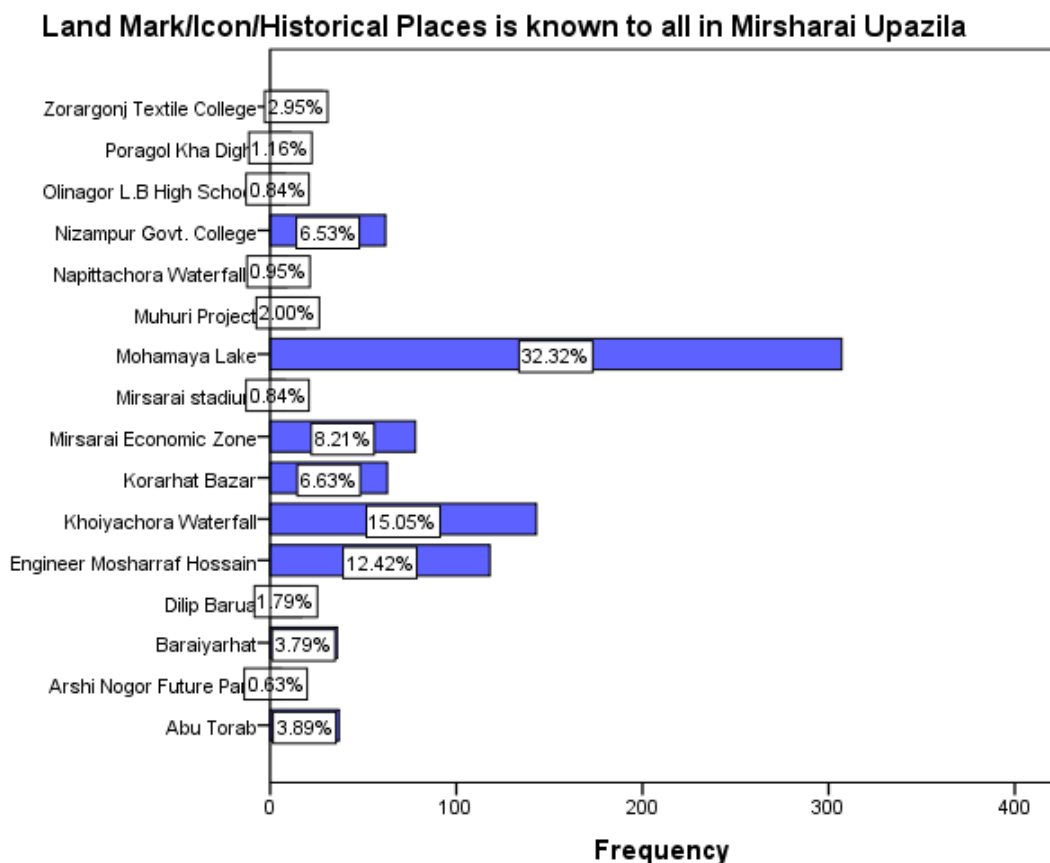
Figure 6: Bar diagram showing the distribution Land mark/icon/historical places

Political leaders also represented the Mirsharai, Engineer Mosharraf Hossain and Dilip

Barua are representing Mirsharai, and Engineer Mosharraf Hossainis is a Minister of

Housing and Public Works in current government of Bangladesh chosen by 12.42% of the

respondents as well consider that he is representing Mirshari very well.

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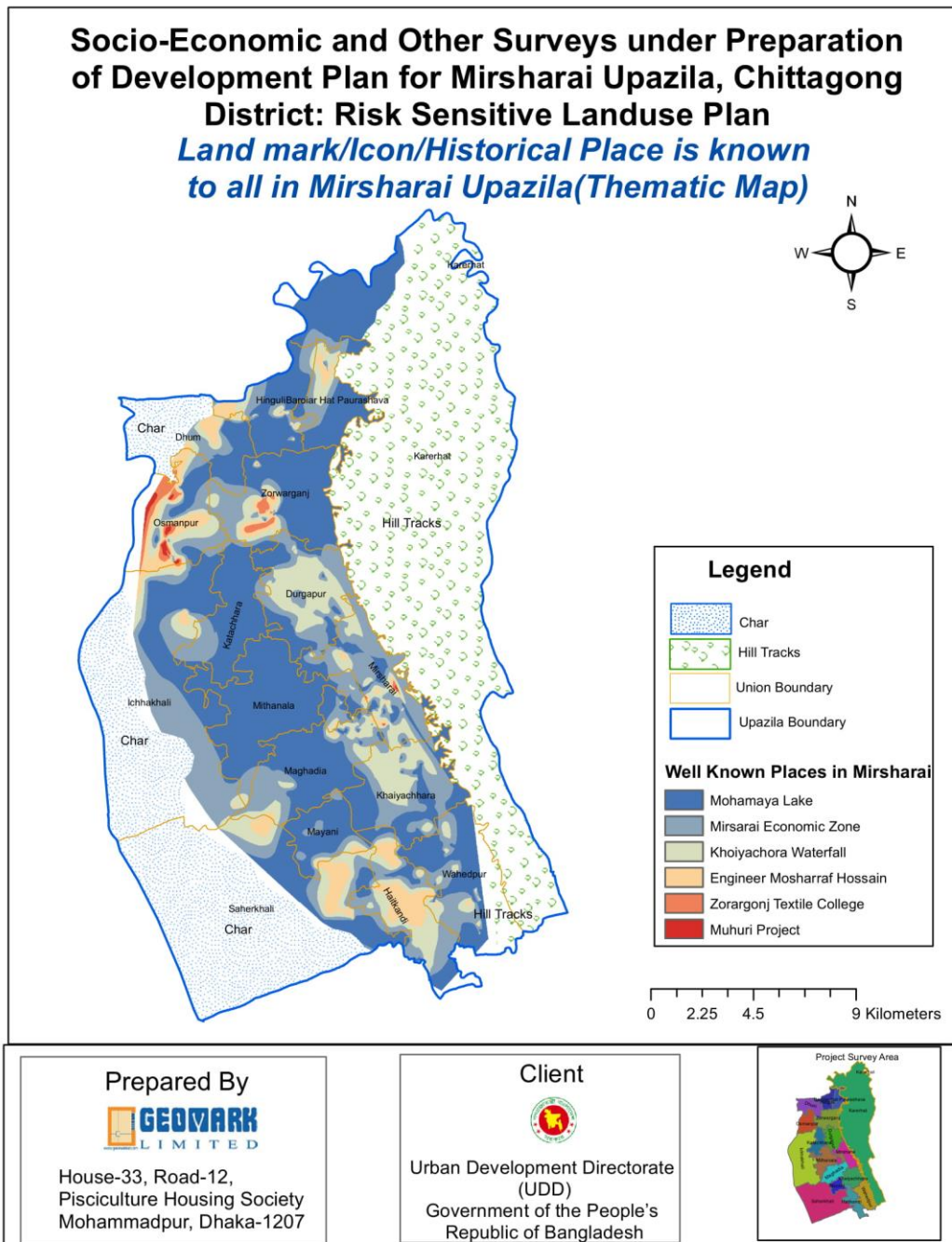
Map 23: Well Known Place

Source: Geomark GIS Lab

4.14.3 Socioeconomic development for development of Mahamaya and Khoiachara Tourism Spot: Tourism is an important factor for development of an area. Natural beauties like Mahamaya and Khoiachora are the two important tourist spot in Mirsharai,

Table 42: Distribution of Socioeconomic development of Tourism Spot

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	1029	93.3	93.3	93.3
No	74	6.7	6.7	100.0
Total	1103	100.0	100.0	

Source: Field Survey 2018

93.3% of the respondent to think that it is important to develop the two tourist spot considering the development of socioeconomic development in the area.
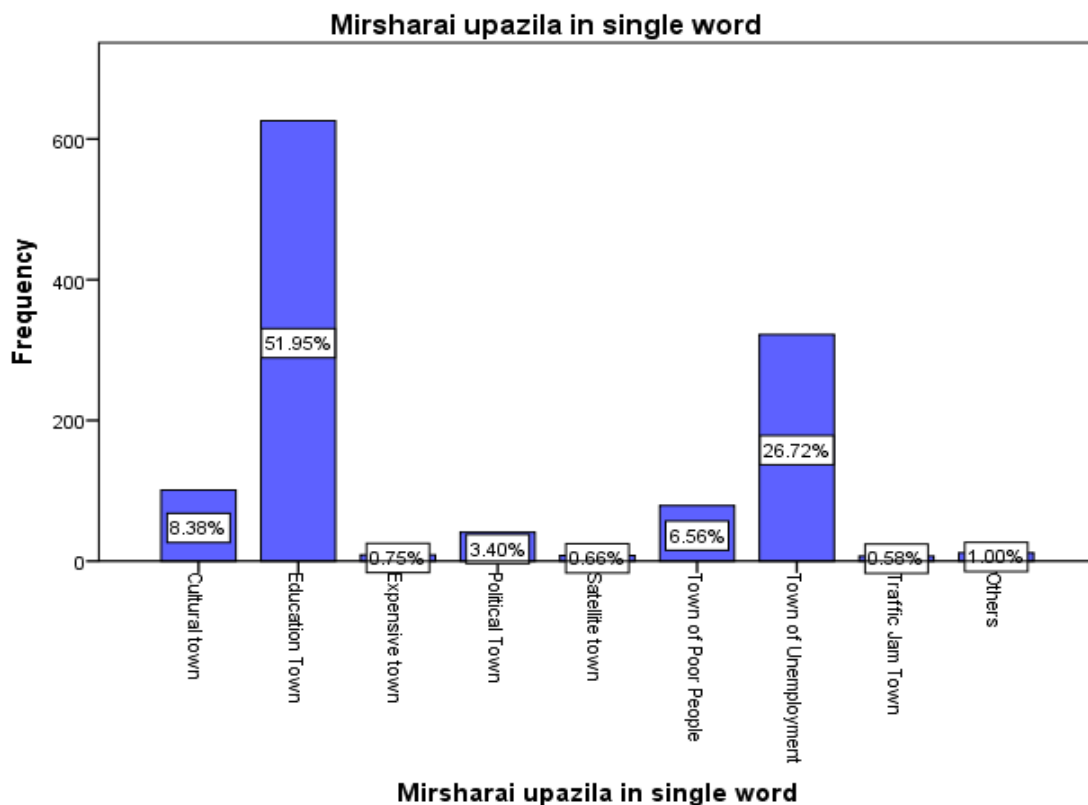
Figure 7: Bar Diagram Showing the distribution

4.14.4: Mirsharai upazila in single ward: Among all the response 52% belongs to the Mirsharai as an Educational town because of some nameable educational institutions like Zorargonj Textile College, Mirsarai Degree College, Baraiyarhat Degree College et cetera. 26.7% respondents express that Mirsharai is a town of unemployment due to high rate of unemployment. Political personnel like Engineer Mosharraf Hossain and Dilip Borua are prominent political person in Mirsharai, so that 3.4% respondents express Mirsharai .

Table 43: Distribution of Mirsharai in Single Word

Mirsharai upazila in single word				
Categories	Frequency	Percent	Valid **Percent**	Cumulative **Percent**
Cultural town	101	8.4	8.4	8.4
Education Town	626	52.0	52.0	60.3
Expensive town	9	.7	.7	61.1
Political Town	41	3.4	3.4	64.5
Satellite town	8	.7	.7	65.1
Town of Poor People	79	6.6	6.6	71.7
Town of Unemployment	322	26.7	26.7	98.4
Traffic Jam Town	7	.6	.6	99.0
Others	12	1.0	1.0	100.0
Total	1205	100.0	100.0	

Source: Field Survey 2018

Other Surveys

Educational Survey

1.1 **Name and Location of some prominent educational Institutes:** In the Survey area educational institutions are categories into the School (Primary & Higher Secondary), College and Madrasha. In the Table 1.1, some prominent educational institutions are shown.

Table 44: Name and Location of some prominent educational Institutes:

Name of Building	Location of Building
Purbo Bariakhali Govt. Primary School	Pubo Bariakhali, Katachora, Mirsorai
Korerhat K, M High School	Korerehat, Mirsorai
Nirudha Shundori Govt. Primary School	Durgapur
Habilder Basa United Academy	Habilderbasa, Korerhat
Zorargonj Ideal Academy	Zorargonj
Sunflower Grammer School	Shantir Hat, Mirsorai
Uttar Dhoom Dowlat Bibi Govt. Primary School	Uttar Dhoom, Mirsorai
Hinguli Moni Bibi Govt. Primary School	Mirsorai
Poshcim Zoar Govt. Primary School	Poshcim Zoar, Korerhat, Mirsorai
Zorargonj Ideal Academy	Zorargonj
Islampur Govt. Primary School	Islampur, Mirsorai
Foyzia Nacemul Ulum Madrashah and Yatimkhana	Poshcim Azompur, Mirsorai
Zorargonj Islamia Dakhil Madrashah	Zorargonj
Zobaida Islam Nurania Islamia Madrashah	Driver Hat, Mirsorai
Madinatul Ulum Hafezia Madrashah and Yatimkhana	Poshcim Zoar, Korerhat, Mirsorai
Textile Engineering College	Zorargonj
Chor Shorot Basimul-Ulum Talimul Madrasha & Yatimkhana	Bangla Bazar, Chor Shorot
Chor Shorot High School	Banglabazar, Chor Shorot
Zorargonj Girls High School	Zorargonj
Moulovi Nazir Ahmed Dakhil Madrasha	Zorargonj
Baraiyarhat College	Hinguli,MIrsharai
Hinguli Kodomtola Islamia Dakhil Madrasha	Hinguli, Kodomtola
Jamalpur Jinnat Bibi Govt. Primary School	Jamalpur

Source: Field Survey 2018

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1.2: Statistics of the Educational Institution: In the Table 1.2, statistics of some of important information's are shown. Total 122 educational institutions are consider in this study. Maximum area of instruction is 200(decimal) and minimum area is 3 (decimal), average land area is 39.64(decimal). Maximum number of students recorded is 3008, minimum is 20, and average number students in this survey is 348.99~349 per institution.

Table 45: Statistics of the Educational Institution

Statistic	Area (Decimal)	Number of Student	Number of Teacher	Hostel Facilities	Transport Facilities	Number of Dropout Student (primary)	Number of Dropout Student(Secondary)	Number of Dropout Student(Madrasha)
Valid	122	122	122	118	117	43	28	44
Missing	0	0	0	4	5	79	94	78
Mean	39.64	348.99	10.06	.79	.79	.88	2.64	1.86
Range	197	2988	35	1	1	7	30	30
Minimum	3	20	1	0	0	0	0	0
Maximum	200	3008	36	1	1	7	30	30

Source: Field Survey 2018

Average number of teachers in each institution is 10.06~10, where maximum number of teachers is 36 and minimum number teacher recorded is just 1.

1.3: Information of Educational Institution: In the Table 1.3, shows the maximum 37.7% are Madrasha having 46 in the count. 35.2% information of primary school and 22.1% about high school.

Table 46: Distribution of Educational Institution

Educational Institution	Frequency	Percent	Valid Percent	Cumulative Percent
Kindergarten	2	1.6	1.6	1.6
Primary School	43	35.2	35.2	36.9
High School	27	22.1	22.1	59.0
Madrashah	46	37.7	37.7	96.7
College	4	3.3	3.3	100.0
Total	122	100.0	100.0	

Source: Field Survey 2018

1.4: Hostel Facilities: In the Table1.4, 20.5% of the educational institutions have the hostel facilities, so that 76.2% of educational institution have no hostel facilities.

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Table 47: Distribution of Hostel Facilities

Hostel Facilities		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	**Yes**	25	20.5	21.2	21.2
	No	93	76.2	78.8	100.0
	Total	118	96.7	100.0	
Missing	**System**	4	3.3		
Total		122	100.0		

Source: Field Survey 2018

1.5: Transport Facilities: Among the 5 Institution did not want to expose the information about the transport facilities out of 122 educational institutions. So, among the total valid information about 117, 19.7% of institutions, only have transport facilities beside the 76.2% have no transport facilities.

Table 48: Distribution of Transport Facilities

Transport Facilities		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	**Yes**	24	19.7	20.5	20.5
	No	93	76.2	79.5	100.0
	Total	117	95.9	100.0	
Missing	**System**	5	4.1		
Total		122	100.0		

Source: Field Survey 2018

1.6: Dropout Student (Primary): In the table 1.6, 33% of primary educational institutions have no record of the dropout students, no significant dropout recorded in this survey for primary institution,

Table 49: Number of Dropout Student (Primary)

Number of Dropout Student(primary)		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	**No**	33	27.0	76.7	76.7
	1	2	1.6	4.7	81.4
	2	1	.8	2.3	83.7
	3	2	1.6	4.7	88.4
	5	3	2.5	7.0	95.3
	6	1	.8	2.3	97.7
	7	1	.8	2.3	100.0
	Total	43	35.2	100.0	
Missing	**System**	79	64.8		
Total		122	100.0		

Source: Field Survey 2018

Table 50: Number of Dropout Student (Secondary)

Number of Dropout Student (Secondary)		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	**No**	14	11.5	50.0	50.0
	1	3	2.5	10.7	60.7
	2	4	3.3	14.3	75.0
	5	5	4.1	17.9	92.9
	8	1	.8	3.6	96.4
	30	1	.8	3.6	100.0
	Total	28	23.0	100.0	
Missing	**System**	94	77.0		
Total		122	100.0		

Source: Field Survey 2018

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Table 51: Number of Dropout Student (Secondary)

Number of Dropout Student (Madrasha)		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	**No**	32	26.2	72.7	72.7
	2	3	2.5	6.8	79.5
	3	1	.8	2.3	81.8
	4	1	.8	2.3	84.1
	5	3	2.5	6.8	90.9
	6	1	.8	2.3	93.2
	8	1	.8	2.3	95.5
	10	1	.8	2.3	97.7
	30	1	.8	2.3	100.0
	Total	44	36.1	100.0	
Missing	**System**	78	63.9		
Total		122	100.0		

Source: Field Survey 2018

Environmental Survey

1.1 Waste management: Waste management is the most important factor to keep the environment clean. The process of waste management is a very functional because it started its work in morning by collecting of waste, bring to it into the disposal place and at the end dispose the waste.

Here waste management information of the two important area Mirsharai and Baraiyarhat.

Table 52: Waste management information about Baraiyarhat Municipality

Dustbin	Waste collection vehicles			Dumping Station
	Van	Truck	Garbage Truck	
131	6	3	1	2

Source: Baroihat Municipality

Table 53: Information about the Dumping Stations

Location	Area
Near the Baraiyarhat College	20 Decimal
Near the Baraiyarhat Micro Bus stand	50 Decimal

In the **Baraiyarhat** Municipality collect waste regularly.

Table 54: Waste management information about Mirsharai Municipality

Dustbin	Waste collection vehicles			Dumping Station
	Van		Garbage Truck	
150	4		2	1

Source: Field Survey 2018

1.2 Dumping Station:

Table 55: Information about the Dumping Station

Location	Area
Near the Post office Disposal Station	50 decimals

Source: Field Survey 2018

1.3: Noise Level: Noise collected from the different places in the survey area, list of recorded data of noise is presented below with maximum, minimum and average noise level in the specific area.

Table 56: Noise Level in the survey area

Places/Points	Maximum(dB)	Minimum(dB)	Average(dB)
College Road , Mirsharai	72	44	54
Mirsharai Over bridge	79	43	56
Mirsharai Police Station Area	75	52	49
Stadium Gate	77	50	58
Mohamaya Lake(Boat Ghat)	74	29	45

Mohamaya Lake	63	33	45
Beribadh(Dam)	73	29	48
North Hill Area	73	39	48
Sluice Gate	81	50	69
Baroihat(Bus Stand)	89	67	80
Baroihat(Rail Gate)	87	63	73
Baroihat(Rail gate with moving train)	90	64	75

Source: Field Survey 2018
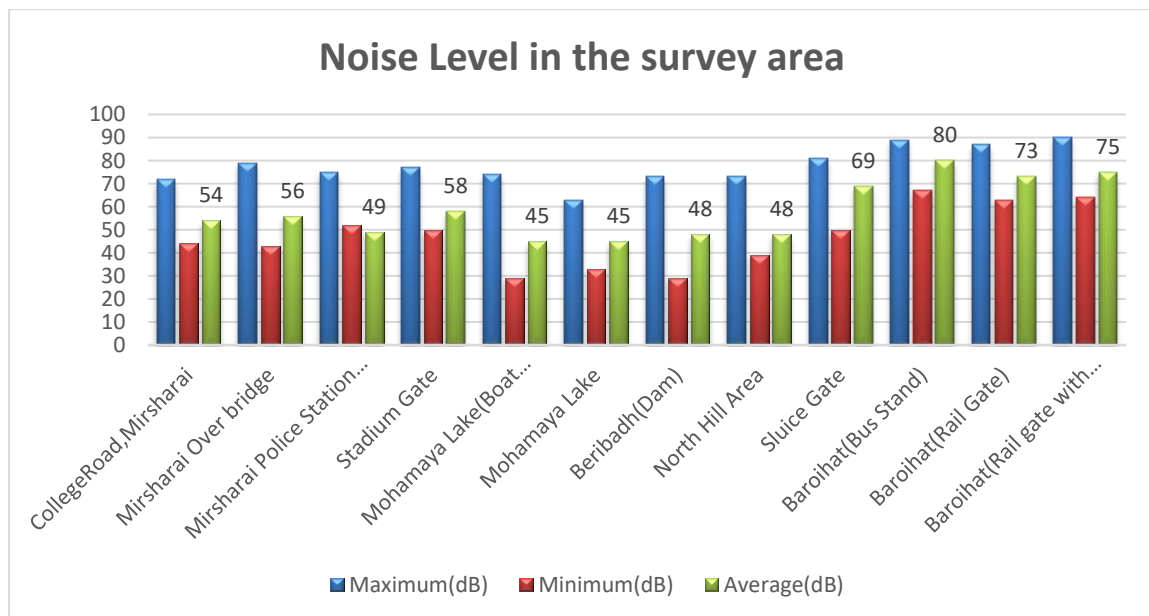
Figure 8: Bar diagram of Noise Level in the survey area

1.5: Waste Collection Schedule in the survey area: In the Table 1.5, shows that the 47.5% waste collection is done by daily. But 42.1% have no schedule for collecting the waste.

Table 57: Waste collection Schedule

Waste collection/cleaning schedule

schedule	Frequency	Percent	Valid Percent	Cumulative Percent
Daily	327	47.5	47.5	47.5
Irregular	290	42.1	42.1	89.6
Once in Week	28	4.1	4.1	93.6
Twice in a Week	44	6.4	6.4	100.0
Total	689	100.0	100.0	

1.6: Dustbin distance from house: In the Table4.2, 52.5% of the dustbin distance within the 50 meters. Other two categories rest of the percentages in the survey.

Table 58: Dustbin distance from house (if available) (m)

Distances	Frequency	Percent	Valid Percent	Cumulative Percent
<50	362	52.5	89.2	89.2
50-100	19	2.8	4.7	93.8
100-150	25	3.6	6.2	100.0
Total	406	58.9	100.0	

Source: Field Survey 2018

Table 59: Dustbin distance from house (if available) (m)

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	212	30.8	30.8	30.8
No	477	69.2	69.2	100.0
Total	689	100.0	100.0	

Source: Field Survey 2018

Table 60: Waste disposal Schedule

Schedule	Frequency	Percent	Valid Percent	Cumulative Percent
Daily	276	40.1	40.1	40.1
Irregular	381	55.3	55.3	95.4
Once in a week	32	4.6	4.6	100.0
Total	689	100.0	100.0	

Source: Field Survey 2018

Health Facilities

In the health survey, we have observed 20 healthcare centres in the survey area, among them we were trying to include all types' healthcare centres. In this survey, we have included government health care as well private clinic, homio hall, Diagnostic centre, Dental Clinic et cetera.

1.1 Health Centre:

Table 61: Name and Location of the health centre

Name of Health Facilities Centre	Location
Modern Homio & Clinic	Mannan Bhobon, Baraiyarhat
Bismillah Dental Care	Mannan Bhobon, Baraiyarhat
Bijoy Community Eye Hospital	Al-Fatah City Center, Zorargonj
Baraiyarhat General Hospital	Old D T Road, Baraiyarhat
Popular Lab. & Diabetic Centre	Haowa Bhobon, Zorargonj
Baraiyarhat Eye Hospital	North Bus Stand, Baraiyarhat
Jononi Clinical Lab.	Jamalpur Super Market, Baraiyarhat
Bijoy Dental Clinic	North Bus Stand, Baraiyarhat
Niharika Homio Hall	Jamalpur Super Market, Baraiyarhat
Medipath Diagnostic Center	Haji Abul Bashar Market, Baraiyarhat
Shefa Insan Hospital & Diagnostic	North Sonapahar, Baraiyarhat
Ebadat Dental Care	Jomidar Plaza, Baraiyarhat
Nur Dental Care	Majeda Building, Baraiyarhat
Jahan Detal Care	Al-Amin Shoping Center,Baraiyarhat
Mediscan Ltd. Diagnostic Center	Al-Amin Shoping Center,Baraiyarhat
Ensure Medilab	Al-Amin Shoping Center,Baraiyarhat

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Baraiyarhat Physiotherapy & Dental Care	Abu Usama Super Market,Baraiyarhat
Dr. Salauddin Dental Care	Abu Usama Super Market,Baraiyarhat
Rajonigondha Diagnostic Center	Baraiyarhat
Baraiyarhat Municipality Health & Family Care Center	Jamalpur

Source: Field Survey 2018

1.2: Bed Facilities: In the Table 1.2, 85% of the healthcare centre have no bed facilities, one healthcare centre have just one bed, and 2 healthcare centre have 20 beds facilities.

Table 62: Bed Facilities of the Healthcare Centre

Number of Bed	Frequency	Percent	Valid Percent	Cumulative Percent
No Bed	17	85.0	85.0	85.0
1	1	5.0	5.0	90.0
20	2	10.0	10.0	100.0
Total	20	100.0	100.0	

Source: Field Survey 2018

1.3: Doctors (permanent) in the Healthcare Centre: In the Table1.3, 45% of the healthcare centre have only one permanent doctor, 20% have two permanent doctors. In this survey among all the healthcare centre 20% healthcare centre have no permanent doctors.

Table 63: Number of Doctor (permanent) in the Health Centre

Number of Doctor(permanent)	Frequency	Percent	Valid Percent	Cumulative Percent
No Doctor	4	20.0	20.0	20.0
1	9	45.0	45.0	65.0
2	4	20.0	20.0	85.0
3	1	5.0	5.0	90.0
4	2	10.0	10.0	100.0
Total	20	100.0	100.0	

Source: Field Survey 2018

1.4: Permanent Nurse: In the Table 1.4, shows that the 70% of the healthcare centre have no Permanent nurse, Maximum number of the nurses only in the one healthcare centre, having 12 permanent nurses.

Table 64: Number of Nurse (permanent) in the Health Centre

Nurse(permanent)	Frequency	Percent	Valid Percent	Cumulative Percent
No Nurse	14	70.0	70.0	70.0
1	1	5.0	5.0	75.0
2	1	5.0	5.0	80.0
4	1	5.0	5.0	85.0
5	1	5.0	5.0	90.0
9	1	5.0	5.0	95.0
12	1	5.0	5.0	100.0
Total	20	100.0	100.0	

Source: Field Survey 2018

Table 65: Number of Doctor (Consultant) in Healthcare Centre

Doctor(Consultant)	Frequency	Percent	Valid Percent	Cumulative Percent
No Doctor(Consultant)	6	30.0	30.0	30.0
1	7	35.0	35.0	65.0
2	1	5.0	5.0	70.0
3	2	10.0	10.0	80.0
7	1	5.0	5.0	85.0
9	1	5.0	5.0	90.0
10	1	5.0	5.0	95.0
11	1	5.0	5.0	100.0
Total	20	100.0	100.0	

Source: Field Survey 2018

1.6: Working Hour Doctor (Consultant):

Table 66: Working Hour of Doctor (Consultant) in the Healthcare Centre

Working Hours		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	**2 Hours**	1	5.0	7.1	7.1
	3 Hours	2	10.0	14.3	21.4
	4 Hours	1	5.0	7.1	28.6
	5 Hours	5	25.0	35.7	64.3
	6 Hours	3	15.0	21.4	85.7
	7 Hours	1	5.0	7.1	92.9
	9 Hours	1	5.0	7.1	100.0
	Total	14	70.0	100.0	
Missing	**System**	6	30.0		
Total		20	100.0		

Source: Field Survey 2018

Table 67: Statistics of Healthcare Centre

Statistic		Number of Bed	Number of Doctor (permanent)	Number of Nurse (permanent)	Number of Doctor (Consultant)	Working Hour
Number	**Valid**	20	20	20	20	14
	Missing	0	0	0	0	6
Average		2.05	1.40	1.65	2.60	5.07
Range		20	4	12	11	7
Minimum		0	0	0	0	2
Maximum		20	4	12	11	9

Source: Field Survey 2018

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Industry Survey

1.1 Basic Information: Some important industry name and location in the survey area,
which are surveyed in details for the other survey study.

Table 68: Name of industry and Location

Name of the Industry	Location
M.E.A.S Bricks field	Purbo Hinguli, Mirsorai
Baro Awlia Bread Factory	Vogobotipur, Mirsorai
Eco Block Fa	Dhoom Ghat, Mirsorai
Cotton Factory	Chairman Road,
C.P Bangladesh company ltd.	Sadarmadighi, Mirsorai
Precast Pipe Factory	Gortakia, Mirsorai
Abu Taher Sawmill	Korerhat, Mirsorai
Amir Hosen Sowmill	Shantirhat, Mirsorai
Chowdhari Bricks Field	Purbo Raypur, Mirsorai
S. B. K Bricks Field	Korerhat, Mirsorai
Kaium Sowmill	Shantirhat, Mirsorai
Hazi Abu Taher Sowmill	Shantirhat, Mirsorai
Janota Sowmill	Shantirhat, Mirsorai
Rahim Sowmill	Baroiyarhat, Mirsorai
Ruhul Ameen Sowmill	Shantirhat, Mirsorai
Hazi Delower Oil Mill	Shantirhat, Mirsorai
Nadia Sowmill	Shantirhat, Mirsorai

1.2 Industry Type (Formal/Informal):

Table 69: Industry Type (Formal/Informal)

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
Formal	5	29.4	29.4	29.4
Informal	12	70.6	70.6	100.0
Total	17	100.0	100.0	

Source: Field Survey 2018

In the table1.2, total number of formal industries are 29.4% and, 70.6% are informal
industry in the survey area.

1.3 Distribution of Finance:

Table 70: Distribution of Finance

Classes	Frequency	Percent	Valid Percent	Cumulative Percent
Self	13	76.5	76.5	76.5
Loan	1	5.9	5.9	82.4
Joint venture	3	17.6	17.6	100.0
Total	17	100.0	100.0	

Source: Field Survey 2018

In the Table1.3, there is 76% of industries are financed by the owner of the industry, 17.6% industry run by a joint venture.

1.4. Input (Raw Materials): Different types of raw materials needed for the different types industry. In the survey area, we have found that some different types of industries.

Table 71: Input items of different industries

Industry Type	Input Items	Sources
Brick Field	Soil	Local Area
	Coal	Sylhet, India
	Diesel	Diesel
Saw Mill	Wood	Local/Forest Area
Pipe Factory	Stone	Sylhet
	Rod	BSRM Steel Factory
	Sand	Dhumghat
Bread Factory	Flour	Mirsharai
	Sugar	Zorargonj
	Oil	Zorargonj

Bank, Insurance and Shop Survey

1.1 Some Formal Structure in the Survey Area: A formal organization is a fixed set of rules of intra-organization procedures and structures. As such, it is usually set out in writing, with a language of rules that ostensibly leave little discretion for interpretation.

1.2 Total number of labours in the formal sector in the survey area: The majority of the formal structure are Bank, which having maximum number of labourers.

Sum of Number of Labor by Type

	Bank	Insurance Company	NGO
■ Total	80	9	37
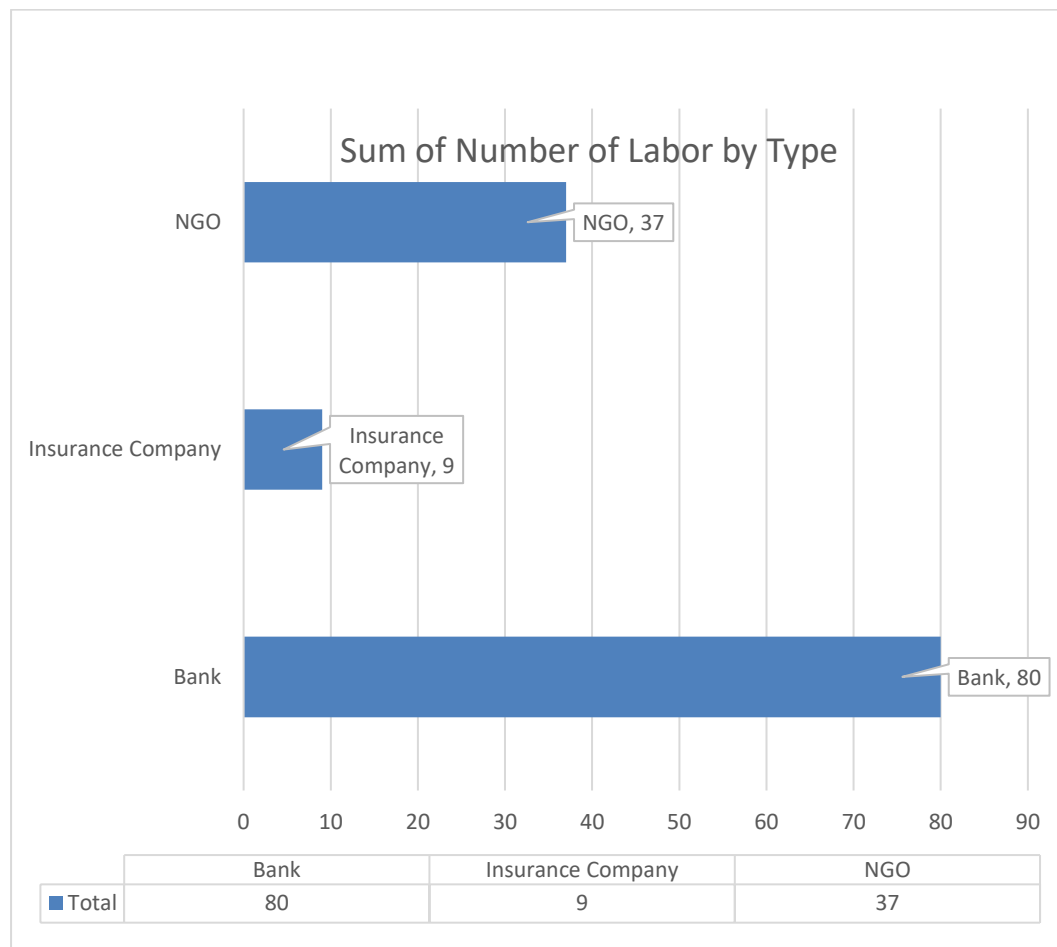
Figure 9: Total number of labour in the formal sector in the survey area

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1.3 Informal Structures

Table 72: Informal Structures in the survey area

Name	Structure Type	Type
Vat Ghor	Tin Shed	Restaurant
Mayer Doa Hotel & Restaurant	Semi Pucca	Restaurant
Kashbon Hotel & Restaurant	Pucca	Restaurant
Madina Jewellers	Pucca	Jewellery
Laki Fashion Moll	Pucca	Cloth Store
Shuvecca Cloth & Garments	Pucca	Cloth Store
Zamal Tea Stall	Semi Pucca	Tea Stall
Nurul Huda Tea Stall	Semi Pucca	Tea Stall
Ahmmed Traders	Pucca	Building Material
Antorongo Cloth & Garments	Pucca	Cloth Store
Moulana Varsities	Semi Pucca	Home Accessories
Sneha Media	Semi Pucca	Photocopy, Print, Studio
New Alamin Store	Tin Shed	Grocery store
Khan Saheb Hotel	Semi Pucca	Restaurant
Haji Design Furniture	Semi Pucca	Furniture Shop
Rima Medical Hall	Pucca	Pharmacy
Vaiya Variety Store	Semi Pucca	Grocery store
Zoynal Tea Store	Pucca	Tea Stall
Gopal Store	Tin Shed	Pan Store
Forhad Hotel	Semi Pucca	Restaurant
Popular Pharmacy	Pucca	Pharmacy
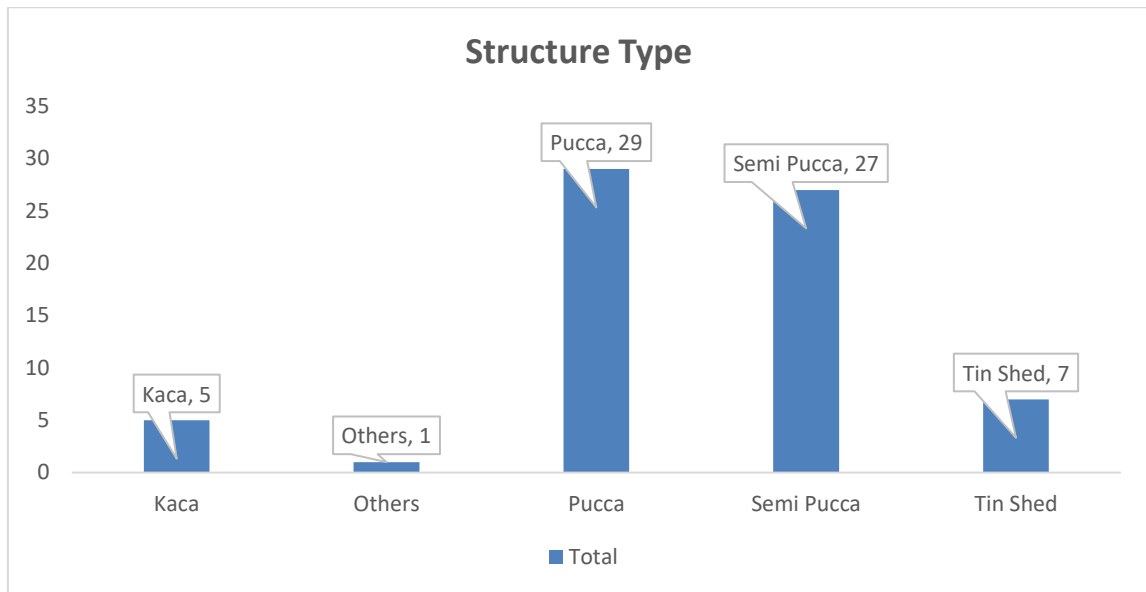
Figure 10: Bar diagram of Informal Structures in the survey area

1.4 Transaction per day (Informal):
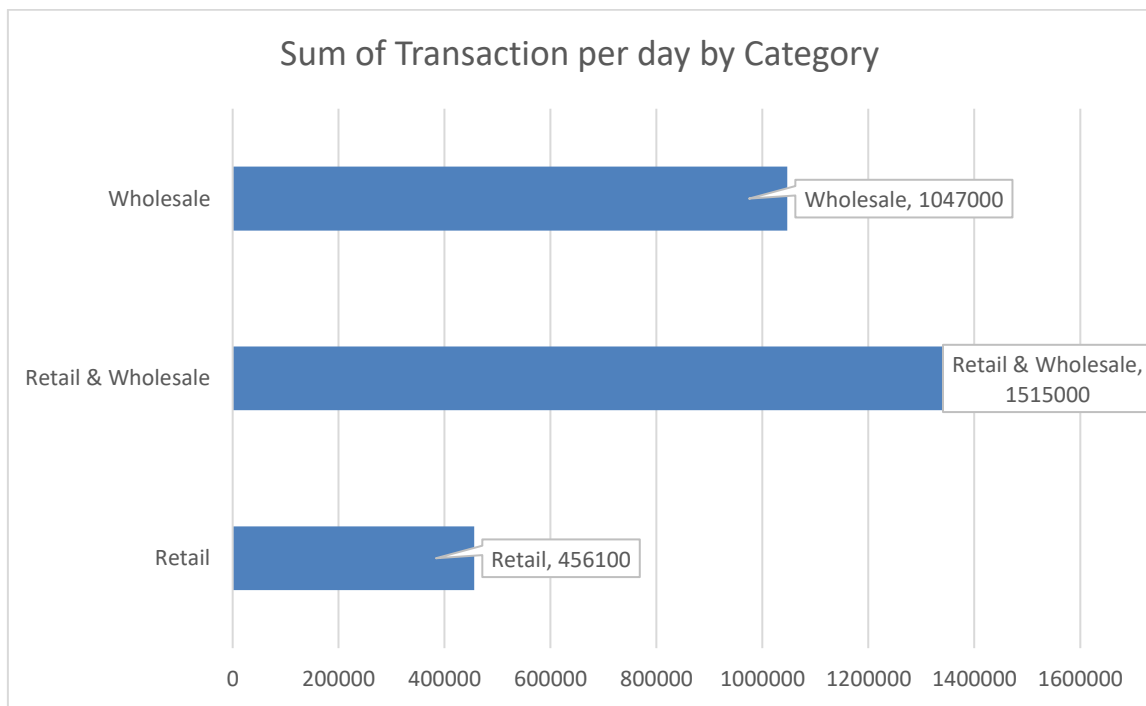
Figure 11: Bar diagram of transaction per day by shop category.

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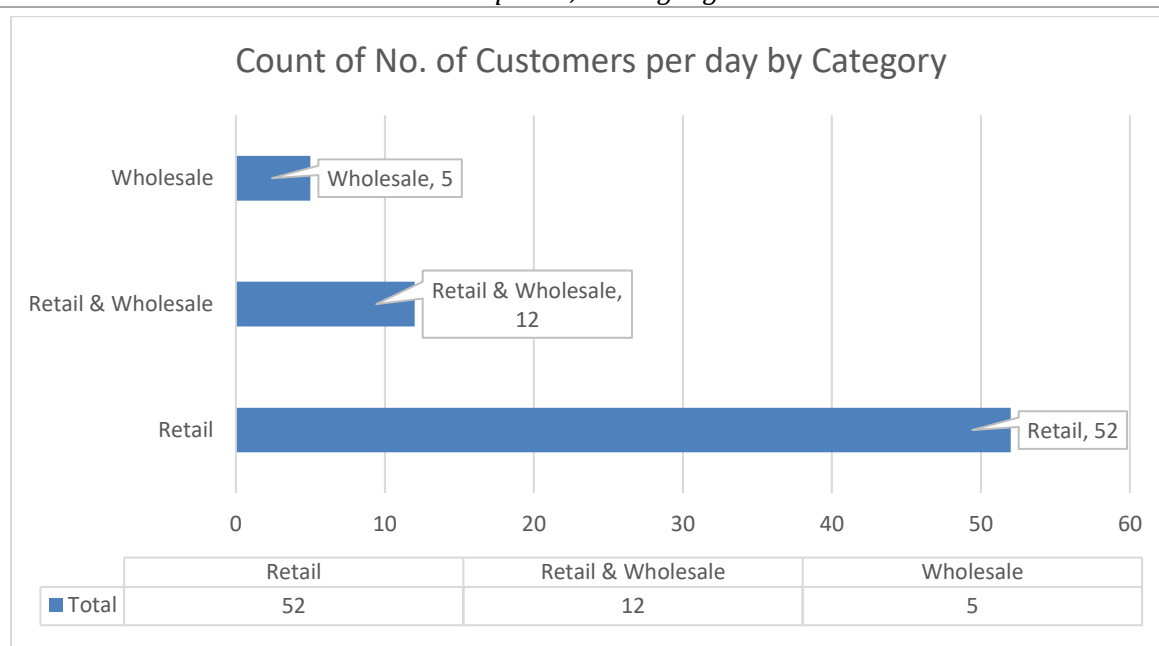
Figure 12: Bar diagram of number of customer per day

1.5 Number of labor in the informal shop:

Table 73: Number of labor in the informal shop

Number of Labor	Frequency	Percent	Valid Percent	Cumulative Percent
1	22	39.3	39.3	39.3
2	8	14.3	14.3	53.6
3	6	10.7	10.7	64.3
4	6	10.7	10.7	75.0
5	7	12.5	12.5	87.5
6	1	1.8	1.8	89.3
7	3	5.4	5.4	94.6
9	1	1.8	1.8	96.4
15	2	3.6	3.6	100.0
Total	56	100.0	100.0	

Source: Field Survey 2018

Agricultural Survey

1.1 Average Productions in the Unions:

Figure 13: Bar Diagram of average production

1.2 Average Market Price of the Products:
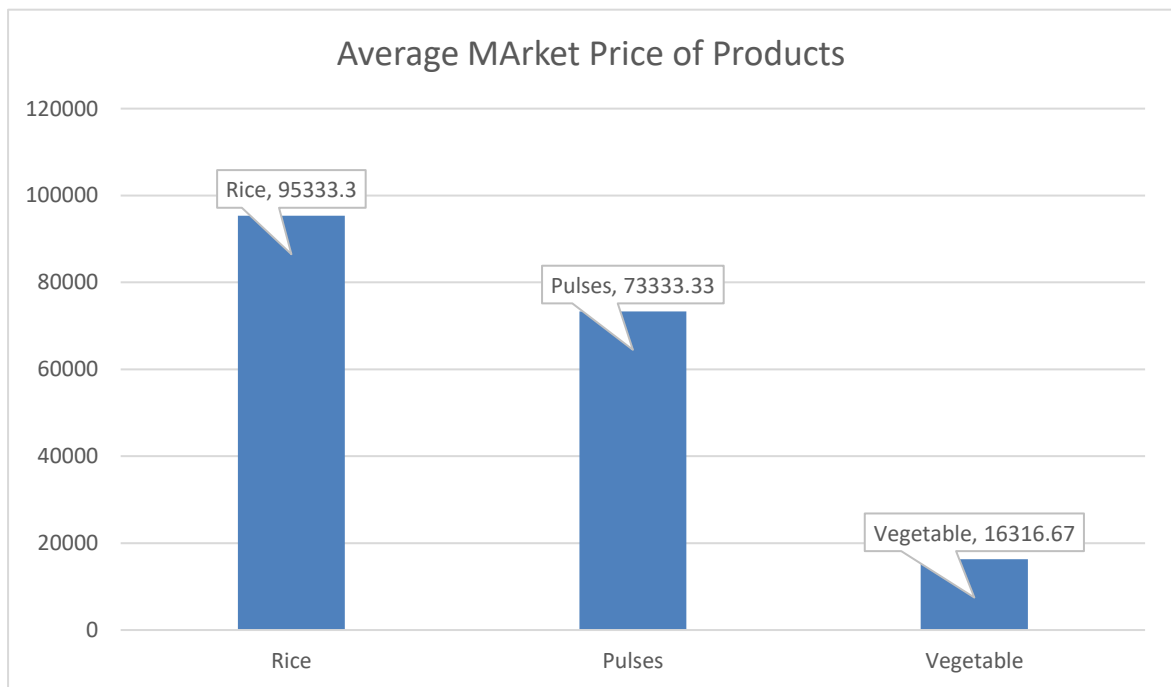
Figure 14: Bar Diagram of average Local Market Price of production

Archaeological Survey

Table 1.1:

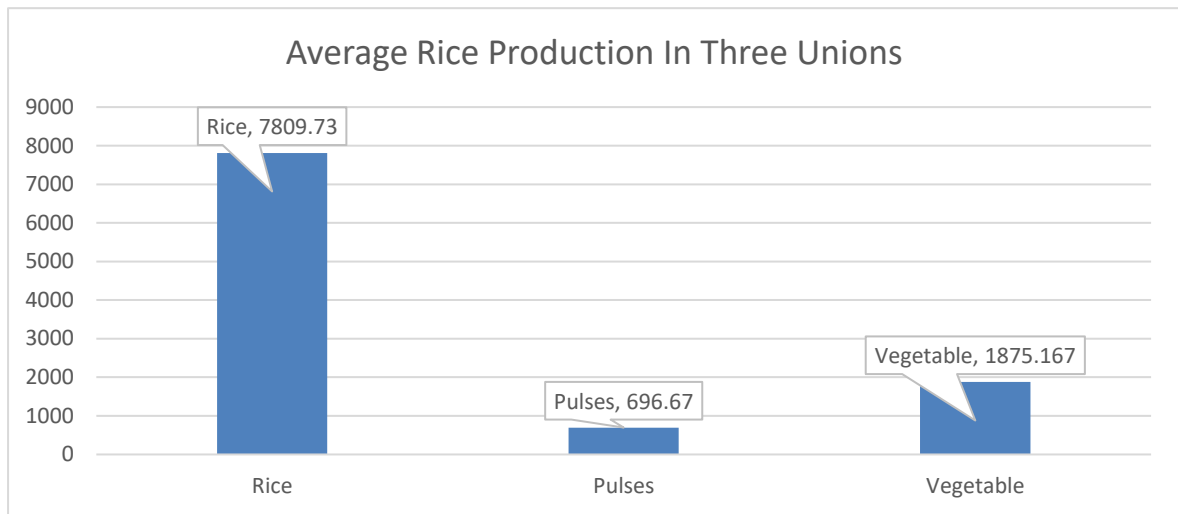| Name of the Archaeological Building	History(Attached)	Location	Year of Construction
Moghadia Chowdhury Bari Jame Moshjid	Owasil Chowdhury was the founder of the Mosque.	Moghadia	1857(Est.)
Kenu Jomidar Bari/Moghadia Jomidar Bari	Owasil Chowdhury was the founder of the Building.	Middle Moghadia, Mirsharai	1857(Est.)
Amanullah Bhuiya Bari Jame Moshjid	Jomidar Haji sultan was the Founder of the Mosque	Middle Mithanala, Mirsharai	1800(Est.)
Jomidar Oakil Chowdhury	Owaris Md. Owakil Chowdhury was Built the Jame Moshjid	Minal, Mithanala, Mirsharai	1600(Est.)
Sheikh Tola Hamidullah khan Jame Moshjid	The mosque was built by Mughal Subadar Shaista Khan in the name of his father	Sheikh Tola,Moghadia, Mirsharai	1670(Est.)
Poragolpur Boro Jame Moshjid	The mosque was built by Chutika jomidar	Poragolpur,Mirsharai	1800(Est.)
Shamshan Mondir	It was built in 1936 by Jomindar Romoni Mohon Chowdhury to perform the cremation for his parents,	West Maliyas, Mithanala, Mirsharai	1936(Est.)
Building (Unknown)	It was built by Jomindar Romoni Mohon Chowdhury for living	West Maliyas, Mithanala, Mirsharai	1936(Est.)
Chowdhury Bari Kachari Ghor	Kachari Ghor	Naherpur Chowdhury Bari	1930(Est.)
Mohammad Mukim Chowdhury Moshjhid	It was built in 1780 by Mohammad Mukim Chowdhury	Dhoom,Mohajon Hat, Mirsharai	1780(Est.)
Kocua Sheikher Taluk Moshjid		Sheikher Taluk, Mirsharai	1800(Est.)

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Table1.2:

Name of the Archaeological Building	Attached Facilities	Maintenance		Archaeological Preservation Conservation	
		No. of Staff	Staff Type	Yes/No	If Yes
Moghadia Chowdhury Bari jame Moshjid	Electricity			No	
Kenu Jomidar Bari/Moghadia Jomidar Bari	Nothing	2	Caretaker	No	
Amanullah Bhuiya Bari Jame Moshjid	Electricity	4	Muajjin, Imam, Khatib	No	
Jomidar Oakil Chowdhury	Electricity,Solar Enargy, IPS	2	Imam, Muajjin	No	
Sheikh Tola Hamidullah khan Jame Moshjid	Electricity	2	Imam, Muajjin	No	
Poragolpur Boro Jame Moshjid	Electricity	2	Imam, Muajjin	No	
Shamshan Mondir				No	
Building(Unknown)	Electricity			No	
Chowdhury Bari Kachari Ghor	Electricity	1	Gateman	No	
Mohammad Mukim Chowdhury Moshjhid	Electricity	3	Imam, Muajjin	No	
Kocua Sheikher Taluk Moshjid	Electricity	3	Imam, Muajjin	No	

CHAPTER 5

5. Planning implication of collected data

5.1 Local savings and potentiality:

Investment is the key driver for any type of development. Investments generally comes from Entrepreneurs, Government investment, foreign aid etc. but local investment like, micro investment from higher middle- or middle-income group can also contribute to the overall development. People do savings for the future so that they can invest the money to achieve economic solvency and security in days to come. So, today's savings can be a potential source of investment in future. During the survey, we didn't take direct response from the people whether they are willing to invest but we took response about their income, expenditure in different sectors, saving status etc. Using that knowledge, we analysed the savings pattern from spatial perspective. We produced a map with 3 (Low, moderate, high) types of potentially based on savings intensity. This map is not based on actual willingness to invest but based on local people's savings pattern from which we can draw a clear understanding about the economic strength and potentiality. In Mirsharai upazila, highly potential areas are concentrated within the proximity of urban areas.

Local Investment Potentiality Map based on Local Savings
*Package-03: Socio-Economic and Other Survey under the Project
"Preparation of Development Plan for Mirsharai Upazila,
Chittagong District Risk Sensitive Land Use Plan (MUDP)"*

Legend

POTENTIALITY
- High
- Low
- Moderate

LANDTYPE
- Bay Of Bangal
- Char Area
- Hilly Region

Note
This Map is not based on
actual willingness to invest
but based on local savings pattern

0 1 2 4 6 8
Kilometers

Client
**Urban Development Directorate
(UDD)**

Consultant
GEOMARK LIMITED

Map 24: Local Investment potentiality map

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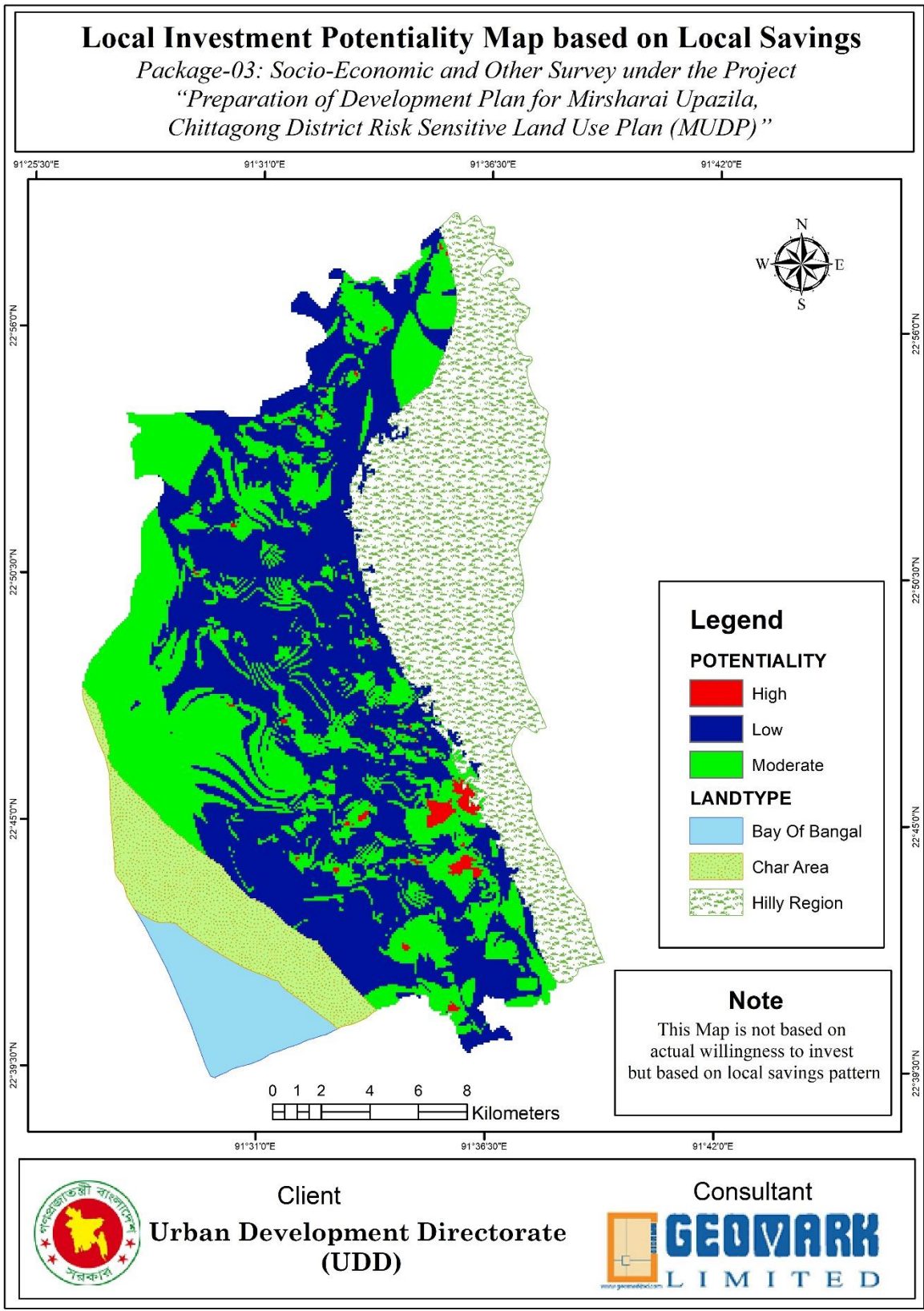
5.2 Affordability assessment:

We have prepared a GIS based Spatial Model to calculate people's affordability on spatial perspective. We prepared several raster maps for Monthly Income, Expenditure on Food, Cloth, Utility, Education, Children, and Health care, Transport, Total Monthly Expenditure and Monthly Savings. All these raster maps were used in the model as variable maps. We assigned relative weightage for each variable raster according to their relative influence and impact on affordability. The model output map represents the relative affordability for different land parcels of the project area. The higher the affordability score, the better the affordability of the people living on that particular region. In Mirsharai Upazila, most of the areas are indicated as less affordability oriented.

Affordability Map

Package-03: Socio-Economic and Other Survey under the Project "Preparation of Development Plan for Mirsharai Upazila, Chittagong District Risk Sensitive Land Use Plan (MUDP)"

Legend

Affordability Score

	1
	2
	3
	4
	5
	6
	7
	8

LANDTYPE

	Bay Of Bangal
	Char Area
	Hilly Region

Note

This Map is based on Monthly Income, Expenditure On Food, Cloth, Utility, Education, Children, Health care, Transport, Total Monthly Expenditure and Monthly Savings.

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Map 25: Affordability Map

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5.3 Need and Demand Oriented Area:

In general sense, need usually refers to the fundamental necessities essential for our survival or at least to maintain a minimum standard of living. But if our affordability goes high, we can dream for more and that creates demand. In countries like Bangladesh, it is very unlikely to find a lot of people having the fancy opportunity of demand, rather than struggling just to fulfil the marginal daily survival amenities they need. To map the Need and Demand oriented areas in the project area we formed another model. As extreme high-income group with huge level of affordability is pretty rare and even certain level of rich people having the ability to afford demand are not too available, we can categorize 6, 7, 8 scored areas as demand-oriented areas and 1 to 5 as Need oriented areas. In Mirsharai Upazila, only a small portion of the areas were found as demand-oriented area.
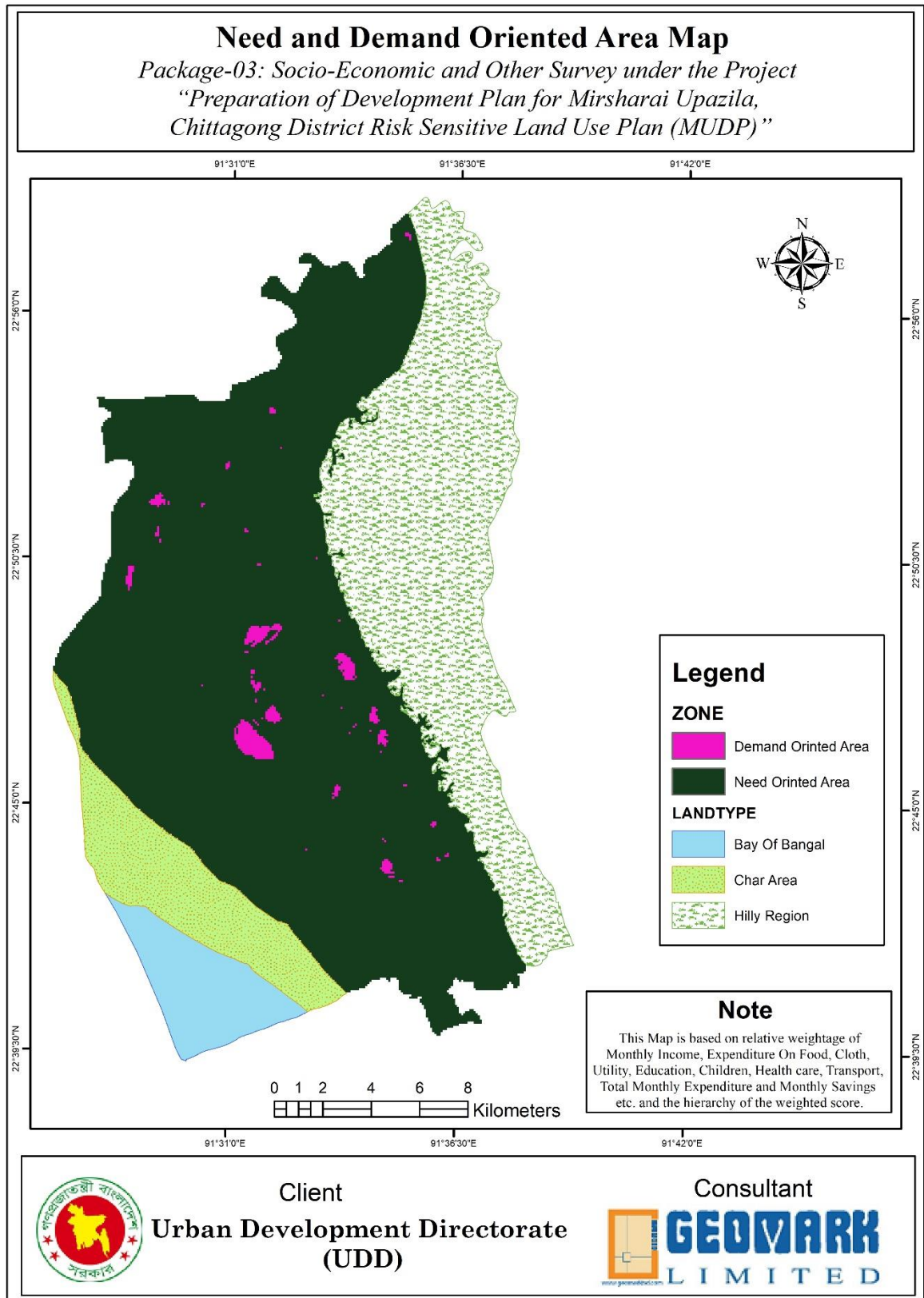
Map 26: Need and Demand Oriented Area Map

CHAPTER 6

Conclusion

In the survey, we have found out some socioeconomic factors which are directly related to the socioeconomic status of the survey are.

In the Mirsharai Upazilla, we have found out the 53.3% of the male respondent and 44.7% of the female respondents. In the report, we find out the 23.3% residents are illiterate and 6% of total residents are highly educated.

Because of most of the female respondent responses about their occupations as housewife, so that in the report maximum percentages (39.5%) of occupation is a housewife. Maximum number of family type in the survey is single type, which contains 72.2% of the total percentages, and family members at the age range 05-09 contains maximum 53.2% in the count.

Religion distribution in mainly Muslim 85%, Hindu 13.8% and Buddhist has 1.2% in the survey area. We find out 37 autism cases in the survey area, where maximum 33 cases having Autistic Disorder/Classic Autism, and other autism types are Asperger Syndrome and Pervasive Developmental Disorder.

In the report, 36% of the resident have earned less than TK5, 000 per month in the survey area, and only 2.8% have earned more than TK50000 per month in the survey area. 40.2% of the resident staying outside the country temporarily among total residents who have been staying outside the survey area.

Drinkable water is available here, 88.8% water is drinkable, and 93.0% water sources have arsenic contamination. Khaiyachora and Mohamaya Lake are two most favourite travel destination across the country situated in this area.

In the education survey student dropout is not in big numbers, but transport and hostel facilities are not impressive in this area. Municipalities are trying to collect and dispose waste properly. Some of the area like hill tracts and lakes have standard noise level (70dB), but others area is not.