

Government of the People's Republic of Bangladesh

MINISTRY OF HOUSING AND PUBLIC WORKS

URBAN DEVELOPMENT DIRECTORATE

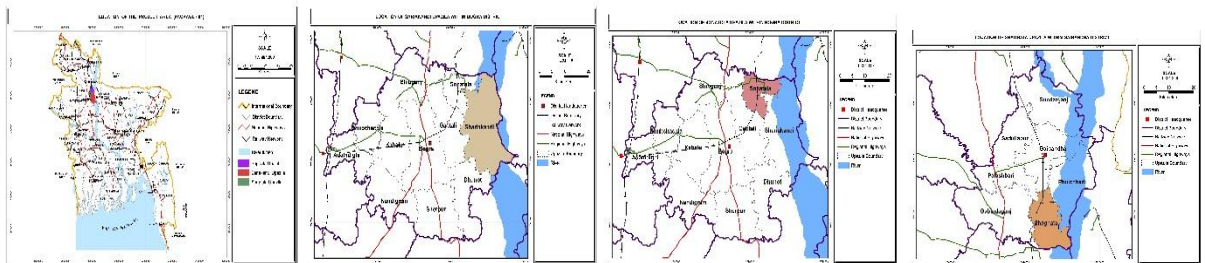
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MOBILIZATION REPORT FOR

“Preparation of Development Plan for Fourteen Upazilas” Project

Package 04: Saghata Upazila (225.67 sq km), District- Gaibandha; Sonatola Upazila (156.73 sq km) & Sariakandi Upazila (432.6 sq km) , District- Bogra



Location Map of Proposed Project Area

Location Map of Sariakandi Upazila under Bogra District

Location Map of Sonatola Upazila under Bogra District

Location Map of Saghata Upazila under Gaibandha District



Contact Signing Meeting



Field Meeting at Sariakandi Upazila



Field Meeting at Sonatola Upazila

Submitted By

January-2015



Modern Engineers Planners & Consultants Ltd.

14/17, Monipuripara (1st Floor), Sher-e-Bangla Nagar, Dhaka-1215

Phone : 880-2-9125563, 8142380, Fax: 880-2-8123673

E-mail: mdmepc@gmail.com Website: www.mepcbd.com

Mobilization Report

Preparation of Development Plan

under "Preparation of Development Plan for Fourteen Upazilas" Project- Package-04

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MANNING SCHEDULE

(During Survey Period & Planning Period)

Project: Preparation of Development Plan for Package 04: Saghata Upazila (225.67 sq km), District- Gaibandha; Sonatola Upazila (156.73 sq km) & Sariakandi Upazila (432.6 sq km) , District- Bogra, under "Preparation of Development Plan for Fourteen Upazilas" Project.

Sl. No.	Name of Staff	Position	Survey Period								Planning Period													Total Month Input		
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21			
During Survey Period																										
A	Md. Osman Gani	Survey Expert	█																							3 (M-M)
B	Tanjima Akhter Chowdhury	GIS Expert	█																							8 (M-M)
C	Dr. Kashfia Ahmed	Agricultural Scientist			█																					2 (M-M)
D	Md. Abdullah Al-Faruk	Economist							█																	2 (M-M)
E	Md. Farukuzzaman Miah	Transport Planning Expert		█																						2 (M-M)
F	Khander Fazal Hasan	Geologist		█																						2 (M-M)
G	Syed Reaz Uddin Ahmed	Associated Geologist		█																						2 (M-M)
H	Saidur Rahman Azad	Geological Survey Technician		█																						2 (M-M)
I	Md. Abdur Raquib	Civil Engineer cum-Hydrologist			█																					2 (M-M)
J	Md. Maksudur Rahman	Urban Planner	█																						8 (M-M)	
K	S.M. Abdullah Al Mamun	Photogrammetric Expert		█																						4 (M-M)
L	Md. Nurul Hoque	Social Expert		█																						3 (M-M)
During Planning Period																										
A	Md. Rafiul Karim	Team Leader									█													13 (M-M)		
B	Tanjima Akhter Chowdhury	GIS Expert									█													13 (M-M)		
C	Md. Maksudur Rahman	Urban Planner												█								8 (M-M)				
D	Md. Abdur Raquib	Civil Engineer cum-Hydrologist									█															2 (M-M)
E	Md. Abdullah Al-Faruk	Urban Economist											█													2 (M-M)
F	Khander Fazal Hasan	Geologist														█										2 (M-M)
G	Syed Reaz Uddin Ahmed	Associated Geologist															█									2 (M-M)
H	Md. Farukuzzaman Miah	Transport Planning Expert													█											2 (M-M)
I	Md. Nurul Hoque	Social Expert														█										2 (M-M)

Duration

Note: (i) During Survey Period = 8 Month
(ii) During Planning Period = 13 Month
Total Period = 21 Month

Mobilization Report*Preparation of Development Plan**under "Preparation of Development Plan for Fourteen Upazilas" Project- Package-04***List of Mouzas****List of Mouzas of Saghata Upzaila (District: Gaibandha)**

Sl. No.	Mouza Name	Jurisdiction List No.
1	Abdullahar Para	96
2	Ag Gorgoria	68
3	Amdir Para	95
4	Anantapur	39
5	Badinar Para	83
6	Bagarbhita	104
7	Baliarber	102
8	Balua	45
9	Bangabari	73
10	Banshata	26
11	Baraikandi	46
12	Barakona	79
13	Basanterpara	110
14	Bati	15
15	Baulia	49
16	Bazitnagar	100
17	Betail	21
18	Bengarpara	85
19	Bera	93
20	Bhagabanpur	65
21	Bhagirchheo	58
22	Bhangamor	3
23	Bharatkhali	24
24	Bonarpara	17
25	Bugarpatal	59
26	Burungi	37
27	Chakchakia	23
28	Chakuli	74
29	Chandanpat	43
30	Chandpara	108
31	Chengalia	117
32	Chhilmanerpara	82
33	Chinerpatal	86
34	Chithalia	5
35	Daichara	105
36	Daldalia	13
37	Dhanaruha	28

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38	Dhanghara	31
39	Dighalkandi	90
40	Dimla Padumsahar	10
41	Durgapur	12
42	Gachhabari	38
43	Gajaria	76
44	Garamara	114
45	Garamara Sikasti Payastichar	116
46	Gatia	4
47	Ghuridaha	51
48	Gobindapur	94
49	Gobindi	25
50	Gorerpara	66
51	Guabari	91
52	Haldia	89
53	Hapania	67
54	Hasilkandi	61
55	Hatbari	60
56	Helencha	36
57	Jadurtari	33
58	Jalaltair	75
59	Jangalia	106
60	Jhailtala	47
61	Jharabarsha	52
62	Jogipara	53
63	Jumarbari	107
64	Kachua	41
65	Kachuahat	54
66	Kaichara	98
67	Kalpani	18
68	Kalurpara	87
69	Kamalerpara	78
70	Kamalpur	64
71	Kamarpara	103
72	Kanaipara	92
73	Kathur	112
74	Khamar Dhanaruha	29
75	Kinkarpur	72
76	Koalikandi	57
77	Kukhatair	22
78	Kukrahat	2
79	Kumarpara	88

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80	Kundapara	111
81	Majbari	30
82	Mamudpur	109
83	Mandura	9
84	Matharpara	34
85	Maymantapur	14
86	Mechhat	99
87	Nalchhia	113
88	Nasirarpara	70
89	Ochmanerpara	44
90	Pabantair	63
91	Pachabasta	50
92	Pachh Gargaria	69
93	Pachiarpur	48
94	Pathanpara	42
95	Patilbari	115
96	Phalia Digar	77
97	Purba Anantapur	32
98	Putimari	27
99	Raghabpur	11
100	Ramnagar	40
101	Saghata	62
102	Sahabazerpara	80
103	Sakoa	8
104	Sankibhanga	6
105	Sathalia	55
106	Satitala	71
107	Sengua	56
108	Simulbari	97
109	Simulbaria	101
110	Simultair	16
111	Sujalpur	81
112	Syampur	20
113	Telian	19
114	Tepa Padumsahar	1
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Mobilization Report*Preparation of Development Plan**under "Preparation of Development Plan for Fourteen Upazilas" Project- Package-04***List of Mouzas of Sonatola Upzaila (District: Bogra)**

Sl. No.	Mouza Name	Jurisdiction List No.
1	Chamar Gacha	18
2	Aguniatair	19
3	Gopai Shahbajpur	20
4	Bishurpara	21
5	Bishawnathpur	22
6	Caknandan	23
7	Gor Choitonopur	24
8	Gorfotepur	25
9	Kabilpur	26
10	Kamarpara	27
11	Chamurpara	28
12	Paschim Sujaitpur	29
13	Ranirpara	30
14	Kamalerpara	31
15	Namajkhali	32
16	Rongrarpara	33
17	Bagbaridigor	1
18	Dhigirpara	2
19	Agaborgacha	3
20	Gobarpara	4
21	Uttar Atkoria	5
22	Dhakshin Atkoria	6
23	Hariakandi	7
24	Uttar Dhigol Kandi	8
25	Puglia	11
26	Mohisha Bari	12
27	Bamuniabor	13
28	Nagarpara	14
29	Boro Balua	15
30	Choto Balua	16
31	Kanupur	17
32	Rashidpur	37
33	Dhormokul	38
34	Kolsodhoh	9
35	Koalikandi	10
36	Mulbari	39
37	Fajilpur	40
38	Lakshinarayan Para	41
39	Barghoria	42
40	Digdair	43

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41	Nurpur	44
42	Katlahar	45
43	Nurarpatal	46
44	Mohichoron	47
45	Lohagara	48
46	Uttar Sukhanpukur	57
47	Charalkandi	59
48	Shhipur	60
49	Gunikandi	62
50	Madaripara	63
51	Pathanpara	68
52	Moddhopara	69
53	Uttarbashhat	58
54	Khodadilpara	34
55	Holidagba	35
56	Sicharpara	36
57	Nimerpara	49
58	Uttar Joorgach	50
59	Sorjornopara	51
60	Boyra	52
61	Porapoikor	53
62	Noudabga	54
63	Uttar Gosaibari	55
64	Moddho Digholkandi	56
65	Paschim Koromja	125
66	Gonsarpara	126
67	Purbo Karamja	127
68	Char Chaknandan	1
69	Modhupur	2
70	Garamara	3
71	Shalikka	4
72	Fulbaria	5
73	Uttar Kalaihat	6
74	Chatiantola	7
75	Uttar Gojaria	8
76	Dori Hasrar	9
77	Hashraj	10
78	Paschim Tekani	18
79	Purbo Tekani	20
80	Moheshpara	21
81	Baliadanga	22
82	Mohobboterpara	23
83	Dauderpara	24

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84	Jontiarpara	25
85	Khabulia	26
86	Vikonerpara	27
87	Chukainagar	28
88	Mohonpur	29
89	Sorlia	32
90	Satbeki	11
91	Uttar Koromja	12
92	Paddo Par	13
93	Nischintpur	14
94	Huakua	15
95	Pakulla	16
96	Milonerpara	17
97	Khatiamari	19
98	Purbo Sujaitpur	78
99	Acharerpara	79
100	Shahabajpur	80
101	Shampur	81

Mobilization Report*Preparation of Development Plan**under "Preparation of Development Plan for Fourteen Upazilas" Project- Package-04***List of Mouzas of Sariakandi Upzaila (District: Bogra)**

Sl. No.	Mouza Name	Jurisdiction List No.
1	Sahanbandha	1
2	Nijbolali	2
3	Hatsherpur	3
4	Shimulbari	4
5	Teligari	5
6	Shimultair	6
7	Sujonerpara	7
8	Aucharpara	8
9	Kakalihat	9
10	Bohuladanga	10
11	Fajilpur	11
12	Hatbari Harijani	12
13	Chaluabari	13
14	Charjamira	14
15	Bhangorgacha	15
16	Nandina	16
17	Horirampur	17
18	Kumra	18
19	Kolospara	19
20	Charkumra	20
21	Charchaluabari	21
22	Chardolika	22
23	Charmanikadair	23
24	Khosalpur	24
25	Char Raypur	25
26	Char Rajapur	26
27	Char Kashirpara	27
28	Radhikar Pachgachi	28
29	dharaborisha	29
30	Biramer Pachgachi	30
31	Char Noapara	31
32	Dhanarpara	32
33	Char Boleshwar	33
34	Char Maloncho	34
35	Tengrakura	35
36	Pakerdoho	36
37	Jamthol Madarganj	37
38	Bera pachbaria	38
39	Char Ghaghua	39
40	Char Arghaghua	40

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41	Durbagari	41
42	Mithanerpara	42
43	Kornibari	43
44	Chokortinath	44
45	Benipur	45
46	Teka Maguria	46
47	Kajla	47
48	Kuripara	48
49	Nij Titporol	49
50	Khepipara	50
51	Khordabolali	51
52	Khamarbolali	52
53	Shakhahati	53
54	Narchi	54
55	borurbari	55
56	Tajurpara	56
57	Ramkrishnopur	57
58	Antarpara	58
59	Partitparal	59
60	Hindukandi	60
61	Dhap	61
62	Paikortoli	62
63	Shaluka	63
64	Batia	64
65	Bagber	65
66	Sariakandi	66
67	Baroipara	67
68	Dhakshin Gosaibari	68
69	Fulbari	69
70	Chagoldhora	70
71	Paikpara	71
72	Dhakshin Dhigholkandi	72
73	Dhakshin Gojaria	73
74	Deluabari	74
75	Daruna	75
76	Pakuria	76
77	Chunpocha	77
78	Charpara	78
79	Char Kumarpara	79
80	Debdanga	80
81	Boroikandi	81
82	Domkandi	82
83	Chaihata	83

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84	Bhelabari	84
85	Dhakshin Joorgacha	85
86	Khordo Kamalpur	86
87	Dhakshin Bashhat	87
88	Kutubpur	88
89	Kornibari	89
90	Narapala	90
91	Chandan Baisha	91
92	Bibirpara	92
93	Sutanara	93
94	Chomkadoh	94
95	Buroil	95
96	Pakurtoli	96
97	Rouhadoho	97
98	Kamalpur	98
99	Kaliani	99
100	Awlakandi	100
101	Majhira	101
102	Bohali	102
103	Adbaria	103
104	Taka Magura	104
105	Shakdoho	105
106	Milonpur	106
107	Taltola	107
108	Pantapara	108
109	Mulbari	109
110	Nandinar Char	110
111	Maithain	111
112	Komarpur	112
113	Baniapara	113
114	Majhbari	114
115	Chandbari	115
116	Kestia	116
117	Poutibari	117
118	Hatiabari	118
119	Lakshikola	119
120	Dhakshin Kalaihat	120
121	Shongkorpor	121
122	Dhorborsha	122

EXECUTIVE SUMMARY

This report describes the mobilization activities of the consultancy work for Package- 04 (Saghata Upazila of Gaibandha District and Sariakandi Upazila & Sonatola Upazila of Bogra District) of the 'Preparation of Development Plan under Preparation of Development Plan for Fourteen Upazilas' Project under Urban Development Directorate (UDD) of the Government of the People's Republic of Bangladesh. The report is being submitted in pursuance of the agreement signed between the client Urban Development Directorate (UDD) and Modern Engineers Planners and Consultants Ltd. (MEPC) on 24th December 2014.

The core objective of the project is preparing planning packages to ensure the future growth and development of the project area in a planned and organized way. The current project would emphasize over those activities focusing on all relevant social and physical infrastructure services and facilities including the national level communication network. It would emphasize over the economic development in and around the project area and also livelihood of the local people, who are very much depended on local economic activities. The current project would also emphasize over the change in land category, land use and livelihood pattern.

This report is the 1st footprint to achieve goal and objectives of the project. The Mobilization Report describes the mobilization of project activities, deployment of key personnel, background, objective, scope of the project and findings of the reconnaissance survey activities of the project area as per ToR by consultants in fulfilling the for Package- 04 of the 'Preparation of Development Plan under Preparation of Development Plan for Fourteen Upazilas' Project.

Saghata Upazila of Gaibandha District and Sariakandi Upazila & Sonatola Upazila of Bogra District are three adjacent Upazila of the Northern part of Bangladesh. All three Upazilas are highly vulnerable to natural disaster. Almost each year the three Upazilas are affected by flood and river erosion resulting from Jamuna River.

Saghata Upazila is a flood prone area located at Gaibandha district under Rangpur Division. The Upazila is adjacent to four others Upazila namely Islampur Upazila (Jamalpur district) at east, Gobindoganj Upazila (Gaibandha district) at west, Gaibandha Sadar Upazila at north and Sonatola Upazila (Bogra District) at south. Most of the business, economic and administrative activities are based on Bonarpara Union and the office of the Upazila Parishad is also located at Bonarpara. The total area of Saghata Upazila is 231.02 square kilometer with a total population covering 2,67,819 (Source: BBS, 2011). The whole Upazila is covered by 118 Mouzas. The major rivers of the area are Jamuna and Bangali. Jamun River runs along the eastern part of the Upazila adjoining to Bhartkhali, Saghata and Haldia Union. The Upazila has 329.93 acre khas land and 08.27 acre abandoned land. The sandy land area, homogeneous topography, Char area, moderate moisture etc are the common geographical characteristics of the study area.

Sonatola Upazila is a flood prone area located at Bogra district under Rajshahi Division. The Upazila is adjacent to four others Upazila namely Sariakandi Upazila (Bogra district) at east, Shibganj Upazila (Bogra district) at west, Gobindoganj Upazila (Gaibandha district) at north and Gabtoli Upazila (Bogra District) at south. Most of the business, economic and administrative activities are based on the Sonatola municipal area.

The total area of Sonatola Upazila is 156.75 square kilometer with a total population covering 1,86,778 (Source: BBS, 2011). The whole Upazila is covered by 101 Mouzas and the number of village is 131. The major rivers of the area are Jamuna and Bangali. Jamun River runs along the eastern part of the Upazila adjoining to Tekani Chukainagar, Pakullah and Jorgachha Union from north to south. The Upazila has 331.61 acre khas land. The sandy land area, homogeneous topography, Char area, moderate moisture etc are the common geographical characteristics of the study area.

Sariakandi Upazila is a flood prone area located at Bogra district under Rajshahi Division. The Upazila is adjacent to four others Upazila namely Madarganj Upazila (Jamalpur district) at east, Gabtali Upazila (Bogra district) at west, Sonatola Upazila (Bogra district) at north and Dhunat Upazila (Bogra District) at south. Most of the business, economic and administrative activities are based on the Sariakandi municipal area. The total area of Sariakandi Upazila is 432.60 square kilometer with a total population covering 2,70,720 (Source: BBS, 2011). The whole Upazila is covered by 122 Mouzas and the number of village is 216. The major rivers of the area are Jamuna and Bangali. Jamun River runs over the middle part of the Upazila adjoining to Kazla, Sariakandi, Karnibari, Chandan Baisha and Bohail Union from north to south. The Upazila has 4048.82 acre khas land. The sandy land area, homogeneous topography, Char area, moderate moisture etc are the common geographical characteristics of the study area.

In order to prepare the Mobilization Report, the consultant team had performed Reconnaissance Survey along with client team. The activities done during the Reconnaissance Survey are meeting with the Upazila Chairman, Upazila Nirbahi Officer (UNO), Local leaders and Local peoples of three Upazila. To draw the stakeholders view points reconnaissance survey also conducted to collect the basic information and all field data of the study area based on that data and information of three Upazila.

List of Abbreviations and Acronyms

AAP	:	Action Area Plan
BBS	:	Bangladesh Bureau of Statistics
BTCL	:	Bangladesh Telecommunication Company Limited
BWDB	:	Bangladesh Water Development Board
CS	:	Cadastral Survey
DLRS	:	Directorate of Land Record and Survey
GIS	:	Geographic Information System
Govt.	:	Government
GPS	:	Global Positioning System
KM/ km.	:	Kilometer
MEPC	:	Modern Engineers Planners & Consultants Ltd.
MoHPW	:	Ministry of Housing and Public Works
NGO	:	Non-Government Organizations
No.	:	Number
PD	:	Project Director
PDB	:	Power Development Board
PRSP	:	Poverty Reduction Strategy Plan
PWD	:	Public Works Department
RAP	:	Rural Area Plan
RCC	:	Reinforced Cement Concrete
REB	:	Rural Electrification Board
R.F.	:	Representative Fraction
RHD	:	Roads and Highways Department
RS	:	Revised Survey
SoB	:	Survey of Bangladesh
SPSS	:	Statistical Package for Social Science
SP	:	Structure Plan
SRP	:	Sub-Regional Plan
Sq. Ft.	:	Square Feet
Sq. Km.	:	Square Kilometer
Sq. M.	:	Square Meter
Sq. Mile	:	Square Mile
T & T	:	Telephone and Telegram
TCP	:	Temporary Control Point
TIN	:	Triangulated Irregular Network
ToR	:	Terms of Reference
UAP	:	Urban Area Plan
UDD	:	Urban Development Directorate
UNO	:	Upazila Nirbahi Officer

Mobilization Report

Preparation of Development Plan

under "Preparation of Development Plan for Fourteen Upazilas" Project- Package-04

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Mobilization Proposal*Preparation of Development Plan**under "Preparation of Development Plan for Fourteen Upazilas" Project- Package-04*

SECTION-IV: WORK PLAN**4.1. INTRODUCTION**

This section provides details of the Work Plan and Activity Schedule, which is proposed by the Consultants, to be performed during execution of this specialized consultancy services within the stipulated time frame of the present assignment. This Work Plan and Activity Schedule have been prepared by the experienced professionals of MEPC based on the understanding of the well defined ToR furnished by the Client. Systematic planning of the Activity Schedule always ensures the quality of Standards during the implementation of the project. It is the tradition of MEPC to collect relevant detail information as far as practicable before submission of the mobilization proposal.

4.2. WORK PLAN

From the ToR it is evident that the project will have four phases be namely inception phase, survey reporting, draft final reporting and final reporting. The Work Plan is tentative one considering the fact that it may require some modifications in the course of project period, especially after completing reconnaissance survey and preliminary review of available information. The detailed work program can be prepared in the Inception Phase and will be provided accordingly. A self-explanatory Activity Schedule associated with time frame in the form of MS Project has been developed for this project. Based on the ToR the consultants proposed the following work plan.

SECTION V: CONCLUSION**CONCLUSION**

The mobilization report has been prepared keeping in mind the Terms of reference of the project. This will guide project activities including conducting workshops in each Upazilas, field survey, data collection and analysis and preparation of maps and reports. The project area profile based on Reconnaissance Survey and data collection has been useful in understanding the characteristics of the project Upazilas, its general condition in physical and socio-economic development. Subsequent stages of project work will largely be dependent on the inception output.

It is understood that the deficiency in infrastructure of the project Upazilas is currently holding back the faster progress in development. This can be improved substantially, if planned development of the areas is ensured through Sub-Regional Plan, Structure Plan, Urban Area Plan, Rural Area Plan and Action Area Plan as visualized through the current project. Thus the commencement of the project under the Urban Development Directorate (UDD) is very relevant and timely in line with national policies and regional development strategies.

WAY FORWARD

With the approval of mobilization report the consultant's team is oriented to prepare the draft inception report for the project. The consultants will conduct three (03) workshops (one in each Upazila) in the project area and submit their inception report within 15 days from submitting this mobilization report. The inception report will include the following (with necessary maps/figures/diagrams/graphs etc.):

- ❖ Purpose of the study, objectives and scope of services and activities to be performed.
- ❖ Review of the Sixth Five Year Development Plan and PRSP
- ❖ A Review of the work plan, time schedule, input and management plan
- ❖ Analysis and findings from reconnaissance survey
- ❖ Review of all relevant reports, documents and other materials
- ❖ An assessment of all additional data collected and survey works to be carried out for completion of the database for the contract.
- ❖ Development of methodology for each component of the structure plan

SECTION-I: INTRODUCTION**1.1. General**

In this section, we will briefly discuss the profile of our organization including past antecedents of current interest. As a prelude with discussion that follows a few words about context for which we are submitting this report.

Modern Engineers Planners and Consultants Ltd. (MEPC) submitted their Expression of Interest (EOI) to the Project Director, Preparation of Development Plan for Fourteen Upazilas Project under Urban Development Directorate (UDD) of the Government of the People's Republic of Bangladesh on July 21, 2014. Short-listing of the firms for submitting Proposal for providing "consultancy services for Package- 04 of the Preparation of Development plan under Preparation of Development Plan for Fourteen Upazilas Project. The Standard RFP was issued on August 18, 2014 for submission of the technical and financial proposal.

In response to the Letter of Invitation of the Project Director, Preparation of Development Plan for Fourteen Upazilas Project on September 18, 2014 Modern Engineers Planners and Consultants Ltd. (MEPC) submitted their Technical Proposal along with Financial Proposal for rendering consulting services for the above mentioned project in accordance with the specification and instruction mentioned in the Terms of Reference (TOR) of Request for Proposal (RFP).

Later, as per the Invitation of the Project Director, Preparation of Development Plan for Fourteen Upazilas Project on November 27, 2014, Modern Engineers Planners and Consultants Ltd. (MEPC) attended in the negotiation meeting along with their consultant's team at client office and agreed the negotiation offered by the client.

Finally, in response to the Letter of Invitation of the Project Director, Preparation of Development Plan for Fourteen Upazilas Project on December 24, 2014 Modern Engineers Planners and Consultants Ltd. (MEPC) attended in the contract signing meeting with the client and agreed to commence the service immediately.

As per the Terms of Reference (TOR), Modern Engineers Planners and Consultants Ltd. (MEPC) prepared this mobilization report and submitted it to the client.

In preparing the report, the consultants have mobilized their services as it appears in Terms of Reference (TOR). The consultants also deployed their team encompasses with both key personnel and supporting staffs. The consultants also conducted reconnaissance survey along with the client team and enclosed the findings in this report. The consultants also initiated necessary steps for collecting all forms of secondary sources data, maps etc. along with Mouza Maps and Satellite Images. The consultant also held discussions with the officials of the UDD and the key personnel of the concerned Upazilas. The knowledge gained by the consultant from review and assessment of the papers/documents/ field visit has guided in preparing this report.

1.2. Background of the project

There is no denying of the fact that urbanization is the inevitable destiny of the human civilization. But, the way cities, both at home and abroad, are growing is not at all sustainable. Therefore it is imperative that governments across the globe should fundamentally rethink policies and approaches towards managing urbanization before it is too late. The town planners recognize community-wide needs, the significance of neighborhood and center,

the need for personal involvement in community policy making, the fragile nature of the environment, and the necessity to consider future impacts in community and regional development for the present and the future.

By the year 2020, on the 50th year of our independence, total urban population in Bangladesh will increase up to 50 million (five crores) from 30 million now. And around half of them will be attracted or compelled to live in Dhaka and its conurbations alone unless a careful and well-thought-out urbanization policy is undertaken and implemented. So, special care should be given to ensure planning intervention in the secondary towns of Bangladesh for soundly distributed urban growth throughout the country.

The development of small towns should be given utmost importance in future urbanization of Bangladesh. These are towns at the urban-rural interface having some form of urban infrastructure and the rural populations have the most access to these towns. Therefore, the development of the towns/urban centers in terms of the improvement and expansion of ranges of the services will directly benefit the population of their hinterlands and at the same time will be more economically feasible.

A comprehensive development plan is required to address the required land use transformation which will not allow any unauthorized and unplanned development, either in urban area or in rural area. Due to lack of such plan, it is generally found that most of the Upazilas in Bangladesh have developed with least coordinated manner possessing very little development control. Measures for the adequate provision of infrastructure, service, utility and modern amenities for maintaining a minimum standard of life, considering environment and sustainability has to be taken. Moreover, in preparing such plan, development constraints and local development potentials are to be identified clearly, and plans should be formulated addressing such development constraints and potentials of the area to make the plan practicable.

1.3. Understanding of the objectives

The core objective of the project is preparing planning packages to ensure the future growth and development of the project area in a planned and organized way. The objectives of the study could be summarized in two broad categories as below:

General Objectives:

- To understand the existing socio-economic, physical, environmental, topographical and rural-urban situation of the project area.
- To identify the problems of the project area and prioritize the core problems.
- To correlate the planning approach with the identified problems and find out the methodological approach to address the problems.
- To induce planning approach for ensuring sustainable growth and development of the project area.
- To undertake the activities and services as per specific guidelines from the client organization.

Specific Objectives:

- Preparation of a complete database of the project area including both attribute and spatial data in an organized manner and to be stored for future need.

- Preparation of Sub-regional Plan for the respective district, Structure Plan for the whole Upazila, Urban Area Plan for municipal are, Rural Area Plan for the area other than municipal area and Action Area Plan for each ward with report.
- Incorporate environmental and social issues with the planning activities.

1.4. Understanding of the scope of the services

The study of the works has a wide range of scope for the client, consultants and the beneficiary group from the output of the project. The traditional practice of Development Plan is to expand urban facilities, ignoring or suppressing the priority of agriculture, fisheries, forestry or ecology. The current project would emphasize over those activities focusing on all relevant social and physical infrastructure services and facilities including the national level communication network. It would emphasize over the economic development in and around the project area and also livelihood of the local people, who are very much depended on local economic activities. The current project would also emphasize over the change in land category, land use and livelihood pattern.

The consulting firm will provide support for arranging workshops/seminar and conduct other ancillary activities relating to the project activities as directed by the PD wherever necessary. The consulting firm shall provide in house training to UDD personnel on both 2-Dimensional and 3-Dimensional GIS and RS system for future up-gradation of database and upcoming action plan according to governmental desire. Thus, the client and beneficiary group will be directly and indirectly benefited from the service activities of the project.

1.5. Activities to be performed by the consultants

The list of activities to be performed by the consultant in different phase is as below:

1. At first stage the consulting firm will prepare Sub-regional Plan at district, which would cover Strategic Plan at sub-regional level, Regional Structure Zoning Category and Conservation Plan.
2. At the second stage, there will be preparation of Structure Plan for the whole Upazila and surrounding areas. The third phase will be preparation of Urban Area Plan and Rural Area Plan for problems or opportunities, which need immediate intervention. Due to heterogeneous topography containing undulating lands and water bodies, the study must be based on Geographic Information system (GIS) and images. The fourth stage will be preparation of Action Area Plan/Detailed Area Plan in the form of sectoral projects and programs for immediate intervention based on local need.
3. The consulting firm will prepare plan for the development of respective Upazilas. The consulting firm will conduct all necessary 2-Dimensional & 3-Dimensional surveys and studies for the project, and prepare working papers on the relevant fields under study, and also will prepare final plan and all relevant reports.
4. The consulting firm will also conduct various activities including Mouza map procurement and digitization; satellite image procuring and processing, ground checking and documentation; gathering and procuring all relevant socio-economic and cultural attribute data of each feature within the project area; GIS-RS database operation and management, analysis and preparation of all maps and reports.

1.6. Approach to the services

In pursuance of the above objectives and scope of the work, this consultancy shall critically look into the issues of clarity, relevance, coherence and other issues raised in the preceding sections. The issues of resource management and cross cutting issues will also be studied in details. A somewhat more critical study shall be in the area of sample sectors; and some broad studies are provided below to give an idea regarding the approach to the services.

1.7. Management approach

Management of the service activities will be done in a well-planned manner. For meeting the project objectives in an effective, comprehensive and best professional manner the consultant's strategic approach would be:

- Deployment of highly qualified professional staff
- Timely completion of the scheduled activities
- Run strong and effective monitoring system

Step of Management

The activities of the consultant are delineated into following six phases:

Phase – 1: Mobilization Report Phase

Phase – 2: Inception Report Phase

Phase – 3: Draft Survey Report Phase

Phase – 4: Final Survey Report Phase

Phase – 5: Draft Plan with Report Phase

Phase – 6: Final Plan with Report Phase

1.8. Technical approach

The approach & methodology, and work task to be performed to accomplish the stated objectives and activities stated in the ToR. The activities of evaluation at country level largely depends on the volume of tasks allocated, size of the area, physical as well as other conditions of the project and the length of time allocation. The scheduled evaluation activities cover all the concerned government, non-government and development partner organization's incorporation. Request for Proposal documents prepared by the concerned client organization describes the objectives of the project to be achieved and the detail requirements of the client. Considering the client's requirements to be delivered and the project objectives to be achieved there are provisions for accepting a well technical approach with working methodology, detail work plan and schedule.

1.9. Planning approach

As per requirements and conditions described in the Request for Proposal, approach to work of the consultant requires following steps to be followed subsequently.

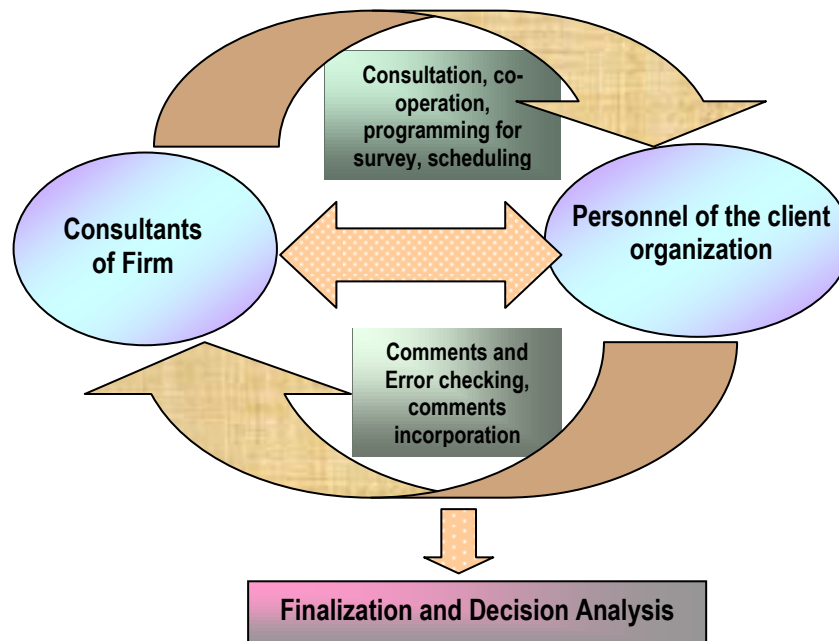


Fig 1.1: Client-Consultants' Working Approach

1.10. Steps of planning approach

As per the guidelines of ToR, planning package will include five items namely Sub-Regional Plan for respective district, Structure Plan for the whole Upazila, Urban Area Plan for the municipal area, Rural Area Plan for the rural settlement within the Upazila and Action Area Plan for the priority area. The details about the planning approach are summarized below.

1.10.1 Sub-Regional Plan

Sub-Regional Structure Plan for respective Districts will be prepared for 20 years according to the guidelines from: National policies, Formulated and Integrated different sectoral strategies at sub regional level, spatially interpreted sectoral strategies at sub regional level, formulated Conservation Plan at sub regional level and formulated Development Plan. Conservation Plan will cover ecology and environment, land forms: forest, wetland, rivers and agricultural land, major infrastructures, area of archaeological/ anthropological interest. It is also necessary to figure it out the economic disparity by using "shift-share analysis" or "input-output analysis" technique among the Upazilas within districts under study for drawing the future socio-economic development scenario.

1.10.2 Structure Plan

The structure plan concentrates on the broad structure of the Upazila and is not concerned with the details of physical layout or individual development details which cannot be implemented until the later stages of the planning period.

The Structure Plan will be prepared for the whole Upazila for 20 years with the content and meaning of the development policy of Planning Commission and guidelines laid in the Sixth Five Year Plan, Poverty Reduction Strategy Paper (PRSP), National Water Management Plan (NWMP), Disaster Management Plan, Wetland Protection Act, Environmental Laws, etc. This will bridge the gap between National level policy and local level plan. The scale of Structure Plan will be R.F. 1: 10000 or as per guidelines from client office.

1.10.2 Urban Area Plan

Urban Area Plan (UAP) provides an interim mid-term strategy for 10 years and covers for the development of urban areas within the project area. Generally, UAP contains an explanatory report, resource maps, interim management report, planning rules, urban area plan and a multi-sectoral investment program. In the present project, Content of Urban Area Plan will include Existing Land Use Survey, Survey of Development Activities, Population Survey, Traffic Survey, Road Survey, Industrial Survey, Recreational and Open Space, Water Supply Data, Power Supply, Telephone Service, Growth of the Town, Health Facilities, Educational Facilities, Shopping Facilities, Municipal Budget (last five years), Municipal Achievements, Disposal Services, Physical Feature Surveys and so on. Survey result will be presented in two forms: first on the map of RF 1: 3960; secondly in report form.

1.10.3 Rural Area Plan

Rural Area Plan (RAP) provides a long-term strategy for 20 years and covers for the development of rural areas within the project area. Generally, RAP contains an explanatory report, resource maps, conservation and management report, planning rules, rural area plan and a multi-sectoral investment program. In the present project, Content of Rural Area Plan (RAP) will include Existing Land Use Survey, Survey of Development Activities, Population Survey, Traffic Survey, Road Surveys, Industrial Surveys, Agricultural Survey, Sources of Potable Water, Power Supply, Growth of the Village, Health Facilities, Educational Facilities, Hats/ Bazars/ Shopping, Sanitation Facilities, Graveyard/Cremation Facilities, Physical Feature Surveys and so on. Survey result will be presented in two forms: first on the map of RF 1: 3960; secondly in report form.

1.10.4 Action Area Plan

The Action Plan is a separate document covering the five-year period of the structure plan. It examines, in the context of the structure plan, those items that might be implemented in this period and thus contains more detail on a more limited range of subjects than the structure plan. It tries to provide the Upazila with guidance in deciding between priorities.

The preparation of Action Area Plan (AAP) will be formulated through participatory approach involving the local people. It will contain problem analysis using participatory approach, stakeholder analysis, Potential analysis (Basic and derived potentials), Identification of possible projects, Priority ranking of projects, Strategy formulation for prioritized projects. Action Area Plan will provide prioritized projects consisting location of project, goal & objectives, activities, tasks, actors, resources, cost and assumptions/constraints.

1.11. Selection of the study area

To conduct the evaluation study on the relevance and effectiveness of ToR, the three project area namely Saghata Upazila, District- Gaibandha; Sonatola Upazila and Sariakandi Upazila, District- Bogra under package-04 will be considered as study area. A clear knowledge about the subject matter of the study area has been found from the client organization as the prerequisite.

1.12. Expected outputs of the study

The expected outputs of the study are viewed from clients and consultants aspect. The tentative outputs are:

Clients Aspect:

- ✓ A complete digital database (both spatial and attribute) of the project area;
- ✓ Sub-regional Plan for the respective district, Structure Plan for the whole Upazila, Urban Area Plan for municipal are, Rural Area Plan for the area other than municipal area and Action Area Plan for each ward with report;
- ✓ A basis for the future growth and development in a planned and organized way;
- ✓ Maintain the interest of environmental aspects and ensure sustainable development;
- ✓ Mobilize indigenous resources and ensure agricultural development;

Consultants Aspects:

- ✓ Assessment of client's behavior;
- ✓ Assessment of aid harmonization and aid effectiveness in Energy or Power;
- ✓ Assessment of aid harmonization and aid effectiveness in Environment;
- ✓ Assessment of effects of the aid effectiveness initiatives;
- ✓ Assessment of effects in terms of transaction cost;
- ✓ Recommendations towards achieving aid harmonization and aid effectiveness in Bangladesh on each of the mentioned assessment.

1.13. Structure of the mobilization report**SECTION-I: INTRODUCTION**

This section provides a very brief overview of the project, scope and background of the project, management approach, technical approach, planning approach etc.

SECTION-II: DEPLOYMENT OF CONSULTANTS TEAM & OFFICE ACCOMMODATION

This section provides a brief description of the deployment of key personnel and supporting staffs; accommodating of head office and site offices for the said project etc.

SECTION-III: CONDUCTION OF RECONNAISSANCE SURVEY

This section provides the findings of Reconnaissance Survey including project area profile, location of three Upazilas, area, population, basic statistics, maps, problems of the project area and so on.

SECTION-IV: WORK PLAN

This section provides the updated work plan prepared after contract signing and updated manning schedule.

SECTION-V: CONCLUSION

This is the concluding part of the report remarking the activities to be done in Inception period.

ANNEXURE

This section includes the list of Mouzas of three Upazilas, minutes of consultant's team mobilization meeting, minutes of field meetings during reconnaissance period etc.

SECTION-II: DEPLOYMENT OF CONSULTANTS TEAM & OFFICE ACCOMMODATION

2.1. General

After the contract signing meeting held on 24th December, **Modern Engineers Planners and Consultants Ltd. (MEPC)** deployed their key personnel for the said project and assigned the tasks and duties to the respective experts. The consultants also deployed supporting staffs as per its requirement. The consultants also accommodated one Head Office and three Site Offices for the convenient of the project implementation.

2.2. Deployment of Key Personnel

Modern Engineers Planners and Consultants Ltd. (MEPC) deployed their key personnel immediately after the contract signing and conducted a meeting with the full team to mobilize the tasks to be performed by the experts (See Annexure-1). The meeting held on 27th December 2014. The meeting was headed by the Eng. A. Sobahan, Managing Director of Modern Engineers Planners and Consultants Ltd. (MEPC). Md. Maksudur Rahman, Urban Planner of package 04 briefly described the objectives of the project, task to be done under the project. He also distributed the task to be done by the individual experts during survey period. He also informed the experts about the tasks to be done during Reconnaissance Survey and topics to be included into Mobilization Report. At the end of the meeting, Eng. A. Sobahan, Managing Director of Modern Engineers Planners and Consultants Ltd. (MEPC) ensured to provide all forms of support for project requirement. He also requested experts to conduct their tasks and responsibilities in due time and wishes to complete the project activities within the time frame set by Project Director. Attendance of the meeting is attached in Annexure-1.



Fig. 2.1.: Consultants Team Discussing about the Project and Individual Tasks in Mobilization Meeting

The list of key personnel with their designation is shown in table below.

Table- 2.1: Deployment of Key Personnel

Sl. No.	Name of Staff	Position Assigned
1	Md. Rafiul Karim	Team Leader
2	Md. Osman Gani	Survey Expert
3	Tanjima Akter Chowdhury	GIS Expert
4	Dr. Kashfia Ahmed	Agricultural Scientist
5	Md. Abdullah Al-Faruk	Economist
6	Md. Farukuzzaman Miah	Transport Planning Expert
7	Md. Maksudur Rahman	Urban Planner
8	Md. Nurul Haque	Social Expert
9	Khandker Fazal Hasan	Geologist
10	Syed Reaz Uddin Ahmed	Associate Geologist
11	Saidur Rahman Azad	Geological Survey Technician
12	Md. Abdur Raquib	Civil Engineer Cum Hydrologist
13	S.M. Abdullah Al Mamun	Photogrammetric Expert
14	Al-Amin Sikder	Jr. Urban Planner & GIS Analyst
15	Khaled Shams Bin Ali	Jr. Urban Planner & GIS Analyst

2.3. Manning Schedule

Details about the manning schedule is given in the following page.

2.4. Deployment of Supporting Staffs

Modern Engineers Planners and Consultants Ltd. (MEPC) also deployed required supporting staffs for assisting the implementation process of the services activities of the project. The details about the supporting staffs are listed below.

Table- 2.1: Deployment of Supporting Staffs

Sl. No.	Name of the Staff	Designation	Assigned for
1	Md. Masum	Computer Operator	Head Office
2	Nasir Uddin	Office Assistant	Head Office
3	Md. Ismail	Messenger	Head Office

2.5. Accommodating Head Office

For the management of the project implementation activities, **Modern Engineers Planners and Consultants Ltd. (MEPC)** accommodated their head office at 14/17, Monipuripara (1st floor), Sher-e-Bangla Nagar, Dhaka-1215. The head office is furnished with all the required logistic facilities for the implementation of project activities.

2.6. Accommodating Site Offices

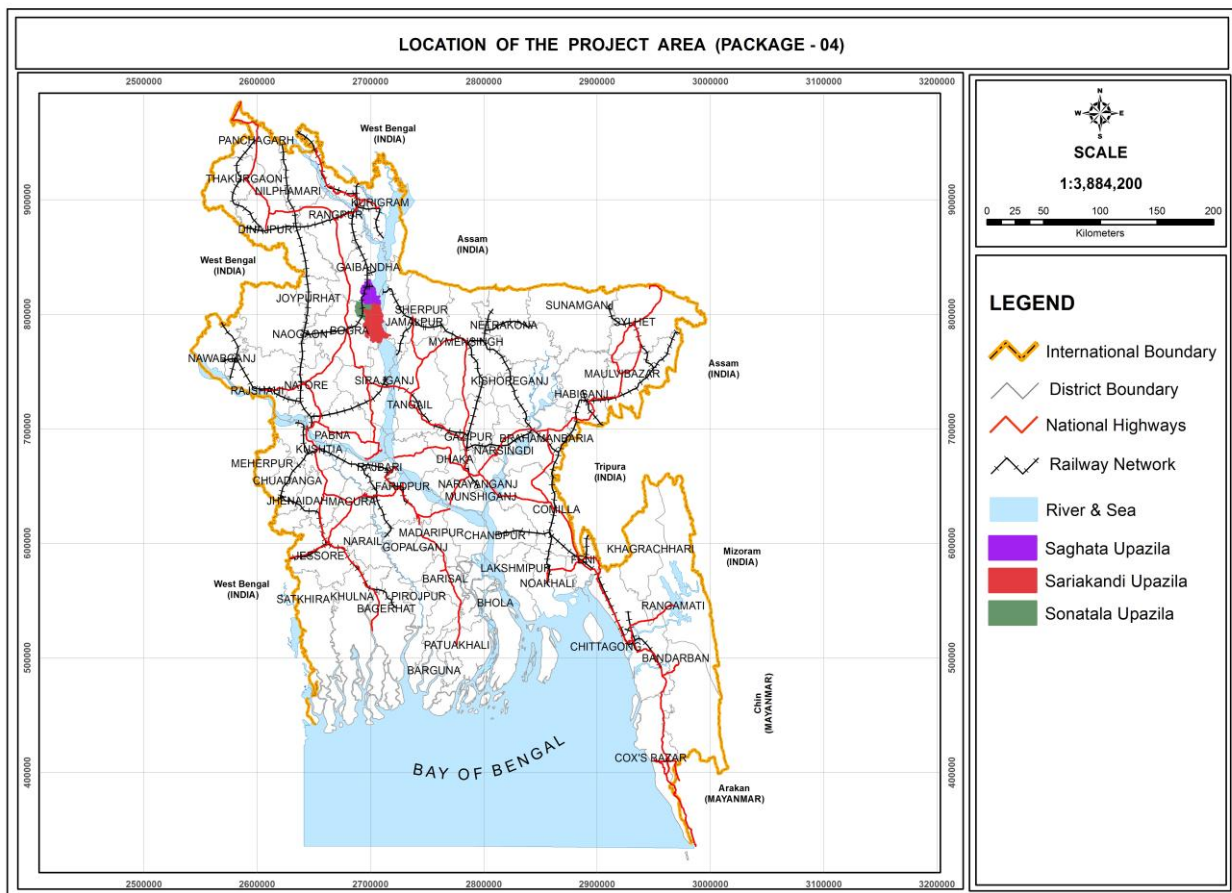
To ease the implementation process of the project and as per the requirement of Terms of Reference (ToR), three (03) site offices will be accommodated in the respective Upazilas. The site offices will ease the field activities and assist experts for both survey and planning period. During reconnaissance survey, the consultants have discussed with the Upazila Nirbahi Officer (UNO) and Upazila Chairman of Sariakandi Upazila and Sonatola Upazila. The UNO of Sariakandi Upazila agreed to allot a three room office at the ground floor of Upazila Chairman Office which can be used for the project period from 1st February of 2015 and the fair of the office will be set by the Upazila Parishad according to government rules. The UNO of Sonatola Upazila also agreed to allot a two room office at the 1st floor of Upazila Fisheries Office which can be used for the project period from 1st February of 2015 and the fair of the office will be set by the Upazila Parishad according to government rules. The Upazila Nirbahi Officer (UNO) of Saghata Upazila was not available at his office and Upazila Chairman of Saghata Upazila was outside of Upazila at reconnaissance period. So, site office at Saghata Upazila will be accommodated soon after the suggestion of local officials. The consultants are prioritizing on accommodating site office in or around Upazila compound for the better management of project team and also to enhance better communication with the Upazila stakeholders.

SECTION-III: STUDY AREA PROFILE & RECONNAISSANCE SURVEY

3.1. General

The report encompasses with the three project area namely Saghata Upazila (Gaibandha district), Sonatola Upazila (Bogra District) and Sariakandi Upazila (Bogra District). The description of the study area is prepared with a reconnaissance survey of the three study area and also secondary sources data obtained from various organizations. The description contains several aspects such as background of the area, location of the area, socio-economic conditions, opportunities, core problems etc. The three study areas are described separately herein. The location map of three project area is shown in the map below.

Map 3.1: Location Map of the Project Area of Package-04



Source: National GIS Database and Modified by MEPC

Geology, Hydrology and soil condition of the study area is depending on the detail survey that will be conducted during survey period. In this regard the description of this categories has been discussed grossly for the report purpose.

3.2. Study Area Profile of Saghata Upazila

3.2.1. Background: Saghata, the smallest upazila of Gaibandha Zila, in respect of both area and population came into existence in 1905 as a thana and was upgraded to upazila in 1984. Nothing is definitely known about the origin of the upazila name. It is said that in the past some Hindu Shah family settled in the present place of upazila adjacent to a Ghat of the river Jamuna. The place got prominent as a business centre due to the great contribution of that Shah family. Consequent upon the effect of these two words Shah and Ghat, the place was named as Saghata. It is generally believed that the upazila was named Saghata of the time of its creation.

3.2.2. Area and location: The upazila occupies a total area of 231.02 sq.km. It is located between 25002' and 25014' north latitudes and between 89029' and 89040' east longitudes. The upazila is bounded on the north by Gaibandha Sadar upazila, east by Fulchhari Upazila and Islampur Upazila of Jamalpur Zila, south by Sonatola Upazila and Sariakandi Upazila of Bogra Zila and west by Gobindaganj Upazila and Palashbari Upazila.

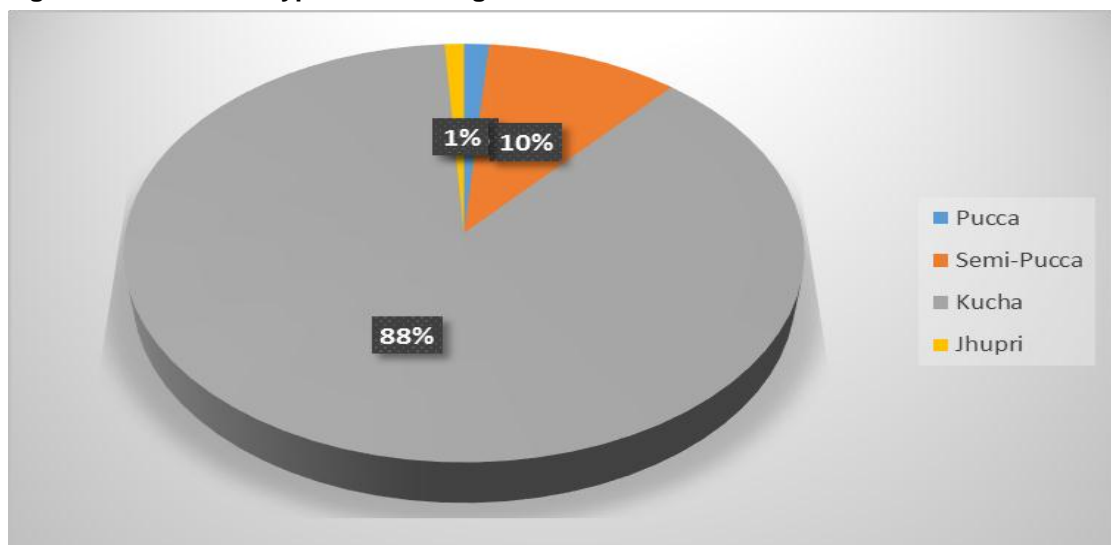
3.2.3. Union/Ward, Mauza/Mahalla and Village Characteristics: The upazila consists of 10 unions, 116 populated mauzas and 130 villages. The average size of population of each union, mauza and village are 26782, 2309 and 2060 respectively.

3.2.4. Housing and Household Characteristics: In the upazila, there are 68954 households. Distribution of household by type shows that there are 99.90% general unit, 0.01% institutional and 0.09% other unit.

3.2.4.1 Household Size: The average household size (General) for the upazila is 3.9 persons, for rural area the size is also 3.9 and for urban area the size is slightly higher i.e., 4.1.

3.2.4.2 Type of Housing Structure: In the upazila, 1.3% general household live in pucca house, 10.1% in semi-pucca house, 87.6% in kutchha house and the remaining 1.0% live in jhupri which is shown in a pie-chart below:

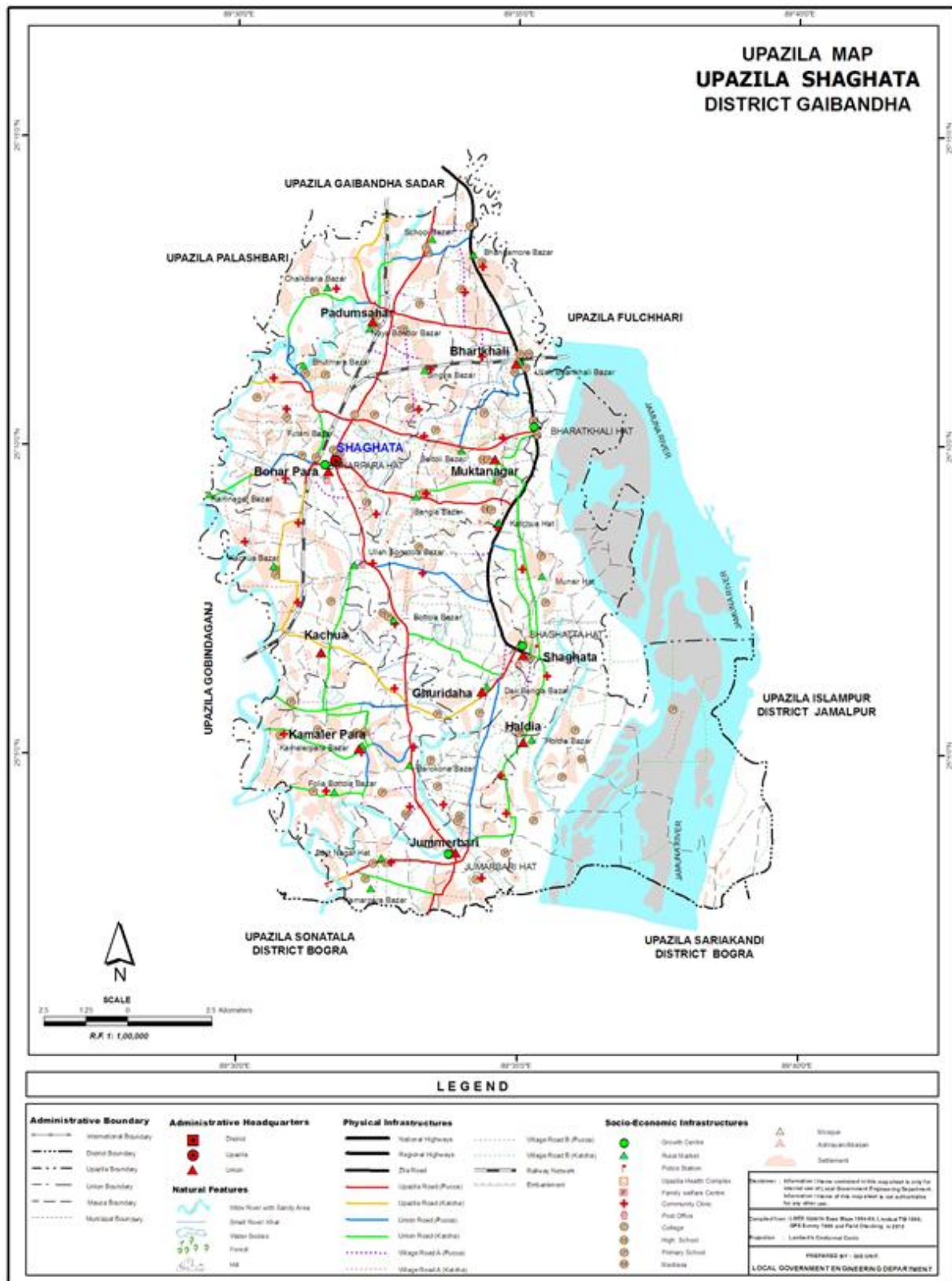
Figure 3.1: Different Types of Housing Structure



Source: BBS, 2011

3.2.4.3 Source of Drinking Water: In Saghata Upazila, 96.7% general household get the facility of drinking water from tube-well, 0.1% from tap and the remaining 3.2% household get water from other sources.

Map-3.2: Shaghata Upazila Map



Source: <http://www.lged.gov.bd/UploadedDocument/Map/RANGPUR/gaibandha/saghata/saghata.jpg>

3.2.4.4 Sanitation: In the upazila, 33.3% general household use sanitary latrine, 51.1% non-sanitary latrine and the remaining 15.6% have no toilet facility.

3.2.4.5 Access to Electricity: All the 10 unions of the upazila have brought under the Rural Electrification Program. However, a total of 31.3% general household reported to have electricity connection in the entire upazila in 2011 as against 8.3% in 2001.

3.2.5 Population Characteristics: According to Population and Housing Census 2011, the total population of the upazila is 267819 of which 130606 are males and 137213 are females. The sex ratio of the upazila is 95 which has remarkably decreased in 2011 as against 102 in 2001.

3.2.5.1 Growth Rate: The decadal population growth rate for the upazila is 7.01% and the annual compound growth rate is 0.67%. The decadal growth rates over the last half-century are shown below:

Table 3.1: Decadal growth rate of population, 1951-2011

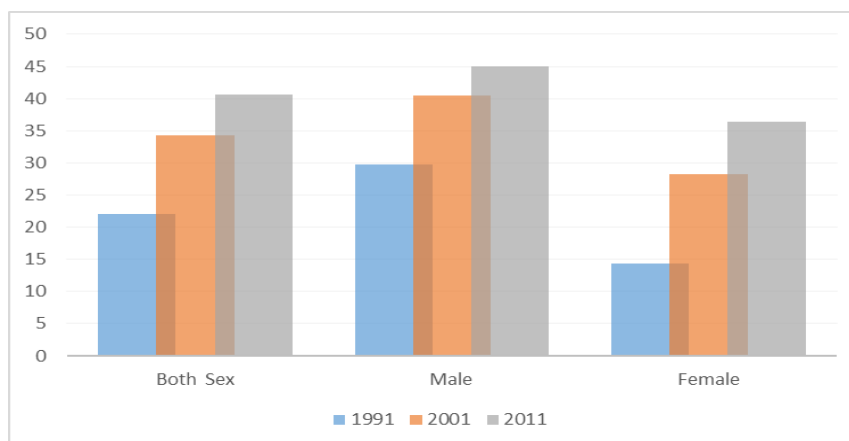
Decades	Growth Rate (%)
1951-1961	27.5
1961-1974	36.8
1974-1981	14.1
1981-1991	37.0
1991-2001	7.8
2001-2011	7.0

Source: BBS, 2011

3.2.6 Literacy and Education: Information on Literacy and Education is furnished below:

3.3.6.1. Literacy: In Saghatta Upazila, it is found that 40.6% population aged 7 years and over are literate. Literacy rates by sex of three consecutive censuses are shown below in a Bar-Diagram below:

Figure 3.2: Literacy rate by sex, 1991-2011



Source: BBS, 2011

Saghata Upazila has a relatively low literacy rate compared with the national literacy rate. The current literacy rate of the Upazila is 40.6% (census 2011). The residents of the Upazila are now having education facility from 7 (seven) colleges, 3 (three) degree colleges, 39 (thirty nine) secondary schools, 160 (one hundred and sixty) govt. primary schools, 2 (two) community primary schools, 19 (nineteen) Madrasha and 28 (twenty eight) Abtedia Madrasha.

3.2.6.2 Religion: Saghata Upazila is mainly a Muslim populated area as it appears in the other part of the country. According to the BBS report based on population census 2011, 93.06% people are Muslim of this Upazila, whereas 6.85% people is are Hindu and the remaining are from other religion.

3.2.6.3 Religious Institution: According to the BBS report based on population census 2011, the Upazila has 442 Mosques, 29 Eid-Gahs and 62 Temples. The Upazila has no Church or Pagoda.

3.2.7 Water Body: According to the BBS report based on population census 2011, the Upazila has 2051 Ponds, 1300 Dighees and 3 River flows. Total riverine are is 19.16 sq.km.

3.2.8 Meteorology: According to the report of Bangladesh Meteorology Department, maximum temperature of the area was 36.3°C in 2011 and minimum temperature is 6.0°C. Average humidity is 59% (BBS 2011). Besides, the Upazila was affected by flood in four consecutive years from 2008 to 2011.

3.2.9 Agriculture: The economy of the Saghata Upazila is based on agricultural activities. The major agricultural items produced in this Upazila are paddy, green chili and brinjal. According to the BBS report based on population census 2011, the total production of rice in 2010-11 of the Upazila was 88917 metric ton. Besides, the production of wheat was 819 metric ton, production of jute was 4092 metric ton and production of sugarcane was 63 metric ton in the same year.

According to the Agricultural census 2008, the Upazila has 54740 acre arable land where 379 acre is used as permanent cropped area, 43990 acre is used as temporary cropped area and the remaining 11077 acre is used as others. Total irrigated area in 2010-2011 is 34827 acre through lift pump and 1309 acre through deep tube well.

3.2.10 Industrial and Commercial Activity: Saghata Upazila is a less industrialized area. According to the BBS report based on population census 2011, the area has 148 rice mills, 382 small cottages, 17 saw mills, 2 oil mill, 6 bakery, 46 pottery, 320 tailoring shops, 1 flour mill and so on.

3.2.11 Health and Social Welfare: The available health facility of the area is so poor. The area has only one health complex and 36 (thirty six) community clinic. For recreation purpose, there has no park or playground into the area. (Saghata Upazila at a glance, 2014).

3.2.12 Transportation and Communication: According to the BBS report based on population census 2011, the Upazila has total 530 kilometer road of which 128 kilometer is metalled road and remaining 402 kilometer is unmetalled (kacha) road. The area has 20 kilometer railway connection with Bogra Sadar. It has 30 kilometer water way in monsoon (both river and canal). The area has 108 bridges, 1 baily bridge and 96 culverts. The total area has 2 railway stations and 3 bus stands.

3.2.13 Others: According to the BBS report based on population census 2011, the Upazila has 7 growth centers, 81 poultry farms, 38 dairy farms, 5 nursery, 5 brick kiln, and 28 decorator service. Besides, there are 16 hat/bazars which also play a vital role in mobilizing local economy.

3.2.14 Field visit

To enrich the project proposal with study area profile and for better understanding about the planning approach of study area, the Upazila was visited by the consultant. The consultant collected relevant data of the study area including population, economy, administration, education, health and so on. The consultant got a general idea about the study area and also got familiar with the core problems of the assigned area. The study area profile and its justification are compiled from the practical knowledge of the field visit. Some photos of the field visit including important infrastructures and resembling core problem of the study area are enclosing here.

3.2.14.1. Discussion with key personal and findings

During Reconnaissance Survey, a Project Mobilization Meeting with the key personnel for Package 04 of Preparation of Development Plan under "Preparation of Development Plan for Fourteen Upazilas" Project was held in Upazila Parishad Office at Saghata on the 13th of January 2015, from 03:30 pm to 05:30 pm. Major resource members participated in the Meeting are Md. Sabiul Islam, Upazila Engineer, Saghata Upazila; Babul Chandra Roy, Project Implementation Officer, Saghata Upazila; Md. Tanvir Hasan Rezaul, Planner & Project Manager (Package-04); Al-Amin Sikder, Jr. Urban Planner & GIS Analyst, MEPC Ltd and so on.

Mr. Al-Amin Sikder, Jr. Urban Planner & GIS Analyst of Modern Engineers Planners & Consultants Ltd., provided a brief overview of the project background, objectives of the project, scope of the project, duration of the project completion and so on. He also overviewed the five main tier of the plan to be prepared under the project namely Sub-Regional Plan, Structure Plan, Urban Area Plan, Rural Area Plan and Action Area Plan. Mr. Golam Rabbi Molla, Manager of Modern Engineers Planners & Consultants Ltd. overviewed the details about the work plan of the project. He informed the participants about the workshop program to be held before submitting the inception report. He overviewed the need and importance of workshop program and requested the local officials and stakeholders to assist consultants in arranging workshop program. Mr. Md. Tanvir Hasan Rezaul, Planner of Urban Development Directorate and Project manager of Package 04 of the said project presented the role to be played by the client side to implement the project. He emphasized the need for appropriate planning tools for the Upazila area including rural area for the utilization of existing land resources at root level. He also encouraged the local officials and stakeholders to go with the planning activities in near future for achieving sustainability of the Upazila area. Besides, he informed the local officials and stakeholders that the plan to be prepared under this project will be gazette and it has scope to revise the plan for future perspective.

Mr. Md. Sabiul Islam, Upazila Engineer, Saghata Upazila thanked Government of Bangladesh for approving such a needy project for Saghata Upazila. He agreed with the consultants and UDD officials about the need for proper planning for the Upazila. He also thanked for selecting both rural and urban area under planning action. He ensured to give all sorts of support for the proper running and implementation of the project. He requested both consultants and clients for addressing disaster related problem like river erosion and flood on priority basis as these problems are more acute in this Upazila. He also suggested to carry out details study on flood and river erosion rather emphasizing on earthquake vulnerability as the area is almost free from earthquake.

The Upazila Chairman and other local representative were outside of the Upazila during field visit and consequently the consultants and client couldn't meet them. Moreover the consultants and client talked over phone with the local representatives and they (local representatives) assured to assist in all the activities to be done under the project.

3.2.15 Constraints and Opportunities

The study area has both constraints and opportunities. The people of the area are chiefly dependent on agriculture and paddy is the chief agricultural product. So, establishment of agro-based industrial development could enhance the economy of the area largely. River erosion is the top most problem of the study area. Every year extensive losses are taken places from the erosion of the Jamuna River in the eastern part of this Upazila. Sometimes seasonal flood added with the river erosion problem. There is no effective initiative to rehabilitate the disaster affected people. As a result social and humanitarian problems increase. The existing road network is not conformed to the need. The low living standard is the ostensible feature of the area. The area has no bus communication with neighboring area.

3.2.16 Sectorial Problems Observed

River erosion is the top most problem of the project area. Every year extensive losses are taken places from the erosion of the Jamuna River in the eastern part of this Upazila. Sometimes seasonal flood added with the river erosion problem. There is no effective initiative to rehabilitate the disaster affected people. As a result social and humanitarian problems increase. The existing road network is not conformed to the need. The low living standard is the ostensible feature of the area. The sectoral problems of the project area are summarized below:

3.2.16.1 Problem of Education: Low literacy rate (40.6%), poor access to the educational institution due to poor connectivity, lack of available educational center and odd distribution of educational institution depending on population density are the major problems with the education of Saghata Upazila.



Fig 3.1: Education institution of the study area

3.2.16.2 Communication Problem: The people of Saghata Upazila have been suffering with the problem of insufficient road network. Besides, among the existing road network, about 75% road network is not metaled (kacha). Narrow road network and poor surface quality of the road is also a major problem. River erosion and seasonal flood always is a cause of damaging the road network of the area.



Fig 3.2: Narrow and Poor Upazila Road



Fig 3.3: Narrow and Poor Upazila Road

3.2.16.3 Health Problem: The available health facility of the area is so poor. The area has only one health complex and 36 (thirty six) community clinic which are much below than public demand.



Fig 3.4: Health Complex

3.2.16.4 Electricity Problem: The urban area of Saghata Upazila has no street light facility. Besides, most of the areas of this Upazila has no electricity connection. Most people are taking the advantage of solar power system.



Fig 3.5: Electricity problem of the study area



Fig 3.6: Solar power of the study area

3.2.16.5 Water Supply Problem: The urban area of Saghata Upazila has no water supply facility. The major source of water of the residents is deep or shallow tube well. Moreover, high quantity of iron composition into the tube well water also is a problem faced by the inhabitants.

3.2.16.6 Disaster Problem: The Saghata Upazila is said as a disaster prone area. Almost every year the eastern part of the Upazila is affected by flood. Rather, river erosion is also a common problem faced by the people.



Fig 3.7: Informal Settlement by Flood Affected People

3.2.16.7 Others Problem: The other problems include poor connectivity at regional and national perspective, poor solid waste management, poor drainage system etc.



Fig 3.8: Use of Solar Power System

3.3. Study Area Profile of Sonatala Upazila

3.3.1 History

Sonatola is a traditional Upazila of Bogra district. It was established as Thana in 1981 and converted as Upazila in 1983. The present Sonatola was a renowned business center from its ancient period. The settlement of this area was started centering the river 'Bangali'. The fertile land, communication facility over river way and excellent geography exerted a pull on people to live and conduct business here. Thus, settlement developed by the surrounding inhabitants and with the people of remote area as well. It is proverbial that the name 'Sonatola' was originated from the name 'Sona Bibi' who was the wife of Baro Vuiya chief Isha Khan. Isha Khan often visited this area along with his wife in sixteen century. The area has a lot of similarities with the historical 'Mahasthangar'.

3.3.2 Geography, Location and Area

Sonatola Upazila is a flood prone area located at Bogra district under Rajshahi Division. The Upazila is adjacent to four others Upazila namely Sariakandi Upazila (Bogra district) at east, Shibganj Upazila (Bogra district) at west, Gobindoganj Upazila (Gaibandha district) at north and Gabtoli Upazila (Bogra District) at south. Most of the business, economic and administrative activities are based on the Sonatola municipal area.

The total area of Sonatola Upazila is 156.73 square kilometer with a total population covering 1,67,547 (Source: ToR). The whole Upazila is covered by 101 Mouzas and the number of village is 131. The major rivers of the area are Jamuna and Bangali. Jamun River runs along the eastern part of the Upazila adjoining to Tekani Chukainagar, Pakullah and Jorgachha Union from north to south. The Upazila has 331.61 acre khas land. The sandy land area, homogeneous topography, Char area, moderate moisture etc are the common geographical characteristics of the study area.

3.3.2 Administration

Sonatola Upazila is divided into Sonatala Municipality and 7 (seven) Union Parishads namely Pakullah, Balua, Jorgachha, Digdair, Tekani Chukainagar, Sonatola and Madhupur Union. Sonatala Municipality is subdivided into 9 wards and 16 mahallas. The area of Sonatala Municipality is 12.37 square kilometer which covers a population of 21,494. The Upazila has one fire station, one auditorium cum community center, one railway station, one Upazila Server Station and so on.

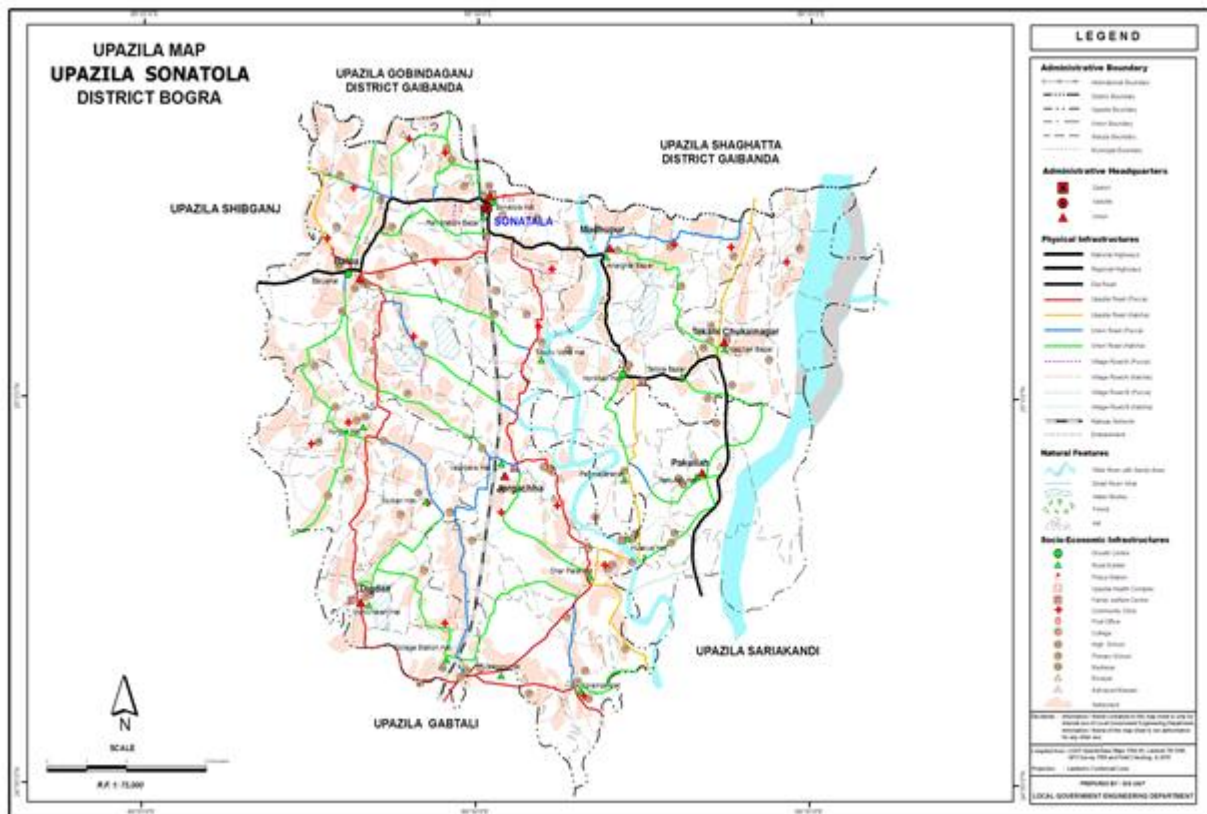
3.3.3 Socio-economic profile

Socio-economic condition of an area can be valued with the parameter like demography, education, health, poverty rate, economy etc. Within the total 156.73 square kilometer area of Sonatola Upazila, it bears 1,67,547 population. The number of female residing into the area is faintly smaller than male resident. Of total population of the area, about 51% is male compared to 49% of female. Sonatola Upazila has a relatively low literacy rate compared with the national literacy rate. The current literacy rate of the Upazila is 43.2%.

3.3.4 Household, Population and Density: According to the BBS report based on population census 2011, total household of Sonatola Upazila is 48569. Average household size is 3.84 and population density per square kilometer is 1191 persons.

3.3.5 Education: Sonatola Upazila has a relatively low literacy rate compared with the national literacy rate. The current literacy rate of the Upazila is 43.2% (census 2011). The residents of the Upazila are now having

Map-3.3: Sonatola Upazila Map



Source: <http://www.lged.gov.bd/UploadedDocument/Map/RAJSHAHI/bogra/sonatola/sonatola.jpg>

Education facility from 2 (two) colleges, 2 (two) degree colleges, 6 (vocational) colleges, 21 (twenty one) secondary schools, 121 (one hundred and twenty one) govt. primary schools, 1 (one) community primary schools, 9 (nine) Madrasha and a PTI institute. The literacy rate of the Upazila in last four (4) decades is summarized below.

Table: Literacy rate of the Sonatola Upazila in last four (4) decades

Year	Literacy Rate (%)
1981	19.2
1991	26.2
2001	37.9
2011	43.2

Source: BBS, 2011

3.3.5.1 Religion: Sonatola Upazila is mainly a Muslim populated area as it appears in the other part of the country. According to the BBS report based on population census 2011, 95.12% people are Muslim of this Upazila, whereas 4.81% people is are Hindu and the remaining are from other religion.

3.3.5.2 Religious Institution: According to the BBS report based on population census 2011, the Upazila has 400 Mosques, 60 Eid-Gahs and 150 Temples. The Upazila has no Church or Pagoda.

3.3.6 Water Body: According to the BBS report based on population census 2011, the Upazila has 3109 Ponds and 3 River flows. Total riverine area is 11.61 sq.km.

3.3.7 Meteorology: According to the report of Bangladesh Meteorology Department, maximum temperature of the area was 34.4°C in 2010 and minimum temperature is 10.2°C (BBS 2010). Average humidity is 61.4%. Besides, the Upazila was affected by flood in four consecutive years from 2008 to 2011.

3.3.8 Agriculture: The economy of the Sonatola Upazila is based on agricultural activities. The major agricultural items produced in this Upazila are paddy, green chili and brinjal. According to the BBS report based on population census 2011, the total production of rice in 2010-11 of the Upazila was 218920 metric ton. Besides, the production of wheat was 418 metric ton, production of jute was 6233 metric ton and production of sugarcane was 353 metric ton in the same year.

According to the Agricultural census 2008, the Upazila has 41050 acre arable land where 195 acre is used as permanent cropped area, 34343 acre is used as temporary cropped area and the remaining 6512 acre is used as others. Total irrigated area in 2010-2011 is 52937 acre through lift pump and 605 acre through deep tube well.

3.9 Industrial and Commercial Activity: Sonatola Upazila is a less industrialized area. According to the BBS report based on population census 2011, the area has 78 rice mills, 1 match factory, 120 handloom, 2 small cottages, 12 saw mills, 6 oil mill, 4 bakery, 22 pottery, 210 tailoring shops, 62 flour mills and so on.

3.3.10 Health and Social Welfare: The available health facility of the area is not enough for the resident. The area has only one govt. hospital accommodating 50 (fifty) beds. There also have 26 (twenty six) community clinic, 56 (fifty six) satellite clinic, 5 (five) union family welfare center and 2 (two) union health center in this Upazila. For recreation purpose, there has no park or playground into the area. (Sonatola Upazila at a glance, 2014).

3.3.11 Transportation and Communication: According to the BBS report based on population census 2011, the Upazila has total 421 kilometer road of which 106 kilometer is metalled road, 15 kilometer is semi metalled road and remaining 300 kilometer is unmetalled (kacha) road. The area has 14 kilometer railway connection with Bogra Sadar. It has 36 kilometer water way in monsoon (both river and canal). The area has 150 bridges, 5 baily bridge and 234 culverts. The total area has 3 railway stations and 8 bus stands.

Sonatola Upazila is connected with the other parts of the country through railway and roadway. The existing railway communication facilitates people for communicating with Gaibandha and Bogra district head quarter through Sonatola Municipality, Jorgachha and Digdair. Besides existing 131



Fig 3.9: Non-motorized Van as a mode of communication

kilometer paved roadway enhances people to communicate with inter and intra Upazila area and also with the outer part of the country. But, the 256 kilometer unpaved road is not favorable to the inhabitants in wet season as most of these go beyond public use. The total number of bridge culvert of the area is 436 some of which are very poor in condition. Additionally, the Jamuna River also plays an imperative role in developing communication with surrounding area through waterway.

3.3.12 Others: According to the BBS report based on population census 2011, the Upazila has 3 growth centers, 104 poultry farms, 114 dairy farms, 5 nursery, 5 brick kiln, and 26 decorator service. Besides, there are 27 hat/bazars which also play a vital role in mobilizing local economy.

3.3.13 Field visit

To enrich the project proposal with study area profile and for better understanding about the planning approach of study area, the Upazila was visited by the consultant. The consultant collected relevant data of the study area including population, economy, administration, education, health and so on. The consultant got a general idea about the study area and also got familiar with the core problems of the assigned area. The study area profile and its justification are compiled from the practical knowledge of the field visit. Some photos of the field visit including important infrastructures and resembling core problem of the study area are enclosing here.

3.3.13.1 Discussion with key personal and findings

During Reconnaissance Survey, a Project Mobilization Meeting with the key personnel for Package 04 of Preparation of Development Plan under "Preparation of Development Plan for Fourteen Upazilas" Project, which was held in Upazila Parishad Office at Sonatola on the 13th of January 2015, from 10:00 am to 12:00 pm. Major resource members participated in the Meeting are A.K.M. Ahsanul Toirob Jakir, Upazila Chairman, Sonatola Upazila; Md. Habibur Rahman, Upazila Nirbahi Officer (UNO), Sonatola Upazila; Soikot Das, Upazila Engineer, Sonatola Upazila; Md. Altaf Hossain, Project Implementation Officer, Sonatola Upazila; Md. Tanvir Hasan Rezaul, Planner & Project Manager (Package-04); Al-Amin Sikder, Jr. Urban Planner & GIS Analyst, MEPC Ltd. and so on.

Mr. Al-Amin Sikder, Jr. Urban Planner & GIS Analyst of Modern Engineers Planners & Consultants Ltd., provided a brief overview of the project background, objectives of the project, scope of the project, duration of the project completion and so on. He also overviewed the five main tier of the plan to be prepared under the project namely Sub-Regional Plan, Structure Plan, Urban Area Plan, Rural Area Plan and Action Area Plan. Mr. Golam Rabbi Molla, Manager of Modern Engineers Planners & Consultants Ltd. overviewed the details about the work plan of the project. He informed the participants about the workshop program to be held before submitting the inception report. He overviewed the need and importance of workshop program and requested the local officials and stakeholders to assist consultants in arranging workshop program. Mr. Md. Tanvir Hasan Rezaul, Planner of Urban Development Directorate and Project manager of Package 04 of the said project presented the role to be played by the client side to implement the project. He emphasized the need for appropriate planning tools for the Upazila area including rural area for the utilization of existing land resources at root level. He also encouraged the local officials and stakeholders to go with the planning activities in near future for achieving sustainability of the Upazila area. Besides, he informed the local officials and stakeholders that the plan to be prepared under this project will be gazette and it has scope to revise the plan for future perspective.

Mr. Md. Habibur Rahman, Upazila Nirbahi Officer (UNO), Sonatola Upazila thanked Government of Bangladesh for approving such a needy project for Sonatola Upazila. He agreed with the consultants and UDD officials about the need for proper planning for the Upazila. He also thanked for selecting both rural and urban area under planning action. He ensured to give all sorts of support for the proper running and implementation of the project. He requested both consultants and clients for addressing disaster related problem like river erosion and flood on

priority basis as these problems are more acute in this Upazila. He also suggested to work in collaboration with the local NGOs who are currently working in the Upazila and implementing different disaster related project.

Mr. A.K.M. Ahsanul Toirob Jakir, Upazila Chairman, Sonatola Upazila ensured to provide all forms of assistance for project implementation. He emphasized on including several needy items into the planning some of which are noted below:

- Develop connectivity in and around the Upazila with surrounding Districts
- The use of fertilizer is highest in this Upazila but there is no fertilizer mill. So, at least one fertilizer mill should be established
- Existing drainage network is not sufficient and very poor. So, a drainage plan should be prepared on priority basis
- Electrification and street light facility should be provided
- Need a cold storage
- Disaster plan should be prepared considering the local perspective

3.3.14 Constraints and Opportunities

The study area has both constraints and opportunities. The people of the area are chiefly dependent on agriculture and paddy is the chief agricultural product. So, establishment of agro-based industrial development could enhance the economy of the area largely. River erosion is the top most problem of the study area. Every year extensive loses are taken places from the erosion of the Jamuna River in the eastern part of this Upazila. Sometimes seasonal flood added with the river erosion problem. There is no effective initiative to rehabilitate the disaster affected people. As a result social and humanitarian problems increase. The existing road network is not conformed to the need. The low living standard is the ostensible feature of the area.



Fig 3.10: Upazila Parishad Complex, Sonatola



Fig 3.11: Risk & Resource Map of Sonatola Union

3.3.15 Sectorial Problems

Among different problems, river erosion is the top most problem of the project area. Every year extensive loses are taken places from the erosion of the Jamuna River in the eastern part of this Upazila. Sometimes seasonal flood added with the river erosion problem. There is no effective initiative to rehabilitate the disaster affected people. As a result social and humanitarian problems increase. The existing road network is not conformed to the

need. The low living standard is the ostensible feature of the area. The sectoral problems of the project area are summarized below:

3.3.15.1 Problem of Education: Low literacy rate (43.2%), poor access to the educational institution due to poor connectivity, lack of available educational center and odd distribution of educational institution depending on population density are the major problems with the education of Sonatola Upazila.

3.3.15.2 Communication Problem: The people of Sonatola Upazila have been suffering with the problem of insufficient road network. Besides, among the existing road network, more than 70% road network is not metaled (kacha). Narrow road network and poor surface quality of the road is also a major problem. River erosion and seasonal flood always is a cause of damaging the road network of the area.



Fig 3.12: Road Network, Sonatola

3.3.15.3 Health Problem: The available health facility of the area is not enough for the resident. The area has only one govt. hospital accommodating 50 (fifty) beds. There also have 26 (twenty six) community clinic, 56 (fifty six) satellite clinic, 5 (five) union family welfare center and 2 (two) union health center in this Upazila which are much below than public demand.

3.3.15.4 Electricity Problem: The urban area (Sonatola Pourashava) of Sonatola Upazila has only a few street light facility. Besides, most of the areas of this Upazila has no electricity connection. Most people are taking the advantage of solar power system.

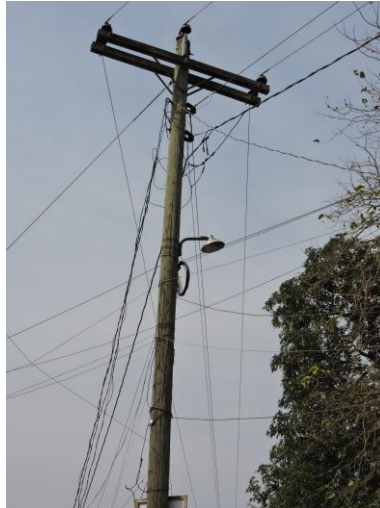


Fig 3.13: Electricity Supply and street light, Sonatola

3.3.15.5 Water Supply Problem: The urban area (Sonatola Pourashava) of Sonatola Upazila has no water supply facility. The major source of water of the residents is deep or shallow tube well. Moreover, high quantity of iron composition into the tube well water also is a problem faced by the inhabitants.



Fig 3.14: Water Supply, Sonatola

3.3.15.6 Disaster Problem: The Sonatola Upazila is said as a disaster prone area. Almost every year the eastern part of the Upazila is affected by flood. Rather, river erosion is also a common problem faced by the people.

3.4. Study Area Profile of Sariakandi Upazila

3.4.1 History

Sarikandi is an Upazila of Bogra district in the division of Rajshahi. Sarikandi is an old aged Upazila of Bogra district. People living in the Char area migrated from the eastern part to western part of the Upazila affecting by river erosion and flood and looked for the permanent settlement in and around of the municipal area. The large portion of the settlement of this Upazila was taken place as a result of in-migration from nearby Jmalpur, Sirajganj and Gaibandha district. The fertile land, available char area, communication facility over river way and excellent geography exerted a pull on people to live and conduct business here. Thus, settlement developed by the surrounding inhabitants and with the people of remote area as well.

3.4.2 Geography, Location and Area

Sariakandi Upazila is a flood prone area located at Bogra district under Rajshahi Division. The Upazila is adjacent to four others Upazila namely Madarganj Upazila (Jamalpur district) at east, Gabtali Upazila (Bogra district) at west, Sonatola Upazila (Bogra district) at north and Dhunat Upazila (Bogra District) at south. Most of the business, economic and administrative activities are based on the Sariakandi municipal area. The total area of Sariakandi Upazila is 432.60 square kilometer with a total population covering 2,40,083 (Source: ToR). The whole Upazila is covered by 122 Mouzas and the number of village is 216. The major rivers of the area are Jamuna and Bangali. Jamun River runs over the middle part of the Upazila adjoining to Kazla, Sariakandi, Karnibari, Chandan Baisha and Bohail Union from north to south. The Upazila has 4048.82 acre khas land. The sandy land area, homogeneous topography, Char area, moderate moisture etc are the common geographical characteristics of the study area.

3.4.3 Administration

Sariakandi Upazila is divided into Sariakandi Municipality and 12 (twelve) Union Parishads namely Chaluabari, Hat Sherpur, Kazla, Sariakandi, Narchi, Fulbari, Karnibari Kutubpur, Bhelabari, Chandan Baisha, Kamalpur and Bohail Union. The Upazila sadar has declared as 'Pourashava' but still it has no own 'Pourashava Office'. The official activities of the municipality are performed through a rental house. The Upazila has one fire station, one telephone exchange office, 14 (fourteen) post office, 6 (six) bank branches, 5 (five) union land office, one municipal land office, one Upazila Server Station and so on.

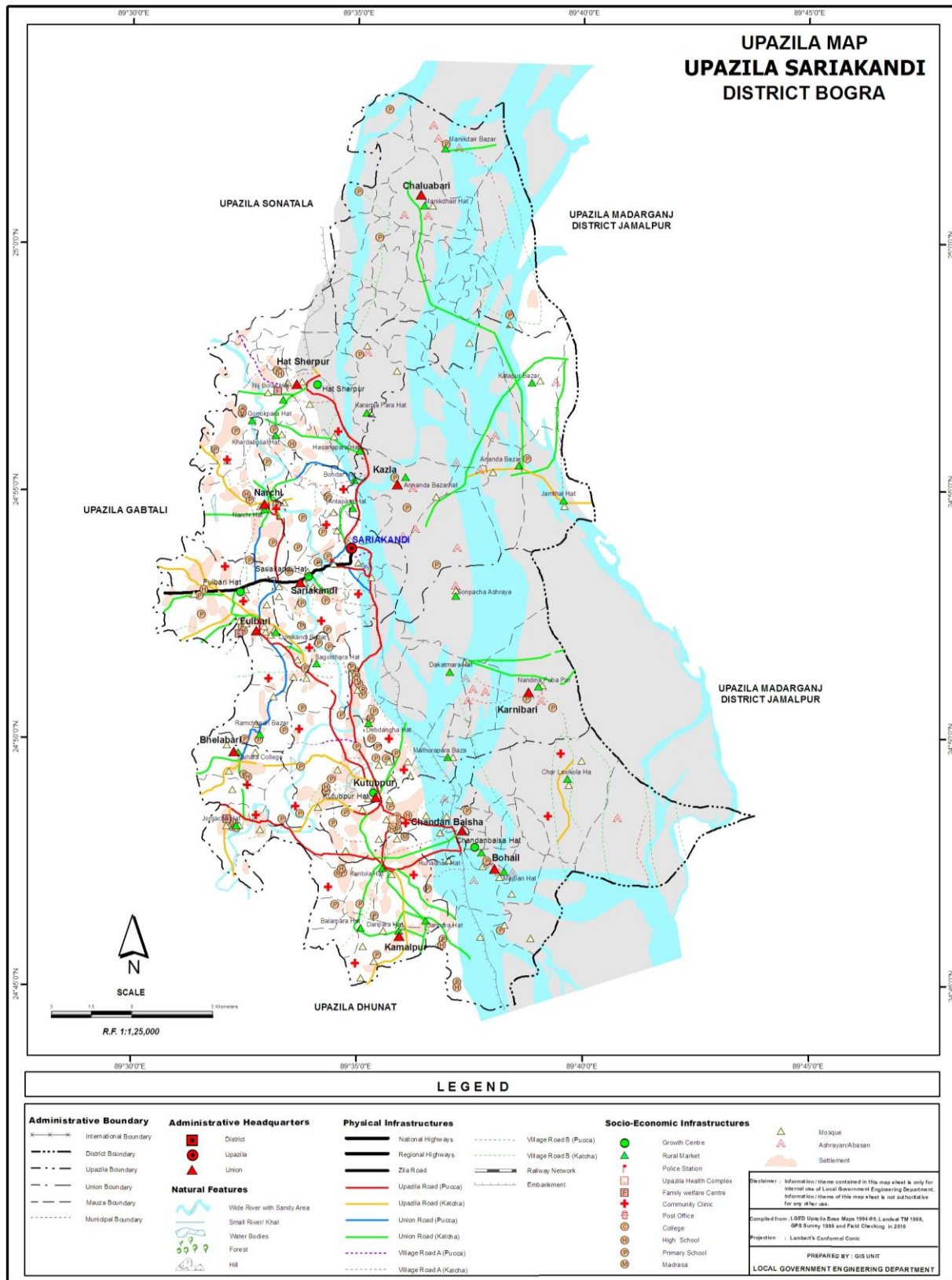
3.4.4 Socio-economic profile

Socio-economic condition of an area can be valued with the parameter like demography, education, health, poverty rate, economy etc. Within the total 432.60 square kilometer area of Sariakandi Upazila, it bears 2,40,083 population. The number of female residing into the area is almost same to the male resident. Of total population of the area, about 49.97% is male compared to 50.03% of female.

3.4.5 Household, Population and Density: According to the BBS report based on population census 2011, total household of the Upazila is 75614. Average household size is 3.58 and population density per square kilometer is 663 persons.

3.4.6 Education: Sariakandi Upazila has a relatively low literacy rate compared with the national literacy rate. The current literacy rate of the Upazila is 36.9% (census 2011). The residents of the Upazila are now having education facility from 5 (five) colleges, 29 (twenty nine) secondary schools, 83 (eighty three) govt. primary

Map 3.4: Upazila Map of Sariakandi



Source: <http://www.lged.gov.bd/UploadedDocument/Map/RAJSHAHI/bogra/sariakandi/sariakandi.jpg>

schools, 78 (seventy eight) private primary schools and 21 (twenty one) Madrashas. The literacy rate of the Upazila in last four (4) decades is summarized below.

Table: Literacy rate of the Sariakandi Upazila in last four (4) decades

Year	Literacy Rate (%)
1981	11.2
1991	22.1
2001	32.3
2011	36.9

Source: BBS, 2011

3.4.6.1 Religion: Sariakandi Upazila is mainly a Muslim populated area as it appears in the other part of the country. According to the BBS report based on population census 2011, 97.78% people are Muslim of this Upazila, whereas 2.2% people is are Hindu and the remaining are from other religion.

3.4.6.2 Religious Institution: According to the BBS report based on population census 2011, the Upazila has 491 Mosques, 78 Eid-Gahs and 3 Temples. The Upazila has no Church or Pagoda.

3.4.7 Water Body: According to the BBS report based on population census 2011, the Upazila has 293 Ponds and 3 River flows. Total riverine are is 168.46 sq.km.

3.4.8 Meteorology: According to the report of Bangladesh Meteorology Department, maximum temperature of the area was 34.4°C in 2010 and minimum temperature is 10.2°C. Average humidity is 61.4% (BBS 2011). Besides, the Upazila was affected by flood in four consecutive years from 2008 to 2011.

3.4.9 Agriculture: The economy of the Sariakandi Upazila is based on agricultural activities. The major agricultural items produced in this Upazila are paddy, green chili and brinjal. According to the BBS report based on population census 2011, the total production of rice in 2010-11 of the Upazila was 54598 metric ton. Besides, the production of wheat was 863 metric ton, production of jute was 10413 metric ton and production of sugarcane was 1663 metric ton in the same year.

According to the Agricultural census 2008, the Upazila has 65488 acre arable land where 282 acre is used as permanent cropped area, 48793 acre is used as temporary cropped area and the remaining 16413 acre is used as others. Total irrigated area in 2010-2011 is 44240 acre through lift pump and 3620 acre through deep tube well.

3.4.10 Industrial and Commercial Activity: Sariakandi Upazila is a less industrialized area. According to the BBS report based on population census 2011, the area has 95 rice mills, 10 small cottages, 20 saw mills, 3 oil mill, 20 pottery, 220 tailoring shops, 5 flour mills and so on.

3.4.11 Health and Social Welfare: The available health facility of the area is not enough for the resident. The area has only one govt. hospital accommodating 50 (fifty) beds. There also have 29 (twenty nine) community clinic, 4 (four) union health and family welfare center in this Upazila. For recreation purpose, there has no park or playground into the area. (Sariakandi Upazila at a glance, 2014).

3.4.12 Transportation and Communication: According to the BBS report based on population census 2011, the Upazila has total 501.1 kilometer road of which 86 kilometer is metalled road, 9.04 kilometer is semi metalled road and remaining 406.06 kilometer is unmetalled (kacha) road. The area has no railway connection. It has 20 kilometer water way in monsoon (both river and canal). The area has 12 bridges, 1 baily bridge and 182 culverts. The total area has only 4 bus stands.

The communication facility of Sariakandi Upazila is awfully poor. The Upazila is connected with the other parts of the country only through roadway. There is no railway connection of this Upazila. There only have a regional highway from Gabtali (Bogra) to Sariakandi and 3 (three) union roads to communicate in and around the project area. The existing 31.19 kilometer paved roadway enhances people to communicate with inter and intra Upazila area and also with the outer part of the country. But, the 30 kilometer semi-paved and 236.66 kilometer unpaved road is not favorable to the inhabitants in wet season as most of these go beyond public use. The total number of bridge culvert of the area is 10 some of which is very nominal in connection with public need. Besides, the Jamuna River could play an imperative role in developing communication with surrounding area through waterway.

3.4.13 Others: According to the BBS report based on population census 2011, the Upazila has 4 growth centers, 25 poultry farms, 80 dairy farms, 9 nursery, 3 brick kiln, and 23 decorator service. Besides, there are 18 hat/bazars which also play a vital role in mobilizing local economy.

3.4.14 Field visit

To enrich the project proposal with study area profile and for better understanding about the planning approach of study area, the Upazila was visited by the consultant. The consultant collected relevant data of the study area including population, economy, administration, education, health and so on. The consultant got a general idea about the study area and also got familiar with the core problems of the assigned area. The study area profile and its justification are compiled from the practical knowledge of the field visit. Some photos of the field visit including important infrastructures and resembling core problem of the study area are enclosing here.

3.3.14.1 Discussion with key personal and findings

During Reconnaissance Survey, a Project Mobilization Meeting with the key personnel for Package 04 of Preparation of Development Plan under "Preparation of Development Plan for Fourteen Upazilas" Project, which was held in Upazila Parishad Office at Sariakandi on the 12th of January 2015, from 11:00 am to 01:00 pm. Major resource members participated in the Meeting are Mr. Md. Sakil Mahmud, Upazila Nirbahi Officer (UNO), Sariakandi Upazila; Mr. Md. Nazrul Islam, Upazila Vice Chairman, Sariakandi Upazila; Mr. Tipu Sultan, Mayor, Sariakandi Upazila; Mr. Sofiul Hoque, Upazila Engineer, Sariakandi Upazila; Md. Altaf Hossain, Project Implementation Officer, Sariakandi Upazila; Md. Tanvir Hasan Rezaul, Planner & Project Manager (Package-04); Al-Amin Sikder, Jr. Urban Planner & GIS Analyst, MEPC Ltd. and so on.

Mr. Al-Amin Sikder, Jr. Urban Planner & GIS Analyst of Modern Engineers Planners & Consultants Ltd., provided a brief overview of the project background, objectives of the project, scope of the project, duration of the project completion and so on. He also overviewed the five main tier of the plan to be

prepared under the project namely Sub-Regional Plan, Structure Plan, Urban Area Plan, Rural Area Plan and Action Area Plan. Mr. Golam Rabbi Molla, Manager of Modern Engineers Planners & Consultants Ltd. overviewed the details about the work plan of the project. He informed the participants about the workshop program to be held before submitting the inception report. He overviewed the need and importance of workshop program and requested the local officials and stakeholders to assist consultants in arranging workshop program. Mr. Md. Tanvir Hasan Rezaul, Planner of Urban Development Directorate and Project manager of Package 04 of the said project presented the role to be played by the client side to implement the project. He emphasized the need for appropriate planning tools for the Upazila area including rural area for the utilization of existing land resources at root level. He also encouraged the local officials and stakeholders to go with the planning activities in near future for achieving sustainability of the Upazila area. Besides, he informed the local officials and stakeholders that the plan to be prepared under this project will be gazette and it has scope to revise the plan for future perspective.

Mr. Md. Sakil Mahmud, Upazila Nirbahi Officer (UNO), Sariakandi Upazila thanked Government of Bangladesh for approving such a needy project for Sariakandi Upazila. He agreed with the consultants and UDD officials about the need for proper planning for the Upazila. He also thanked for selecting both rural and urban area under planning action. He ensured to give all sorts of support for the proper running and implementation of the project. He requested both consultants and clients for addressing disaster related problem like river erosion and flood on priority basis as these problems are more acute in this Upazila. He also suggested to train up the local officials for proper implementation of the plan.

Mr. Md. Nazrul Islam, Upazila Vice Chairman, Sariakandi Upazila ensured to provide all forms of assistance for project implementation. He emphasized on including several needy items like water supply, street lighting, electricity etc. into the planning process.

Besides Mr. Tipu Sultan, Mayor, Sariakandi Upazila focused on the solid waste management, street lighting and own Pourashava Office to include into the plan. He also assured to assist in all the activities to be done under the project.

3.4.15 Constraints and opportunities

The study area has both constraints and opportunities. The people of the area are chiefly dependent on agriculture and paddy is the chief agricultural product. So, establishment of agro-based industrial development could enhance the economy of the area largely. River erosion and flood are the top most problems of the study area. Every year half of the total area of this Upazila goes under water. There is no effective initiative to rehabilitate the disaster affected people. As a result social and humanitarian problems increase. The existing road network is not conformed to the need. The low living standard is the ostensible feature of the area.

3.3.15 Sectorial Problems

The project area has both constraints and opportunities. The people of the area are chiefly dependent on agriculture and paddy is the chief agricultural product. So, establishment of agro-based industrial development could enhance the economy of the area largely. River erosion is the top most problem of the project area. Every year extensive loses are taken places from the erosion of the Jamuna River in the eastern part of this Upazila. Sometimes seasonal flood added with the river erosion problem. There is no effective initiative to rehabilitate the disaster affected people. As a result social and humanitarian problems increase. The existing road network is not conformed to the need. The low living standard is the ostensible feature of the area. The sectoral problems of the project area are summarized below:

3.3.15.1 Problem of Education: Low literacy rate (36.9%), poor access to the educational institution due to poor connectivity, lack of available educational center and odd distribution of educational institution depending on population density are the major problems with the education of Sariakandi Upazila.



Fig 3.15: Educational Institution

3.3.15.2 Communication Problem: The people of Sariakandi Upazila have been suffering with the problem of insufficient road network. Besides, among the existing road network, more than 80% road network is not metaled (kacha). Narrow road network and poor surface quality of the road is also a major problem. River erosion and seasonal flood always is a cause of damaging the road network of the area.



Fig 3.16: Road network of Sariakandi

3.3.15.3 Health Problem: The available health facility of the area is not enough for the resident. The area has only one govt. hospital accommodating 50 (fifty) beds. There also have 29 (twenty nine) community clinic, 4 (four) union health and family welfare center in this Upazila which are much below than public demand.



Fig 3.17: Health Complex

3.3.15.4 Electricity Problem: The urban area (Sariakandi Pourashava) of Sariakandi Upazila has no street light facility. Besides, most of the areas of this Upazila has no electricity connection. Most people are taking the advantage of solar power system.

3.3.15.5 Water Supply Problem: The urban area (Sariakandi Pourashava) of Sariakandi Upazila has no water supply facility. The major source of water of the residents is deep or shallow tube well. Moreover, high quantity of iron composition into the tube well water also is a problem faced by the inhabitants.



Fig 3.18: Tube well facility

3.3.15.6 Disaster Problem: The Sariakandi Upazila is said as a disaster prone area. Almost every year the eastern part of the Upazila is affected by flood. Rather, river erosion is also a common problem faced by the people.



Fig. 3.19: The Jamuna River is eroding the bank near Chandanbaish area in Sariakandi upazila of Bogra district.

Source: *The Dhaka Tribune* (Date: 19-05-2014)

3.3.15.7 Others Problem: The other problems include poor connectivity at regional and national perspective, poor solid waste management etc.



Fig 3.20: unplanned brick field



Fig 3.21: waste disposal system