

Preparation of Development Plan for fourteen Upazilas (Package-1)

Dohar Upazila



10 January, 2018

Urban Development Directorate,
Ministry of Housing and Public Works

Consultant:
Desh Upodesh Ltd.
In association with TechSuS and AIBL

General Overview

Location and Geography

- Dohar upazila situated in the southernmost part of Dhaka District.
- Dohar thana was formed in 1926 and was turned into upazila in 1983.
- It is bounded by Nawabgonj upazila on the north, the Padma river and Sadarpur upazila on the south, Sreenagar and Nawabganj upazilas on the east, Harirampur and char Bhadrasan upazilas and the Padma river on the west.
- Total area of the upazila is about 161.49 sq. km and total population is 226, 439 (Population Census, 2011).

Project Area

Upazila	Area	Sq.km	Total Sq.km
Dohar Upazila, Dhaka	Urban	20.31	161.49
	Rural	141.18	

Project Phases

1. Inception Phase

2. Survey Phase

3. Planning Phase



Summary of Surveys

List of Surveys and Studies

- 1. Agricultural Survey**
- 2. Formal-Informal Survey**
- 3. Geological Survey**
- 4. Transport Survey**
- 5. Socio-economic Survey**
- 6. Physical Feature Survey**
- 7. Land Use Survey**
- 8. Hydrological Survey**
- 9. PRA Study**

Agricultural Survey

- Dohar (258 samples)

Bio-physical features of the upazila

Land Resources

- Total land area is 9216 ha dominated by medium lowland (3025 ha) followed by Low land (2810 ha);
- The area is flooded up to 3-6 m in the monsoon, depressions are observed where water remains round the year.

Agro-ecological Characteristic : The upazila is covered by three Agro-ecological Zones (AEZs). These are: AEZ-10: Active Ganges Floodplain - 4150 ha; AEZ-12: Low Ganges River Floodplain-2765 ha; AEZ-15: Arial Beel - 949 ha

Land Suitability for Crop Production

Land Utilization Pattern

- Out of the total area of 16149 ha total 13537 ha is land area and 2582 ha is water area.
- Present land utilization is as follows:

Utilization Pattern	Area (ha)	Proportion against total Area
Community Forest	256	02%
Urban Area	1022	6 %
Rural Settlement	3074	19 %
Cultivable Land	9216	57 %
Cultivated Land	7439	46%
Land Used for Non-agricultural Purposes	1117	7%

Growth/ Decline of Cultivated Land

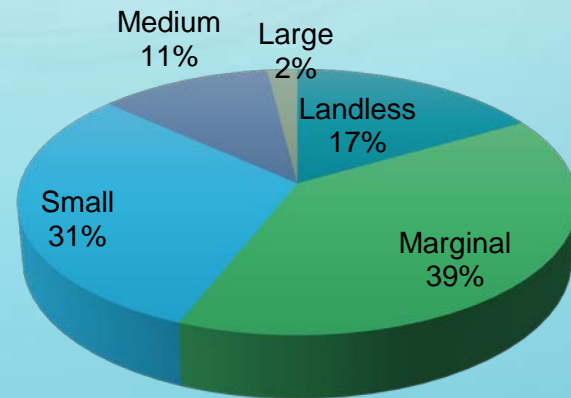
- During the last 10 years about 7% cultivable land has been lost due urbanization and other non-agricultural purposes;
- Decrease in cultivated land is maximum in Noyabari, Municipality and Bilashpur.

Union	Total Cultivated Area (ha)			
	2005-06	2015-16	Growth/Decline (ha)	Growth/Decline (%)
Bilaspur	1002	902	-100	10% declined
Kusumpur	1208	1158	-50	4%declined
Mohammadpur	813	753	-60	7 % declined
Mukshedpur	955	905	-50	5%declined
Narisha	1049	999	-50	5 % declined
Naybari	1007	866	-141	14% declined
Roypara	534	504	-30	6 % declined
Sutarpara	1009	979	-30	3 %declined
Doh. Munici.	423	373	-50	12 % declined
Total	8000	7439	-561	7 % declined

Source: DAE, Dohar, 2016

Farm Category

- Poor farmers, 17342 (39% marginal and 31% small)
- farmers dominate the farming community
- Only 496 farm families (2%) are large
- and 2826 (11%) farm families are medium
- About 4150 (17 %) farmers are landless



Agricultural Production & Marketing System

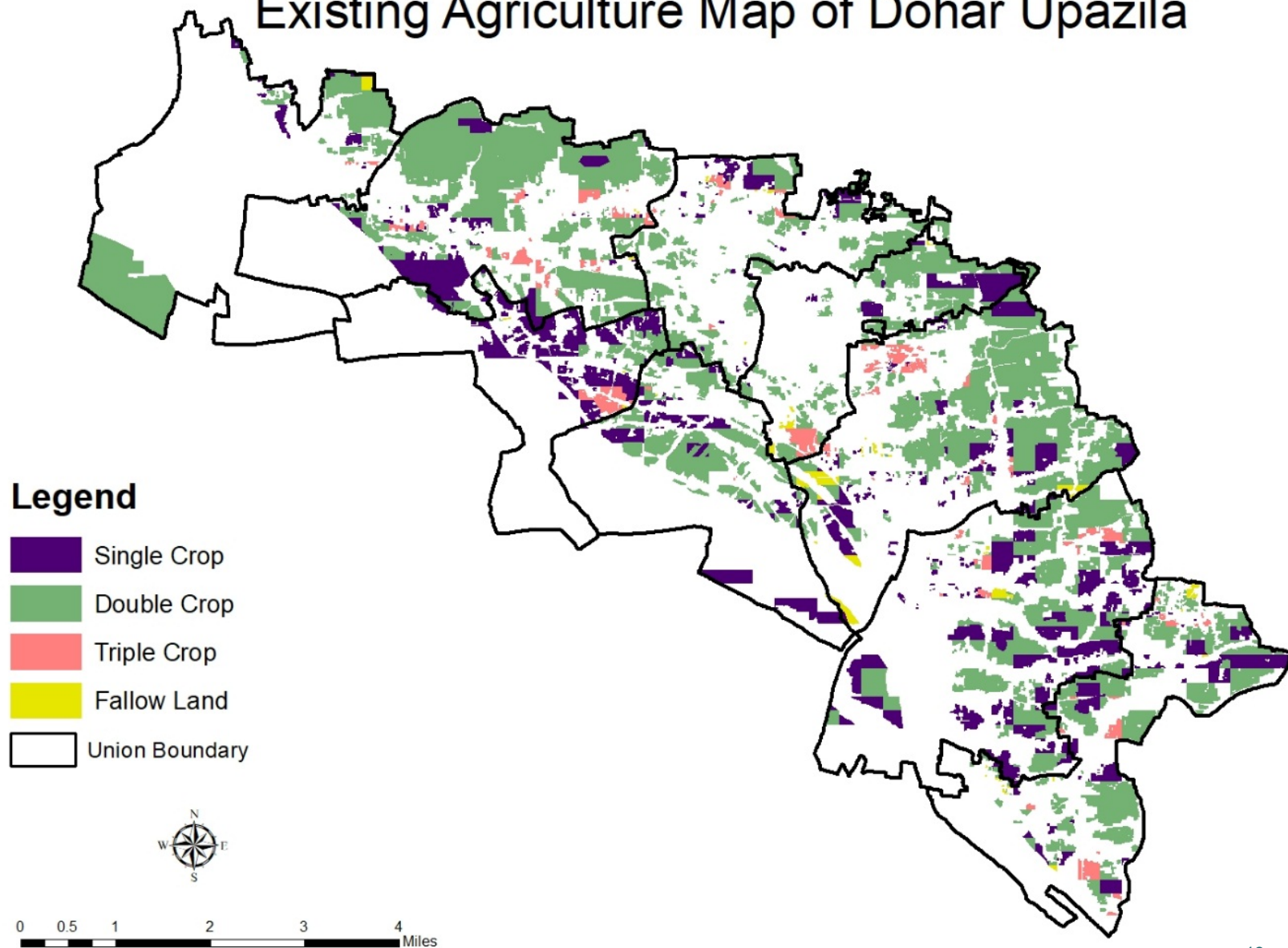
Agriculture sector encompasses crop production, livestock, fisheries, forestry and agricultural marketing.

Crop Sub-sector:

- **Crops are grown in almost 8040 hectares** of land.
- Main crops of the upazila are boro paddy, aman paddy, potato, jute, mustard, and pulses.
- Due to dominance of medium low land, cropping intensity during summer season is comparatively less than winter. During winter, the crop fields are covered by multiple crops and give a refreshing view.
- Main fruits are mango, guava, papaya, jackfruit, coconut, litchi, and banana etc.
- Out of the total 23264 ha. net cropped area, **18 percent is single cropped, 66 percent double cropped, and 17 percent triple cropped.**
- Land of the upazila is moderately fertile and **cropping intensity is 199 %**. The area is favorable and suitable for betel vine cultivation and other winter crops.
- About 39 % cultivated area is irrigated.
- Mechanized cultivation in the upazila is still concentrated on ploughing through 1 tractors, 344 power tillers covering an area of about 4797 ha;
- Farmers are also using power threshers and there are 219 power threshers in operation.

Agriculture

Existing Agriculture Map of Dohar Upazila



Agricultural Output Marketing

Agro-outputs are Marketed through 26 Hats/Bazars

List of Markets and Growth Centers by Union

Union	Name of the market
Bilashpur	1.Majirchar Bazar
Kushumhati	2.Bangla Bazar, 3.Kartikpur Bazar
Mohamudpur	4.Mainat Bazar, 5.Harichanda Bazar
Mukshudpur	6.Pallibazar, 7.Mukshudpur Bazar, 8.Fultola Bazar,
Narisha	9.Narisha Bazar, 10. Haller Bazar, 11. Megula Bazar, 12. Satbhita Bazar, 13. Narisha Pachim Bazar
Nayabari	14.Padmagonj, 15. Awrangabad Bazar, 16. Brama Bazar
Roypara	17.Boubazar, 18.Kacharighat Bazar, 19. Padmagonj Bazar
Sutarpara	20. Banaghata Bazar, 21. Alamin Bazar
Municipality	22. Joypara Boro Bazar, 23. Dohar Bazar, 24. Dhoair Bazar, 25. Natun Bazar, 26. Shaheb Bazar

Source: DAM, LGED, 2016

Food Situation

- Dohar upazila is deficit in food grain production. Annual food grain demand is about 33060 tons and annual production is 18814 tons.
- Total food shortage is about 14244 tons .
- Among the unions, only Bilashpur is surplus when the rest unions and Dohar Municipality are deficit in food production.

Union	Population	Food grain		
		Annual Food grain Requirement	Annual Food grain Production	Surplus/Deficit
Bilashpur.	14268	2083	2198	115
Kushumhati	22246	3248	685	-2563
Mahmudpur	16846	2460	1892	-568
Moksedpur	23780	3472	2682	-790
Narisha	39029	5698	3604	-2094
Nayabari	14183	2071	1676	-395
Roypara	24988	3648	1683	-1965
Sutarpara	34665	5061	3587	-1474
Dohar Mun.	36434	5319	809	-4510
Total	226439	33060	18814	-14244

Source: Calculation by the consultant

Fishery Sub-sector

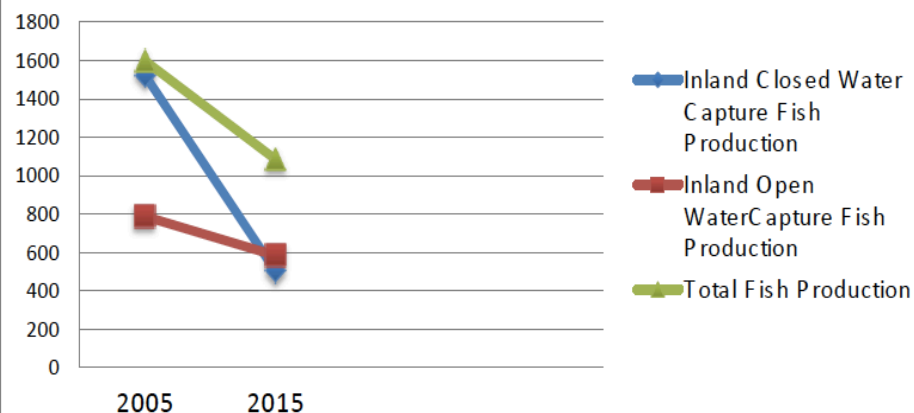
- Fish is cultivated in 1400 hectares of waterbody.
- Total fish production is 1084 tons annually.
- During the last 10 years fish production decreased by 26 %
- Closed water culture fish production decreased by 38%

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Types of Water Body	Area (ha)	Production (ton)	% of Total Production
A. Closed Water Culture (culture Based)			
i) Ponds	67		
ii) Seasonal Cultured Water Bodies	57		
iii) Oxbow Lakes	-		
iv) Semi-closed Floodplain	-		
Total	124	500	46
B. Open Water Body (capture Based)			
i) Rivers and Estuaries	466		
ii) Beel	100		
iii) Baor	-		
iv) Floodplain	710		
Total	1276	584	54
Upazila Total	1400	1084	

Source: DoF, Dhaka, 2016

Trend of Fish Culture



Livestock Sub-sector

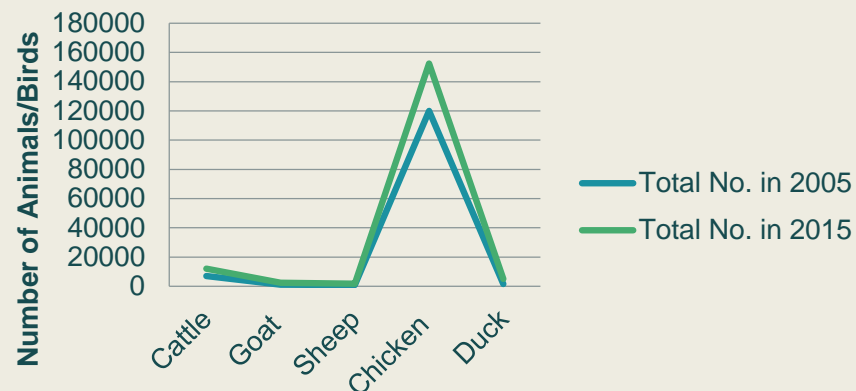
- There are 50 small scale and 248 large cattle farms and total cattle population of the upazila is 1490.
- There are 128 Beef Fattening Farms with total capacity of 640 cattle heads.
- There are 185 small 114 large poultry farms are operating in the upazila.
- Goat Farming: There are 60 small 134 large goat/sheep farms in the upazila.

Table 4.16: Commercial Farming in Dohar

Dairy/Poultry	Small Scale Farming		Large Scale Farming	
	No. of Farms	Total Population	No. of Farms	Total Population
Cattle	50	250	248	1240
Beef Fattening	128	640	-	-
Goat	50	150	111	830
Sheep	10	50	23	184
Chicken (Layer)	35	2450	59	112252
Chicken (Broiler)	150	150000	55	65600
Duck	10	5000	5	818

Source: DLS, Dohar, 2016

Increase/Decreasing Trend of Livestock Population in Dohar



Formal-Informal Economy

Formal Economy

BANK AND INSURANCE

- The total number of Bank 20
- Insurance Companies 10.
- The number of insurance service recipients is 14,510.
- Premium is due to total number of 39,300 subscribers and
- the total amount of premium collected in current year is Tk. 34,96,00,000
- Total number of subscribers in banks is 87,755.
- Total amount of loan in banks is Tk. 138,37,33,046
- Total Agricultural loan disbursed by the Banks in the study area is Tk. 24 crore 18 lakh.

Bank and Insurance

Upazila	Total Bank Subscriber	Disbursed Loan by Banks (2015-16)	Insurance Subscriber (No.)
Dohar	87,755 (39% pop)	Tk. 13 crore 84 lakh	10,8500

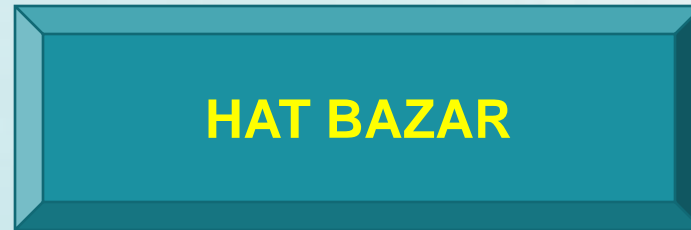
Formal Economy

Table: Name of the Banks Surveyed, Location, Number of Account Holder and the Amount of Loan Disbursed

SL	Name	Address	Member	Amount of Loan	Agricultural loan disbursed
1	AB Bank Limited	Joy para, Dohar, Dhaka	14981	86669000	1600000
2	Mercantile Bank Limited	Joy para, Dohar, Dhaka	25000	329200000	100000000
3	One Bank Limited	Joy para, Dohar, Dhaka	15000	89449228	100000000
4	Shajalal Islami Bank Limited	Joy para, Dohar, Dhaka	3759	310000000	20000000
5	Dutch Bangla Bank Limited	Joy para, Dohar, Dhaka	14000	16300000	0
6	NRB Bank Limited	Joy para, Dohar, Dhaka	1700	55000000	0
7	City Bank Limited	Joy para, Dohar, Dhaka	1562	139232000	0
8	BRAC Bank Limited	Joy para, Dohar, Dhaka	2200	160000000	0
9	Prime Bank Limited	Joy para, Dohar, Dhaka	5770	31323818	200000
10	Taka Bank Limited	Joy para, Dohar, Dhaka	2722	422552222	20000000

Formal Economy							
SL No.	Name Of Insurance Company	Location	No. of Subscribers	No. of Regular Premium Payers	Amount of collected premium (Tk)	No. of Defaulter Premium Payer	Amount Due As premium (Tk)
1	NRB Global life insurance company Ltd.	ChotKhula, Joypara, Dohar, Dhaka	1500	40	5000000	500	2000000
2	Shondhani life insurance company Ltd.	Joypara, Dohar, Dhaka	15000	50	100000000	1000	20000000
3	Popular life insurance company Ltd.	Joypara, Dohar, Dhaka	20000	10000	10000000	5000	6000000
4	Farest Islami Life Insurance Co. Ltd.	Joypara, Dohar, Dhaka	10000	50	50000000	5000	40000000
5	Padma Islami Life Insurance Co. Ltd.	Joypara, Dohar, Dhaka	2000	1000	600000	800	250000
6	Delta life insurance company Ltd.	Joypara, Dohar, Dhaka	10000	20	100000000	5000	2000000
7	Prime Islami life insurance Company Ltd	Joypara, Dohar, Dhaka	25000	3000	20000000	1500	5000000
8	National life insurance company Ltd.	Joypara, Dohar, Dhaka	18000	50	45000000	9000	30000000
9	Meghna life insurance company Ltd.	Joypara, Dohar, Dhaka	2000	50	9000000	10000	8000000
10	Islami Bank Insurance Branch	Joypara, Dohar, Dhaka	5000	250	10000000	1500	5000000
Total			108500	14510	349600000	39300 ²¹	112250000

Formal Economy



Management of Hats and Bazars

Upazila	Upazila Parishad	Cooperative Association	Leaseholder	Owners	Paurashava
Dohar	30%	10%	-	60%	-

Formal Economy

- The total number of hats and bazars in Dohar Upazila stands at 35.
- Among them, 5 bazars are growth centres that have been improved, developed and facilitated by LGED
- Almost all formal economic activities including, bank and insurance company branches and NGO head offices are located in the upazila headquarters.

Formal Economy

WASTE DUMPING IN BAZARS

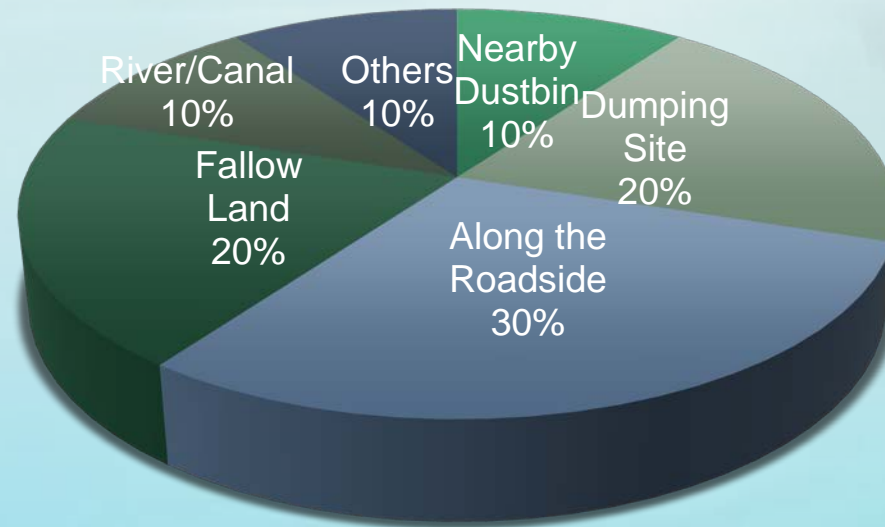


Figure: Use of Waste Dumping Site

- Bazar wastes are mostly dumped along the roadside or nearby fallow land or in dumping site.
- In 100% cases transportation of goods is done through roadway.
- All markets enjoy power supply facility.
- All bazars use tube well for meeting their everyday water need.

Formal Economy

No.of Shops and Average Monthly Transaction

Upazila	Total shops in 10 Bazars	Average No. of Shops in Each bazar	Average Monthly Transaction (Tk)
Dohar	1182	118	Tk.31,85,000/

Formal Economy

- On average, the monthly transaction done is about Tk 31 lakh 85 thousand.

Name of Hat	Monthly Transaction (Tk.)	Monthly Rent (Tk.)
1. Ikrani Bazar	700000	25000
2. Maghula Bazar	1000000	15000
3. Kartikpur Bazar	7500000	22000
4. School Market	4000000	30000
5. Mahmudpur Bazar	150000	25000
6. Narisha Bazar	1500000	35000
7. Begum Ayesha Shoping Mall	1000000	40000
8. Moksudpur Bazar	1500000	20000
9. Palamgong Bazar	2500000	20000
10. Upazila Super Market	12000000	150000
Total	31,850,000	382000

Formal Economy

NGO AND CBO

NGO and CBO

Upazila	Number of NGOs/CBO	Number of NGO/CBO Members	Functions	
			NGO	CBO
Dohar	10/ 9	17533/ 6100	Micro Credit, Skill Development Training , Awareness Building	Micro Credit, Skill Development Training , Awareness Building, Social Forestry

Formal Economy

- 10 NGOs were surveyed, which are functioning for social development with primary aim to uplift lives of the disadvantaged people through income generation.
- They mostly provide micro-credit for income generation.
- Other social activities include health and education services.

Sl.	Name of the NGO	Office Location	Number of Member	Main Function
1.	Shokti Foundation	Joypara, Dohar, Dhaka	1410	Trade Training
2.	ASA	chw. Para, Joypara, Dohar, Dhaka	1900	Public Awareness
3.	Proshika	Joypara, Dohar, Dhaka	4600	Micro Credit
4.	Bees	Joypara, Dohar, Dhaka	1291	Trade Training
5.	Bastob	Hat khula, Joypara, Dohar, Dhaka	446	Trade Training
6.	Society for social service (SSS)	Joypara, Dohar, Dhaka	2395	Micro Credit
7.	Uddipon	Joypara, Dohar, Dhaka	300	Micro Credit
8.	BRAC	Joypara, Dohar, Dhaka	1200	Micro Credit
9.	BURO Bangladesh	Joypara, Dohar, Dhaka	3591	Micro Credit
10.	Symbiosis	Joypara, Dohar, Dhaka	400	Micro Credit

Formal-Informal Economy

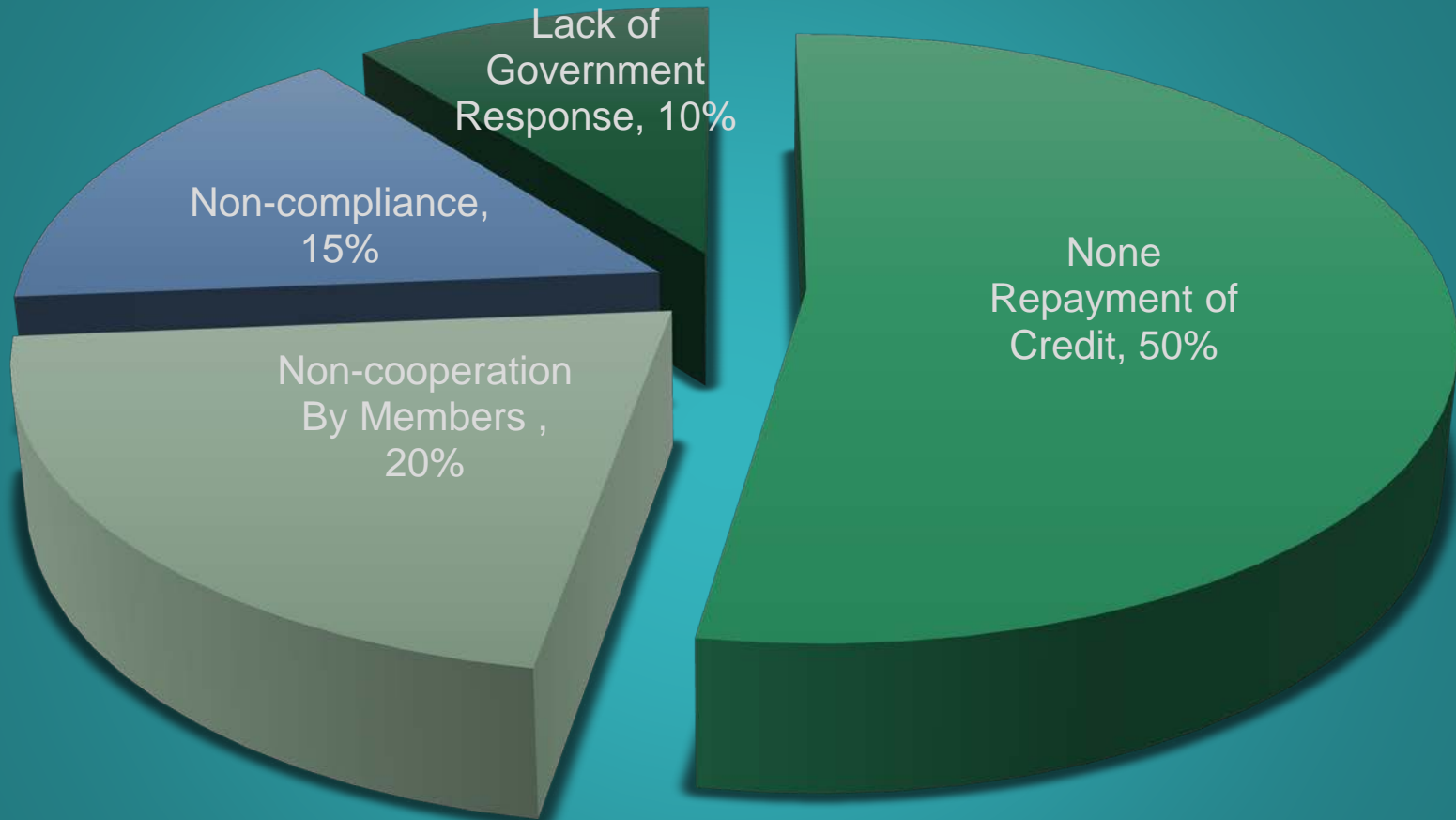


Figure: Problems of NGOs

Formal Economy

INDUSTRY

Industry

Upazila	Type of Output	Average Capital Investment	Average No. of employees	Source of Capital
Dohar	Wood processing, Rice Husking, Iron Workshop, Saw Mill, Flour Mill, Ice Cream, Bakery, Weaving ,Poultry	Tk.46 lakh 28 thousand	9	Personal Savings 70% Bank Loan 30%

Formal Economy

- Industries in the upazila, are mostly processing units.
- Only the unit's operating within Paurashava have trade license.
- None of those who operating outside the Paurashava any trade license.
- None have any EIA and permission from DoE.
- All industries use tube well as their source of water.
- About 60% use sanitary latrines.
- All have power supply and 60% enjoy regular power supply.

Formal Economy

- There is no provision of owner appointed doctor for consultation in any of the industries surveyed.
- The industries don't have any formal training system for workers and they learn through working after appointment.
- The industry owners complain of inefficiency of skilled labor, infrastructure, poor communication, extortion, lack of capital, insufficiency of loan, unwarranted tax, insufficiency of fuel, imbalance competition with importing.

Formal Economy

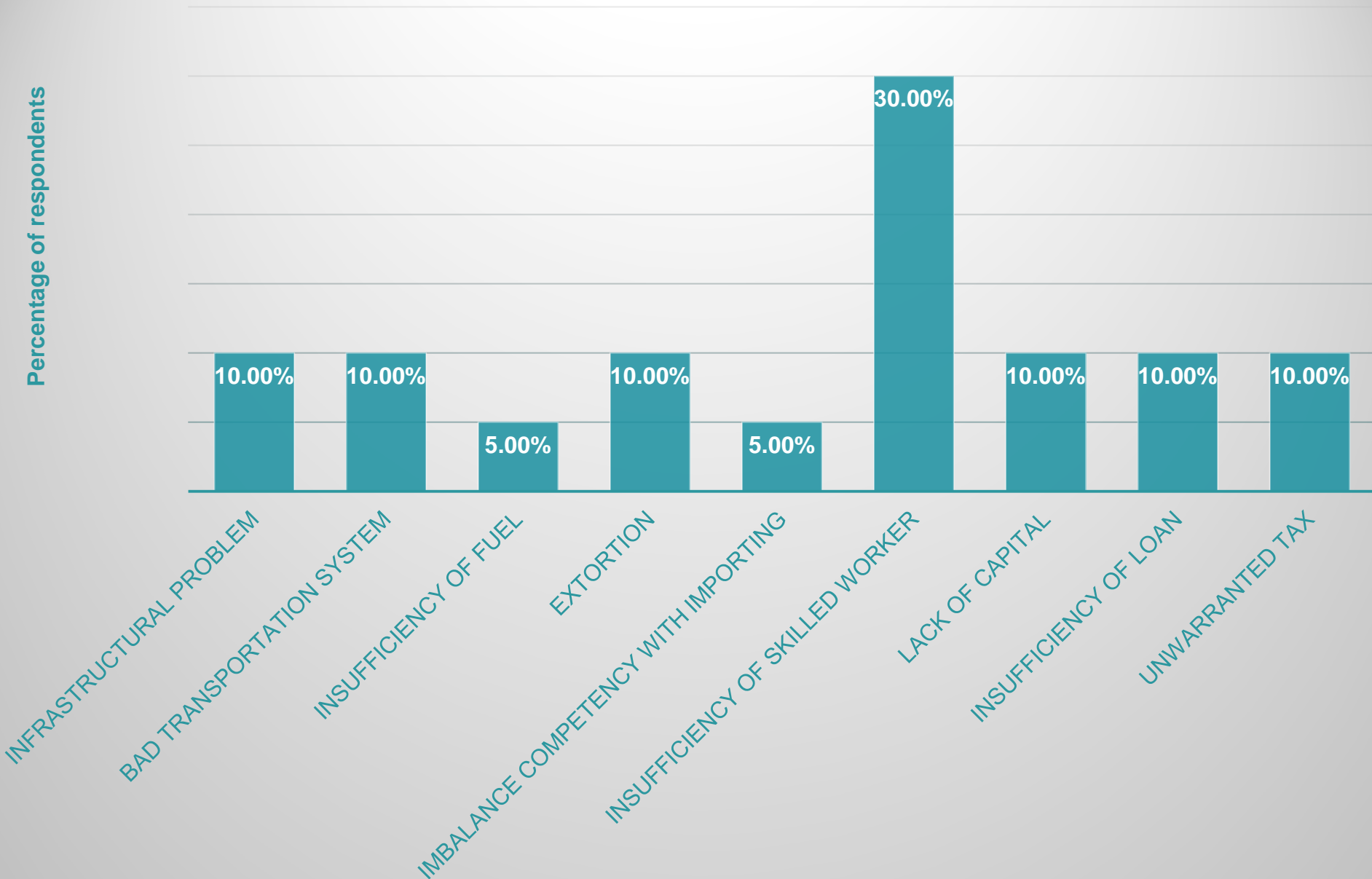


Figure: Problems of Industries

Informal Economy

Informal Business Location	Problems Faced						
	Adverse weather	Self-employed	Extortion	Poverty	Police harassment Business Recessions	Physical Problem	Total
Ikrani Bazar	0	1	0	0	0	0	1
Maghula Bazar	0	0	0	1	0	0	1
Kartikpur Bazar	1	1	0	0	0	0	2
School Market	0	0	1	0	0	1	2
Mahmudpur Bazar	0	0	0	0	0	0	0
Narisha Bazar	0	0	0	0	0	0	0
Begum Ayesha Shoping Mall	0	0	0	1	0	0	1
Moksudpur Bazar	0	1	0	0	0	0	1
Palamgong Bazar	0	0	0	1	0	0	1
Upazila Super Market	1	0	0	0	0	0	1
Total	2	2	1	3	1	1	10

Formal-Informal Economy

INFORMAL SECTOR

Informal Sector Enterprise

Upazila	Interviewee Type	Capital Investment	Source of Capital	Type of Establishment
Dohar	Street Hawker, Rickshaw Puller, Van Driver, Tea Seller, Fruit seller, Plastic Goods Seller	<ul style="list-style-type: none">• 60% Tk. 8,000-Tk.12,000.• 40% Tk. 15,000 to – Tk.30,000	65 % used own fund	<ul style="list-style-type: none">•Permanent 50%•Temporary 30%•Mobile Vehicle 10%•Head load 10%

Formal-Informal Economy

INFORMAL SECTOR

Informal Sector Enterprise

Upazila	Average Monthly Turnover	Risk of Doing Business
Dohar	Upto Tk.5,000 (10%) Tk.5,000 to Tk.10,000 (60%) Above Tk. 10,000(30%)	Adverse Weather 20% Uncertainty 30% Lack of Capital 30% Extortion 20%

Formal-Informal Economy

Recommendation

- For up building formal sector at upazila level, government rules and regulations should be relaxed for the time being.
- Rules should flexible enough to follow by the small investors in this remote areas of the country where they find very small markets for their products and services.
- The informal sector should not be ignored. Because informal sector is still, the largest sector of employment for huge unskilled and unemployed.
- It is also playing a key role in supplying the cheap labor to the formal sector and help generating extra profit for the entrepreneurs.
- Policy for strengthening the informal sector should consider the following specific issues,

Formal-Informal Economy

Recommendation

- allow collateral free credit facility for the informal sector investors, developing appropriate mechanism;
- allow sufficient number of them doing business on footpath without disturbing the pedestrian movement;
- make arrangements for allowing temporary structures for informal business people on public land;
- give them protection against all kinds of extortions and harassments and allow them to do business without any hassle.
- The government policy should aim at gradually formalizing the informal sector activities by strengthening their capacity.
- Formalizing the informal sector activities will boost not only the economic status of individual families, but also add to the government revenue as they would attain the capacity of paying taxes.

Geological Survey

Field activities and Sub-surface Investigations:

- Geomorphologic field study
- Drilling of boreholes and preparation of borehole logs;
- Collection of undisturbed and disturbed soil sample as per standard guide line;
- Conducting standard penetration tests (SPTs);
- Drilling of boreholes and casing by PVC pipe for conducting PS logging test
- Conducting Down-hole Seismic Test (PS Logging) and
- Conducting Multi-Channel Analysis of Surface Wave (MASW).

Upazila Name	Borehole (SPT)	Downhole Seismic Test (PS Logging)	MASW Test
Dohar	12	3	5

Geological Survey Activities

- Geological and Geomorphologic Survey and Map Preparation
- Regional Morphotectonic and Neo-tectonic Survey and Mapping
- Subsurface lithological 3D model Preparation
- Engineering Geological Mapping
- Peak Ground Acceleration Map
- Liquefaction and Ground Failure Map
- Earthquake Intensity Map

Geological Survey Activities



Data Acquisition Unit



Geophone Lowering In the Borehole

Geological Survey Activities

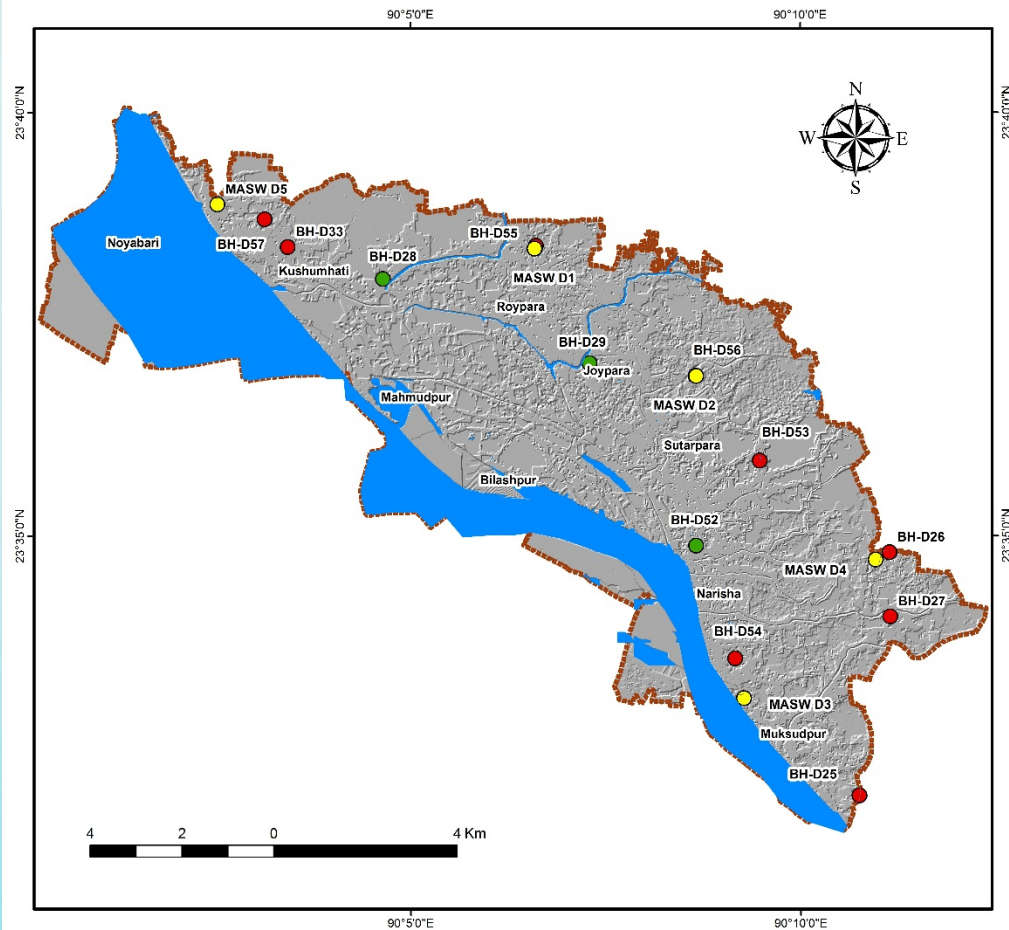


Direction of Excitations



Geophone Installation into the Borehole

Test Location



Geotechnical and Geophysical Test locations of Dohar Upazila

Legend

Work Locations

Geotechnical and Geophysical Test

- Downhole Seismic Test (PS Logging)
- Multi-channel Analysis of Surface Wave (MASW)
- Standard Penetration Test (SPT) Drilling
- Upazila Boundary
- Dohar Upazila
- Water Body

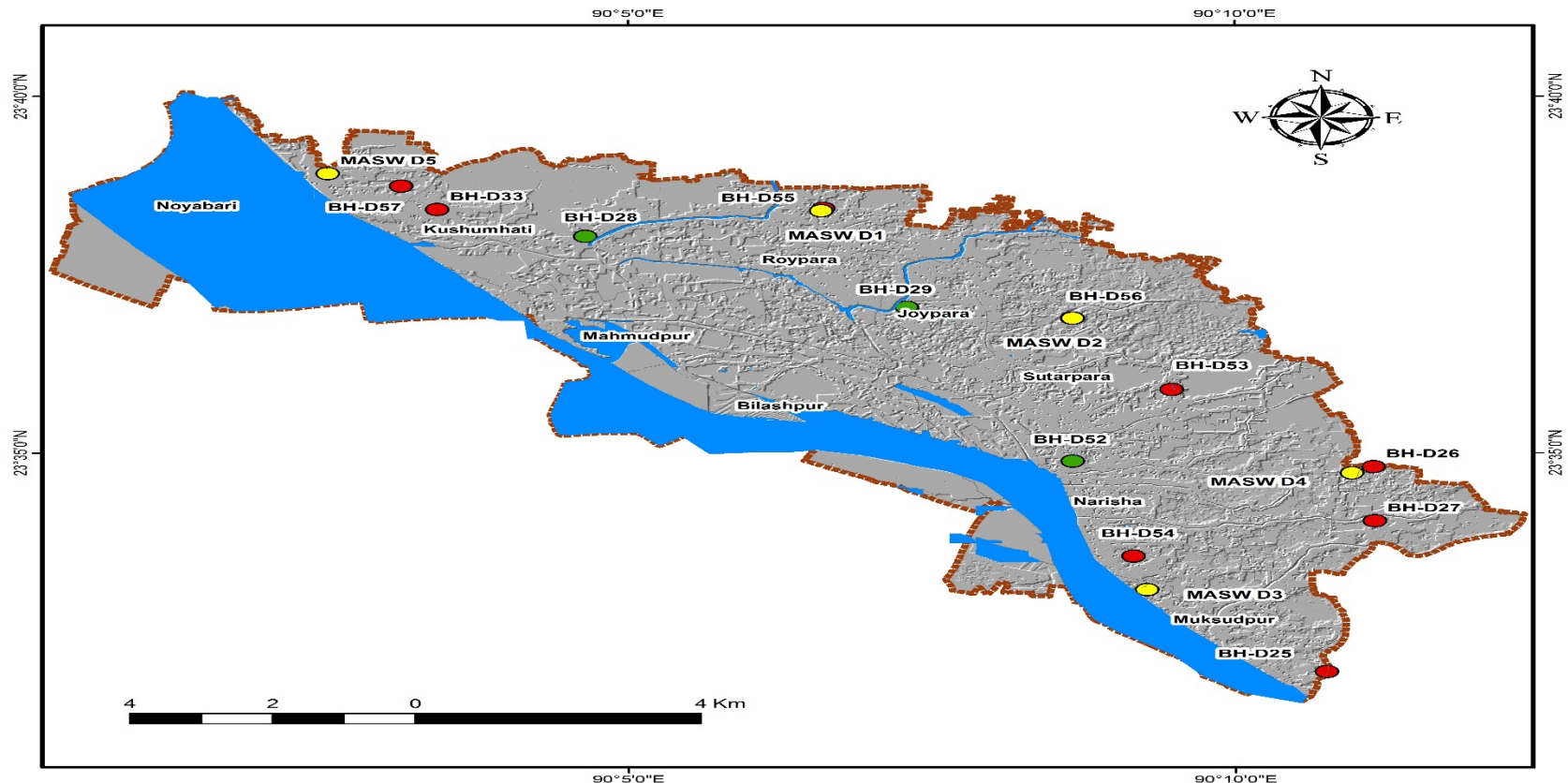
This map has been produced by plotting the co-ordinates of all the Geotechnical and Geophysical works which was acquired during field investigation. The drilling depth of those boroholes are up to 30m from the existing ground level (EGL).

Coordinate System: BUTM2010
 Projection: Transverse Mercator
 Datum: WGS 1984
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 false northing: 0.0000
 central meridian: 90.0000
 scale factor: 0.9996
 latitude of origin: 0.0000
 Units: Meter

Drilling Locations for SPT Test



PS Logging and MASW Test Locations



Geotechnical and Geophysical Test locations of Dohar Upazila

Legend

Work Locations

Geotechnical and Geophysical Test

- Downhole Seismic Test (PS Logging)
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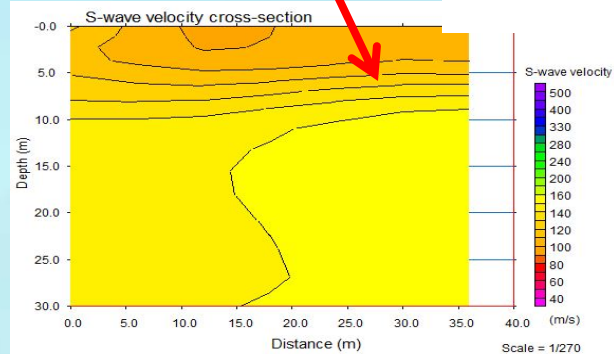
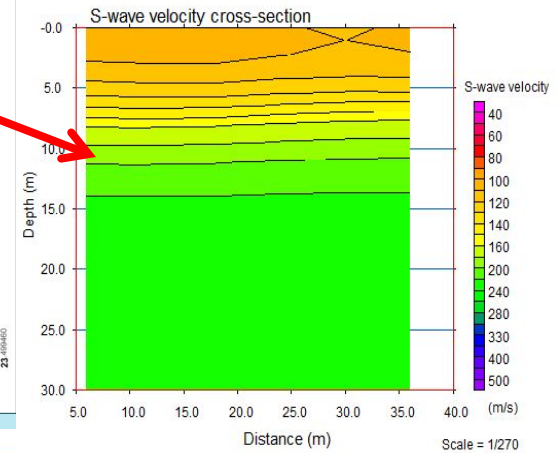
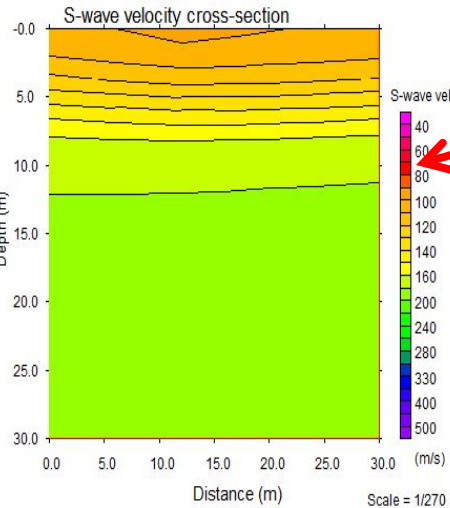
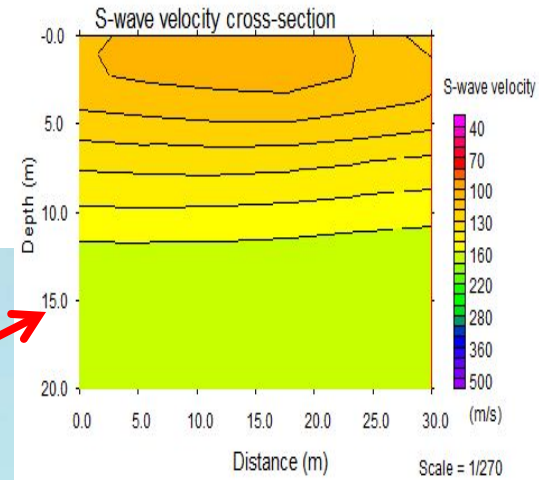
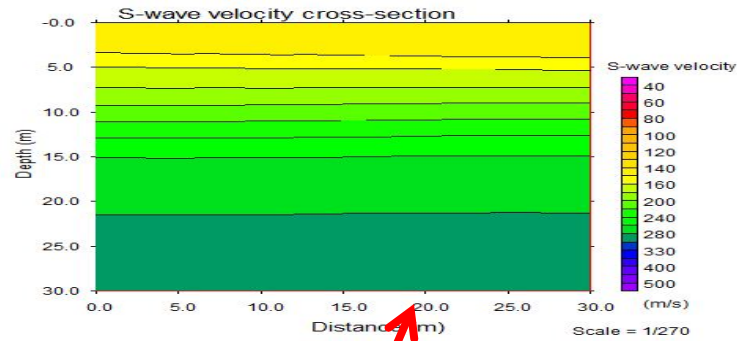
PS logging Data Acquisitions



MASW Survey



MASW Survey Result



Standard Penetration Testing



Preparing borehole for Standard Penetration Test



Drilling in the borehole



Blowing with hammer for calculating Standard Penetration resistance

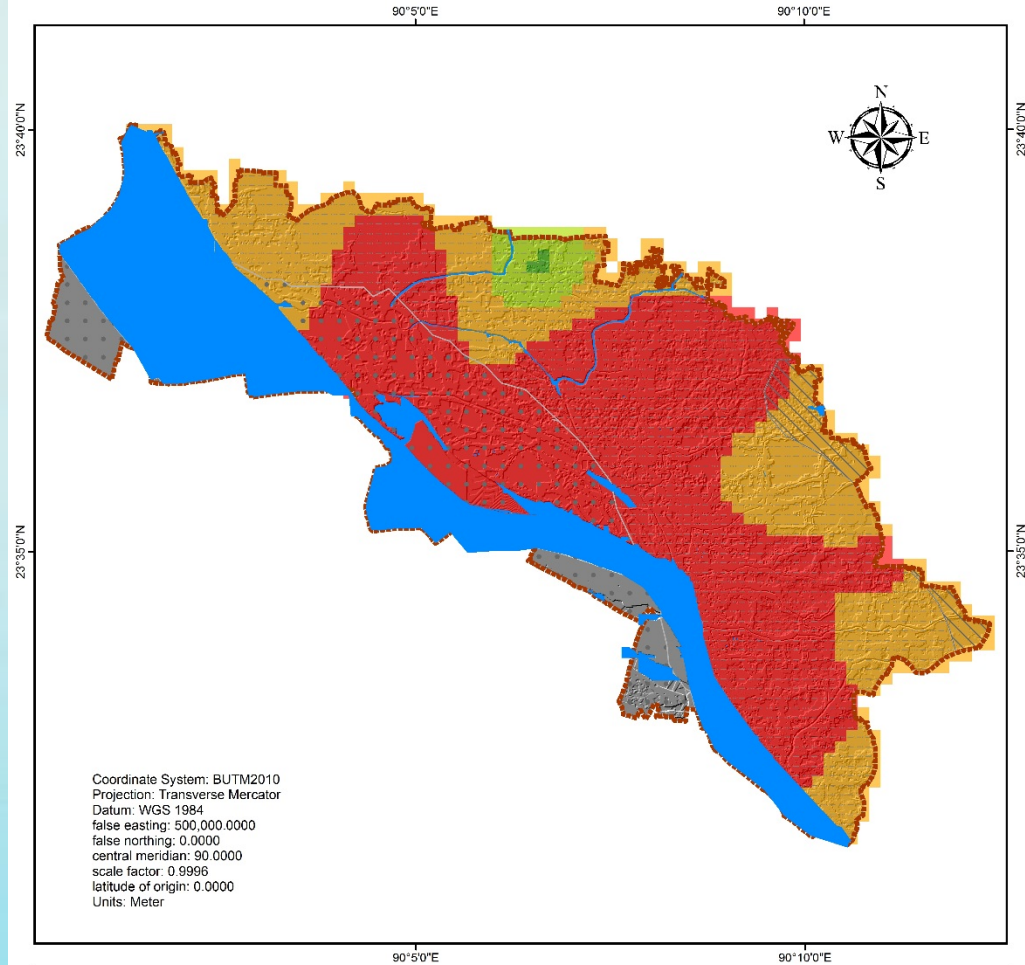


Soil Samples
Soil sample in split spoon

Standard Penetration Testing



Engineering Geology Map Base vs30



Engineering Geological Map based on Average Shear wave Velocity (upto30m)

Legend

Upazila Boundary

Surface Geology Units

Map Unit

- Alluvial sand
- Alluvial silt
- Marsh clay and peat
- Water

Soil Classification Type

- D3 - Medium Stiff / Stiff / Medium Dense to Dense Soil
- D4 - Medium Stiff / Medium Dense Soil
- D5 - Soft / Loose to Medium Stiff / Medium dense Soil
- E - Soft/Loose Soil

Site Class	Site class description	Shear wave velocity (m/sec)
		Min. Max.
A	HARD ROCK	1500
B	Evenly jointed strong rock	760 1500
C	VERY DENSE SOIL AND SOFT ROCK	360 760
	Un drained shear strength $u_c > 200 \text{ kPa}$ (due to 100 kPa) or $N = 50$ (borehole)	
D	STIFF SOILS	180 360
	Stiff soil with undrained shear strength $100 \text{ kPa} < u_c < 200 \text{ kPa}$ or $N = 15$ to 50 (borehole)	
E	SOFT SOILS	180
	Profile with more than 10.8 cm of soft clay defined as soil with plasticity index $PI > 70$, moisture content $w > 40\%$ and undrained shear strength $u_c < 100 \text{ kPa}$ (50 kPa) ($N = 15$ (borehole))	
	SOILS REQUIRING SITE SPECIFIC EVALUATIONS	
	1. Soils vulnerable to potential failures or collapse under seismic loading; e.g., liquefiable soils, quicksand, highly sensitive clays, collapse weakly cemented soils	
	2. Peats and/or highly organic clays; (10% (dry) or thicker layer)	
	3. Very high plasticity clays; (25% (dry) or thicker layer with plasticity index > 75)	
	4. Very thick soft medium stiff clays; (100% (dry) or thicker layer)	
	5. Very loose to medium dense soils	

This map was produced by interpolating velocity of the soil layer in different Bore hole. Afterward it was classified by their velocity range according to a method provided by NEHRP (stands for National Earthquake Hazard Reduction Program, USA) Provisions but as most of the shear wave velocity of soil is within 168-244m/s the classification was modified as follows.

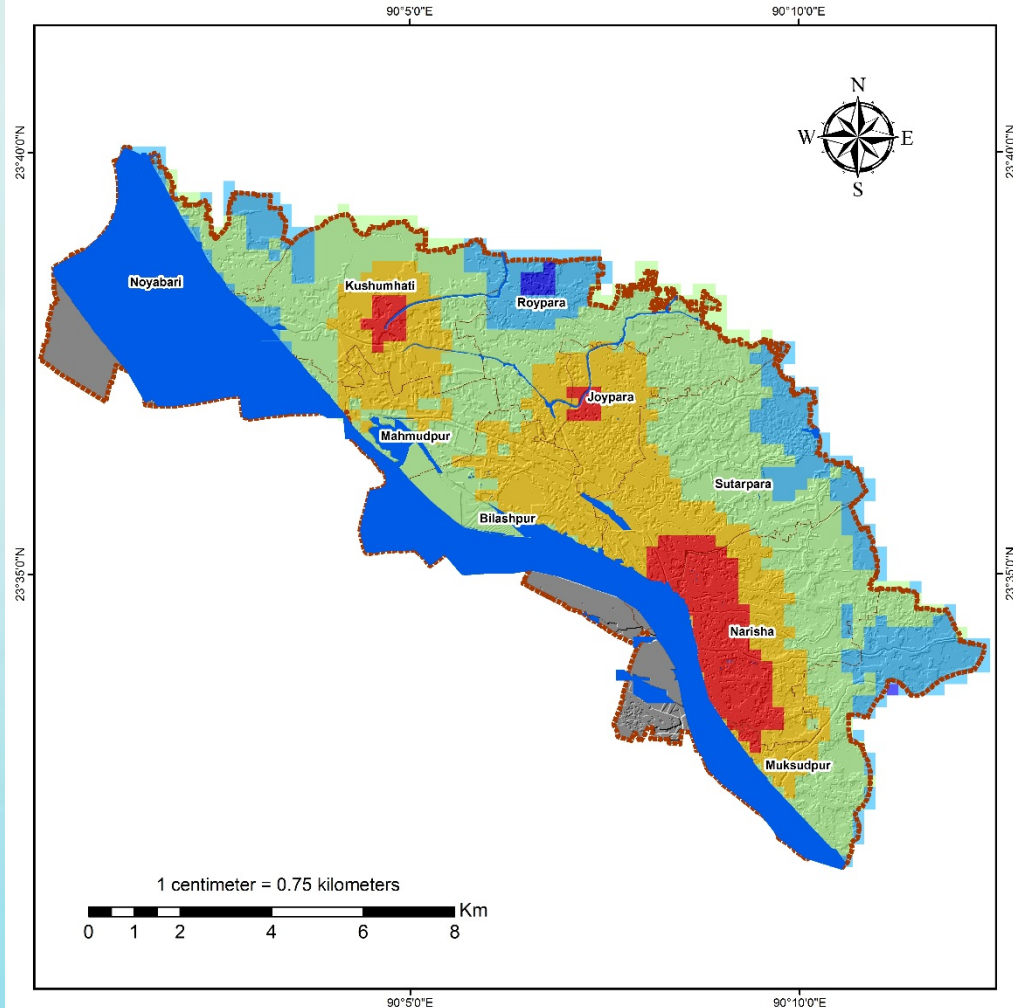
Ground Class	V_{sw}	Soil Type
C	240 - 760 m/sec	Very Dense / Hard Soil and Soil rock
D1	360 - 760 m/sec	Stiff / Dense to very dense Hard Soil
D2	250 - 360 m/sec	Stiff / Dense Soil
D3	220 - 250 m/sec	Medium Stiff to Stiff / Medium Dense to Dense Soil
D4	200 - 220 m/sec	Medium Stiff / Medium Dense Soil
D5	180 - 200 m/sec	Soft / Loose to Medium Stiff / Medium Dense Soil
E	< 180 m/sec	Very Soft to Soil / Very Loose to Loose Soil

Modified classification of the soils applied in this study

Scale: 1 centimeter = 0.75 kilometers



Foundation Layer



Foundation Layer Recommendation Map

Legend

- Water Body
- Upazila Boundary
- Union Boundary

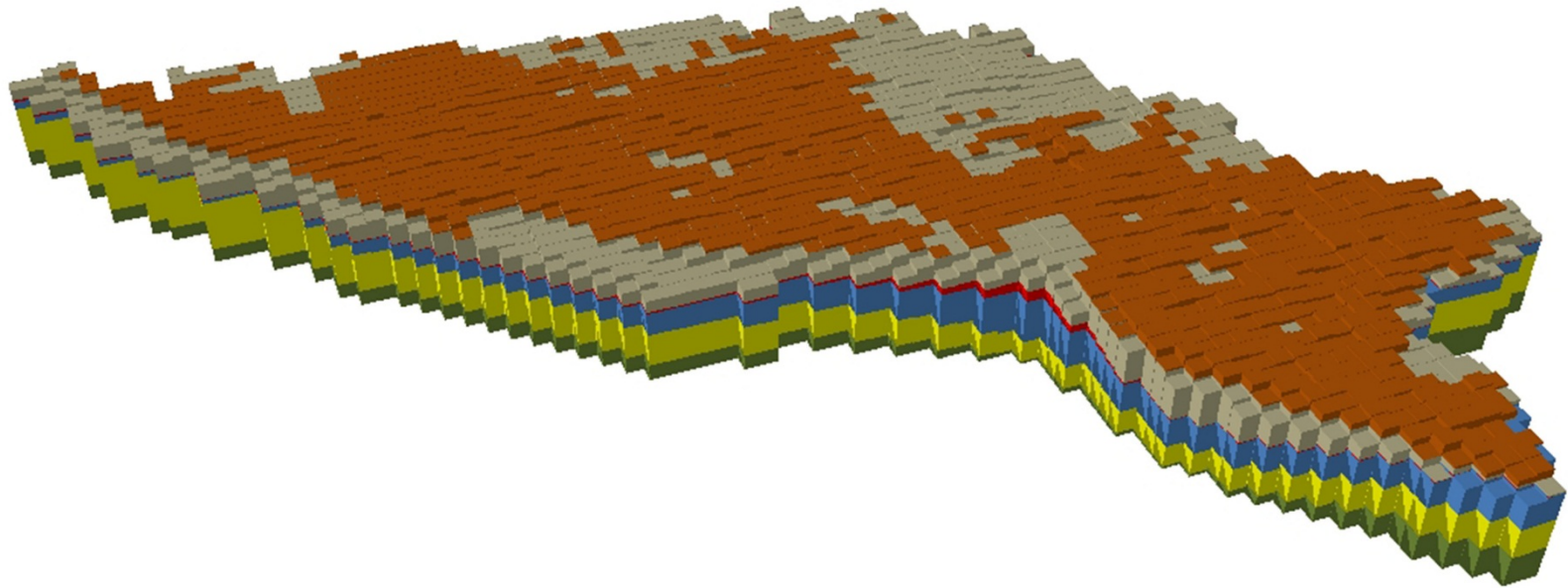
Engineering Soil Layers

Foundation Depth (m) from EGL

- 3.44 - 5.00
- 5.01 - 10.00
- 10.01 - 15.00
- 15.01 - 20.00
- 20.01 - 25.63

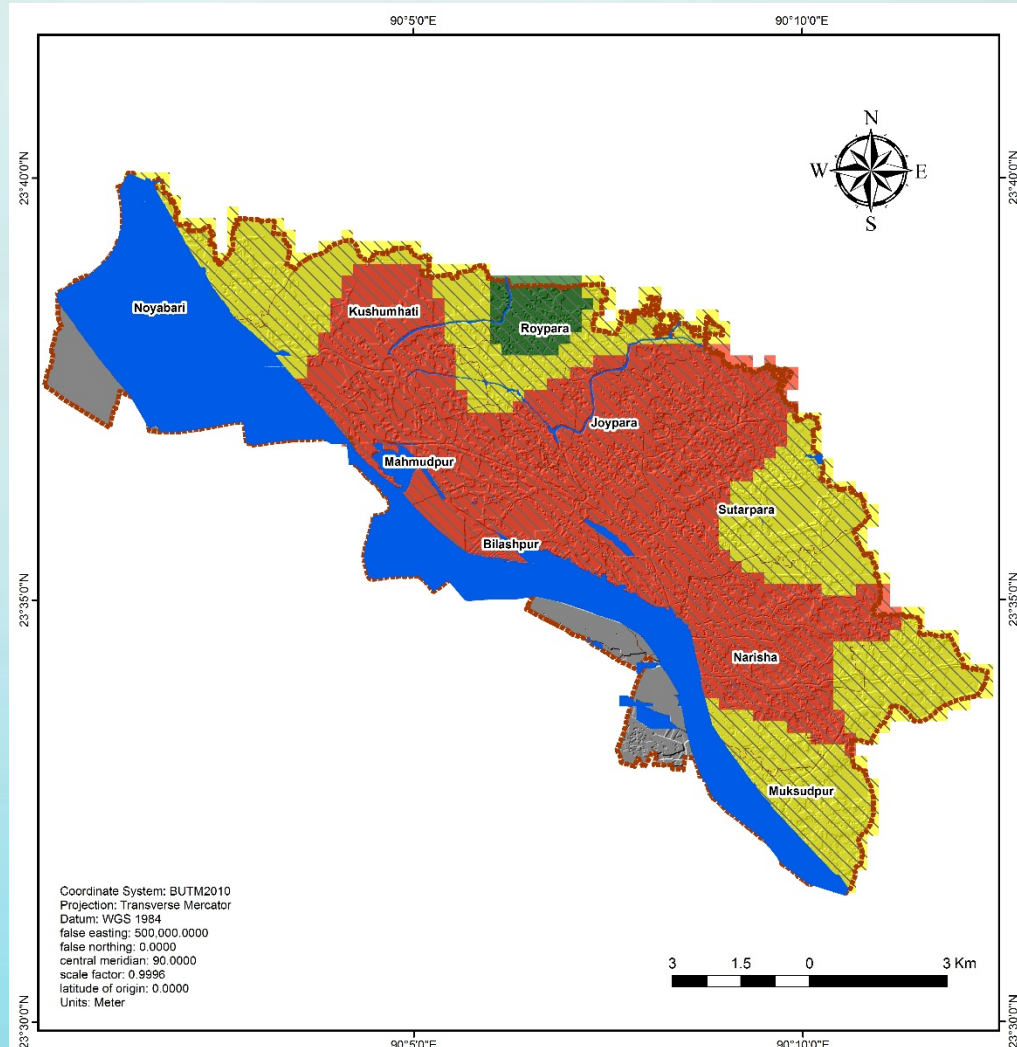
Coordinate System: BUTM2010
 Projection: Transverse Mercator
 Datum: WGS 1984
 false easting: 500,000.0000
 false northing: 0.0000
 central meridian: 90.0000
 scale factor: 0.9996
 latitude of origin: 0.0000
 Units: Meter

3D Soil Map

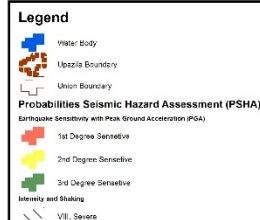


Lithological description	SPT N Value Range
Layer 1: Brown to Grey very Loose to Loose very fine to fine SAND with silt	2 to 11
Layer 2: Brown to grey very Soft to Stiff Clayey SILT with very fine sand	2 to 13
Layer 3: Dark grey Soft to Stiff Organic CLAY	3 to 12
Layer 4: Grey to Brownish grey very Loose to medium Dense fine to very fine SAND with silt & little clay	4 to 25
Layer 5: Grey to Light Grey medium Dense to Dense fine SAND little silt	10 to 50
Layer 6: Grey to Light Grey medium Dense to very dense fine to medium SAND trace silt & mica	14 to 60

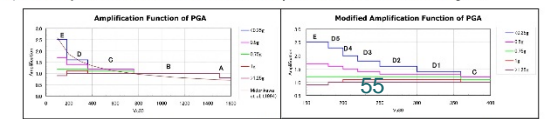
PGA local



Peak Ground Acceleration (PGA) (g) at Engineering Seismic Ground Surface (Depth upto 30m) Corresponding to a Probability of Exceedance of 10% in 50 years

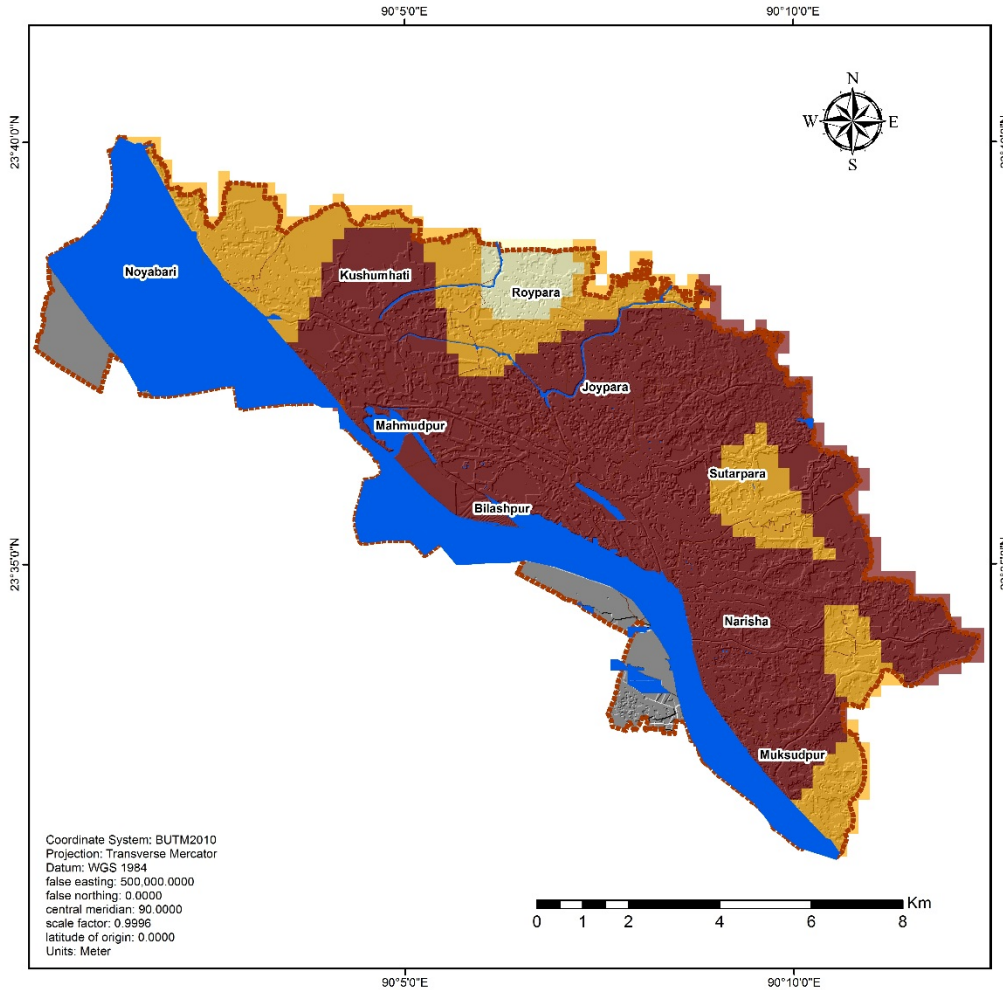


This map was produced by multiplying PGA values with Amplification factors corresponded for different soil type, as the V_s is within 168-244m/s so soil was classified as (E,D5,D4,D3), thus the amplification factor was also modified. Spectral Acceleration (PGA) (g) at Engineering Ground Surface (Depth upto 30) corresponding to probability of exceedance of 10% in 50 year was count for each grid.



The soil amplification factors for PGA by NEHRP (National Earthquake Hazard Reduction Program) provisions

SA1 local10



Spectral Acceleration (SA) (g) for 1 sec Structural period at Engineering Seismic Ground Surface (Depth upto 30m) Corresponding to a Probability of Exceedance of 10% in 50 years

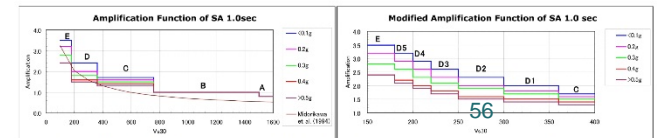
Legend

- Water Body
- Upazila Boundary
- Union Boundary

SA1_Surfac

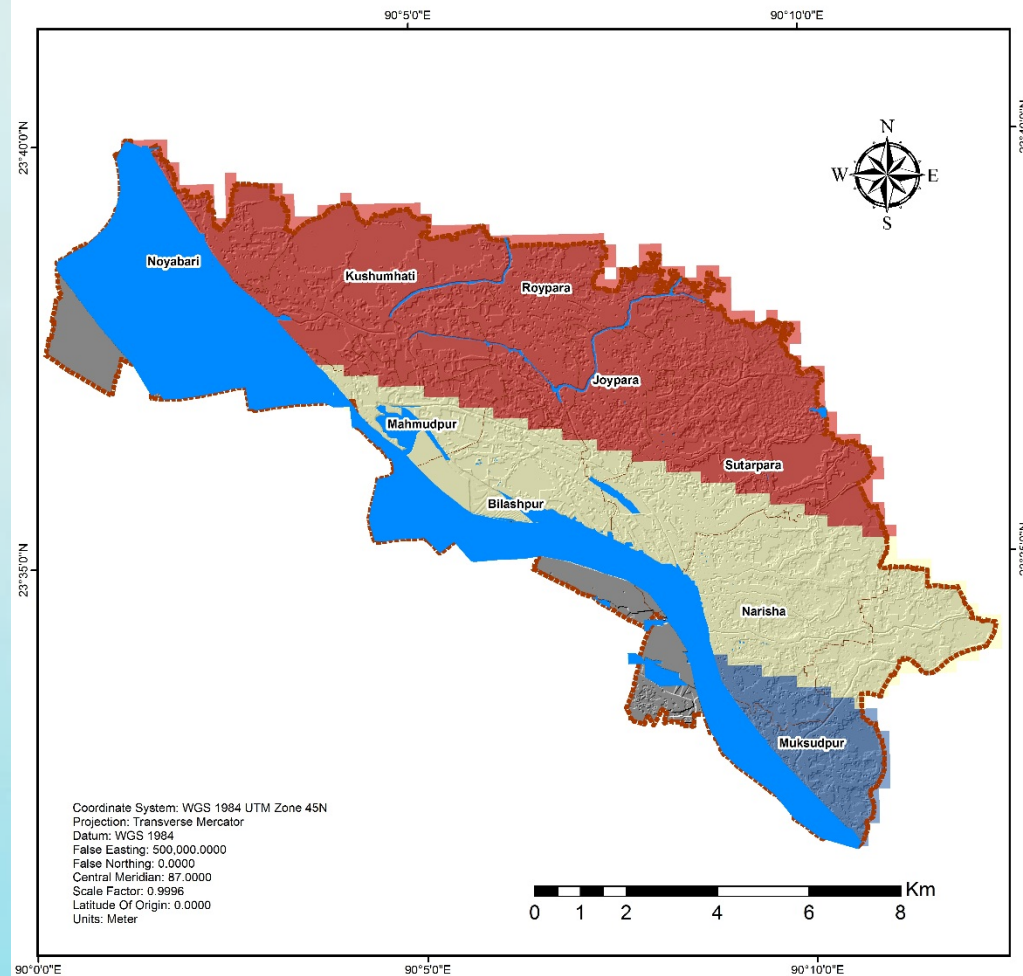
- 0.4381 - 0.4984
- 0.4985 - 0.5587
- 0.5588 - 0.6190

This map was produced by multiplying SA values with Amplification factors corresponded for different soil type. as the V_s is within 168-244m/s so soil was classified as (E,D5,D4,D3). Thus the amplification factor was also modified. Spectral Acceleration (SA) (g) for 1 sec at Engineering Ground Surface (Depth upto 30) corresponding to probability of exceedance of 10% in 50 year was count for each grid.



The soil amplification factors for PGA, by NEHRP (National Earthquake Hazard Reduction Program) provisions

SA02 local



Spectral Acceleration (SA) (g) for 0.2 sec Structural period at Engineering Seismic Ground Surface (Depth upto 30m) Corresponding to a Probability of Exceedance of 10% in 50 years

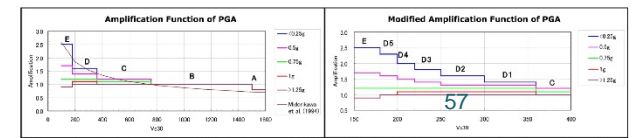
Legend

- Water Body
- Upazila Boundary
- Union Boundary

SA 0.2sec (g)

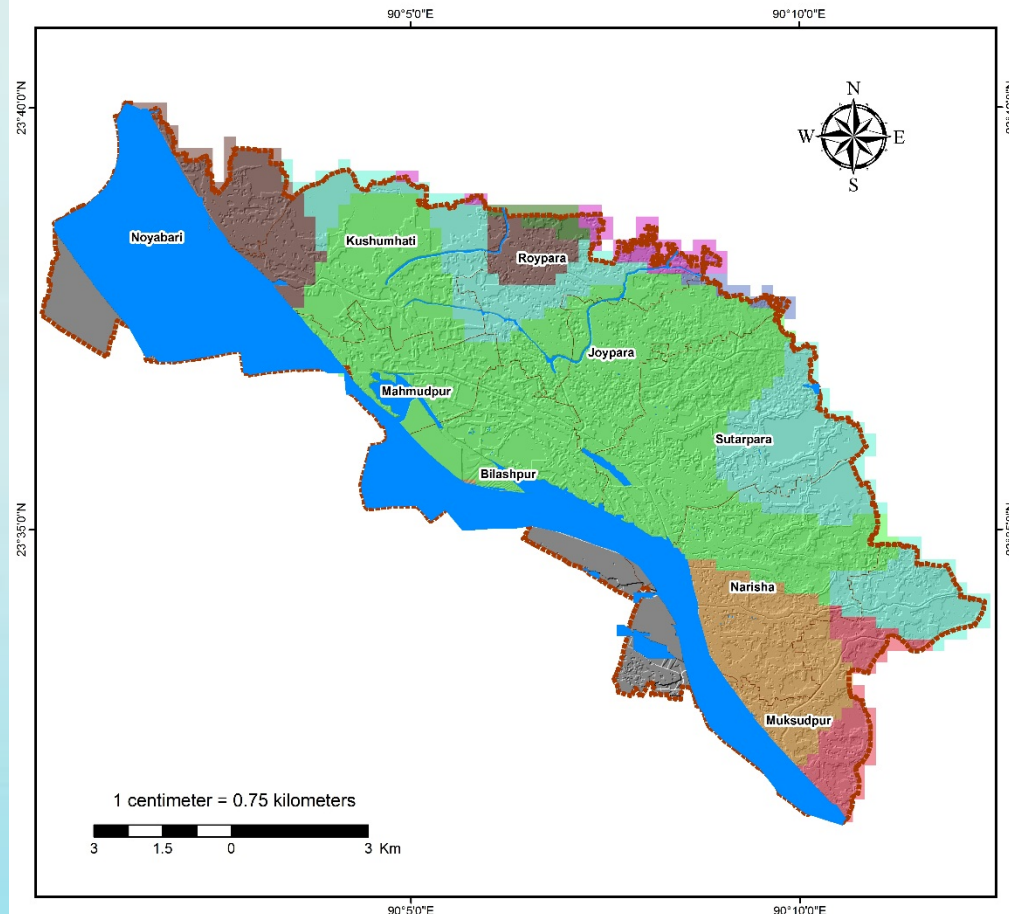
- 0.7241 - 0.7294
- 0.7295 - 0.7346
- 0.7347 - 0.7398

This map was produced by multiplying SA values with Amplification factors corresponded for different soil type. as the Vs is within 168-244m/s so soil was classified as (E,D5,D4,D3). Thus the amplification factor was also modified. Spectral Acceleration for 0.2 sec at Engineering Ground Surface(Depth upto 30) corresponding to probability of exceedance of 10% in 50 year was count for each grid.



The soil amplification factors for PGA by NEHRP (National Earthquake Hazard Reduction Program) provisions

Building Height



Building Height Recommendation Map of Dohar Upazila

Legend

- Water Body
- Upazila Boundary
- Union Boundary

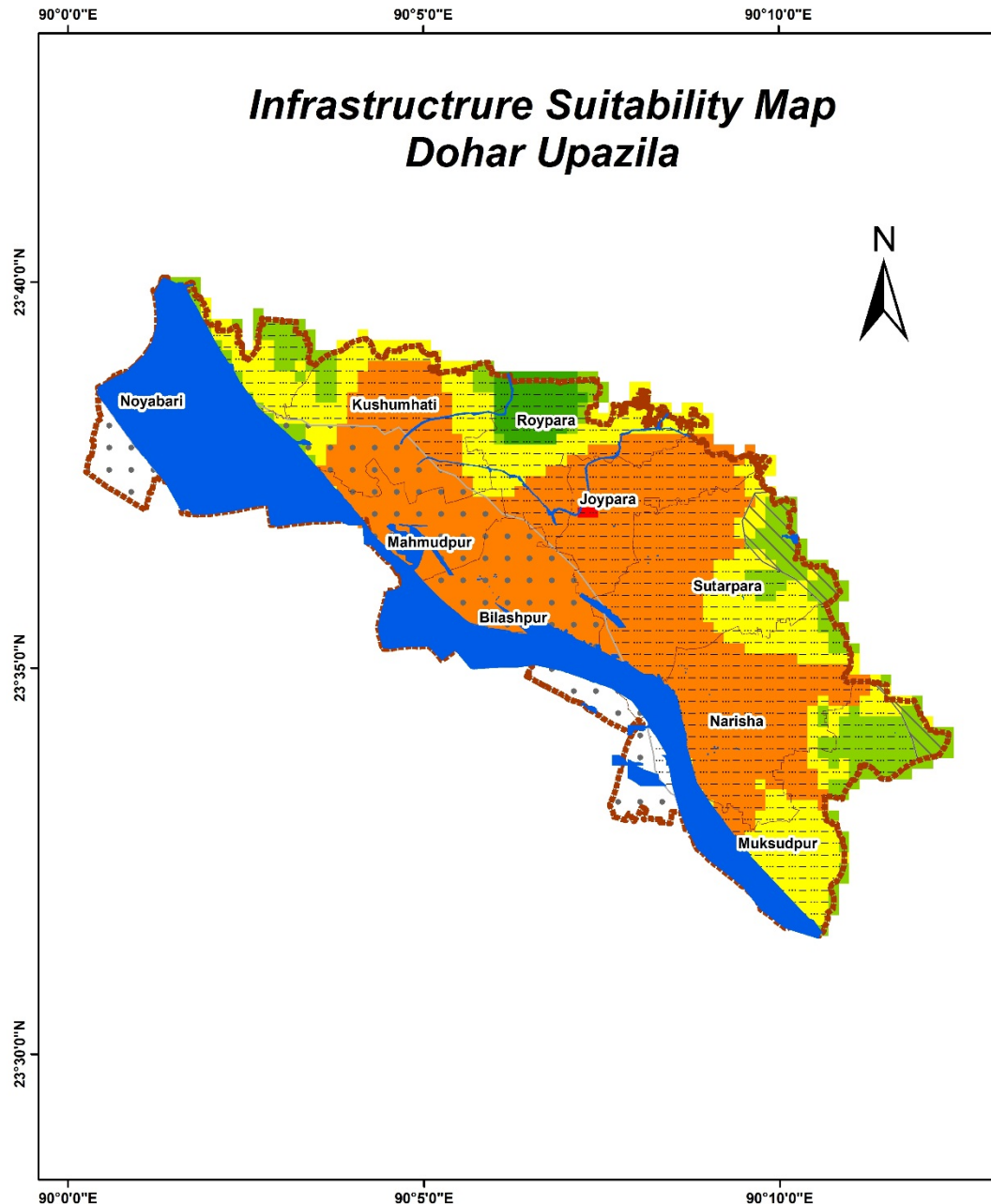
Building Sensitivity

Low and High Rise Building

- 1st Degree Sensitive for Highrise, 1st Degree Sensitive for Lowrise
- 1st Degree Sensitive for Highrise, 2nd Degree Sensitive for Lowrise
- 1st Degree Sensitive for Highrise, 3rd Degree Sensitive for Lowrise
- 2nd Degree Sensitive for Highrise, 1st Degree Sensitive for Lowrise
- 2nd Degree Sensitive for Highrise, 2nd Degree Sensitive for Lowrise
- 2nd Degree Sensitive for Highrise, 3rd Degree Sensitive for Lowrise
- 3rd Degree Sensitive for Highrise, 1st Degree Sensitive for Lowrise
- 3rd Degree Sensitive for Highrise, 2nd Degree Sensitive for Lowrise

Coordinate System: BUTM2010
 Projection: Transverse Mercator
 Datum: WGS 1984
 false easting: 500,000.0000
 false northing: 0.0000
 central meridian: 90.0000
 scale factor: 0.9996
 latitude of origin: 0.0000
 Units: Meter

Infrastructure Suitability Map



Legend

Upazila Boundary

Union Boundary

Surface Geology

Map Unit

Alluvial sand

Alluvial silt

Marsh clay and peat

Water

Infrastructure Suitability

Class

Very Good

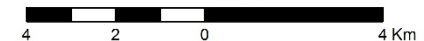
Good

Moderate

Poor

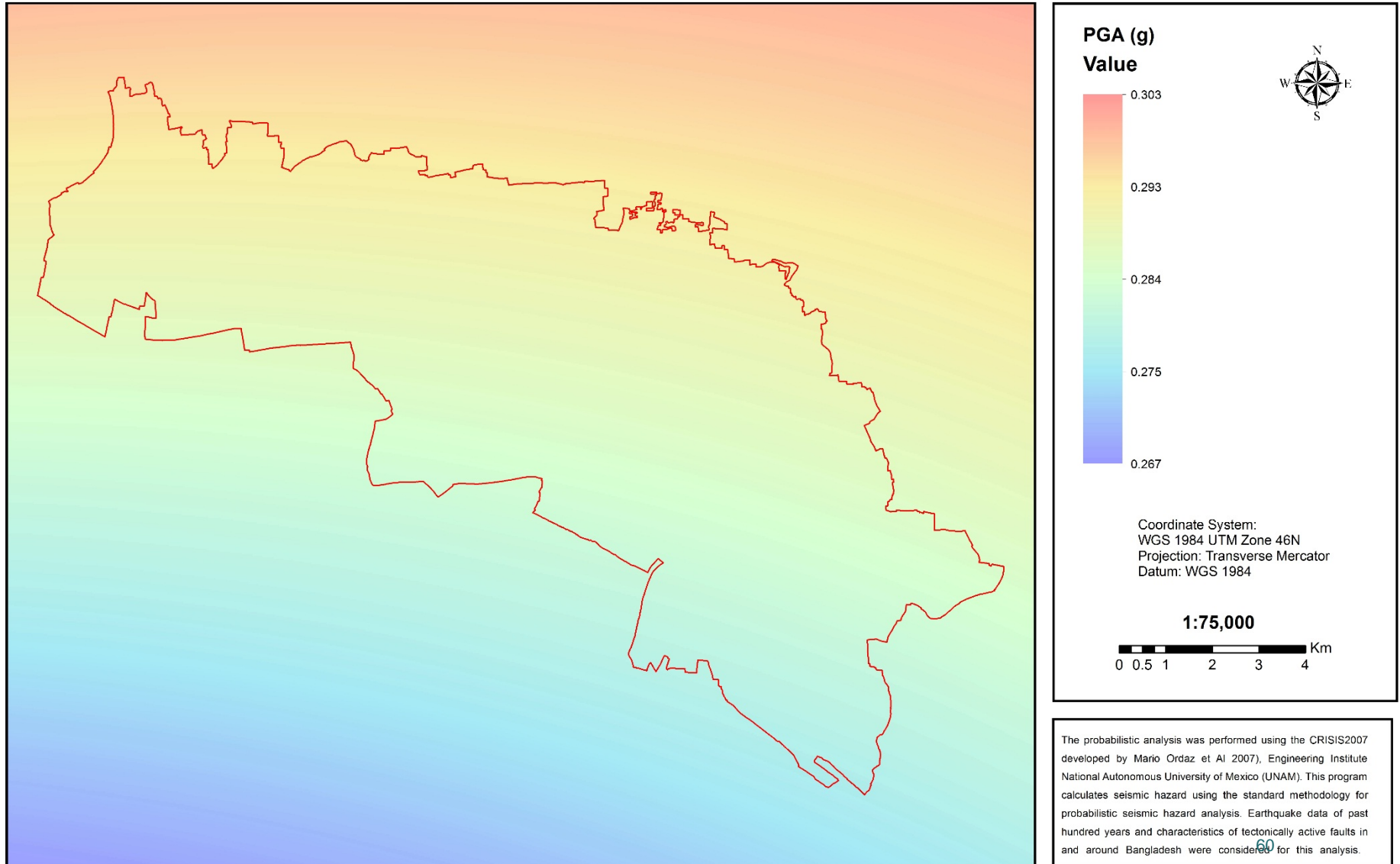
Very Poor

1 cm = 1 km



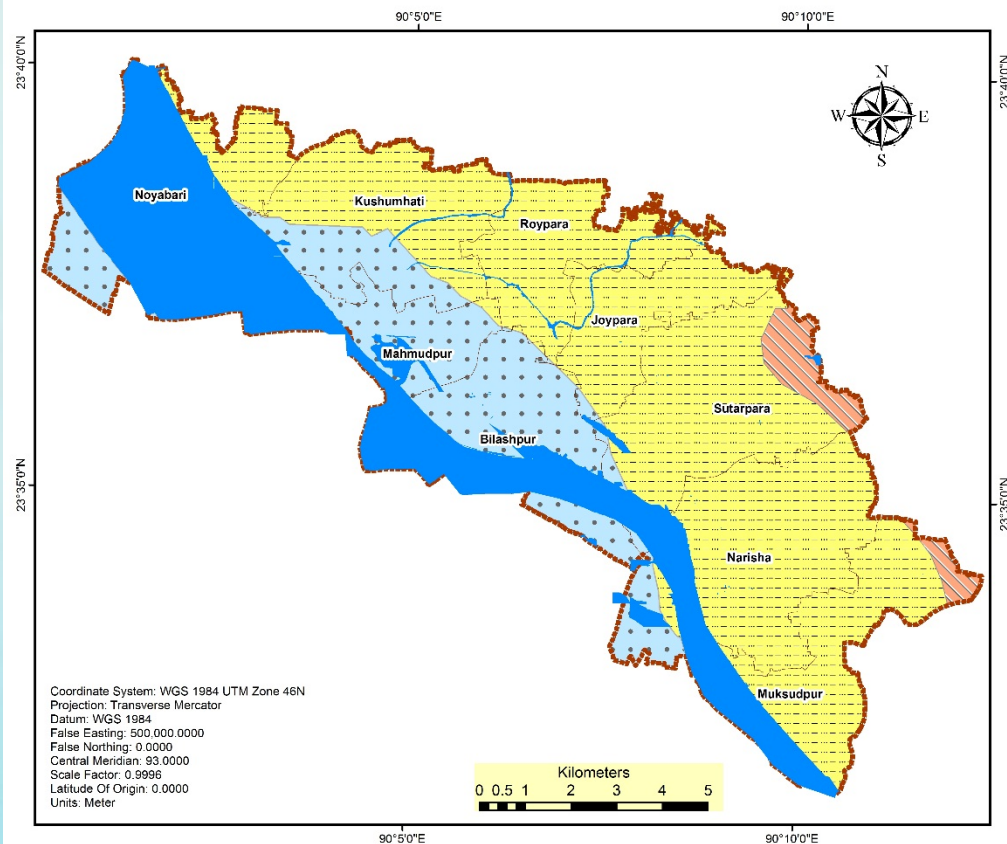
Infrastructure Suitability	Infrastructure Foundation Suitability	Suggested Land Use Suitability
Very Good	4-6 story light infrastructure is suitable with a foundation depth of up to 2 m. Large and tail infrastructure requires pile foundation placed on Soil layer no 3 or 5.	Commercial area Residential area Industrial zone
Good	4-6 story light infrastructure is suitable in Madhupur Clay. General foundation depth is within 5 m, at places higher Large and tall infrastructure requires pile foundation placed on layer no 3 or 5	Commercial area Residential area Industrial zone
Moderate	4-6 story light infrastructure requires on-site subsoil investigation and proper foundation design. Deep pile foundation is needed for large and tail infrastructure	Industrial zone Residential area Commercial area Agricultural Zone Park and Recreation
Poor	Detail subsoil investigation and proper foundation design is required for all types of infrastructure, due to low bearing capacity with hazard potential.	Agricultural zone Flood flow zone Wetland Rural settlement Park and Recreation
Very Poor	Detail subsoil investigation for deep pile foundation is essential, due to very low bearing capacity and high hazard potential. Shallow foundation is not preferred.	Agricultural zone Flood flow zone Wetland Rural settlement Park and Recreation

Peak Ground Acceleration (PGA) (g) at Engineering SeismicBaserock (Vs30=760 m/sec) Corresponding to a Probability of Exceedance of 10% in 50 years





SA1_bedN_10

Surface Geology




Surface Geology of Dohar Upazila

Legend

-  Union Boundary
-  Upazila Boundary

Surface Geology Units

Map Unit

-  Alluvial sand
-  Alluvial silt
-  Marsh clay and peat
-  Water

Alluvial Sand and Silt:

Alluvium or alluvial deposits are loose, unconsolidated sediments, which has been eroded, reshaped by water in some form, and re-deposited in a non-marine setting. Alluvial deposits are usually most extensive in the lower part of a river's course, forming floodplains and deltas. Alluvium is typically made up of a variety of materials, including fine particles of silt and clay and larger particles of sand and gravel. When alluvial deposits are primarily consists of sand size particles the deposits are termed as alluvial Sand. The particles size ranging from 0.06 to 2 mm in diameter is known as sand particles. And when alluvial deposits are primarily consists of silt size particles the deposit is termed as alluvial silt. Silt, sediment particles ranging from 0.004 to 0.06 mm (0.00016 to 0.0024 inch) in diameter irrespective of mineral type. Silt is easily transported by moving currents but settles in still water. An unconsolidated aggregate of silt particles is also termed silt, whereas a consolidated aggregate is called siltstone.

Marshy Clay and Peat:

Peat soils and Marshy clays in the surface geology of the area is indication of swampy and humid environment of present active river plain deposits. In these soils, partially or wholly decomposed organic matters are present. These soils have a low infrastructure and of low quality on engineering value. Peat and muck layers are black to dark brown, strongly reduced, and neutral in reaction under persisting conditions. When these layers are allowed to dry, they become extensively acidic. The unit is seasonally flooded by both increased river water and rainwater hence, remains wet around this time. During the dry season where mineral topsoil is present they become dry. Under dry condition mineral top-soils are mainly grey or dark grey and become strongly acidic.



Transportation Survey

Type of Surveys Conducted

1. Traffic Volume Count

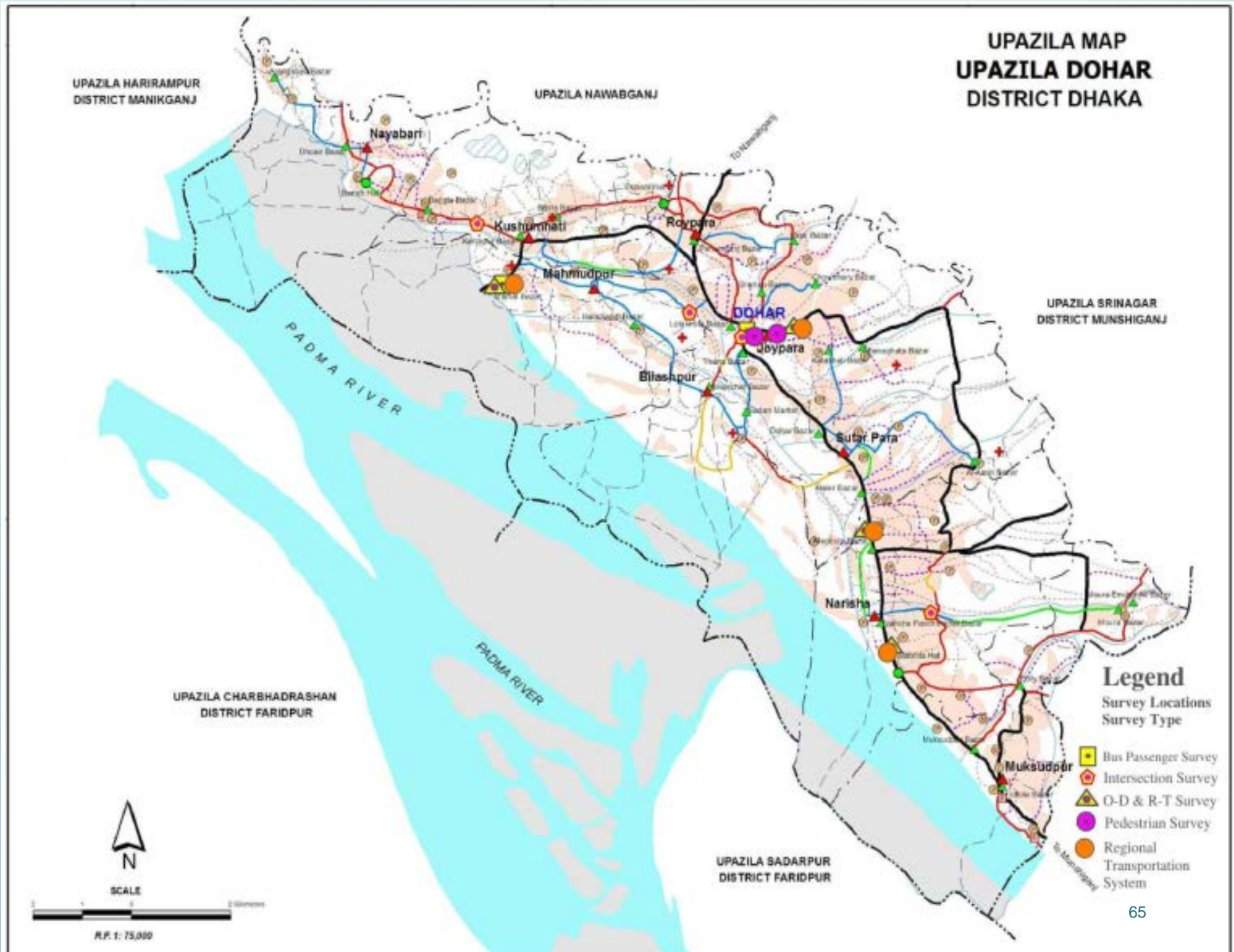
2. Origin- Destination (O-D) Survey

3. Bus Passenger Survey

4. Pedestrian Survey

5. Regional Transportation System Survey

Traffic Survey Locations in Dohar



Origin-Destination (O-D) Survey locations



Fig 2: O-D Survey Locations (Meghula and College Road Mor)

Road Communication and Regional Connectivity, Existing Transportation Network and Facilities of Dohar Upazila

- 266 km metalled, 228 km semi-metalled and 228km katcha roads.
- 20 km water way round the year (river + canal), 23 bridges, 8 baily bridge, 41 culvert, 5 pool and 16 Shako (Zila Series, Dhaka, 2011).
- Has a good road communication with Dhaka and adjoining Upazilas.
- Important waterway routes are, Dohar-Munshigonj, Dohar-Dhaka, Dohar – Keraniganj, etc.
- Major roads of RHD passing through Dohar Upazilas are R820, Z8207.

Road Types according to Surface and Hierarchy

Fu

Road Types	Classification	Road Length (in km)	Percentage %	No. of Road
Regional Highway	Pavement	15	100(Paved)	1
Zilla Road	Pavement	10	100(paved)	2
Upazila Road	Pavement	35.82	100	
	HBB	0.0	0	
	Earthen	0.0	0	
	Total	35.82		12
Union Road	Pavement	30.14	89.49	
	HBB	0.60	1.78	
	Earthen	2.95	8.76	
	Total	33.68		14
Village Road-A	Pavement	122.68	38.07	
	HBB	30.60	9.50	
	Earthen	167.18	51.87	
	Total	322.29		230
Village Road-B	Pavement	2.33	7.80	
	HBB	2.71	9.07	
	Earthen	24.84	83.13	
	Total	29.88		53
Grand Total	Pavement	190.97	45.57	309
	HBB	33.91	8.10	
	Earthen	194.94	46.53	

Source: Local Government Engineering Department (LGED), 2015

Analysis of Survey Findings

Intersection Name	Link	Average PCE/Hour		Average Vehicle/Hour	
		Non-Hat Day	Hat Day	Non-Hat Day	Hat Day
Kartikpur bazar	Kartikpur bazar to Dhaka and vice versa	128.63	173.95	116.89	158.08
	Kartikpur bazar to Barrah and vice versa	150.03	188.70	138.43	174.11
	Kartikpur bazar to Moinot Ghat and vice versa	92.73	105.09	94.15	106.70
Lotakhula	Lotakhula to Barrah and vice versa	236.13	316.95	174.66	234.43
	Lotakhula to Dhaka and vice versa	124.47	133.62	105.25	112.99
	Lotakhula to Joypara and vice versa	383.73	516.34	253.27	340.79
Poshcim char	Poshcim char to Dohar and vice versa	152.03	190.13	123.32	154.22
	Poshcim char to Moura Ghat and vice versa	75.07	99.64	52.94	70.27
	Poshcim char to Srinagar and vice versa	151.57	160.13	129.97	137.31
Thanar mor	Thanar mor to Bilaspur and vice versa	267.00	353.74	210.00	278.22
	Thanar mor to Dhaka and vice versa	276.63	293.51	208.66	221.39
	Thanar mor to Moinot ghat vice versa	272.20	339.64	203.02	253.32
	Thanar mor to Joypara vice versa	658.90	895.85	441.60	600.41

Table : PCE and Traffic Volume at Intersection

Traffic Volume Surveyed at Intersection

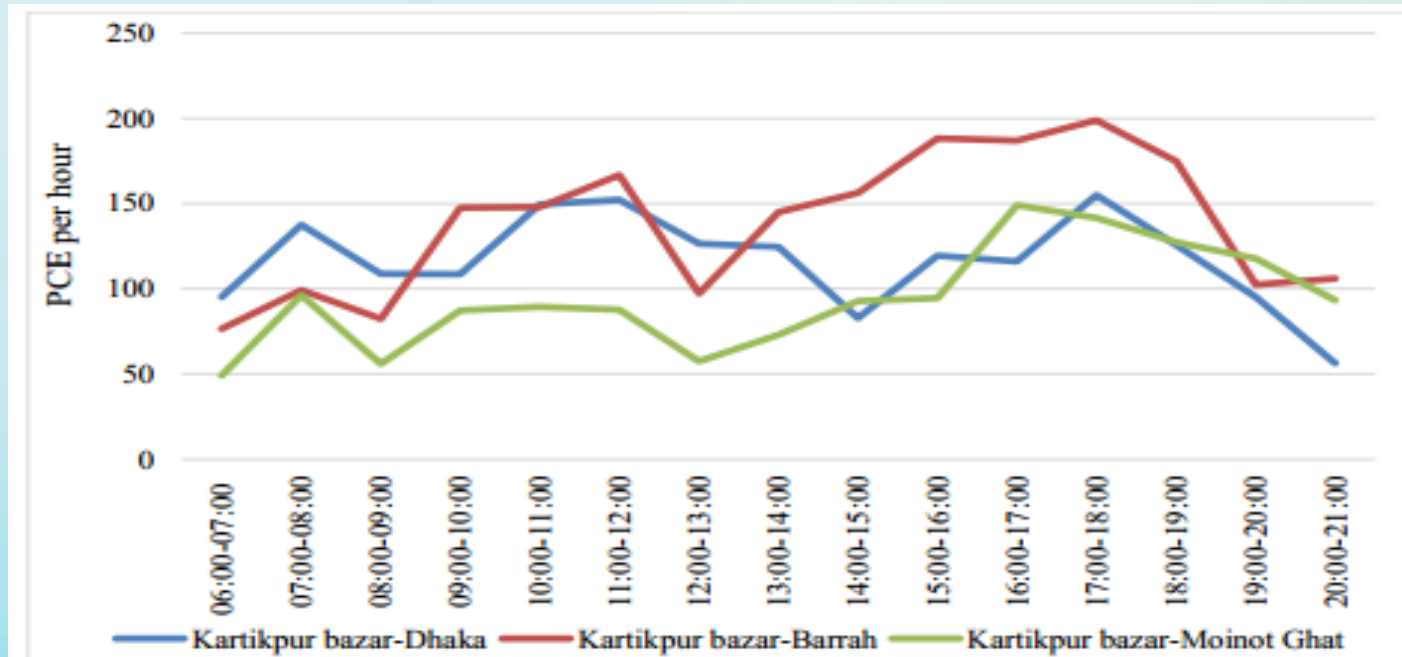


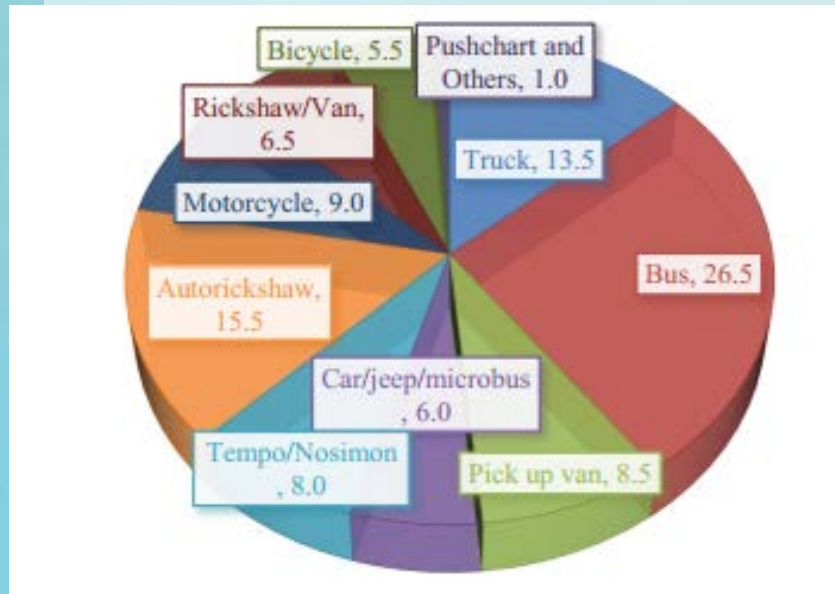
Figure :Traffic Volume of Kartikpur Bazar

Roadway Segment Name	Link Name	Average PCE/Hour	Average Vehicle/Hour
Fire service office	Dhaka-Dohar	188.33	253.13
Muksudpur	Srinagar-Dohar	147.19	170.03
Palamganj bazar	Nawabganj-Dohar	174.54	246.60
Srinagar road (Fultola)	Fultola-Narisha bazar	156.79	175.73

Source: Transportation Survey of Dohar Upazila, 2016

Table : Traffic Volume and PCE at Roadway Segments

Origin-Destination(O-D) Survey Findings



Percentage of mode uses



Figure :Percentage of Trip Purpose

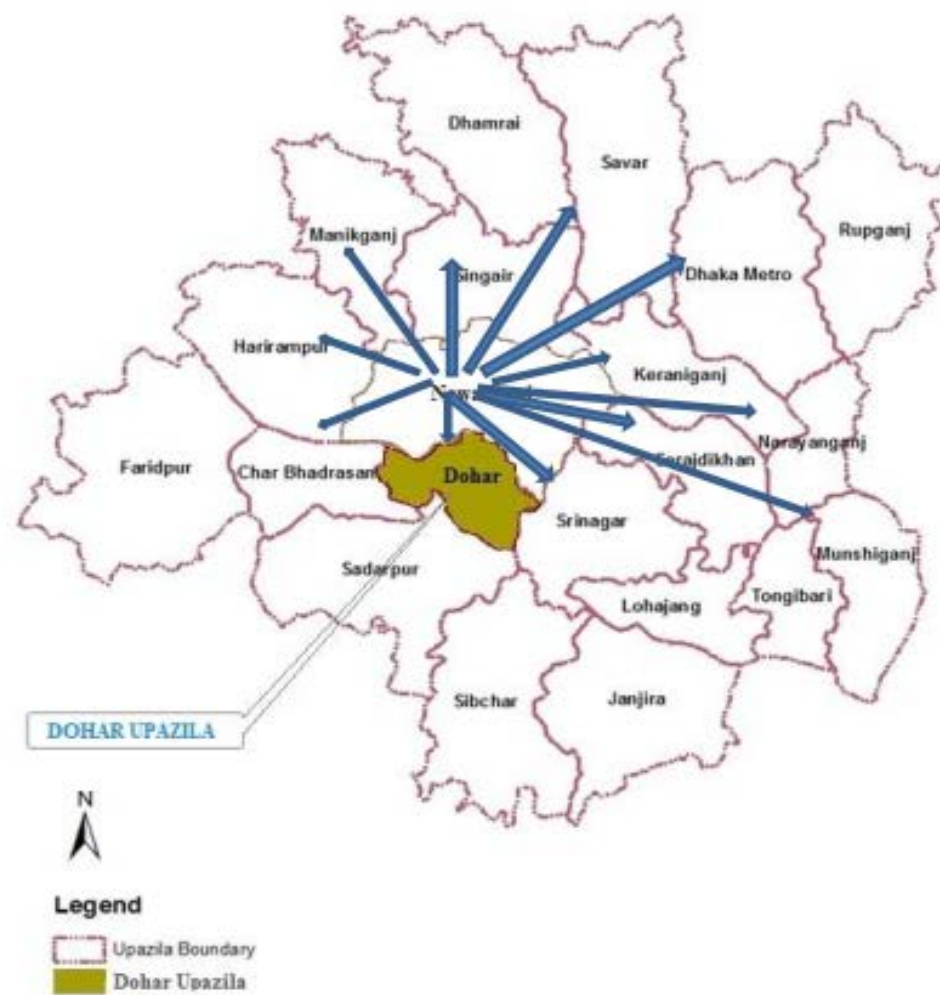
Internal Zone O-D Survey

Origin	Destination								
	Mahmudpur	Nayabari	Kusumhati	Raypara	Mokshedpur	Narisha	Sutarpara	Dohar Paurashava	Total
Mahmudpur	0	0	1	0	0	0	0	1	2
Nayabari	1	0	0	0	0	1	0	0	2
Kusumhati	6	0	0	1	1	0	0	0	8
Raypara	1	0	0	0	3	6	2	9	21
Mokshedpur	3	0	0	1	0	3	0	5	12
Narisha	1	1	0	0	0	0	1	5	8
Sutarpara	0	0	0	0	0	2	0	3	5
Dohar Paurashava	2	0	0	1	1	9	1	0	14
Total	14	1	1	3	5	21	4	23	72

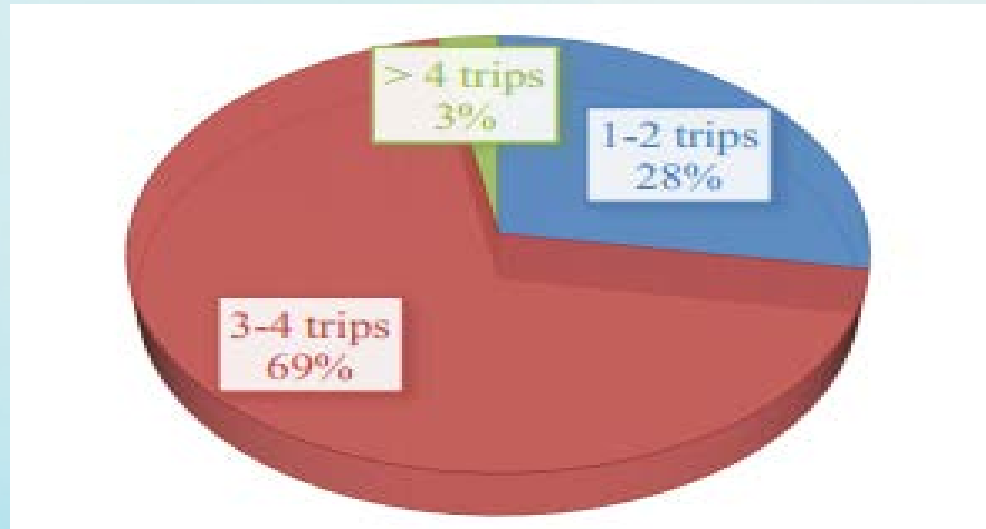
External Zone O-D Survey

Origin	Destination							
	Dohar	Dhaka	Nawa bganj	Other s	Naraya nganj	Bagur a	Comill a	Total
Dohar	0	47	6	2	1	2	0	58
Dhaka	31	0	2	0	0	0	0	33
Nawabganj	13	3	0	0	0	0	0	16
Others	2	0	0	0	0	0	0	2
Narayangan j	3	0	0	0	0	0	0	3
Bagura	2	0	0	0	0	0	0	2
Comilla	1	0	0	0	0	0	0	1
Total	52	50	8	2	1	2	0	115

Regional Connectivity of Dohar Upazila



Regional Network System



Trip Frequency (per day)

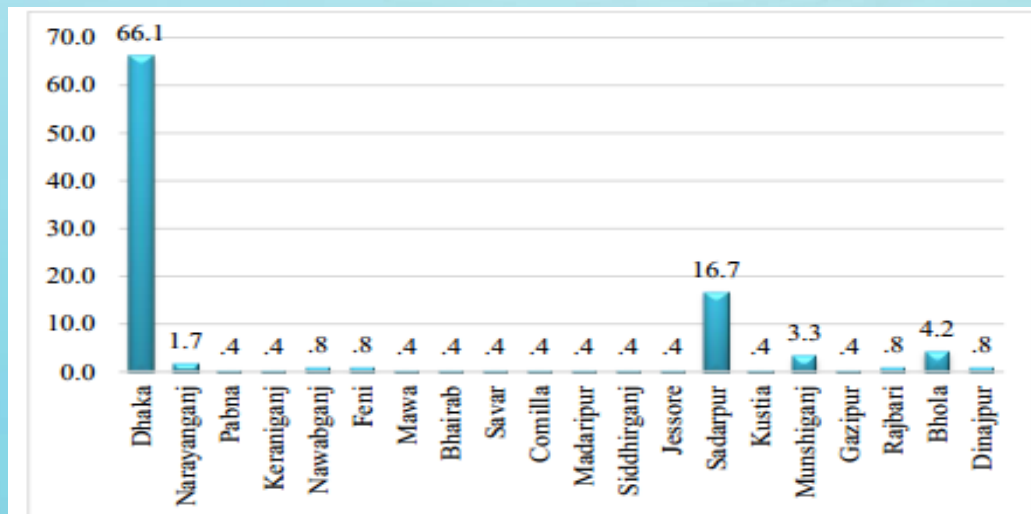


Figure :Regional Connectivity with Surrounding Regions (in percentage)



Socio-Economic Survey

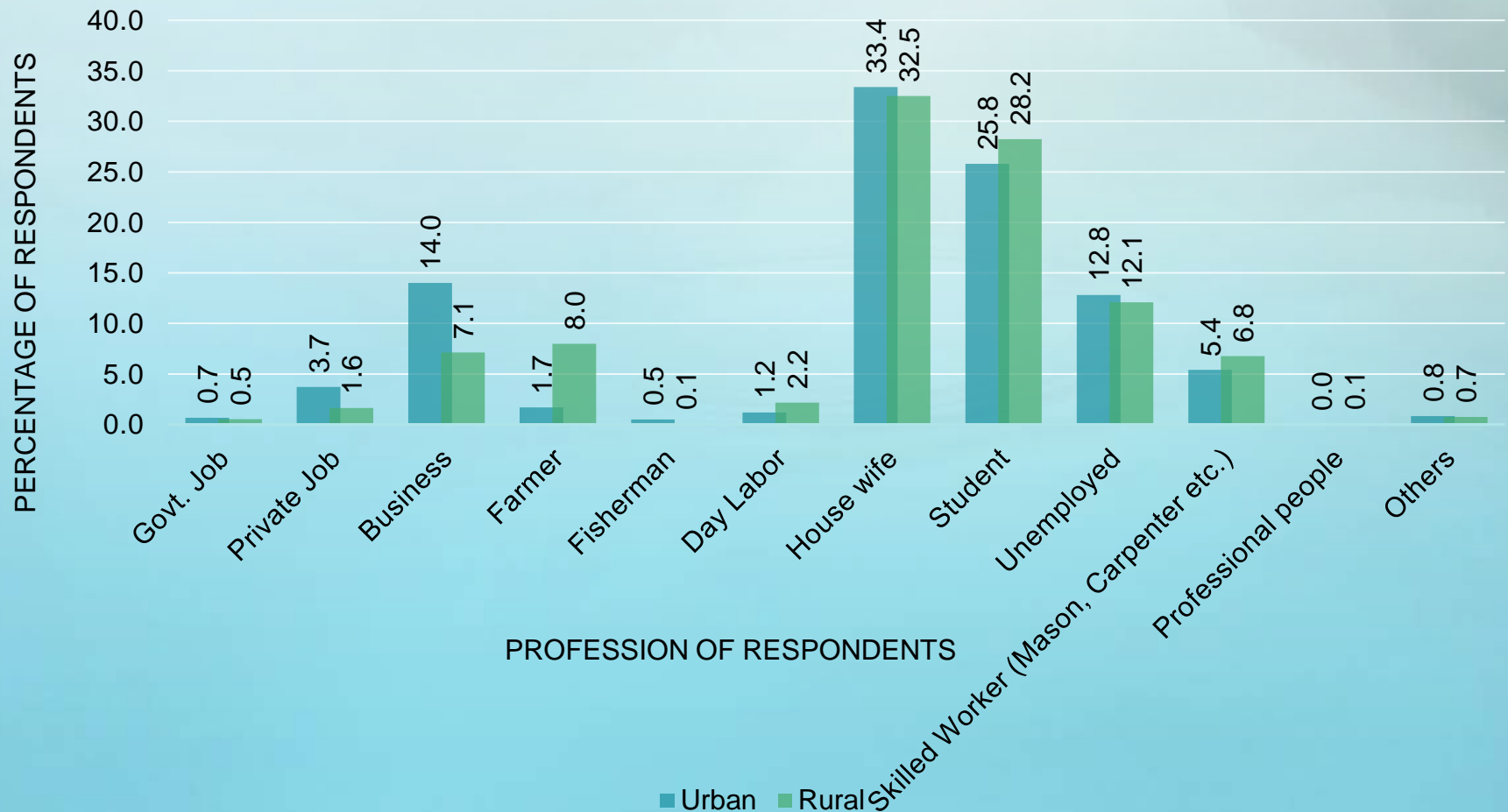
Socio-Economic Survey Procedure

Sample households of Socio-economic Survey in Dohar Upazila

- **Total No. of Samples Surveyed 1086**
 - **No. of Sample Households in Wards 176**
 - **No. of Sample Households in Unions 910**

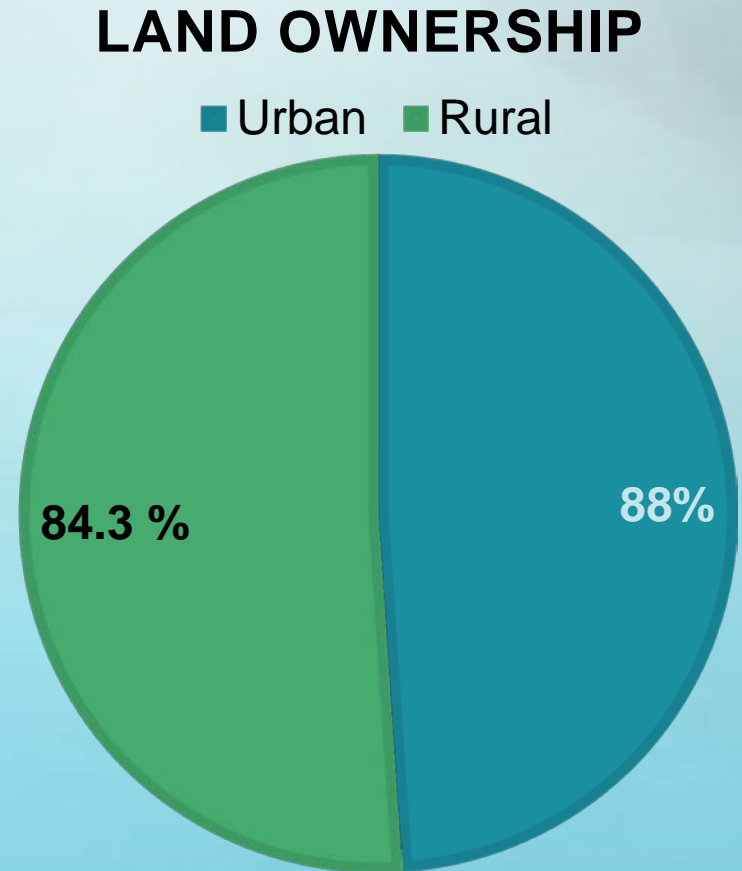
Socio-Economic Survey : OCCUPATION

- Urban Areas: business, technical job, private job and day-labor,
- Rural areas: farming, business, day labor and technical job.



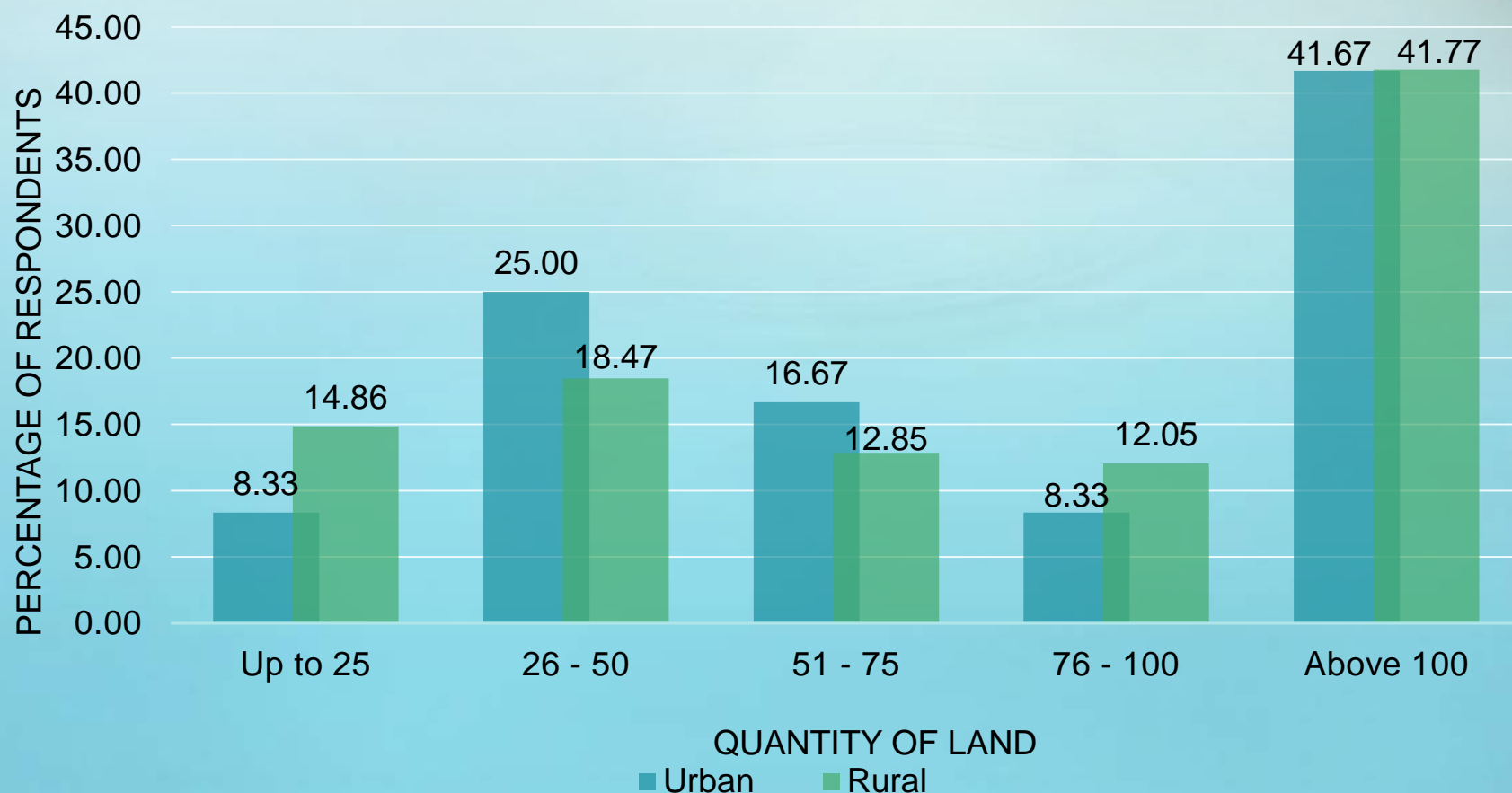
Socio-Economic : HOMESTEAD LAND OWNERSHIP

- About 91.15 percent of the urban households and
- 85.11 percent of the rural households have homestead lands.



Socio-Economic : CULTIVABLE LAND OWNERSHIP

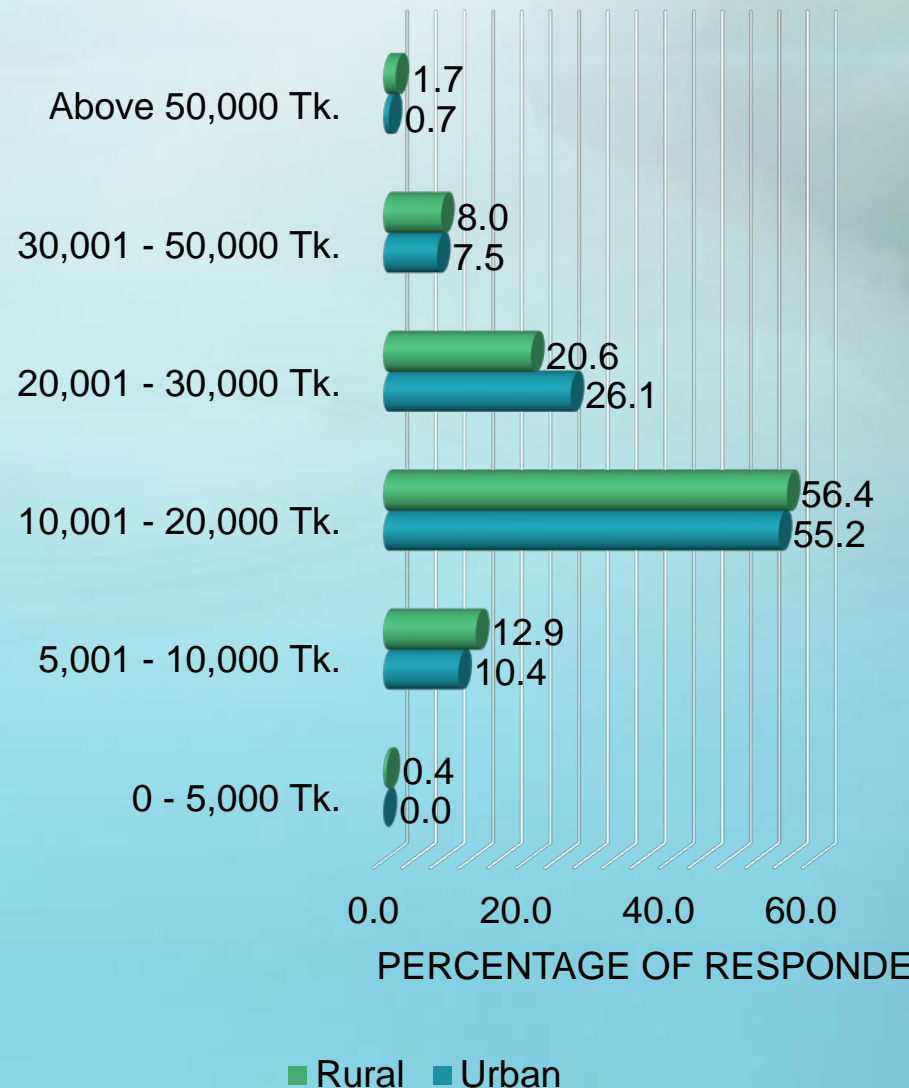
- About 41.67 percent of the households in the urban areas own cultivated land above 100 decimal,
- In the rural areas, 41.77 percent of the households own cultivated land above 100 decimal.



Socio-Economic : MONTHLY INCOME

- 55.2 percent of the respondents from the urban areas have monthly income ranging from Tk. 10,001 to Tk. 20,000,
- 56.4 percent of the respondents from the rural areas have monthly income ranging from Tk. 10,001 to Tk. 20,000

MONTHLY INCOME OF THE HOUSEHOLDS



Socio-Economic :TOILET

- 100 percent of the urban area respondents and 100 percent of the rural area people have their own toilets and 91.90 percent of the Urban area and 82.80 percent of the rural area people have sanitary latrines.
- In the urban areas 99 percent respondents and in the rural areas 94 percent respondents have electricity connection
- the predominant source of drinking water in the upazila, both, in urban and rural areas, is tube well.
- Regarding the availability of services from public sector Hospital/Clinic, the reply of 100 percent of the urban area respondents and 100 percent of the rural area respondents was affirmative.

Socio-Economic :QUALITY OF HEALTH SERVICE

- The quality of medical service: it is very good to 38.80 percent of the urban area respondents to 48 percent of the rural area respondents



Socio-Economic

- Private medical service is satisfactory to 97.0 percent of the urban area people and 90.00 percent of the rural area people.

Response	Urban		Rural		Total	
	No.	%	No.	%	No.	%
Yes	128	97.0	822	90.0	950	90.9
No	4	3.0	91	10.0	95	9.1
Total	132	100.0	913	100.0	1,045	100.0

Socio-Economic : DEVELOPMENT PRIORITY

- Importance of priority Sectors for development, as per urban respondents are, development of Road development, Drainage system, Hospital/ Community Clinic, School/Madrasha, Factory/ Garments, Park/Play Ground, Agricultural development, Electricity and Gas.

- as per rural respondents: Road development, Hospital/ Community Clinic, Electricity, Factory/ Garments, College/ University, Gas and Agricultural Development.

Priority Sector/Sub-sector for Development of the Area	Urban		Rural		Total	
	No.	%	No.	%	No.	%
Hospital/ Community Clinic	69	51.5	782	82.6	851	78.7
Electricity	40	29.9	420	44.4	460	42.6
Bridge	5	3.7	125	13.2	130	12.0
Badh	5	3.7	166	17.5	171	15.8
College/ University	15	11.2	420	44.4	435	40.2
Drain	76	56.7	96	10.1	172	15.9
Factory/ Garments	58	43.3	420	44.4	478	44.2
Gas	34	25.4	260	27.5	294	27.2
School/ Madrasha	69	51.5	360	38.0	429	39.7
Roads Development	99	73.9	910	96.1	1009	93.3
Park/ Play Ground	66	49.3	148	15.6	214	19.8
Agriculture Development	52	38.8	190	20.1	242	22.4
Others	20	14.9	158	16.7	178	16.5



Physical Feature Survey

Urban Development Directorate (UDD), Ministry of Housing & Public Works



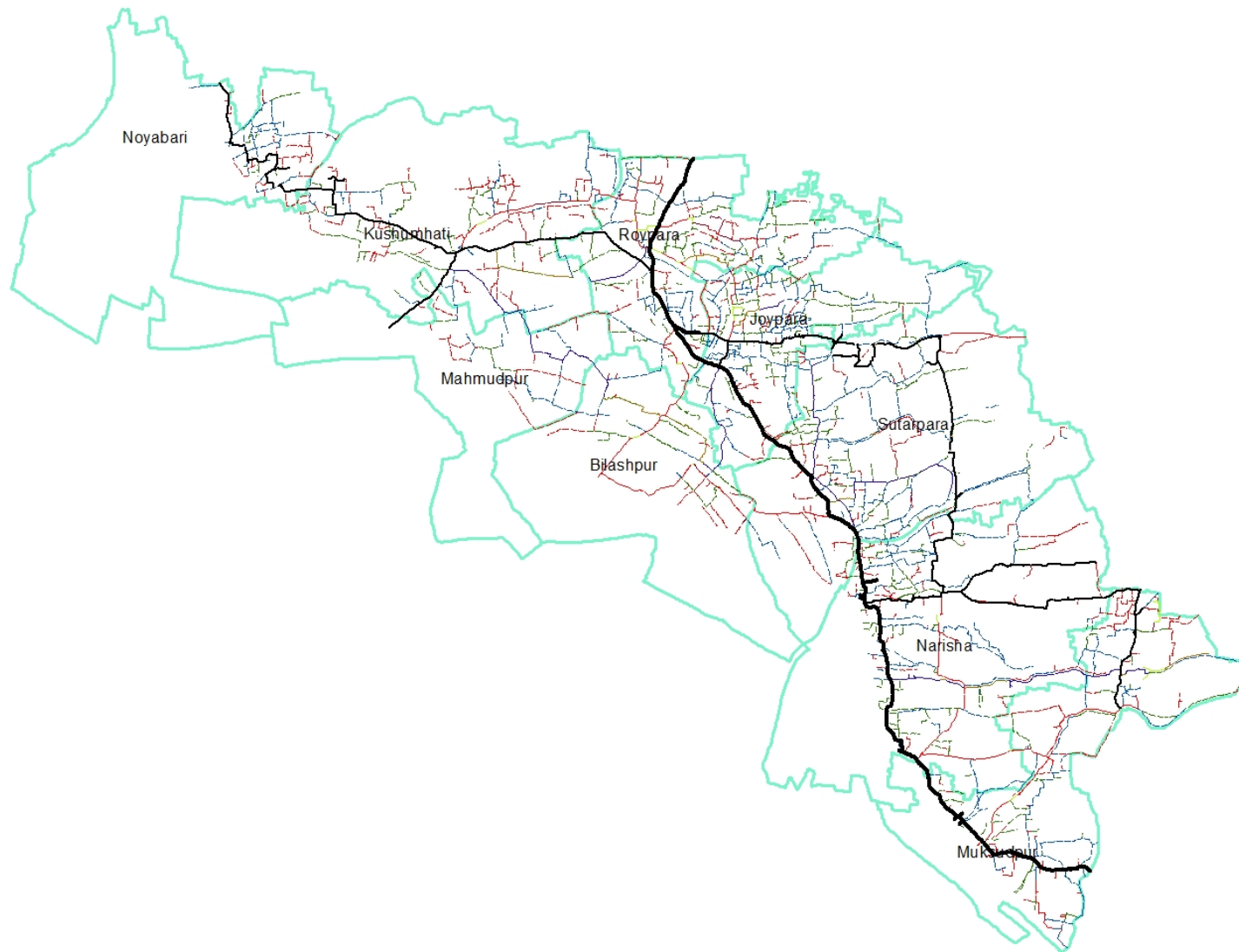
Single Storied Structure

- **Total Single Storied Structure: 57977**
- **Single Storied Structure Type**
 - Pucca: 5463
 - Kacha: 46604
 - Semi-pucca: 5802
- **Floor use of Single Storied Structure**
 - Residential: 54350
 - Commercial: 2818
 - Educational Institution: 254
 - Health Services: 13
 - Administrative Structure: 19
 - Religious Structure: 325


Multistoried Structure

- **Total Multistoried Structure: 1651**
- **Two-storey Building: 1345**
- **Three-storey Building: 234**
- **Four-storey Building: 52**
- **Five-storey Building: 15**
- **Six-storey Building: 5**


Existing Road Map of Dohar Upazila




LEGEND

 Union Boundary


RHD_Road

 Regional Road

 Zila Road

LGED_Road

 Upazil Road(Pucca)

 Upazila Road(HBB)


 Upazila Road(Katcha)

 Union Road(Pucca)

 Union Road(HBB)

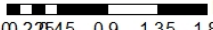
 Union Road(Katcha)

 Village Road Pucca

 Village Road HBB

 Village Road Katcha



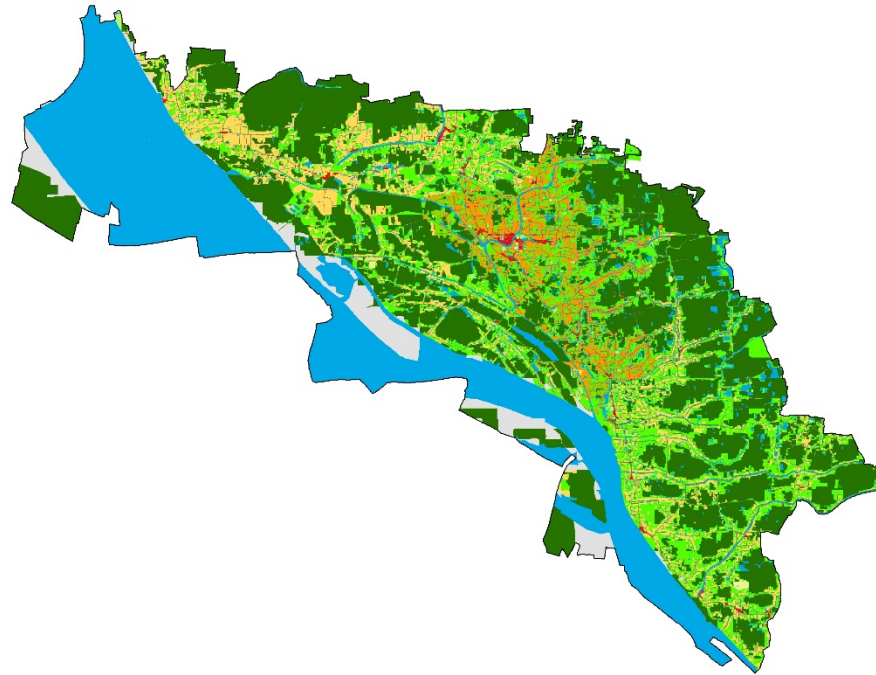
 Miles
0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8

Others

- **Total No. of Graveyard: 34**
- **Total No. of Eidgah Math: 10**
- **Total No. of Playground: 116**
- **Total No. of Vacant Land: 83**
- **Total No. of Hat and Bazars: 30**

Land Use Survey

LAND USE MAP OF DOHAR UPAZILA



LEGEND

 Agricultural Zone	 Government Services	 Non Government Services	 Transportation Facilities
 Commercial Zone	 Health Services	 Open Space	 Urban Residential Zone
 Community Facilities	 Heavy Industry	 Recreational Facilities	 Utility Services
 Educational and Research Zone	 Miscellaneous	 Religious Area	 Vegetation Zone
 General Industry	 Mixed Use Zone	 Rural Settlement	 Water Bodies

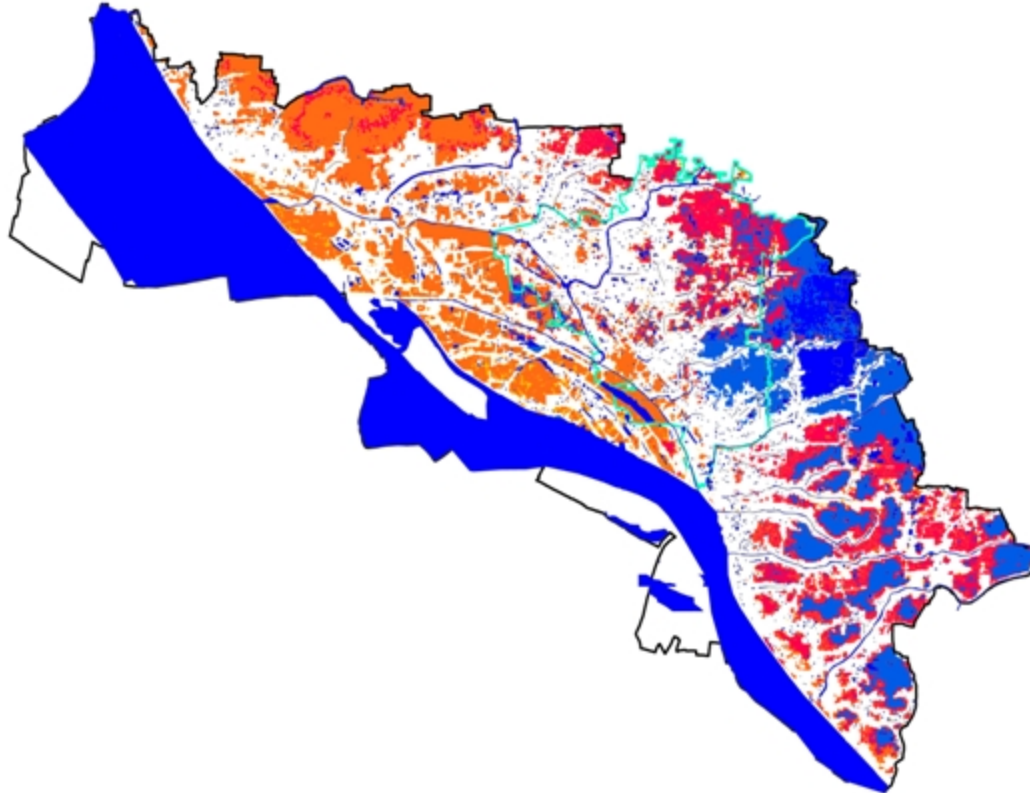


Hydrological Survey

Hydrology

- Annual rainfall and river system determine the hydrology of the upazila;
- The mighty Padma river flowing by the south-west of the upazila is the main determinant of the upazila surface hydrology apart from rainfall.
- Due to erection of embankment on the bank the Padma has stopped flooding in most of the adjacent areas.
- Dohar has excellent reserve of ground water both at the lower and upper aquifers.

Inundation Map of Dohar Upazila



Legend

Land Type

-  F0 (High Land)  Upacala Boundary
 F1 (Medium High Land)  Ochar Pounashva
 F2 (Medium Low Land)
 F3 (Low Land)
 F4 (Low to very low land)

 Upazila Boundary

Editor: P. J. Rasmussen

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The Marine Mammal Cooperative (MMC) uses a stratified sampling strategy (the Government of the Republic of Argentina). The MMC used two communities with numerous marine mammals (Mar del Plata and Puerto Madryn) and two communities with few marine mammals (Bahía Blanca and Punta Arenas) to obtain a representative sample of the marine mammal community in the Argentinean subantarctic.

MPO land types				Pland areas based on MPO
Land type	Description	Flood depth (m)	Nature of flooding	
F ₁	High land	<0.30	Intermittent	Flood free
F ₂	Medium high land	0.30 - 0.90	Seasonal	Occasionally flooded
F ₃	Medium low land	0.90 - 1.80	Seasonal	Occasionally Sub. flood zone
F ₄	Low land	1.80 - 3.00	Seasonal	Sub. flood zone
F ₅	Low to very low land	>3.00 (including)	Seasonal / Permanent	Main flood zone





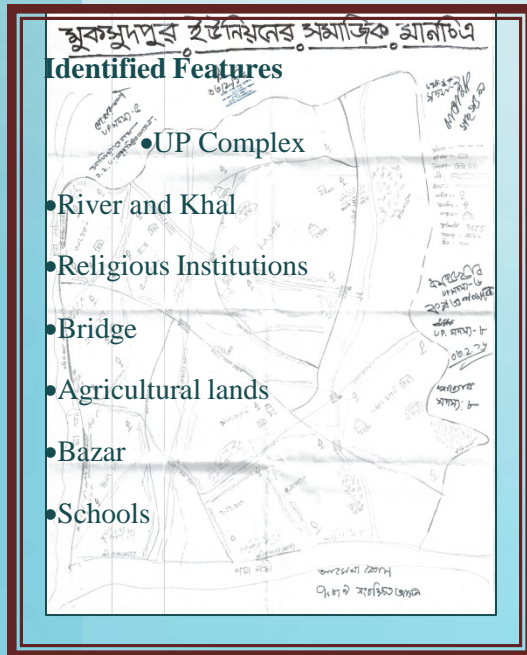
PRA

Participatory Rapid Appraisal

Awareness Building and PRA

- For awareness building Uthan Baithak and Tea Stall meetings were conducted throughout the Upazila.
- PRA conducted in 8 Unions and in 8 Paurashava wards (excluding Ward No. 08) between 27 January to 5 February, 2016.
- Participants: In 8 Unions PRAs 259; In 8 Pourashava Wards PRAs 223
- Key Activities
 - Social Mapping
 - Major Problem Identification
 - Major Potential Identification
 - Priority Development Project Identification

MUKSUDPUR UNION SOCIAL MAPPING



Identified Features

- UP Complex
- River and Khal
- Religious Institutions
- Bridge
- Agricultural lands
- Bazar
- Schools



PRA :UNION PROBLEMS

Sl. No.	Major Problems	Unions Affected	No. of Union
1.	Problem of transport and communication	Nayabari, Kushumhati, Roypara, Sutarpara, Narisha, Muksudpur, Mahmudpur, Bilashpur	8
2.	Problem of shelter for landless people.	Noyabari	1
3.	Infrastructure problem of educational institutions.	Nayabari, Roypara, Narisha, Mahmudpur, Bilashpur	5
4.	Problem of safe drinking water	Noyabari, Kushumhati, Roypara, Sutarpara, Narisha, Muksudpur	6
5.	Problem of repair of institution religious.	Nayabari	1
6.	Water logging problem.	Kushumhati, Sutarpara, Narisha, Muksudpur	4
7.	Sanitation problem.	Kushumhati, Roypara, Sutarpara, , Mahmudpur	4
8.	Health services problems.	Kushumhati, Roypara, Mahmudpur	3
9.	Padma river erosion problem.	Sutarpara, Narisha, Muksudpur, Mahmudpur, Bilashpur	5
10.	Absence of sluice gate	Bilashpur	1
11.	Electricity problem.	Bilashpur	1

PRA : POURASHAVA WARD PROBLEMS

Sl. No.	Major Problems	Affected Wards	No. of Wards
1.	Problems of drug abuse	Ward No. 1	1
2.	Transport and Communication problem	Ward No. 1, Ward No. 2, Ward No. 3, Ward No. 4, Ward No. 5, Ward No. 6, Ward No. 7, Ward No. 9	8
3.	Problem of Safe drinking water	Ward No. 1, Ward No. 2, Ward No. 3, Ward No. 5, Ward No. 6, Ward No. 7	6
4.	Problem of infrastructure in education facilities	Ward No. 1, Ward No. 2, Ward No. 3, Ward No. 5, Ward No. 7, Ward No. 9	6
5.	Problem of infrastructure in religious facilities.	Ward No. 1, Ward No. 6, Ward No. 7	3
6.	Drainage problem + water logging	Ward No. 2, Ward No. 4, Ward No. 7, Ward No. 9	4
7.	Sanitation problem.	Ward No. 2	1
8.	Want of pucca ghat in Padma shakha river.	Ward No. 3	1
9.	Absence of government primary school.	Ward No. 4	1
10.	Need ICT tanning center for young people.	Ward No. 4	1
11.	Absence of river bank protection dam.	Ward No. 5	1
12.	Poor health service	Ward No. 6, Ward No. 9,	2
13.	Electricity expansion problem.	Ward No. 9	1

PRA :Pourashava Ward Potentials

Sl. No.	Major Potentials	Ward No.	No. of Ward
1.	Productive use of foreign remittance.	Ward No. 1, Ward No. 2, Ward No. 3, Ward No. 4, Ward No. 5, Ward No. 6, Ward No. 7, Ward No. 9	8
2.	Scope of Poultry farming.	Ward No. 1, Ward No. 4, Ward No. 7	3
3.	Opportunity of dairy farming.	Ward No. 1, Ward No. 3, Ward No. 4, Ward No. 5, Ward No. 6, Ward No. 7, Ward No. 9	7
4.	Small Business.	Ward No. 1, Ward No. 2, Ward No. 4, Ward No. 6, Ward No. 9	5
5.	Opportunity of hand loom development.	Ward No. 1, Ward No. 3, Ward No. 5	3
6.	Better use of fertile agricultural land.	Ward No. 1, Ward No. 2, Ward No. 3, Ward No. 4, Ward No. 5, Ward No. 6, Ward No. 7, Ward No. 9	8
7.	Fisheries development.	Ward No. 2, Ward No. 5, Ward No. 6	3

APPROACH TO PLANNING

PLANNING TYPOLOGY

Five Categories of Plans will be prepared :

- 1. Sub-Regional Plan**
- 2. Upazila Structure Plan**
- 3. Upazila Rural Area Plan**
- 4. Urban Area Plan**
- 5. Action Area Plan**

Sub-Region Plan

- **Comprise the Entire Dhaka Zila as Sub-Region covering all its upazilas.**
- **Plan will address such regional issues as :**
 - **Overall economic development covering,**
 - **Transport**
 - **Agriculture**
 - **Employment**

The plan will be in the form of policy recommendations supported by

necessary maps. This will be 20 year plan.

Uapazila Structure Plan

This plan will Comprise the Entire Dohar Upazila.

Plan will address such issues as :

- **Transport and Communication**
- **Education and Health Facilities**
- **Trade and Commerce**
- **Disaster and Climate Change Impacts**

The plan will be in the form of policy recommendations supported by necessary maps, diagrams and data tables. Structure Plan will have a duration 20 years.

Rural Area Plan

This plan will Comprise the Entire Dohar Upazila.

Plan will have its focus on :

- **Agriculture- production, management and marketing.**
- **Conservation of agricultural land**
- **Rural homestead**
- **Rural Transport**
- **Climate Change and Disaster Impacts on Agriculture.**

**The plan will be in the form of policy recommendations supported by necessary maps, diagrams and data tables.
Rural Area Plan will have a duration 20 years.**

Urban Area Plan

This plan will Comprise the Entire Dohar Pourashava.

Urban Area Plan will have its main focus on urban infrastructure and Services, such as :

- **Drainage**
- **Loss of agricultural land**
- **Road Communication**
- **Water Supply**
- **Sanitation**
- **Recreational Open Space**

Besides, it will also propose a

- **Land Use Zoning Plan**

The plan will be detailed out in maps showing location of proposed development.

Urban Area Plan will have a duration 10 years.

Action Area Plan

This plan is not a traditional plan in maps. The focus of this plan will be on :

- **Showing the priority development schemes for the entire upazila including the Pourashava.**
- **Prioritisation will be made on the basis of PRA findings and judgment of the consultant.**
- **It will give short description of the schemes, their necessity and preliminary cost estimation.**
- **The schemes will be for implementation during first five years of the plan period.**

Action Plan will have a duration 5 years.

THANKS TO ALL