

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
Ministry of Water Resources
Bangladesh Water Development Board (BWDB)



Environmental Impact Assessment (EIA)
of
“Haor Flood Management and Livelihood Improvement Project”
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VOLUME - II (ANNEXES)

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DevCon

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Annex A: Brief of 29 Sub-projects

A1. Brief of 14 New Haor Sub-Projects

1. Chandpur Haor Sub-project (Kishoreganj)

i. Location, Area and Administrative Unit

Chandpur Haor Sub-project is located between 584269 m to 590485 m BTM Northing and 684965.5 m to 691740m BTM Easting. The sub-project is bounded by the Kurigai Gang in the south; Uttar Jallabad-Batta village road in the east, Paschim Purura-Diakul village road in the north; and Paschim Purura-Manikhali road and Bhairab Bazar-Kishoreganj railway in the west. This sub-project is surrounded by mostly clusters of homesteads; only a small reach of the periphery in the southeast corner (around 1 km) is exposed to the river named Kurigai Gang. Gross area of the sub-project is 2288 ha and net cultivable area is 2022 ha.

Most of the area of this sub-project is under the Jurisdiction of Katiadi Upazila and only a small area is under Nikli Upazila of Kishoreganj district. In the same time, the area is under jurisdiction of four Unions: Chandpur Union, Kargaon Union and Shahasram Dhuldia Union of Katiadi Upazila, and Jaraitala Union of Nikli Upazila. The Figure-1 shows the map of Chandpur Haor Sub-project.

ii. Existing Infrastructure

Existing infrastructure in the area comprises railways, different types of roads, cross drainage structures (culverts, bridges) and control drainage structures (regulators, sluices). There is around 1.558 km railway at the western periphery of the sub-project. Nevertheless, there are around 52 km roads of different types maintained by the Local Government Engineering Department (LGED), 2 nos. of bridges, 16 nos. of box culverts and 4 nos. of pipe culverts in the area. The details of each category of roads located inside the sub-project are listed in **Table A.1**.

Table A.1: Existing roads inside and encircling the Chandpur Haor sub-project area

Authority	Type of Road	Length (Km)
Local Government Engineering Department (LGED)	Upazilla Road	13.91 (Pucca)
	Village Road A	5.77 (Pucca); 2.30 (Earthen)
	Village Road B	29.50 (Earthen)

iii. Population and Livelihood

a. Population

The total estimated population in the Chandpur Haor sub-project is around 24000 which is calculated based on population in the Mouza level published in community series of Bangladesh Bureau of Statistics (BBS) 2011.

b. Livelihood Improvement-following activities will be undertaken

- 1) Small scale income generation (Vegetable, poultry, fruit production ,etc)
- 2) Mother and Childs Health Care Support Service
- 3) Sanitation Support Service Scheme
- 4) Safe-Drinking Water Support Service Scheme
- 5) Biogas Scheme for WMG member

iv. Present Problem in different season in the subproject area

Pre-monsoon season:

Pre monsoon extends from April to May. In this period, Boro crops are grown in the low and medium low lands in the haor area. The harvesting of Boro crops sometimes are damaged by flash flood in the month of late April or early May. It may occur once in five years or more frequently. In this period outfall river water remains mostly unfavorable for drainage which causes local water logging problem inside the project area.

Monsoon season:

Monsoon extends from June to September. Some part of the area remains under water during monsoon season due to high flood level in the nearby Ghora-Utra River.

Post-monsoon season:

Post-monsoon extends from October to December. Farmers used to prepare their land for Boro cultivation from late November to mid-December in the haor area. Some parts of haor area (low and medium low land) remains under water due to either drainage congestion or delayed drainage.

v. Cost Estimation of Proposed Interventions to mitigate present problems

The estimated cost of proposed development items in the Chan dpur Hair sub-project is around BDT 30.05million. Details of cost estimation are given in the following Table A.2 for design condition as of pre-monsoon up to 15th May.

Table A.2: Cost estimation of proposed development items

SI no	Item of Work	Unit	Length/Quantity	Unit Cost (Taka in millions)	Cost (Taka in millions)
1	Submersible embankment	km	0.31	4.50	2.25
2	Regulators 2 vent -1.5 m×1.8 m	No	1	20.00	20.00
3	Re-excavation of drainage canal	km	13	0.60	7.80
Total estimated cost (Taka in millions)					30.05



Figure1: Map of Chandpur Haor Sub-project

2. Nunnir Haor Sub-project (Kishoreganj)

i. Location, Area and Administrative Units

Nunnir Haor sub-project is located between 680136 m to 691921 m BTM Northing and 589486 m to 600102 m BTM Easting. The Nunnir Haor sub-project consists of three hydrological independent units: Part-A, Part-B and Part-C as shown in Figure -2. Part-A is bounded by homestead and Upazilla road in the north, Ghora-Utra River in the east, homestead in the west and Kurigai Gang and Beri Gang in the south. Part-B is a conical shaped area, and bounded in the north by the Kurigai Gang, in the east by Roa beel and Upazilla road and west side by Upazilla road also. Part-C is bounded by the Beri Gang and Ghora-Utra River in the north, Ghora-Utra River in the east, Dheudhenga Nadi in the south and west. The gross area and net area of Part-A, Part B and Part C is total gross area of 5316 ha and net cultivated is 4835 ha.

Most of the area of Nunnir Haor sub-project is under the Jurisdiction of Nikli Upazila of Kishoreganj district, and only a small part is located under Bajitpur Upazila and Katiadi Upazila of the same district. Moreover, the sub-project area is under jurisdiction of seven unions: Jariatala, Gurai and Nikli of Nikli Upazilla; Karagaon of Katiadi Upazilla; and Hilochia, Dighirpar and Halimpur Union of Bajitpur Upazila.

ii. Existing Infrastructure

Existing infrastructure within the sub-project area comprises different types of roads, bridges, or other drainage structures. There are around 106.53 km roads of different types, 10 nos. of bridges, 34 nos. of box culverts, 3 nos. of pipe culverts and two regulators in and around the Nunnir Haor sub-project area. The details of each category of roads located inside the sub-project are listed in **Table A.3**.

Table A.3 : Existing roads inside and encircling the Nunnir haor sub-project

Area	Type of Road	length (km)
Part-A	Upazilla Road (Pucca)	7.29
	Village Road B (Katcha)	1.36
	Other Road	10.95
Part-B	Upazilla Road (Pucca)	15.41
	Upazilla Road (Katcha)	0.51
	Union Road (Katcha)	5.79
	Village Road A (Pucca)	4.19
	Village Road A (Katcha)	4.24
	Village Road B (Katcha)	17.79
	Other Road	21.37
Part-C	Village Road B (Katcha)	1.63
	Other Road	16.00
Total		106.53

iii) Population & Livelihood

a. Population

The total estimated population in the Nunnir- Haor sub-project is around 60,000 which is calculated based on population in the Mouza level published in community series of Bangladesh Bureau of Statistics (BBS) 2011.

b. Livelihood Improvement-following activities will be undertaken

- 1) Small scale income generation (Vegetable, micro-poultry, fruit production etc)
- 2) Mother and Childs Health Care Support Service
- 3) Sanitation Support Service Scheme
- 4) Safe-Drinking Water Support Service Scheme
- 5) Biogas Scheme for WMG member

IV. Present Problem in different season in the subproject area

Pre monsoon season:

Pre monsoon extends from April to May. In this period, Boro crops are grown in the low and medium low lands in the haor area. The harvesting of Boro crops are sometimes damaged by flash flood in the month of late April or early May. It occurs once in five years or more frequently. The flood water mainly enters from Ghora-Utra River. In this period outfall river water remains mostly unfavorable for drainage which causes local water logging problem inside the project area.

Monsoon season:

Monsoon extends from June to September. Significant part of the area remains under water during monsoon season due to high flood level in the nearby Ghora-Utra River.

Post monsoon season:

Post-monsoon extends from October to December. Farmers used to prepare their land for Boro cultivation from late November to mid-December in the haor area. Some limited parts of haor area (low and medium low land) remains under water due to either drainage congestion or delayed drainage.

V. Cost Estimation of Project interventions to mitigate present problems

The estimated cost of proposed development items in the Nunnir Hair sub-project is around BDT 272.33 million. Details of cost estimation are given in following **Table A.4**.

Table A.4: Cost estimation of proposed development items in Nunnir Haor sub-project

SI no	Item of Work	Unit	Length/Quantity	Unit Cost (Taka in millions)	Cost (Taka in millions)
1	Submersible embankment	km	31.36	4.5	152.78
2	Regulators(Vent Size- 1.5 m×1.8 m) including closure	No.	3 nos. each of 1 vent	10.5	31.5
			1 nos. each of 3 vent	16.8	33.6
			2 no. 4 vent	18.9	18.9
3	RCC Pipe sluice	No.	2	3.0	6.0
4	Rehabilitation of existing regulator	LS		0.5	0.5
5	Cause way-4 m wide	No.	1	7.5	7.5
6	Re-excavation of khals	km	34.93	0.6	2.8
	Re-excavation of Kurigai Gang			2.5	18.75
Total estimated cost (Taka in millions)					272.33



Figure 2: Map of Nunnir Haor Sub-project

3. Boro Haor (Nikli) Sub-project (Kishoreganj)

i. Location, Area and Administrative Units

Boro Haor (Nikli) sub-project is located between 584406.7 m to 597134.6 m BTM Northing and 691845.1 m to 703430.5 m BTM Easting. Most of the area of the sub-project is under the jurisdiction of Nikli, Katiadi and Karimganj Upazila and only a small area is under Kishoreganj Sadar Upazila of Kishoreganj district. The area is under jurisdiction of eleven Unions: Kargaon and Shahasram Dhuldia Union of Katiadi Upazila, Dampara, Karpasha, Nikli and Jaraitala Union of Nikli Upazila, Gundhar, Baragharia, Noabad and Joyka union of Karimganj Upazila and Dana Patali Union of Kishoreganj Sadar. **Figure-3** shows the map of Boro Haor (Nikli) sub-project with boundary and administrative units

This Sub-project is surrounded by Pulerghat-Kargaon-Nikli road in the south, Old Singua River in the east, Kishoreganj-Gachihataroad in the west, and some clusters of homesteads near Hajirkhali Bazar in the north. Most of the populated area of this sub-project is accessible by road communication. The gross and net cultivable areas of the project are 10672 ha and 9225 ha, respectively.

ii. Existing Infrastructure

Existing infrastructure in the area comprises different types of roads, railways, drainage structures etc. Dhaka-Kishoreganj railway line passes just outside the western periphery of the sub-project. Nevertheless, there are around 134 km roads of different types maintained by the Local Government Engineering Department (LGED). The details of each category of roads inside the sub-project are listed in **Table A.5**.

Table A.5: Existing roads inside and encircling the Boro Haor (Nikli) sub-project area

Authority	Type of Road	Length (km)
Local Government Engineering Department (LGED)	Union Road (Katcha)	9.84
	Upazila Road (Katcha)	5.96
	Upazila Road (Pucca)	22.50
	Village Road A (Katcha)	5.79
	Village Road B (Katcha)	32.03
	Other roads	58.19
Total		134.31 km

iii. Population & Livelihood

a. Population

Total estimated population in the Boro Haor (Nikli) sub-project is around 128199 which is calculated based on population in the Mouza level published in community series of Bangladesh Bureau of Statistics (BBS) 2011.

b. Livelihood Improvement-following activities will be undertaken

- 1) Small scale income generation (Vegetable, micro-poultry, fruit production ,etc)
- 2) Mother and Childs Health Care Support Service
- 3) Sanitation Support Service Scheme
- 4) Safe-Drinking Water Support Service Scheme
- 5) Biogas Scheme for WMG member

IV. Present Problem in different season in the sub-project area

Pre-monsoon season:

Pre monsoon extends from April to end of May. In this period, Boro crops are grown in the low and medium low lands in the haor area. The harvesting of Boro crops sometimes are damaged by flash flood in the month of late April or early May. Water enters into haor area from Ghora-Utra River through different connecting channels .It occurs once in five years. In this period outfall river stage remains high, mostly unfavorable for drainage which causes local water logging problem inside the project area.

Monsoon season:

Monsoon extends from June to September. Significant part of the area remains under water during monsoon season due to high flood level in the nearby Ghora-Utra River. The flood water enters into Boro Haor (Nikli) sub-project area through Old Singua River and connected khals coming from the Ghora-Utra River.

Post-monsoon season:

Post-monsoon extends from October to December. Farmers used to prepare (plough) their land for Boro cultivation from late November to mid-December in the haor area. Some parts of haor area (low and medium low land) remains under water due to either drainage congestion or delayed drainage.

V. Cost Estimation of Proposed Interventions to mitigate present problems

The estimated cost of proposed development item of works in the Boro Haor (Nikli) sub-project is about BDT 209 million. The summary of cost estimation is given in following **Table A.6**

Table A.6: Cost estimation of proposed development items in Boro Haor (Nikli) sub-project

Sl. no	Item of Work	Unit	Length/ Quantity	Unit Cost (Taka in millions)	Cost (Taka in millions)
1	Submersible embankment	Km	2.96	2.00	11.80
2	Regulator at outfall of Diga Nadi	No.	One 14 vent	80.0	80.0
	Regulator at outfall of Hajirkhali Khal.		One 1 vent	14.0	14.0
	Regulator at outfall of Baniajan Gang.		One 2 vent	16.5	16.5
	Regulator at outfall of Karpasha Khal		One 1 vent	14.0	14.0
	Regulator at outfall of Dampara Khal		One 2 vent	16.5	16.5
3	Causeway over Sudhi Khal & Depjuri Khal	No.	2 each of 4 m wide	7.50	15.0
	Causeway over Diga Nadi	No.	One 8 m wide	12.0	12.0
4	Pipe Sluice	No	1	3.00	3.0
5	Re-excavation of drainage canal	km	21	2.0	26.0
6	Strengthening of existing closure, Karpasha branch khal	No.	1 item	0.20	0.20
Total estimated cost (Taka in millions)					209.00

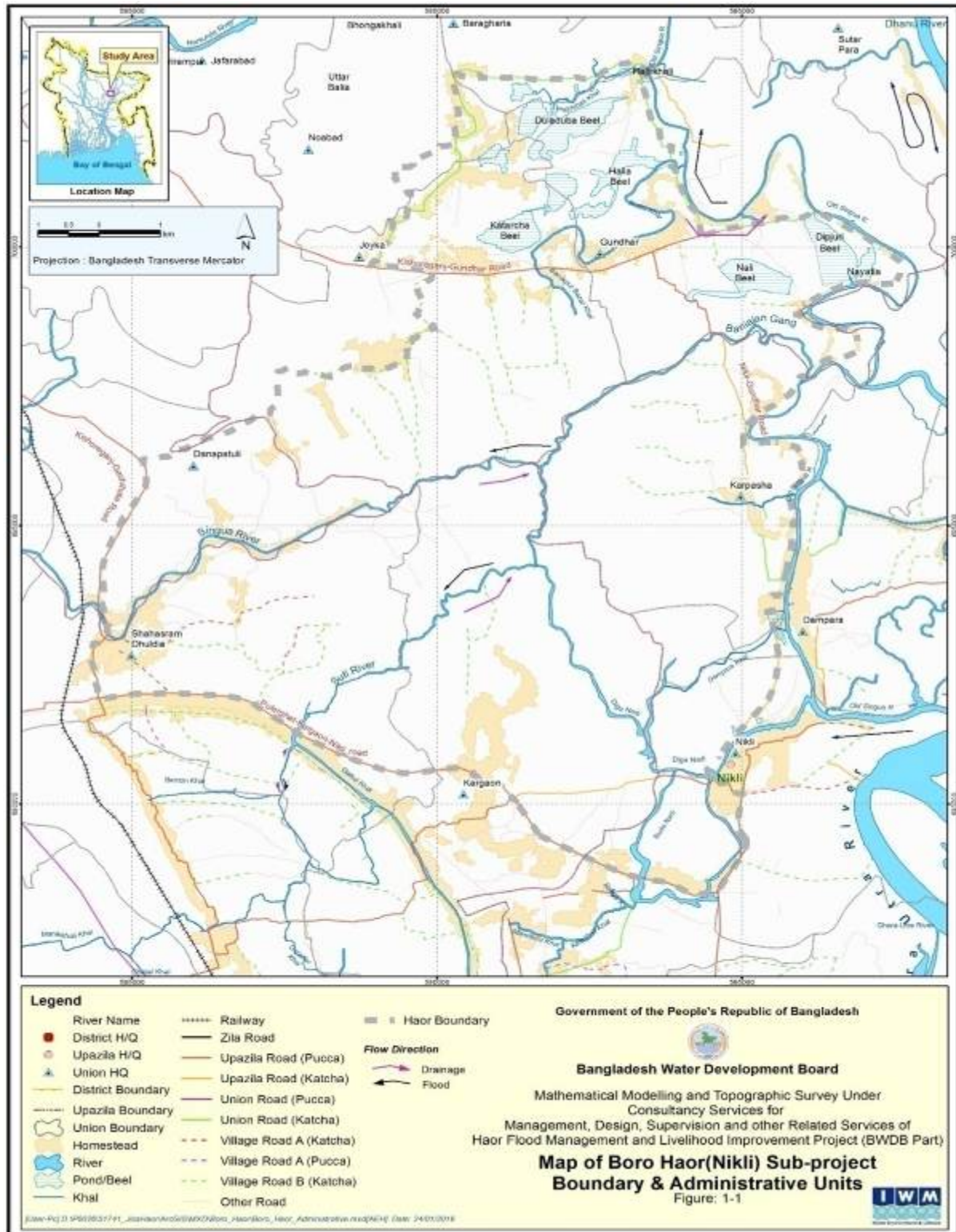


Figure 3: Boro Haor (Nikli) sub-project with boundary and administrative units

4. Noapara Haor Sub-project (Kishoreganj)

i. Location, Area and Administrative Units

Noapara Haor Sub-project is located between 691438 m to 699770 m BTM Northing and 595858 m to 602166 m BTM Easting. The sub-project is bounded by Old Singua River (partly) in the north, Dhanuand Ghora-Utra River system in the east, Old Singua River in the south and west. Gross area and net area of the sub-project are 3141 ha and 2921 ha respectively.

The sub-project is under the Jurisdiction of Austagram, Karimganj and Nikli upazilla of Kishoreganj district. In the same time, the area is under jurisdiction of five unions: Karpasha, Dampara and Singpur Union of Nikli Upazila; Deoghar Union of Austagram Upazilla and Gundhar Union of Karimganj Upazilla., the Sub-project area along with boundaries of unions are shown in Figure 4

ii. Existing Infrastructure

Existing infrastructure in the area comprises different types of roads, bridges or other drainage structures. As of comprehensive field survey carried out under the study, there are about 41.4 km of roads of different types, 1 no. of bridge, 28 nos. of culverts and 2 nos. of drainage regulators inside and encircling the Noapara Haor sub-project area. Roads, bridges and culverts identified in the area are maintained by the Local Government Engineering Department (LGED). The two regulators stated above are constructed by Bangladesh Agricultural Development Corporation (BADC). The details of each category of roads located inside the sub-project are listed in **Table A.7**.

Table A.7: Existing roads inside and encircling the Noapara Haor sub-project

Authority	Type of Road	Length (km)
Local Government Engineering Department (LGED)	Upazilla Road	3.82 (Pucca); 1.58 (Earthen)
	Union Road	1.11 (Earthen)
	Village Road B	8.29 (Earthen)
	Other	26.59
Total		41.39

iii. Population & Livelihood

a. Population

The total estimated population in the Noapara Haor sub-project is about 25000 which is calculated based on population in the Mouza level published in community series of Bangladesh Bureau of Statistics (BBS) 2011.

b. Livelihood Improvement-following activities will be undertaken

- 1) Small scale income generation (Vegetable, micro-poultry, fruit production ,etc)
- 2) Mother and Childs Health Care Support Service
- 3) Sanitation Support Service Scheme
- 4) Safe-Drinking Water Support Service Scheme
- 5) Biogas Scheme for WMG member

IV. Present Problem**Pre monsoon season**

Pre-monsoon extends from April to May. In this period, Boro crops are grown in the low and medium low lands in the haor area. The harvesting of Boro crops sometimes are damaged by flash flood in the month of late April or early May. It occurs once in five years or more frequently. In this period outfall river water remains mostly unfavorable for drainage which causes local water logging problem inside the project area.

Monsoon season

Monsoon extends from June to September. Significant part of the area remains under water during monsoon season due to high flood level in the nearby Ghora-Utra River. The flood water enters in to Noapara Haor sub-project area from Old Singua River, Dhanu River and Ghora-Utra River.

Post monsoon season

Post-monsoon extends from October to December. Farmers used to prepare (plough) their land for Boro cultivation from late November to mid December in the haor area.

V. Cost Estimation of Proposed interventions to mitigate present problems

The estimated cost of proposed development items in the Noapara Haor sub-project is about BDT 313.83 million. The summary of cost estimation is given in following **Table A.8**

Table A.8: Cost estimation of proposed development items in Noapara Haor sub-project

SI no	Item of Work	Unit	Length/Quantity	Unit Cost (Taka in millions)	Cost (Taka in millions)
1	Submersible embankment	km	22.11	9.5	212.33
2	Regulators (Vent Size- 1.5 m×1.8 m) including closure	No.	3 nos. each of 1 vent	14.0	42.0
			1 nos. 2 vent	16.5	16.5
			1 no. 3 vent	19.0	19.0
3	RCC Pipe Sluice	No.	2 nos. of 0.9 m dia.	3.0	6.0
4	Causeway	No.	1 no.	8.0	8.0
5	Drainage canal	km	15.0	2.0	10.0
Total estimated cost (Taka in millions)					313.83



Figure-4: Map of Noapara Haor Sub-project

5. Naogaon Haor Sub-project (Kishoreganj)

i. Location, Area and Administrative Units

Naogaon Haor sub-project is located between 595000m to 610000m BTM Northing and 695000m to 710000m BTM Easting. The sub-project is bounded by the Dhanu River in the west, Dhanu-Baulai link River in the north, Baulai River in the east and southeast. The Baulai River and the Dhanu River meets just south of the Naogaon Haor sub-project. The Baulai River in the southeast boundary of the sub-project is sometimes locally called as the Ghora-Utra River.

In the Haor Master Plan by Bangladesh Haor and Wetland Development Board and Preparatory Survey by Japan International Cooperation Agency (JICA), the Naogaon Haor has been considered as a single unit. Under updated planning Review study, the Naogaon Haor sub-project has been planned dividing into two hydrological independent parts: Naogaon Haor (Part A) and Naogaon Haor (Part B) in Figure-5.

Part A in the north comprises gross area of 2511ha and net cultivable area of 2200. Part B in the south comprises gross area of 4828ha and net cultivable area of 4462ha. Total Gross area and net area of Naogaon Haor sub-project are 7339 ha and 6662 ha, respectively.

The project area comprises part of areas of four Upzillas: Itna, Karimganj, Mithamain and Nikli under Kishoreganj district. The area is under jurisdiction of six Unions: Elangjuri and Barbari Unions of Itna Upazila, Gopdighi and Mithamain Unions of Mithamain Upazila, Singpur Union of Nikli Upazila and Sutar Para Union of Karimganj Upazila.

ii. Existing Infrastructure

Existing infrastructure in the Naogaon Haor sub-project area comprises different types of roads, bridges, culverts and others drainage structures. There are about 384 km of roads of different types maintained by the Local Government Engineering Department (LGED), 5 nos. of regulators, and 4 nos. of culverts in the sub-project area. 4 nos. of regulators are maintained by the Local Government Engineering Department (LGED), and the remaining 1 no. is maintained by Bangladesh Agricultural Development Corporation (BADC). The details of each category of roads located inside the sub-project are listed. Details of 5 nos. of existing regulators are given in **Table A.9**.

Table A.9: Existing roads inside and encircling the Naogaon Haor sub-project

Authority	Type of Road	Length (km)
Local Government Engineering Department (LGED)	Union Road (Katcha)	13.1
	Union Road (Pucca)	3.1
	Upazila Road (Katcha)	22.7
	Upazila Road (Pucca)	188.9
	Village Road A (Katcha)	26.4
	Village Road A (Pucca)	9.0
	Village Road B (Katcha)	121.3
Total		384.5

In Part A, there are 3 nos. of regulators: 2 nos. at upstream and downstream of Pangaiar DairKhal and 1 regulator at the downstream point of Char Naogaon Khal. There are two existing regulators found in Part B: one regulator is located inside the haoron the Markhali Khal, and another regulator is located in the periphery on the Neora Khal. The list of existing regulator is given in **Table A.10**.

Table A.10: Lists of existing regulators in the Naogaon Haor sub-project

Part	Structure	Location	Owner Agency	Condition	Remarks
Part A	Regulator 1-1.5 m×1.84 m Invert: 0.65 m PWD	Char Naogaon Khal	LGED	Embanked with RCC road, good condition	Periphery, drainage cum flushing
	Regulator 1-1.2 m×1.75 m Invert: 0.14 m PWD	Pangaiar Dair Khal	LGED	Wing embankment washed out; need rehabilitation	Periphery, drainage cum flushing
	Regulator 2-1.5 m×1.98 m Invert: 0.59 m PWD	Pangaiar Dair Khal	LGED	Functioning	Internal, drainage cum flushing
Part B	Regulator (2×1.5 m+2.5 m) ×2.8m Invert: 1.19 m PWD	Neora Khal	BADC	Wing embankment washed out; need rehabilitation	Periphery, drainage cum flushing
	Regulator 4-1.5 m×1.9 m Invert: 0.57 m PWD	Markhali Khal	LGED	Functioning	Internal, drainage cum flushing

iii. Population & Livelihood

a. Population

The total estimated population in the Naogaon Haor sub-project is around 27176 which is calculated based on population in the Mouza level published in community series of Bangladesh Bureau of Statistics (BBS) 2011.

b. Livelihood Improvement-following activities will be undertaken

- 1) Small scale income generation (Vegetable, micro-poultry, fruit production ,etc)
- 2) Mother and Childs Health Care Support Service
- 3) Sanitation Support Service Scheme
- 4) Safe-Drinking Water Support Service Scheme
- 5) Biogas Scheme for WMG member

iv. Present Problem

Pre-monsoon Season

Pre-monsoon season extends from April to end of May. In this period, Boro crops are grown in the low and medium low lands in the haor area. The harvesting of Boro crops sometimes are damaged by flash flood in the month of late April or early May. Water enters into haor area from Ghora-Utra River through

different connecting rivers and khals and damages Boro crops. But if there is heavy rainfall within the project area in pre-monsoon period, the drainage becomes difficult because outfall river stage remains high in April-May. It occurs more or less once in every five years.

Monsoon Season

Monsoon extends from June to September. Significant part of the area remains under water during monsoon season due to high flood level in the nearby Ghora-Utra River. The flood water enters into Naogaon Haor sub-project area through Dhanu River and Baulai River and connected khals of the project area. The water remains in the haor areas from June to September.

Post-monsoon Season

Post-monsoon extends from October to mid-December. Farmers used to prepare (plough) their land for Boro cultivation from late November to mid-December in the haor area. Some parts of haor area (low and medium low land) remains under water due to either drainage congestion or delay drainage. The river stage decreases from late October and accelerates the drainage from early of November.

v. Cost Estimation of Interventions to mitigate present problems

The estimated cost of proposed development items in the Naogaon Haor sub-project is about BDT 684.40 million. The summary of cost estimation is given in following **Table A.11**.

Table A.11: Cost estimation of proposed development items in Naogaon Haor

Sl no	Item of Work	Unit	Length/Quantity	Unit Cost (Taka in millions)	Cost (Taka in millions)
1	Submersible embankment	km	63.30	8.62	514.4
2	Regulators (Vent Size- 1.5 m×1.8 m) including closure etc.	No.	2 no. 1 vent	14	14
			4 nos. 2 vent	16.5	66
3	Rehabilitation of existing regulators	No.	2 no 3 vent, (Neora Khal)	5.0	8.0
			1 no 1 vent, (Pangair Dair)	3.0	
4	RCC Pipe Sluice	No.	2 nos. of 0.9 m dia.	3.0	6.0
5	Causeway	No.	4 no. (1 no. 6.6 m & 3 no. 4 m)	12 for 6.6 m wide, 8 for 4 m wide	36.0
6	Closure	No.	5 no	2.0	10.0
7	Berachapra-Atoplal River/Khal re excavation	km	40.00	2.50	30.0
Total estimated cost (Taka in millions)					684.40

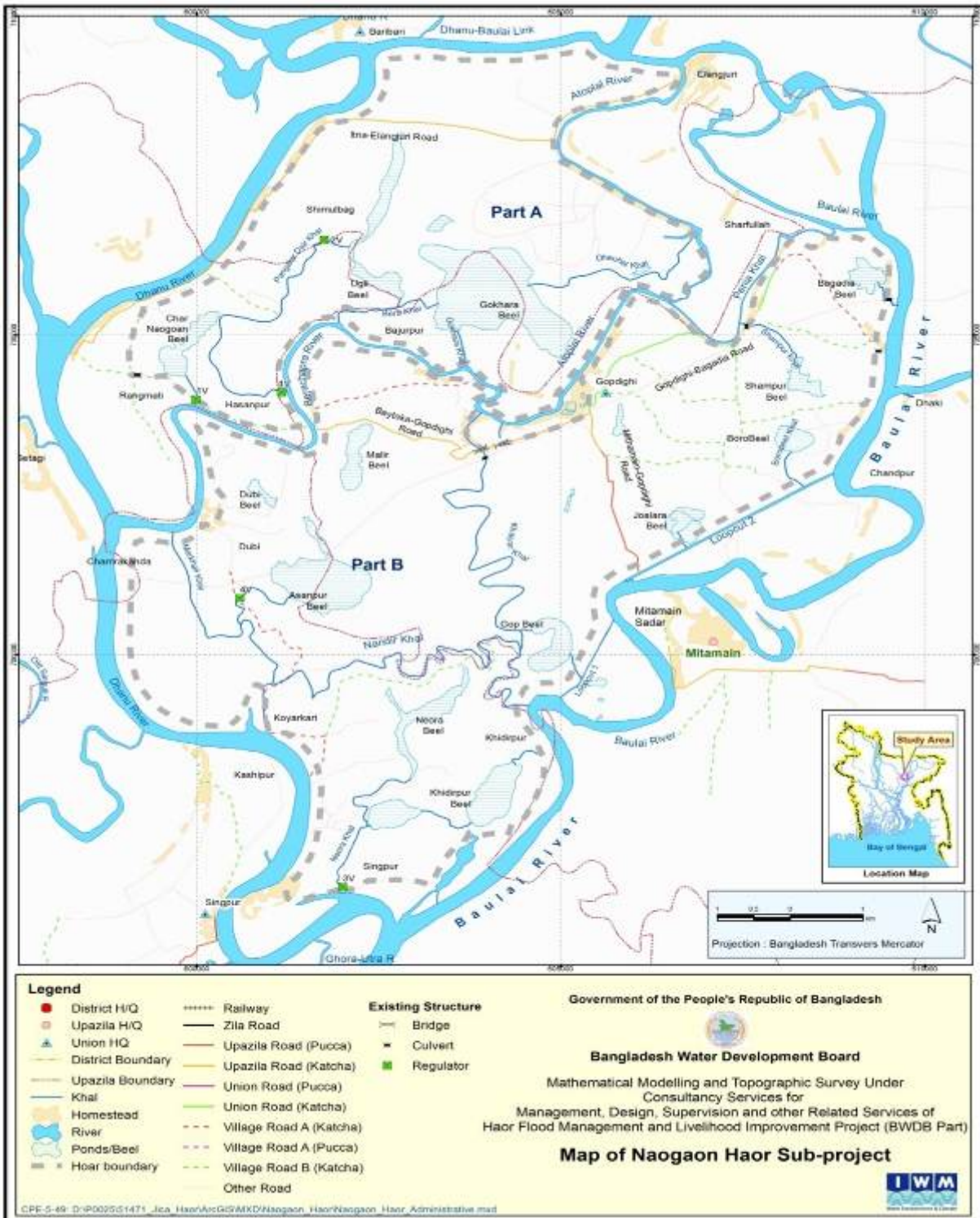


Figure 5: Map of Naogaon Haor Sub-project

6. Badla Haor Sub-project (Kishoreganj)

i. Location, Area and Administrative Units

Badla Haor sub-project is located between 595000 m to 605000 m BTM Northing and 705000 m to 715000 m BTM Easting. The sub-project is bounded by the Dhanu River in the east and south; Saiduli-Baruni River in the north; Narsunda River in the west. This sub-project is comprised of clusters of beels; eastern part of the periphery (around 6 km) is exposed to the Dhanu River. The sub-project has the periphery of 32.4 km. Gross area and net area of the sub-project is 2087 ha and 1798ha respectively. (Net area excludes areas covered with khal (20 ha), homestead (98 ha), roads (11 ha), and beel /Pond (160 ha) from the gross area).

The project area of Badla Haor sub-project has increased compared to that of previous planning done in Data Collection Survey (December 2013)/Preparatory Survey (February 2014). The extended area is considered for inclusion/utilization of existing roads and regulators in pre-monsoon flood protection and post-monsoon drainage which are basically located further south and west side of the sub-project (along the Narsunda River).

The sub-project area comprises areas of two Upazilla :Itna and Tarail under Kishoreganj district. The area is under jurisdiction of three Unions: Badla Union and Barbari Union of Itna Upazila, and Damiha Union of Tarail Upazila.

ii. Existing Infrastructure

Existing infrastructure in the area comprises different types of roads, bridges, culverts and other drainage structures. There are about 24 km roads of different types maintained by the Local Government Engineering Department (LGED), 6 nos. of bridges, 6 nos. of regulators and 33 nos. of culverts in the area. The details of each category of roads located inside the sub-project are listed in **Table A.12**

Table A.12. Existing roads inside and encircling the Badla Haor sub-project area

Authority	Type of Road	Length (km)
Local Government Engineering Department (LGED)	Upazilla Road (Pucca)	6
	Upazilla Road (Earthen)	7
	Village Road A (Earthen)	7
	Village Road B (Earthen)	3

iii. Population & Livelihood

a. Population

The total estimated population in the Badla Haor Sub-project is around 23345 which is calculated based on population in the Mouza level published in community series of Bangladesh Bureau of Statistics (BBS) 2011

b. Livelihood Improvement-following activities will be undertaken

- 1) Small scale income generation (Vegetable, micro-poultry, fruit production ,etc)
- 2) Mother and Childs Health Care Support Service
- 3) Sanitation Support Service Scheme
- 4) Safe-Drinking Water Support Service Scheme
- 5) Biogas Scheme for WMG member

iv. Present Problems

Pre-monsoon Season

Pre-monsoon season extends from April to end of May. In this period, Boro crops are grown in the low and medium low lands in the haor area. The harvesting of Boro crops are damaged by flash flood in the month of late April or early May. Water enters into haor area from Dhanu River and Narsunda River through different connecting khals and damages Boro crops. If there is heavy rainfall within the project area in pre-monsoon period, the drainage becomes difficult because outfall river stage remains high in April-May. It occurs more or less once in every five years.

Monsoon Season

Monsoon extends from June to September. Significant part of the area remains under water during monsoon season due to high flood level in the nearby Dhanu River and Narsunda River. The flood water enters into Badla Haor sub-project area through Dhanu River and Narsunda River and connected khals of the project area. The water remains stagnant in the haor areas from June to September.

Post-monsoon Season

Post-monsoon extends from October to mid-December. Farmers used to prepare (plough) their land for Boro cultivation from November to mid-December in the haor area. But they used to prepare seed bed and vis-à-vis seedlings at higher elevated lands from late October. The haor area (low and medium low land) remains under water for several months and gradually reclaims from water and farmers used to sow Boro crops gradually to their land. There is no such deep bil found from detail survey. The river stage decreases from late October and accelerates the drainage from early November. The area suffers from early recovery of their land from pool of water in post monsoon season. The area should be evacuated on or before early December by putting adequate structures over the drainage khals along the periphery of the project and clearing the obstructions of drainage of khals so that farmers can sow Boro crops by December.

v. Cost Estimation of Proposed Interventions to mitigate present problems

The estimated cost of proposed development items in the Badla Haor sub-project is about BDT 175.6 million. The summary of cost estimation is given in following **Table A.13**.

Table A.13. Cost estimation of proposed development items in Badla Haor sub-project

SI no	Item of Work (Badla Haor)	Unit	Length/Quantity	Unit Cost (Taka in millions)	Cost (Taka in millions)
1	Submersible embankment	km	21.00	4.6	105.8
2	Regulators (Vent Size- 1.5 m×1.8 m) including closure etc.	No.	1 no. 1 vent	16.8	16.8
			1 no. 2 vent	19.8	19.8
3	Rehabilitation of existing regulators	No.	6 nos.	1	6
4	RCC Pipe Sluice	No.	1 no. 0.9 m dia.	3.6	3.6
5	Causeway	No.	1 no. 4m	9.6	9.6
6	Closure	No.	2 nos.	2	4
7	Re-excavation of khals	km	9.70	2.0	10
Total estimated cost (Taka in millions)					175.6

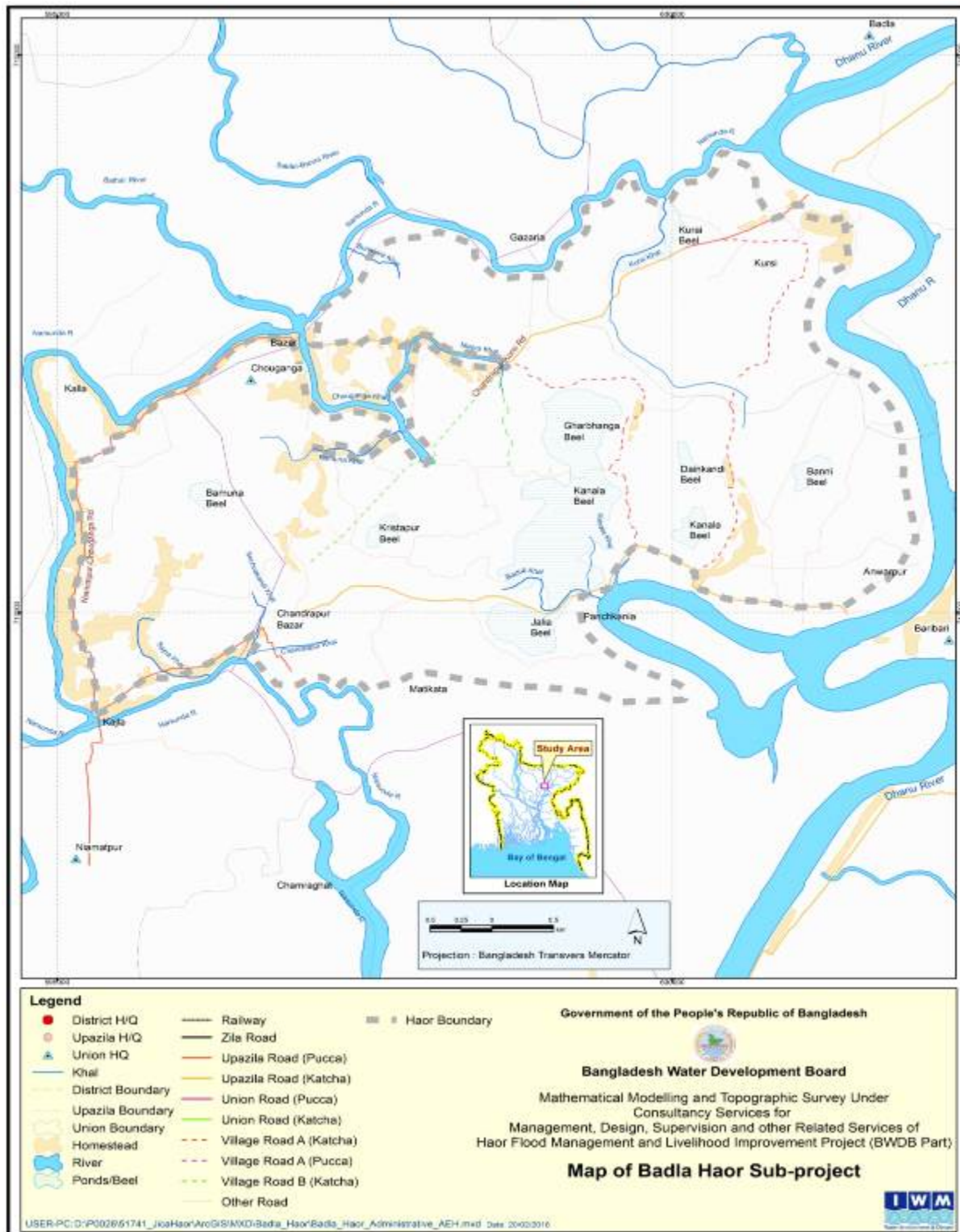


Figure 6: Map of Badla Haor Sub-project

7. Chatal Haor Sub-project (Kishoreganj)

i. Location, Area and Administrative Units

Chatal Haor sub-project is located in between 594500 m to 598500 m BTM Easting and 715500 m to 721000 m BTM Northing. The sub-project is bounded by Saiduli-Baruni River along the north, east and south-east side. Along the south-west and west side, the project is bounded by homesteads and village road. Gross area and net/cultivable area of the sub-project is 1117 ha and 1032 ha respectively.

The sub-project area mostly falls under the Jurisdiction of Itna and Tarail Upazila of Kishoreganj district. About 62% of the gross area is under Itna Upazila and the rest 38% is under Tarail Upazila. Unions covered by the sub-project are: Raituti union of Itna Upazila; and Dhala, Jawar and Damiha union of Tarail Upazila. Boundaries of the sub-project, Upazilas and unions covering the sub-project are shown

ii. Existing Infrastructure

Existing infrastructure in the sub-project area comprises different types of roads-both medaled and earthen, and few drainage structures e.g. pipe culvert, box culvert, bridge etc. located on the roads. The pipe culvers located along the peripheral roads drain small localized depression areas in and around the homesteads. Those culverts located on the internal roads are for drainage of water from one place to another leading to drainage outlet of the sub-project.

There are about 30.27 km roads of different types maintained by the Local Government Engineering Department. Some of the roads particularly inside the sub-project are submersible, and goes under water during monsoon season. One pucca submersible road connect the east and west side of the project and runs through the beel area. Peripheral roads are all season road while the internal roads remain operable for about seven months. The details of each category of roads located inside the sub-project are listed in **Table A.14.**

Table A.14: Existing roads inside and encircling the Chatal Haor sub-project

Authority	Road Type	Length (Km)
Local Government Engineering Department (LGED)	Un-defined	20.41
	Union Road (Katcha)	0.40
	Union Road (Pucca)	6.21
	Village Road B (Katcha)	3.25
Total		30.27

iii. Population & Livelihood

a. Population

The total estimated population in the Chatal Haor sub-project is about 8472 which is calculated based on population in the Mouza level published in community series of Bangladesh Bureau of Statistics (BBS) 2011.

b. Livelihood Improvement-following activities will be undertaken

- 1) Small scale income generation (Vegetable, micro-poultry, fruit production ,etc)
- 2) Mother and Childs Health Care Support Service
- 3) Sanitation Support Service Scheme
- 4) Safe-Drinking Water Support Service Scheme
- 5) Biogas Scheme for WMG member

iv. Present Problem

Pre-monsoon season

Pre-monsoon season extends from April to May. In this period, Boro crops are grown in the low and medium low lands in the sub-project area. The harvesting of Boro crops is damaged by flash flood in the month of late April or early May. It occurs more frequently. Pre-monsoon flood generally enters into the sub-project area through three khals; Mozila Khal located in the north side of the project, Mogar Khal located at the south-east corner, and through Noaparakhali Khal located in the southern side of the project. Sometime flood water also enters into the area through overtopping the bank of Saiduli-Baruni River.

Monsoon season

Monsoon season extends from June to September. Significant part of the area remains under water during monsoon season due to high water level in the peripheral Saiduli-Baruni River. Flood water enters into Chatal haor sub-project area from Saiduli-Baruni River through the connecting khals and through overtopping of river banks. The pool of water remains stagnant up to mid of October.

Post-monsoon season

Post-monsoon season extends from October to December. Farmers used to prepare (plough) their land in the haor area for Boro cultivation from late November to mid-December. Some parts of haor area (low and medium low land) remains under water due to either drainage congestion or delayed drainage. This is generally caused due to poor drainage facility through the Mozila Khal and Noapara khal iKhal that drains a significant part of the project area

V. Cost Estimation of Proposed Interventions to mitigate present problems

The estimated cost of proposed development items in the Chatal Haor sub-project is about BDT 70.30 million. The summary of cost estimation is given in following **Table A.15**.

Table A.15: Estimated Cost of proposed Interventions to mitigate present problems in Chatal Haor sub-project

SI no	Item of Work	Unit	Length/Quantity	Unit Cost (Taka in millions)	Cost (Taka in millions)
1	Submersible embankment	km	6.27	5.50	34.00
2	Regulators (Vent Size- 1.5 m×1.8 m) including closure	No.	2 nos. 2 vent	16.50	33.00
3	RCC Pipe Sluice	No.	1 nos. of 0.9 m dia.	3.00	3.00
4	Re-excavation of drainage canal	km	0.15	2.00	0.30
Total estimated cost					70.30

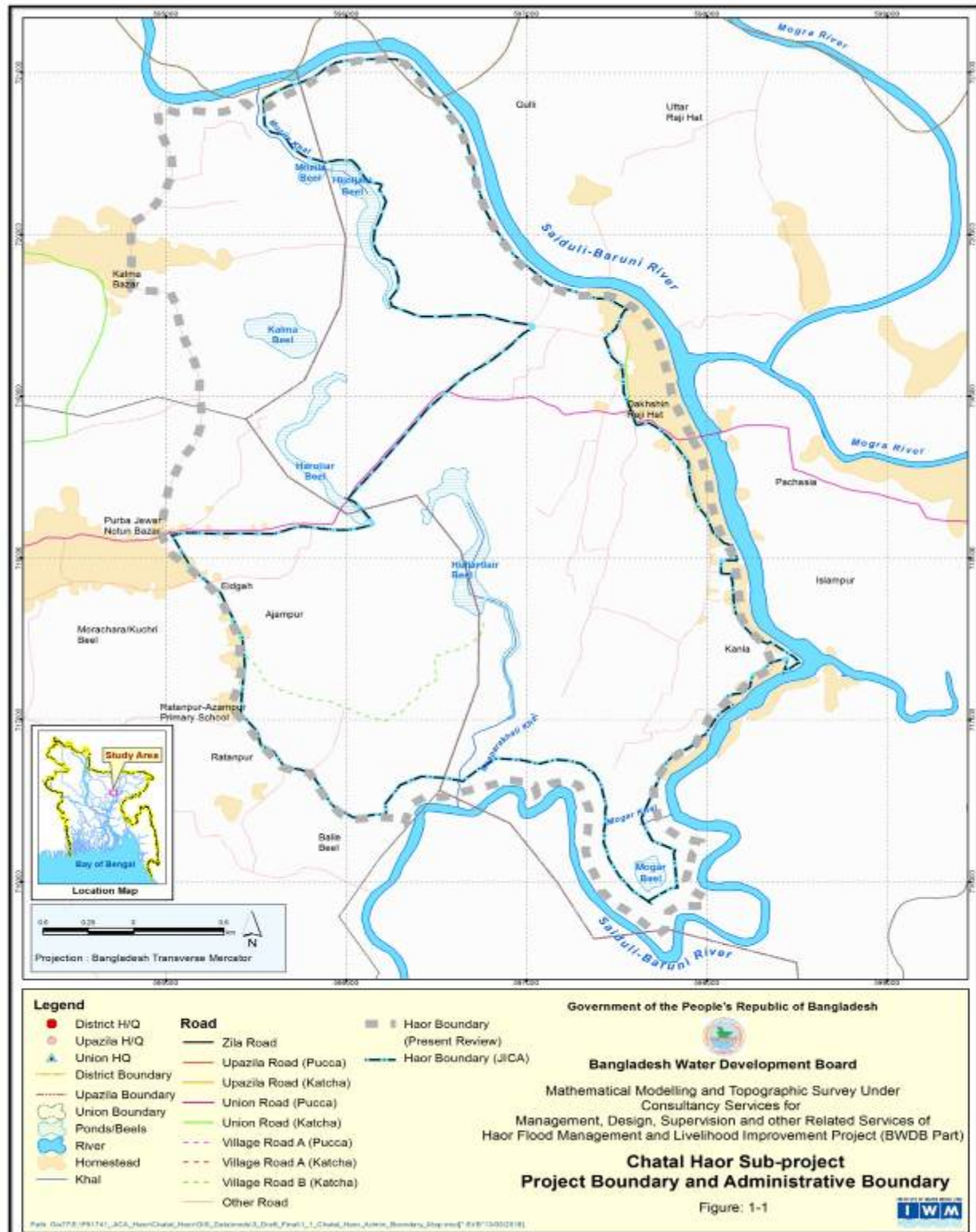


Figure 7: Map showing project boundary and administrative units of Chatal Haor Sub-project

8. Dakhsiner Haor Subproject (Kishoreganj)

i. Location, Area and Administrative Units

Dakhshiner Haor Sub-project is located in between 702080 m to 711036.6 m BTM Northing and 611170 m to 620707 m BTM Easting. The sub-project is bounded by Bantai River, Bolai River and Uara khal in the north, Cherapur Khal in the south, Kalni River in the east, and Bantai River in the west. Gross area and net area of the sub-project are 4845 ha and 4410 ha respectively.

The sub-project is under the Jurisdiction of Itna upazila (Joy Siddhi and Elongjuri union) and Mithamain upazila (KhatKhal and Dhaki union) of Kishoreganj district and Ajmiriganj upazilla (Kalkailsea union) of Habiganj district. Figure-8 shows the Map of Dakhsnier Haor Subproject.

ii. Existing Infrastructure

Existing infrastructure in the area comprises of different type of roads, cross drainage structures and control drainage structures. There are about 37.78 km roads of different type maintained by the Local Government Engineering Department (LGED). One bridge and several culverts have been digitized from satellite imagery of the area. There is one three vent sluice gate over Shankir Khal near Hashimpur. This information has been collected from secondary sources. The details of each category of roads located inside the sub-project are listed in Table A.16.

Table A.16: Existing roads inside and encircling the Dakhsiner Haor sub-project area

Authority	Type of Road	Length (km)
Local Government Engineering Department (LGED)	Upazila Road (Katcha)	1.26 (Earthen)
	Village Road B (Katcha)	1.05 (Earthen)
	Un-defined	35.46 (Earthen)
	Total	37.78

ii. Population & Livelihood

a. Population

The total estimated population in the Dakhsiner Haor sub-project is about 23159 which is calculated based on population in the Mouza level published in community series of Bangladesh Bureau of Statistics (BBS) 2011.

b. Livelihood Improvement-following activities will be undertaken

- 1) Small scale income generation (Vegetable, micro-poultry, fruit production ,etc)
- 2) Mother and Childs Health Care Support Service
- 3) Sanitation Support Service Scheme
- 4) Safe-Drinking Water Support Service Scheme
- 5) Biogas Scheme for WMG member

iii. Present Problem

Pre monsoon Season

Pre-monsoon extends from April to May. Boro crops are grown in the low and medium low lands in the haor area. During pre-monsoon Boro crops are damaged frequently by flash flood in the month of late April or early May. The flash flood enters into the project area through Nischintapur Khal, Shanti pur Khal and Shankir Khal from Kalni River. The pre-monsoon flood water carries floating silt and sand particles that are deposited in the paddy land.

Monsoon Season

Monsoon extends from June to September. Most of the area remains under water during monsoon season due to high flood level in the nearby Kalni River, Bantai River and Cherapur Khal.

Post-monsoon Season

Post-monsoon season extends from October to November. Farmers used to prepare their land for Boro cultivation from late November to mid December in the haor area. Shankir Khal is the only drainage route of the project area, and some reaches of the khal is silted up. It causes some localized drainage congestion. So, in post-monsoon season, the drainage congestion causes delay the land preparation and plantation of Boro crops in some areas.

Winter Season

Winter season extends from December to February which is basically a season of plantation and growth time of Boro crops. Almost no water remains available from rainfall in this season. Farmers depend on local surface and ground water for irrigation in Boro cultivation. Since, the outfall of the Bantai River is silted up; tidal water cannot penetrate inside the sub-project area through Shankir Khal. Tidal fluctuation in the nearby Cherapur Khal is around 0.3 to 0.4 meter and level of high tide ranges from 0.8 m PWD to 1.5 m PWD in January-March period depending on spring and neap tide. Beside, the Cherapur Khal is perennial, and gets significant flow from the Kalni River in dry months. Water available in the Cherapur Khal could made available inside the sub-project through re-excavation of the Shankir Khal.

V. Cost Estimation of Proposed Interventions to mitigate present problems

The estimated cost of proposed development items in the Dakhshiner Haor sub-project is about BDT174million. The summary of cost estimation is given in Table A.17.

Table A.17. Cost estimation of proposed development items in Dakhshiner Haor sub-project

Sl no	Item of Work	Unit	Length/Quantity	Unit Cost (Taka in millions)	Cost (Taka in millions)
1	Submersible embankment	km	19.20 (Turning Pavement, Brick pavement)	5.6 10	67 30
2	Regulators (Vent Size- 1.5 m×1.8 m) including closure	No	1no.9 vent	41	41
3	Causeway	No.	1 no. 4 m wide	8	8
4	Shankir khal excavation		9.2 km	2.5	23
5	Lower Chamti river outfall excavation	km	1.8 km	2.5	5
Total estimated cost (Taka in millions)					174

Note: All cost items will be updated after detail design of the proposed physical work items.

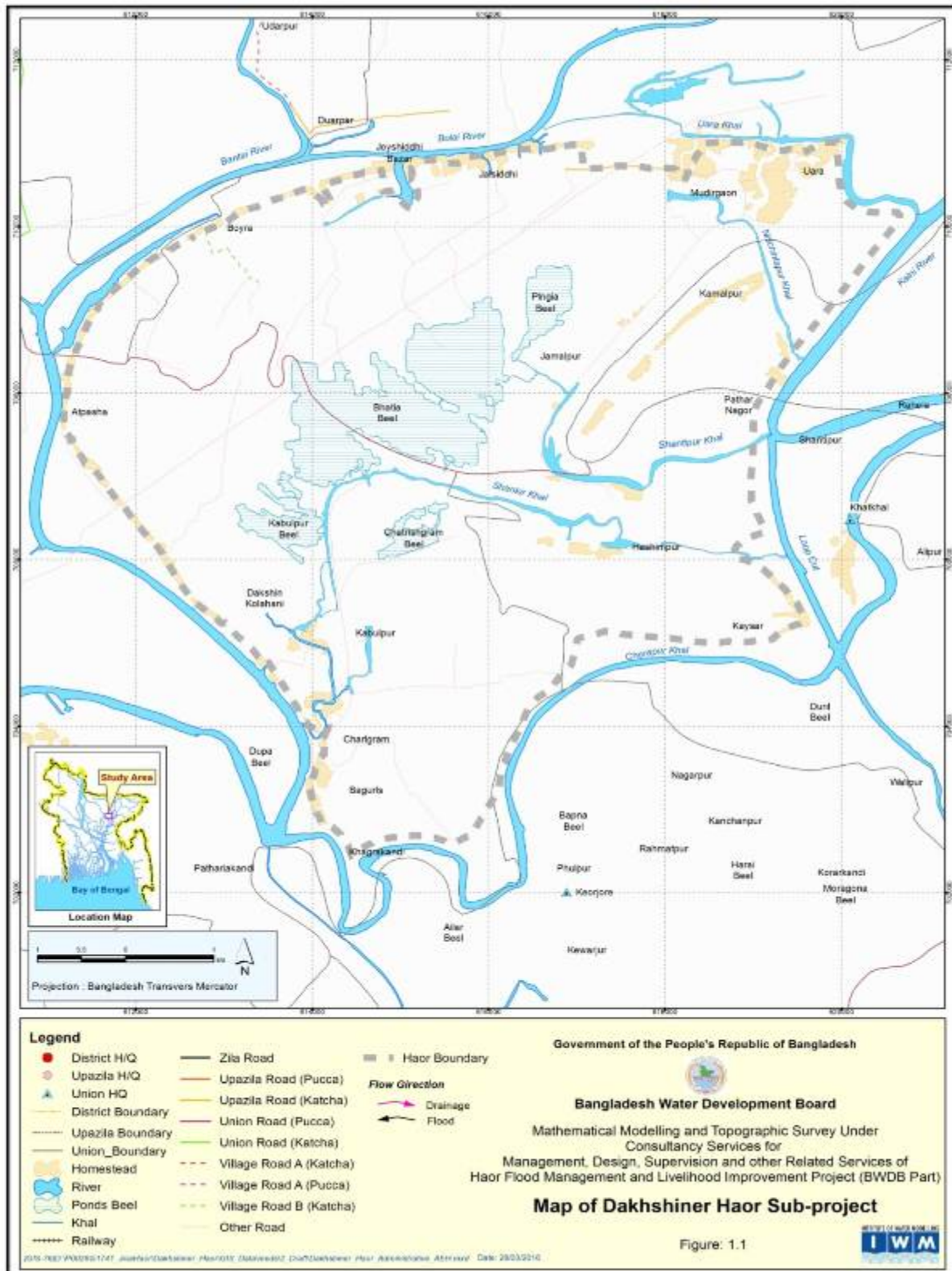


Figure 8: Dakhshiner Haor sub-project: project boundary and administrative units

9. Sunair Haor Sub-project (Kishoreganj)

i. Location, Area and Administrative Units

Sunair Haor Sub-project is located between 714984 m to 722768 m North Latitude and 584037 m to 593567 m East Longitude. The sub-project is surrounded by pacca road. Gross area and net area of the sub-project are 4428 ha. and 3477 ha respectively. The sub project is under the Jurisdiction of Tarail Upazilla (Dhala, Rauti, Sachail and Jawar unions) of Kishoreganj district and Kendua Upazilla (Muzaffarpur, Chirang and Paikura unions) of Netrokona district. Figure-9 shows the map of Sunair Haor Sub-project.

ii. Existing Infrastructure

Existing infrastructure in the area comprises different types of roads, bridges or other drainage structures. As of comprehensive field survey carried out under the study, there are about 95.24 km of roads of different types, 27 nos. of bridges, 42 nos. of box culverts, 21 nos. of pipe culverts and six drainage/flushing regulators inside and encircling the Sunair Haor sub-project area. Roads, bridges, culverts and regulators identified in the area are maintained by the Local Government Engineering Department (LGED).

Table A.18: Existing roads inside and encircling the Sunair Haor sub-project area

Authority	Type of Road	Length (Km)
Local Government Engineering Department (LGED)	Un-defined	45.19
	Union Road (Pucca)	6.83
	Upazila Road (Pucca)	11.16
	Village Road A (Katcha)	13.35
	Village Road A (Pucca)	5.07
	Village Road B (Katcha)	6.64
	Zila Road	7.00
	Total	95.24

iii. Population & Livelihood

a. Population

The total estimated population in the Sunair Haor sub-project is about 51140 which is calculated based on population in the Mouza level published in community series of Bangladesh Bureau of Statistics (BBS) 2011.

b. Livelihood Improvement-following activities will be undertaken

- 1) Small scale income generation (Vegetable, micro-poultry, fruit production, etc)
- 2) Mother and Childs Health Care Support Service
- 3) Sanitation Support Service Scheme
- 4) Safe-Drinking Water Support Service Scheme
- 5) Biogas Scheme for WMG member

iv. Present Problem

Pre-monsoon Season

Pre-monsoon season extends from April to May. In this period, Boro crops are grown in the low and medium low lands in the haor area. The harvesting of Boro crops are damaged by flash flood occurring in the upper catchment area in the month of late April or early May. As a result of the flash flood from Dhanu River, water enters Mogha Bathail River and subsequently enters the sub-project area through Suti Nadi and damages the standing crop. It occurs frequently almost every year. The pre-monsoon rainfall runoff from the adjacent external catchments also sometimes damages to standing crops. In this period outfall river water remains mostly unfavorable for drainage.

Monsoon Season

Monsoon extends from June to September. Significant part of the area remains under water during monsoon season due to high flood level in the nearby Mogha-Baithal River. The flood water enters into Sunair Haor sub-project area from Dhanu River-Narsuda River-Mogha-Baithal River system through the Suti Nadi.

Post-monsoon Season

Post-monsoon extends from October to December. Farmers prepare (plough) their land for Boro cultivation from late November to mid December in the haor area. Local drainage congestion is hardly noticed that hampers the land preparation of the project.

Winter Season

Winter season extends from January to March which is the main growth time of Boro rice. In this season, almost all internal water bodies get dry, and farmers have very limited scope to pumped water using Low Lift Pump (LLP) from peripheral rivers for irrigation to Boro crops. Farmers usually irrigate the Boro rice by lifting ground water using Shallow Tube Well (STW).

v. Proposed physical works in the Sunair Haor sub-project to mitigate present problems and the cost thereof are given in the following Table A.19.

Table A.19: Cost estimation of proposed development items in Sunair Haor sub-project

Sl no	Item of Work	Unit	Length/Quantity	Unit Cost (Taka in millions)	Cost (Taka in millions)
1	FlankSubmersible embankment	km	2.60	10	26
2	Regulators (Vent Size- (1.5 m×1.8 m) including closure	No.	1 nos. 6 vent	32	32
			3 nos. each of 1 vent	17	51
3	Causeway	No.	1	9.6	9.6
4	Re-excavation of khals	km	27	2.5	67.5
Total estimated cost (Taka in millions)					186.1

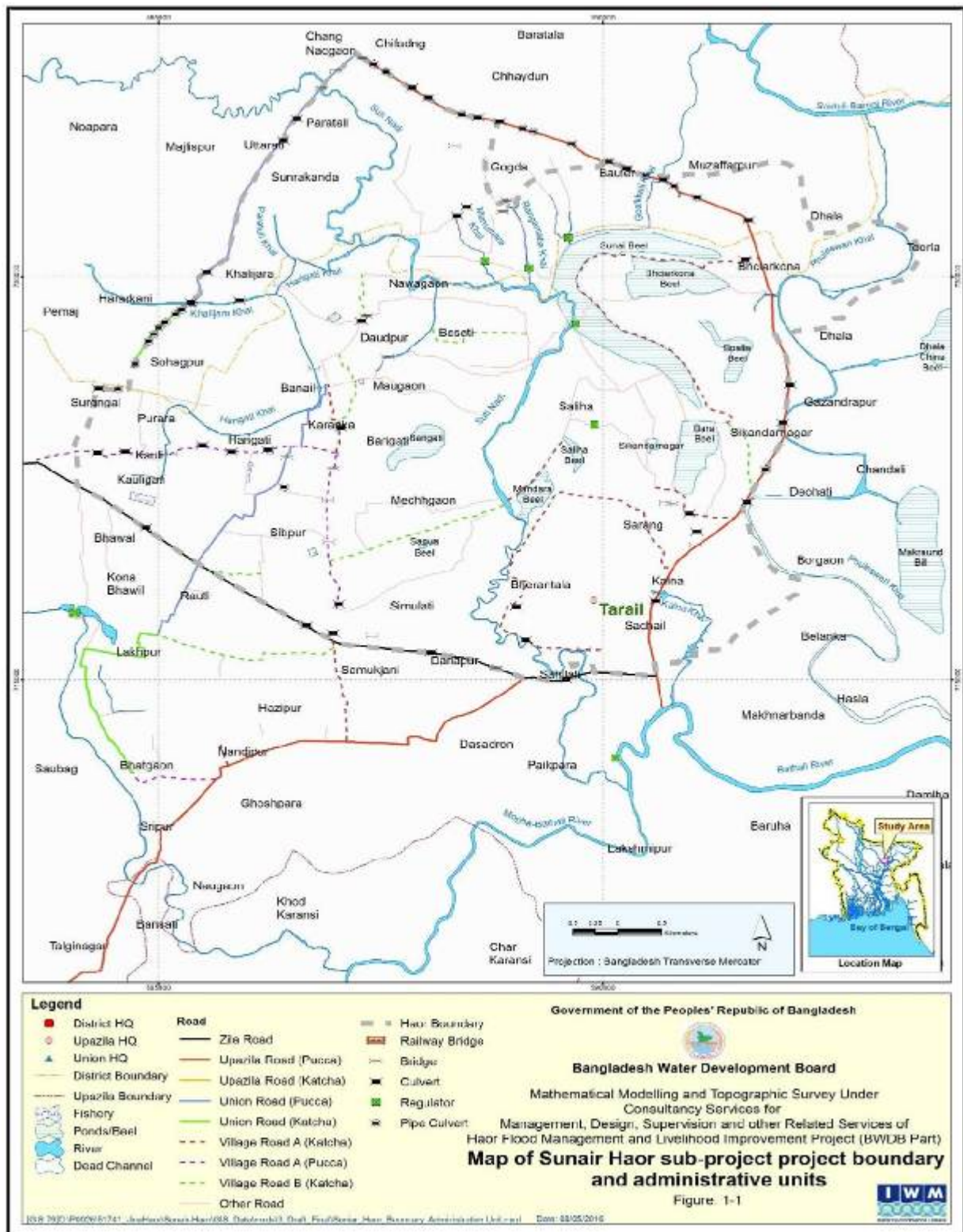


Figure 9: Map of Sunair Haor sub-project project boundary and administrative units

10. Ganesh Haor Sub-project (Netrokona)

i. Location, Area and Administrative Units

Ganesh Haor sub-project is located between 587629 m to 595865 m BTM Northing and 732429 m to 740433 m BTM Easting. The sub-project is bounded by Magra River in the east and northeast; Narsua Khal in the north, Teligati-Madan road and Boilara River in the south and southwest; Teligati bus stoppage is located in the west and Madan bus stoppage is on the southeast periphery. This sub-project comprises of clusters of beels; eastern part of the periphery (around 5 km) is exposed to Magra River and also bordered by clusters of homesteads (high land). The sub-project has a periphery of 33.15 km, gross area 3367 ha and net area 2747 ha. Net area excludes areas covered with khal (49.3 ha), Homestead (388 ha), roads (14.5 ha) and beel/pond (168 ha) from the gross area. These figures are estimated based on recent satellite image and survey data.

The project area comprises of upazilas of Atpara and Madan under Netrokona district. The area is under jurisdiction of five Unions: Duaz Union, Sukhari Union and Teligati Union of Atpara Upazila and Kaitail Union, Jahangirpur Union of Madan Upazila.

ii. Existing Infrastructure

Existing infrastructure in the area comprises of different types of roads, bridges, culverts, regulators, etc. There are about 31 km roads of different types maintained by the Local Government Engineering Department (LGED), 4 nos. of bridges along the periphery, a regulator and numbers of culverts inside the project area. The details of each category of roads located inside the sub-project are listed in Table A.20.

Table A.20 Existing roads inside and encircling the Ganesh Haor sub-project area

Authority	Type of Road	Length (km)
Local Government Engineering Department (LGED)	Zila Road	9.5
	Upazilla Road	13 (Pucca), 3 (Earthen)
	Village Road A	2.5 (Earthen)
	Village Road B	3 (Earthen)

iii. Population & Livelihood

a. Population

Total estimated population in the Ganesh Haor sub-project is around 29200 which are calculated based on population in the Mouza level published in community series of Bangladesh Bureau of Statistics (BBS) 2011.

b. Livelihood Improvement-following activities will be undertaken

- 1) Small scale income generation (Vegetable, micro-poultry, fruit production, etc)
- 2) Mother and Childs Health Care Support Service
- 3) Sanitation Support Service Scheme
- 4) Safe-Drinking Water Support Service Scheme
- 5) Biogas Scheme for WMG member

iv. Present Problem

Pre-monsoon Season

Pre-monsoon extends from April to May. In this period, Boro crops are grown in the low and medium low lands in the haor area. During pre-monsoon, Boro crops are damaged frequently by flash flood in the month of late April or early May. Flash flood enters into the sub-project area mainly from north, east and partly south side. In the south, flash flood water enters through Boilara Khal particularly below the Bailey bridge along Madan-Teligati road during heavy rainfall and damages standing crops in the southern part of Ganesh Haor. In the north periphery of the sub-project, flash flood enters into the sub-project from Narsua River through Chapri Khal Ichamati Khal and Maheswar Khal. In the east, the Magra River itself contributes flash flood into the sub-project area.

Monsoon Season

Monsoon extends from June to September. Most of the area remains under water during monsoon due to high flood level in the nearby Magra River, Narsua River and Boilara khal.

Post-monsoon Season

Post-monsoon extends from October to November. Farmers prepare their land for Boro cultivation from late November to mid December in the haor area. North-west corner and north part of the Ganesh Haor are in higher elevation than other part, and get first preference for cultivation. Narsua River is mostly silted up. The Narsua River cannot drain water properly due to obstruction, and at the same time water level in the Magra River remains high in October. So, in post-monsoon season, the drainage is hampered that causes delay in the land preparation and plantation of Boro crops.

v. Cost Estimation of Proposed Interventions to mitigate present problems

The estimated cost of proposed item of works for development in connection with Ganesh Haor sub-project is prepared from linear extrapolation Report of Data Collection Survey on Water Resources Management in Haor area of Bangladesh, prepared by Nippon Koei Co.,Lt respective field office. The estimated cost of the sub-project is about BDT 128 million. The summary of cost estimation is given in following **Table A.21**.

Table A.21 : Cost estimation of proposed development items in Ganesh Haor

SI no	Item of Work	Unit Length/Quantity		Unit Cost(Taka in millions)	Cost(Taka in millions)
1	Submersible embankment	km	2.8	4.60	12.88
2	Regulators (Vent Size- 1.5 m×1.8 m) including closure etc.	No.	1 no. 4-vent	26	26
			3 nos. 1-vent	17	51
3	RCC Pipe Sluice (0.9 m dia.)	No.	2 nos.	3.0	6
4	River /Khal excavation	km	11.97	2.5	30
5	Rehabilitation of existing structure	No.	1	2.0	2.0
Total estimated cost (Taka in millions)					127.88

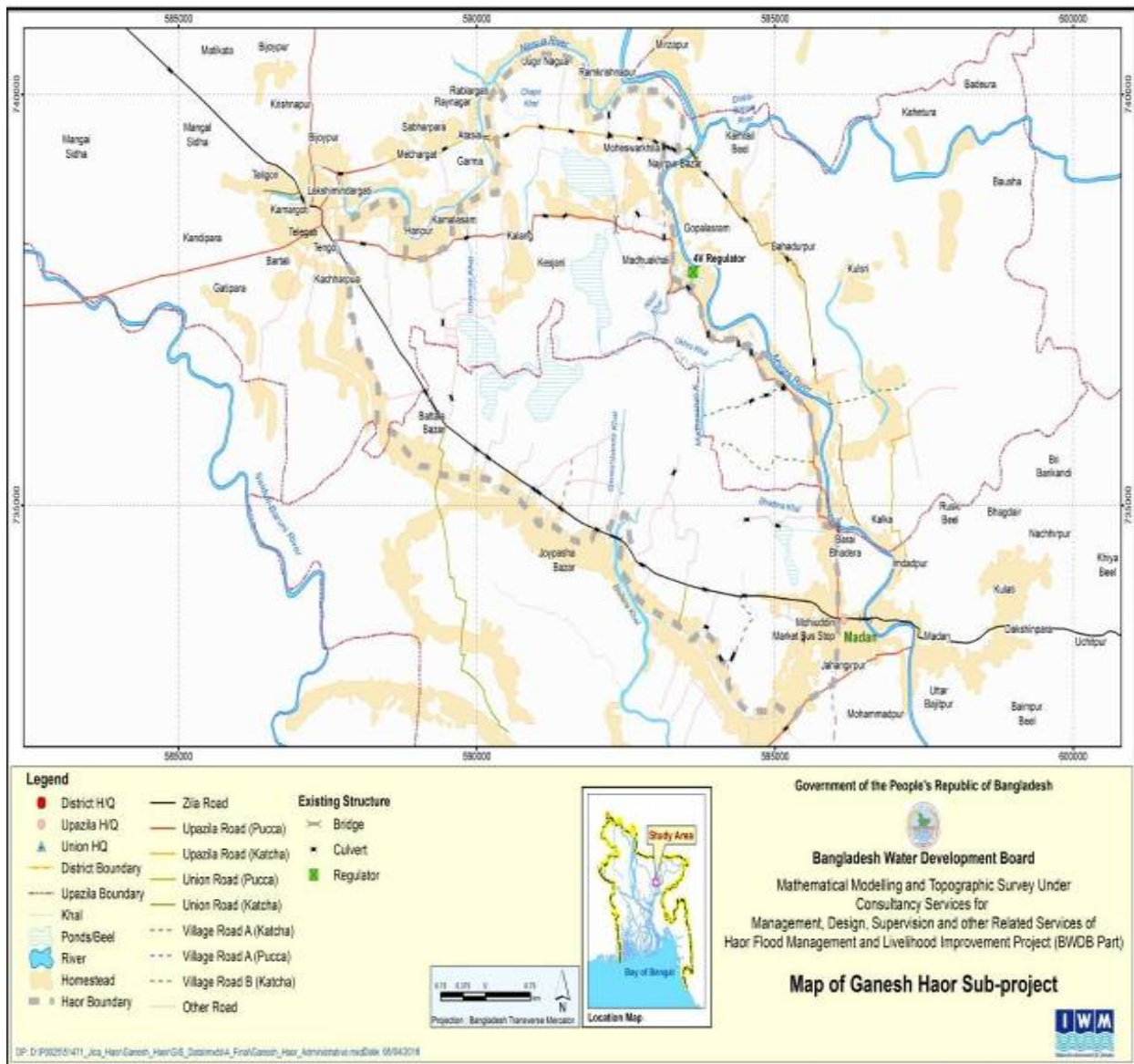


Figure 10: Map of Ganesh Haor Sub-project

11. Mokhar Haor project (Habiganj)

i. Location, Area and Administrative Units

Mokhar Haor sub-project is located between 700000 m to 723500 m BTM¹ Northing and 639000 m to 653500 m BTM Easting. About 80% of the area of sub-project is under the jurisdiction of Baniachong Upazila and the remaining 20% area of it is under Nabiganj Upazila of Habiganj district. The area is under jurisdiction of twelve Unions: Baraiuri, Dakshin Paschim Baniyachang, Dakshin Purba Baniyachang, Uttar Purba Baniachang, Kagapasha, Khagaura, Pukhra and Umednagar Union of Baniachong Upazila; Kalair Banga, Kargaon, Nabiganj and Paschim Bara Bhakhair Union of Nabiganj Upazila.

This Sub-project is surrounded by Phingli River (Branch of Bibiana River) in the north, Shakha Barak River in the east, Bijna-Guinggajuri River (Locally Sati River) in the south and Sutki River in the west. Most of the populated area especially Baniachong and Nabiganj of this sub-project is accessible by road communication. The gross and net cultivable areas of the project are 16821 ha and 14979 ha, respectively.

ii. Existing Infrastructure

Existing infrastructure in the area comprises different types of roads, drainage structures etc. There are around 187 km roads of different types maintained by the Roads & Highways (RHD), Local Government Engineering Department (LGED) and Union Parishad. The details of each category of roads inside the sub-project are listed in **Table A.22**. There are 84 nos. culverts, and 17 nos. bridges, 1 no regulator, 3 nos. sluices inside the project area. Layouts of roads and locations of structures are shown in Figure 11.

Table A.22: Existing roads inside and encircling the Mokhar Haor sub-project area

Authority	Type of Road	Length (km)
Roads & Highways (RHD)	Zilla Road	15.00
Local Government Engineering Department (LGED)	Upazila Road (Katcha)	9.69
	Village Road A (Katcha)	11.13
	Village Road A (Pucca)	9.96
	Other roads	141.21
Total		186.99

iv. Present Problem

Pre-monsoon Season

Pre-monsoon season extends from April to May. Boro crops are grown in the low and medium low lands in the haor area. The harvesting of Boro crops are damaged by flash flood occurring in the upper catchment area in the month of late April or early May. As a result of the flash flood coming from Kushiya River and Bijna –Guinggajuri River enters into the project area through Ratna River, Bibiana-Phingli-River, Old Kushiya River and Shakha Barak River. It occurs almost every year. The pre-monsoon rainfall runoff occurred in the local catchment area sometimes also causes the damages to

standing crops. In this period outfall river water remains mostly unfavorable for drainage. Besides, it is observed that there is a heavily silted up reach of the Dhaleswar NE River at Austogram area which impede the quick drainage of the area of Mokhar Haor and its surroundings.

Monsoon season

Monsoon extends from June to September. Significant part of the area remains under water during monsoon season due to high flood level in the nearby Old Kushiya River and Bijna-Guinggajuri River. The flood water enters into Mokhar Haor sub-project area from the Kushiya River and the Bijna – Guinggajuri River.

Post-monsoon Season

Post-monsoon extends from October to December. Farmers prepare (plough) their land for Boro cultivation from late November to mid-December in the haor area. The internal khal system of Mokhar Haor is well defined and linked with peripheral rivers. Indeed, there is no significant drainage problem in the post-monsoon.

Winter Season

Winter extends from January to March. There is acute crisis of irrigation water for Boro cultivation during winter in the sub-project area.

iv. Population and Livelihood

a. Population

Total estimated population in the Mokhar Haor sub-project is around 90571 which is calculated based on population in the Mouza level published in community series of Bangladesh Bureau of Statistics (BBS) 2011.

b. Livelihood Improvement-following activities will be undertaken

- 1) Small scale income generation (Vegetable, micro-poultry, fruit production etc)
- 2) Mother and Childs Health Care Support Service
- 3) Sanitation Support Service Scheme
- 4) Safe-Drinking Water Support Service Scheme
- 5) Biogas Scheme for WMG member

v. Updated Planning

Alternative Plan-I

- i) Development of submersible embankment encircling the entire Mokhar Haor sub-project for complete protection of pre-monsoon flood including construction of drainage and cum flushing regulators/causeways at all sides for quick flushing after harvesting of Boro crops and efficient post-monsoon drainage.

- ii) In addition, resectioning of Alipur- Inathganj road in the level enough to prevent over bank spill of pre-monsoon flood from the Kushiya.
- iii) It is assumed that temporary earthen cross-dams would be placed during pre-monsoon by local people at the off takes of Bibiana River, and Shaka Barak River as a continuation of present practice. The cross dams would be made at the level of 9 m PWD enough to protect pre-monsoon flood of 10-year return period. The work could be ensured through formation of water management group (WMG) at each site.
- iv) All the khals flowing east-west direction and maintained connection of the sub-project with the Shakha Barak River and Lokhachara River from the east side would be kept open since local people are not interested to place any structure over them.
- v) Re-excavation of several internal khals/peripheral rivers for making available water for LLP irrigation during January to mid of April.

Alternative Plan-II

- i) Development of submersible embankment encircling the Mokhar Haor sub-project for complete protection of pre-monsoon flood including construction of drainage and cum flushing regulators/causeways at north, west and south side for quick flushing after harvesting of Boro crops and efficient post-monsoon drainage.
- ii) Pre-monsoon flood above 8.5 m PWD at the off takes of Bibiana River would flow through the river and under two existing bridges in the Alapur-Inathganj road. It is assumed that temporary earthen cross-dams would be placed during pre-monsoon by local people at the offtakes of Bibiana River and Shaka Barak River as a continuation of present practice which is basically not sufficient to prevent pre-monsoon flood of 10-year return period. The work could be ensured through formation of water management group (WMG) at each site.
- iii) All the khals flowing east-west direction and maintained connection of the sub-project with the Shakha Barak River and Lokhachara River from the east side would be kept open since local people are not interested to place any structure over them.
- iv) Re-excavation of several internal khals/peripheral rivers for making available water for LLP irrigation during January to mid of April.

Observations

Alternative Plan-I:

- i) Pre-monsoon flood spill over left bank/distributaries of the Kushiya River are proposed to be protected, and thus **lower design flood levels** for pre-monsoon flood of 10 year return period around the Mokhar Haor sub-project are observed, and

Reduced height of submersible embankment is required encircling the sub-project.

- ii) There is required of strengthening of existing Alapur-Inathganj road through **re-sectioning in the proposed design level** which is located outside the sub-project and along the left bank of the Kushiya River.
- iii) **Temporary earthen cross dams** placed by local people on the left distributaries of the Kushiya River from **Alapur to Inathganj** are need to be well practiced (forming WMG), and earthen cross dams are to be made up to a height enough to protect the pre-monsoon flood of 10-year return period.
- iv) Pre-monsoon flood protection **benefit is high**

vi. Cost Estimation of Proposed Interventions to mitigate present problems

The estimated cost of item of works proposed against the review planning in the Mokhar Haor sub-project is about BDT 620 million and BDT 620 million respectively in Alternative Plan-I & II. The summary of cost estimation for Alternative Plan-I and Alternative Plan-II are given in following **Table A.23**.

Table A.23 . Cost estimation of proposed development items in Mokhar Haor sub-project for Alternative Plan-I

Sl no	Item of Work	Unit	Length/Quantity	Unit Cost (Taka in Million)	Cost (Taka in million)
1	Submersible embankment (Turving pavement) (Compacting brick chipe pavement)	km	26.6 (21.3) (5.3)	(6.0) (11.0)	186.0 (128.0) (58.0)
2	Rehabilitation Of existing submersible embankment	km	5	2	3.4
3	Rehabilitation existing Alapur- Inathganj road (Compacting brick chipe pavement)	km		4	52.0
4	Regulators (Vent Size- 1.5 m×1.8 m) including closure etc.	No.	5 no. 1 vent	17.0	85.0
			2 nos. 2 vent	20	40.0
			1 no. 4 vent	26	26.0
5	Rehabilitation of existing regulators	No.	1no 2 vent	1.0	1.0

6	RCC Pipe Sluice	No.	1 nos. of 0.9 m dia.	3.6	7.2
7	RCC Drainage Outlet	No.	7	2.5	17.5
8	Causeway	No.	1 no 4m	9.6	9.6
		No.	2 no. 6.60m	12	12.0
9	Khals/Rivers re-excavation	km	55	2.5	137.50
10	Land acquisition	ha	-	LS	-
11	Rehabilitation of existing regulator	No.	1	ls	1.0
12	O & M during construction	Ls	-	-	31
13	Development of temporary earthen cross-dams	LS	4	1.25	5.0
14	Annual maintenance of temporary cross dams (6 years)	LS			6.0
Total estimated cost (Taka in millions)					620

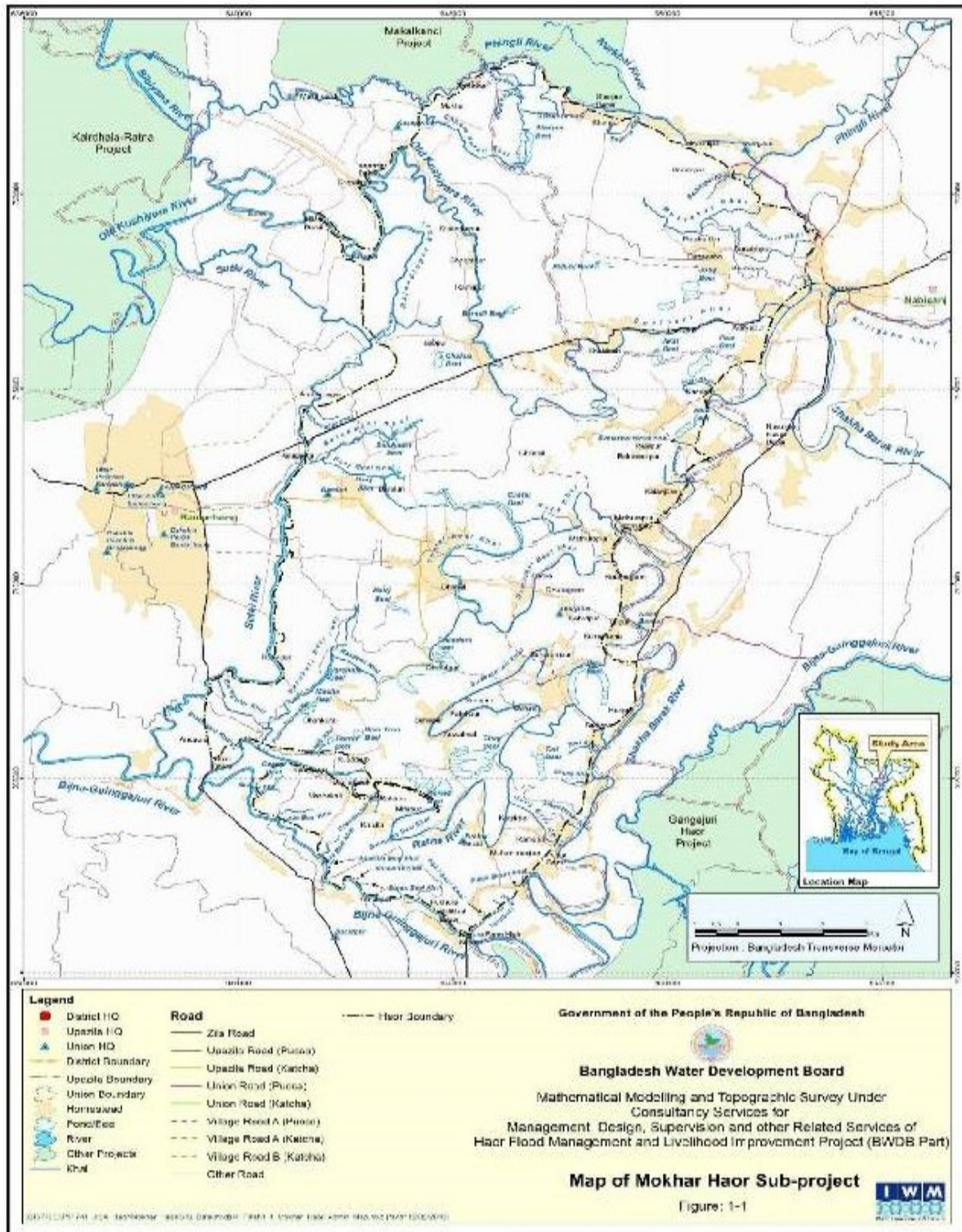


Figure11: Mokhar Haor sub-project boundary and administrative units

12. Dhakua Haor Sub-project (Sunamganj)

i. Location, Area and Administrative Units

Dhakua Haor sub-project is located between 629484 m (west) to 640549 m (east) latitude and 756820 m (south) to 766424 m (north) BTM longitude. The sub-project area falls under the jurisdiction of Jamalganj Upazila and Sunamganj Sadar Upazila. Major part of the project, about 97 % area is under Sunamganj Sadar Upazila. The rest area is under Jamalganj Upazila. Unions of Sunamganj Sadar Upazila that fall under the sub-project are Joykalas, Lakshmansree, Mohanpur, Patharia and Shimulbak union and those of Jamalganj Upazila are Bhimkhali and Sachna Bazar union. The gross and net cultivable areas of the project is 6440 ha and 5157 ha respectively.

The sub-project is bounded by Surma River along the north, by Old Surma River and Sunamganj-Derai road along the east, by village road and Mukhtakhai River along the south and by Piyan river along the west. Except some small patches along the north-east, south-east and south-west corner, cluster of homesteads are there in most part of the project periphery. Boundaries of the sub-projects and unions within it are shown in **Figure 12**.

ii. Existing Infrastructure

Existing infrastructure in the sub-project area comprises of different types of roads-both metaled and earthen, and drainage structures e.g. pipe culvert, box culvert, bridge etc. located on the roads. Drainage structures located along the peripheral roads facilitates movement of water to and from the sub-project area and those located on the internal roads are for drainage of water from one place to another leading to drainage outlet of the sub-project.

There are about 110.21 km roads of different types maintained by the Local Government Engineering Department. The details of each category of roads located inside the sub-project are listed in Table A.24.

Table A.24: Existing Roads inside and encircling the Dhakua Haor sub-project

Authority	Road Type	Length (Km)
Local Government Engineering Department (LGED)	Un-defined	76.04
	Union Road (Katcha)	15.37
	Upazila Road (Pucca)	18.81
Total		110.21

iii. Population and Livelihood

a. Population

The total estimated population in the Dhakua Haor sub-project is about 37517 which is calculated based on population in the Mouza level published in community series of Bangladesh Bureau of Statistics (BBS) 2011.

b. Livelihood

Definition of Livelihood

Livelihood encompasses people's capabilities, for ass securing the basic necessities like food, water, shelter, medicine and clothing of life. Almost all the socio-economic activities are being performed around the units called household, which are the smallest unit for livelihood improvement. So, livelihoods are being sustained when households have secured ownership, access to resources (both tangible and intangible) and income earning activities.

Therefore, Livelihood of the sub project is defined as a set of income generating activities including agriculture promotion; involve securing basic needs and the capacity to acquire above necessities working either individually or as a group resulting to improve economic status of the household.

Importance of livelihood improvement for Dhakua Sub-Project in HFM & LIP:

- ☐ The population density is comparatively low in the Dhakua sub project. The peripheral high land are used to construct their house as well as homestead with roads.
- ☐ Communication networks which are the key factor for development are improved in the haor area.
- ☐ The per capita income of the Dhakua sub project area is less than national average.
- ☐ It is reported that most of the stakeholders are vulnerable.
- ☐ Most of the stakeholders are peasant farm households.
- ☐ Living standards of the respective stakeholders of the Dhakua sub-projects are below national average.

Work Plan:

Considering the above mentioned aspects, the following detail work plan through agriculture promotion has been taken to improve the livelihood of Dhakua haor sub-project:

1. Agriculture Promotion Support Services (APSS):

Field Program

- ☐ Adaptive Trial (Crop)
- ☐ Adaptive Trial (Cropping Pattern)
- ☐ Demonstration Plot (Crop)
- ☐ Cropping Pattern Demonstration
- ☐ Water Management Demonstration Area (Rice)
- ☐ IPM FFS/ICM FFS (Crop)
- ☐ Seed Multiplication (Rice)
- ☐ Research-Extension-Farmer Dialogue

WMG Members Training Program

- ☐ WMG Members Training
- ☐ Study Tour/Exchange visit (WMG Members)
- ☐ Mass Guidance/Workshop/Campaign

- ☐ Agriculture Fair
- ☐ Formation & Empowerment of Farmer Organizations (WMG)

Field Staff Empowerment Program

- ☐ Induction training of field staff
- ☐ Refreshers training of field staff
- ☐ Study tour/Exchange Visit (staff) Farm

Machinery and Facility Support

- ☐ Farm machinery hiring services
- ☐ Construction of Community Drying floor and seed storage facility
- ☐ Construction of WMG base threshing floor

Technology Development Program

- ☐ Field trial on rice
- ☐ Field trial on non-rice crops

2. Small Scale Income Generation Sub-projects (SIGS):

- ☐ Floating bed vegetable culture scheme
- ☐ Small scale vegetable production support scheme
- ☐ Fruit production support scheme
- ☐ Small scale Poultry Rearing support scheme
- ☐ Small scale mushroom culture scheme
- ☐ Sewing Machine Training -cum-Support Scheme for WMG member (Female)
- ☐ Small Scale Beef Fattening Support Scheme
- ☐ Solar Irrigation Support Service Scheme for WMG member
- ☐ Computer Training and Support Service for WMG member

3. Livelihood (General)

- ☐ Mother and Childs Health Care Support Service
- ☐ Sanitation Support Service Scheme
- ☐ Safe-Drinking Water Support Service Scheme
- ☐ Biogas Scheme for WMG member

iv. Present Problems

Pre-monsoon season

Pre-monsoon season extends from April to May. In this period, Boro crops are grown in the low and medium low lands in the sub-project area. Sometimes Boro crops is damaged in this haor area due to flash flood that generally occurs in late April or early May. Pre-monsoon flood generally enters into the sub-project area through the Mukhtakhai khal that flows along the south-west side of the sub-project periphery. The Mukhtakhai khal originates from the Piyan river near Akhtarpara, located at the south-west

corner of the project area. Internal khals of the sub-project are connected to this Mukhtakhai khal and flood water enters the low lying beel areas through the connecting khals and causes damage to the Boro crops. Beside there is another khal, located at Debgram, that originates from Old Surma. Flash flood also enters the project area through this khal.

Beside flash flood, local rainfall generated runoff also causes damage to Boro crops. This mainly happens due to poor drainage capacity of the drainage khals.

Monsoon season

Monsoon season extends from June to September. Significant part of the area remains under water during monsoon season due to high water level in the peripheral Surma river, Old Surma river, Piyan river and Mukhtakhai khal. Flood water enters into Dhakua haor sub-project area from Piyan and Old Surma river through the connecting khals. The pool of monsoon water remains stagnant up to mid of October.

Post-monsoon season

Post-monsoon season extends from October to December. Farmers used to prepare (plough) their land in the haor area for Boro cultivation from late November to mid-December. Some parts of haor area (low and medium low land) remains under water due to either drainage congestion or delayed drainage. This is generally caused due to poor drainage facility through the Mukhtakhai Khal and internal khals of the sub-project area.

v. Cost Estimation and interventions in Proposed Development

The estimated cost of proposed development items in the Dhakua Haor sub-project is about BDT 534.1 million. The summary of cost estimation is given in following Table A.25.

Table A.25: Cost estimation of proposed development items in Dhakua Haor sub-project

SI no	Item of Work (Badla Haor)	Unit	Length/Quantity	Unit Cost (Taka in millions)	Cost (Taka in millions)
1	Submersible embankment (Turfing pavement) (Compacting brick chipe pavement)	km	25	(5.5) (12)	159 (99) (60)
2	Regulators (Vent Size- 1.5 m×1.8 m) including closure etc.	No.	1 Nos. 3 vent	17	102.0
			1 no. 6 vent	20	20.0
3	RCC Pipe Sluice	No.	8 no. 0.9 m dia.	3.6	29.0
4	Causeway	No.	1 No. 3m	9.6	9.6
			1 No. 6m	12.0	12.0
5	Land acquisition	Ha.	40	LS	150
6	O & M during construction	LS	-	-	20.0
7	Re-excavation of khals	km	15	2.5	32.5
Total estimated cost (Taka in millions)					534.1

Note. The estimated cost is subjected to be changed in the final analysis stage

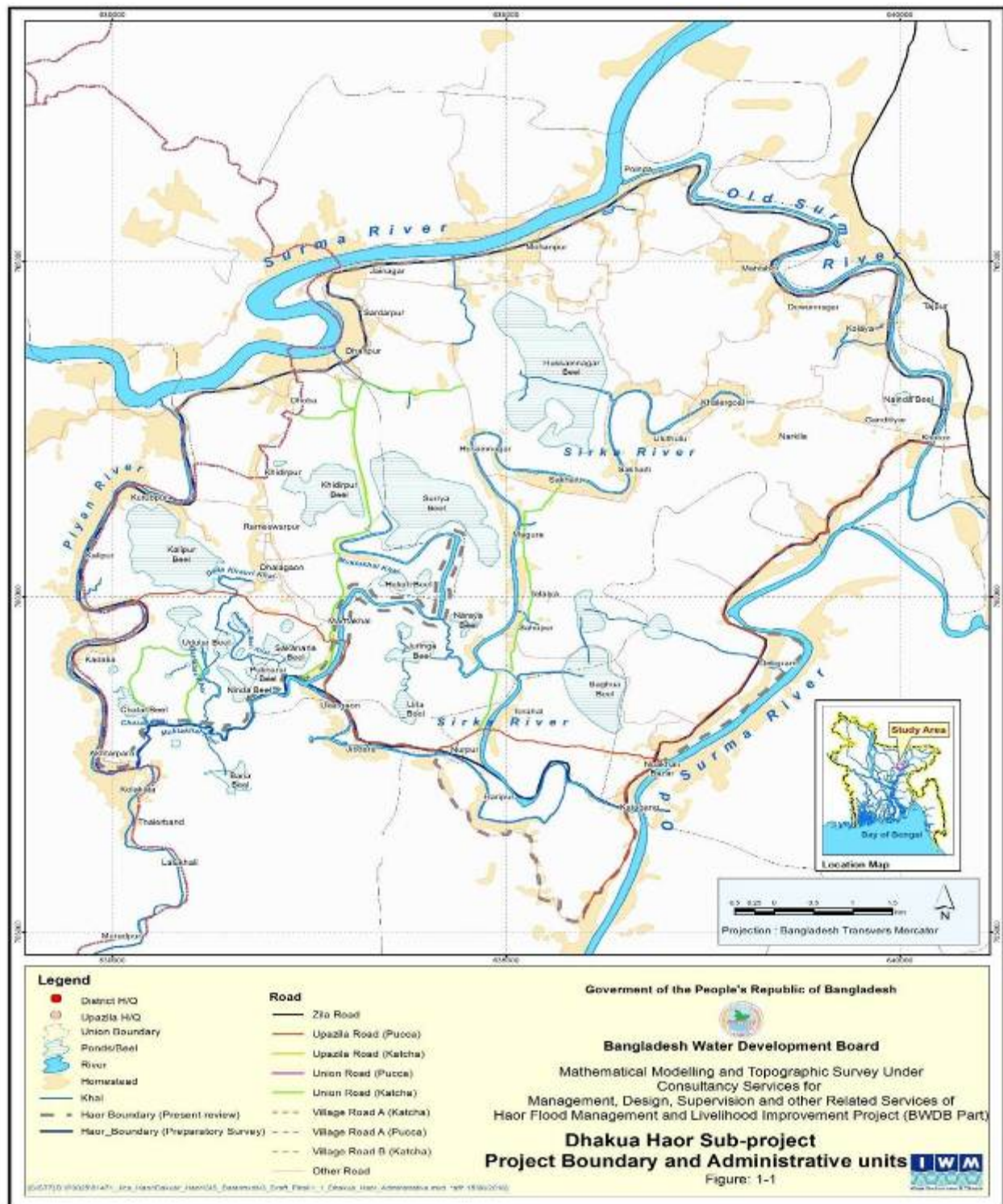


Figure 12: Project Boundary and Administrative units of Dhakua Haor Sub-project

13. Dharmapasha Rui Beel (Sunamganj & part of Netrokona)

i. Location, Area and Administrative Units

The subproject is located in the central-northern area of the Sylhet basin. The project area is located in Sunamganj district (65%) and partly Netrokona district (35%), totaling a gross area of 21,540 ha and net area of 14,803 ha. The project area includes upazilas-Dharmapasha, Kalmakandha, Barhatta & Mohonganj.. The Figure-1 shows the map of Dharmapasha Rui Beel Project.

ii. Population & Livelihood

a. Population

The total estimated population in the Nunnir-Haor sub-project is around 125,000 which is calculated based on population in the Mouza level published in community series of Bangladesh Bureau of Statistics (BBS) 2011.

b. Livelihood Improvement-following activities will be undertaken

- 1) Small scale income generation (Vegetable, micro-poultry, fruit production etc)
- 2) Mother and Childs Health Care Support Service
- 3) Sanitation Support Service Scheme
- 4) Safe-Drinking Water Support Service Scheme
- 5) Biogas Scheme for WMG member

iii. Present Problem in different season in the subproject area

Pre monsoon season:

Pre monsoon extends from April to May. In this period, Boro crops are grown in the low and medium low lands in the haor area. The harvesting of Boro crops are sometimes damaged by flash flood in the month of late April or early May. It occurs once in five years or more frequently. The flood water mainly enters from Ghora-Utra River. In this period outfall river water remains mostly unfavorable for drainage which causes local water logging problem inside the project area.

Monsoon season:

Monsoon extends from June to September. Significant part of the area remains under water during monsoon season due to high flood level in the nearby Ghora-Utra River.

Post monsoon season:

Post-monsoon extends from October to December. Farmers used to prepare their land for Boro cultivation from late November to mid-December in the haor area. Some limited parts of haor area (low and medium low land) remains under water due to either drainage congestion or delayed drainage.

iv. Cost Estimation of Project interventions to mitigate present problems

The estimated cost of proposed development items in the Dharmapasha Rui Beel sub-project is around BDT 790.80 million. Details of cost estimation are given in following **Table A.26**.

Table A.26: Estimated cost of Intervention in Dharmapasha Rui Beel Sub-project

Sl. No.	Item of works	Dharmapasha Rui Beel (Sunam-65%, Netro-35%)			
		Unit	Length/Quantity	Unit Cost (Tk. Million)	Cost (Tk. Million)
1	Submersible embankment	Km (Turf Pavement)	44	5	220.00
		Km(Compact brick chip pavement)	11	10	110.00
2	New Regulators -Vent size:1.5 m x 1.8 m including closure (11 nos.)	1 -vent	3 nos.	17	51.00
		2-vent	3 nos.	20	60.00
		3-vent	2 nos.	23	46.00
		6- vent	3 nos.	32	96.00
		Sub-Total	11 nos.		253.00
3	RCC Pipe sluice	no.	3	3.6	10.80
4	Causway	6 m	1 no.	12	12.00
5	Re-excavation of Khals	Km	40	2.5	100.00
6	River dredging	km	10	5	50.00
6	Land Acquisition				
7	O & M during construction				35.00
Total estimated cost					790.80



Figure-13: Map of Dharmapasha Rui Beel Project

14. Jaliar Haor Sub-project (Sunamganj)

i. Location, Area and Administrative Units

The subproject is located in the central-northern area of the Sylhet basin. The project area is located in Sunamganj district, having a gross area of 2,466 ha and Net area of 2,156 ha. The project area includes areas of Chatak Upazila. Figure-14 shows the map of Jaliar Haor Project.

ii. Population & Livelihood

a. Population

The total estimated population in the Nunnir-Haor sub-project is around 14,350 which is calculated based on population in the Mouza level published in community series of Bangladesh Bureau of Statistics (BBS) 2011.

b. Livelihood Improvement-following activities will be undertaken

- 1) Small scale income generation (Vegetable, micro-poultry, fruit production ,etc)
- 2) Mother and Childs Health Care Support Service
- 3) Sanitation Support Service Scheme
- 4) Safe-Drinking Water Support Service Scheme
- 5) Biogas Scheme for WMG member

iii. Present Problem in different season in the subproject area

Pre monsoon season:

Pre monsoon extends from April to May. In this period, Boro crops are grown in the low and medium low lands in the haor area. The harvesting of Boro crops are sometimes damaged by flash flood in the month of late April or early May. It occurs once in five years or more frequently. The flood water mainly enters from Ghora-Utra River. In this period outfall river water remains mostly unfavorable for drainage which causes local water logging problem inside the project area.

Monsoon season:

Monsoon extends from June to September. Significant part of the area remains under water during monsoon season due to high flood level in the nearby Ghora-Utra River.

Post monsoon season:

Post-monsoon extends from October to December. Farmers used to prepare their land for Boro cultivation from late November to mid-December in the haor area. Some limited parts of haor area (low and medium low land) remains under water due to either drainage congestion or delayed drainage.

iv. Cost Estimation of Project interventions to mitigate present problems

The estimated cost of proposed development items in the Dharmapasha Rui Beel sub-project is around BDT 89.60 million. Details of cost estimation are given in following **Table A. 27**.

Table A.27: cost estimate for the intervention proposed to mitigate present problem

Sl. No.	Item of works	Jaliar Haor			
		Unit	Length/Quantity	Unit Cost (Tk. Million)	Cost (Tk. Million)
1	Submersible embankment	km	8		20.00
2	New Regulators -Vent size:1.5 m x 1.8 m including closure (11 nos.)	2-vent	2 nos.	19.8	39.60
3	Re-excavation of Khals	km	12	2.5	30.00
Total estimated cost					89.60

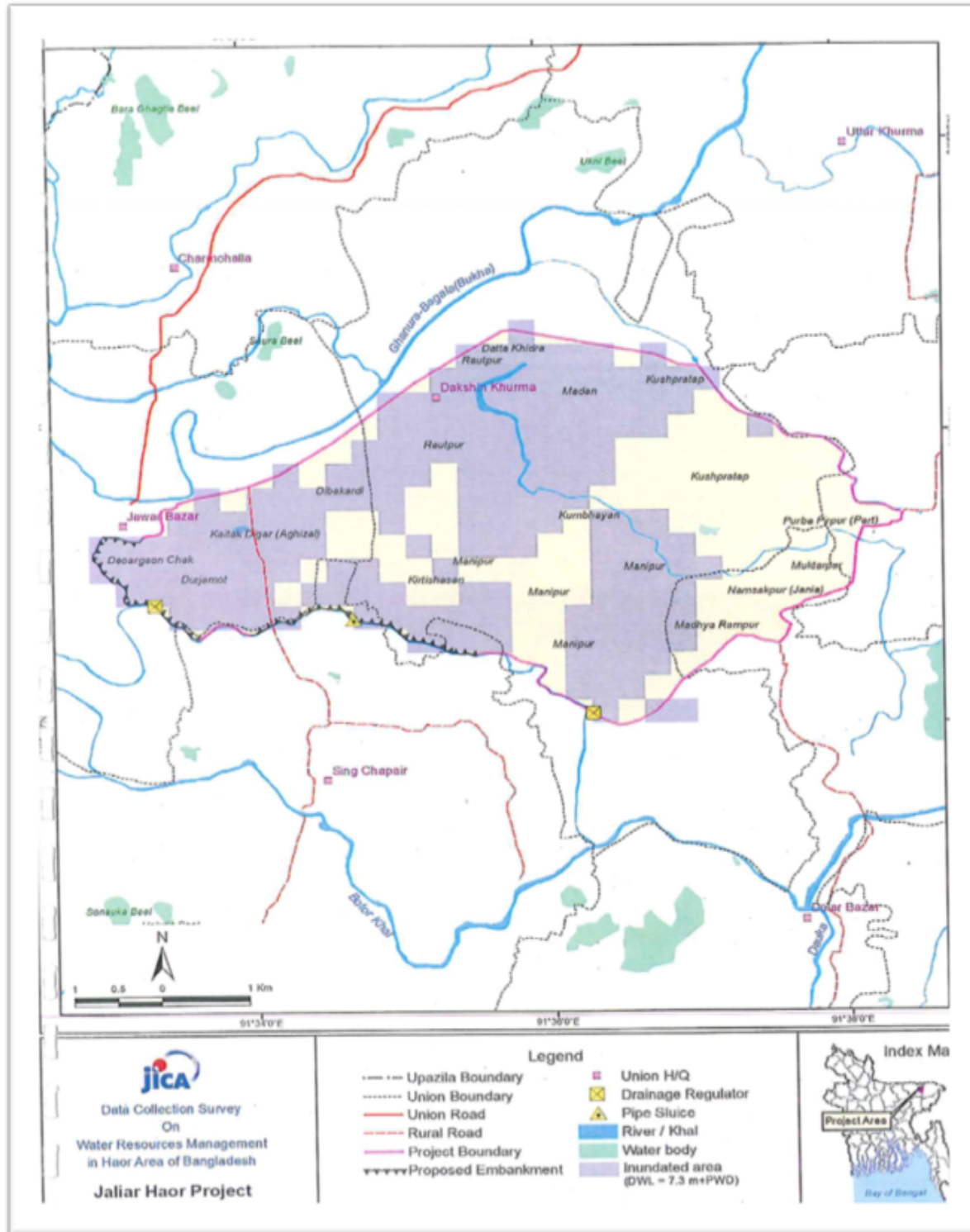


Figure-14: Map of Jaliar Haor Project

A2. Brief of Rehabilitation of 15 old Haor Sub-Projects

1. Baraikhali khal Scheme

KISHOREGONJ DISTRICT (& Part of Mymensingh district, NandailNandailUpazila)		
1. Baraikhali khal Scheme		
A	Location:	
	District:	Kishoreganj and Mymensingh
	Upazila	KishoreganjSadar, Hosenpur&Nandail
	Union	Egarosindhu, Pakundia& Char Faradi, Nandail
B	Gross Area	8667 ha
C	Net Cultivable Area	4719 ha
D	Year of Construction	1981-1983
E	Intervention done during construction	
	i)	Construction of Drainage Regulator: size-6 vent-1-no.
	ii)	Re-excavation of drainage canal-8.50 km.
	iii)	Flood embankment—5.30 km
	iv)	Pipe Sluice-1 no.
F	Proposed Intervention for rehabilitation under the project	
	i)	Repair and Replacement of regulator gates with lifting device--6 nos.
	ii)	Repair of U/S and D/S loose and launching apron
	iii)	Re-excavation of drainage canal-24.50 km.
	iv)	Rehabilitation of Full embankment-100 m
	v)	Pipe sluice-1 no.
G	Cost of proposed intervention	Tk. 408 Lakh
H	Map of the rehabilitation Haor sub-project	See Figure attached herewith

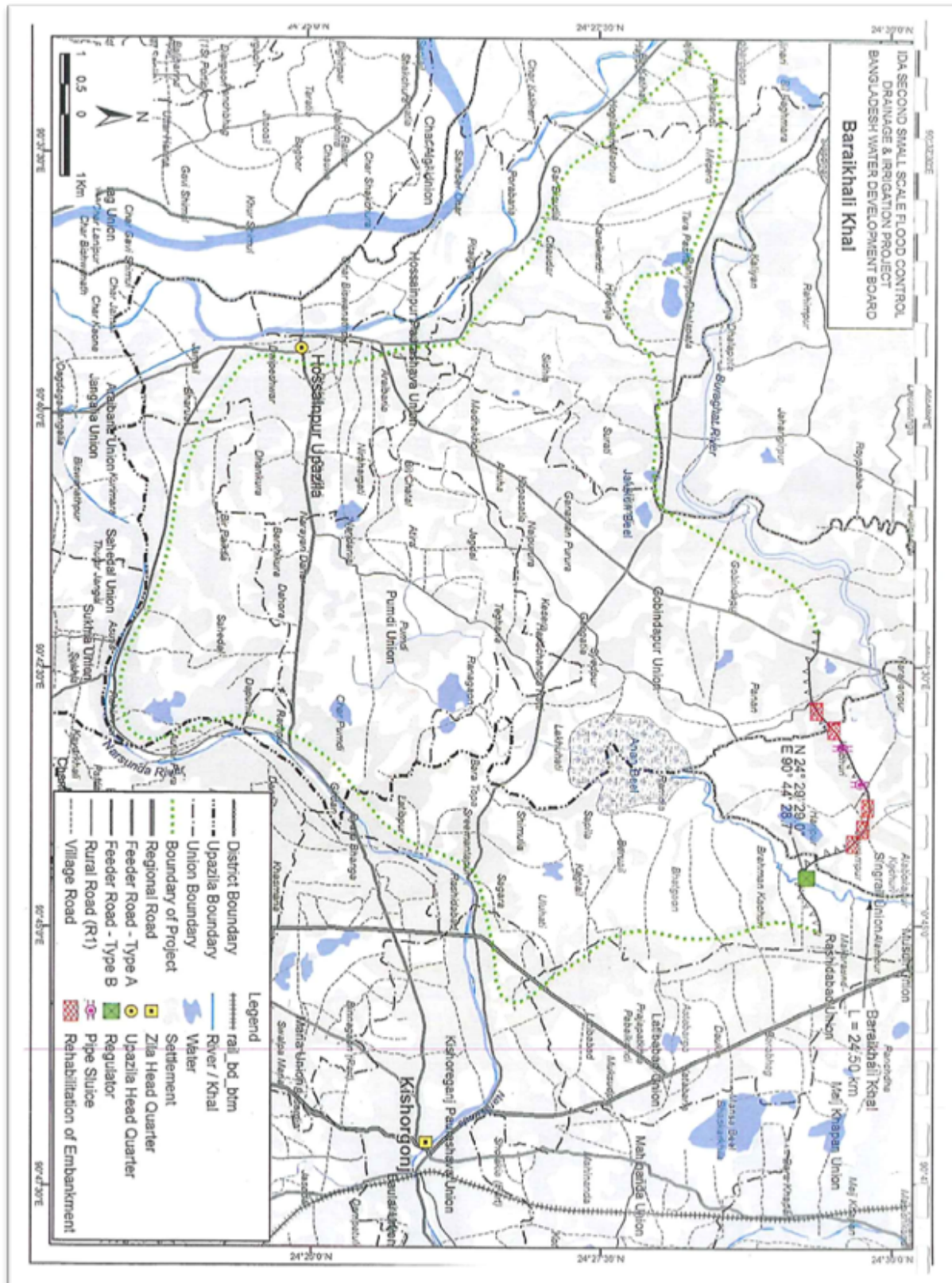


Figure 15: Map of Baraikhali Khal Sub-project

2. Alalia-Bahadia Scheme

KISHOREGONJ		
2. Alalia-Bahadia Scheme		
A	Location:	
	District:	Kishoregonj
	Upazila	Katiadi, Pakundia
	Union	KishoregonjSadar, Hossenpur,
B	Gross Area	2464 ha
C	Net Cultivable Area	1128 ha
D	Year of Construction	1991-1993
E	Intervention done during construction	
	i)	Construction of Drainage Regulator: size-2 vent-1-no.
	ii)	Re-excavation of drainage canal-7.00 km.
	iii)	Flood embankment-5.30 km.
	iv)	Pipe Sluice-1 no.
F	Proposed Intervention for rehabilitation under the project	
	i)	Re-excavation of drainage canal-8.5 km.
	ii)	Repair/replacement of Reg. gates with lifting device-2 nos.
	iii)	Repair of U/S & D/S loose and launching apron
G	Cost of proposed intervention	Tk.121.00 Lakh
H	Map of the rehabilitation Haor sub-project	See Figure attached herewith



Figure 16: Map of Aladia-Bahadia Sub-Project

3. Modhkhola Bairagir Char Sub-project

KISHOREGONJ DISTRICT		
3. Modhkhola Bairagir char sub-project		
A	Location:	
	District:	Kishoregonj
	Upazila	Katiadi, Pakundia
	Union	Egarosindhur, Baradia, Mashwa
B	Gross Area	2060 ha
C	Net Cultivable Area	1213 ha
D	Year of Construction	1990-1993
E	Intervention done during construction	
	i)	Embankment-10.80 km.
	ii)	Regulator: 3 vent-1 no. (1.52mx1.82m)
F	Proposed Intervention for rehabilitation under the project	
	i)	Re-sectioning of embankment-600 m.
	ii)	Repair/replacement of reg. gates with lifting device-1 no.
	iii)	Re-excavation of drainage canal U/S & D/s from regulator point--: 500 m.
G	Cost of proposed intervention	Tk.100.00 Lakh
H	Map of the rehabilitation Haor sub-project	See Figure attached herewith

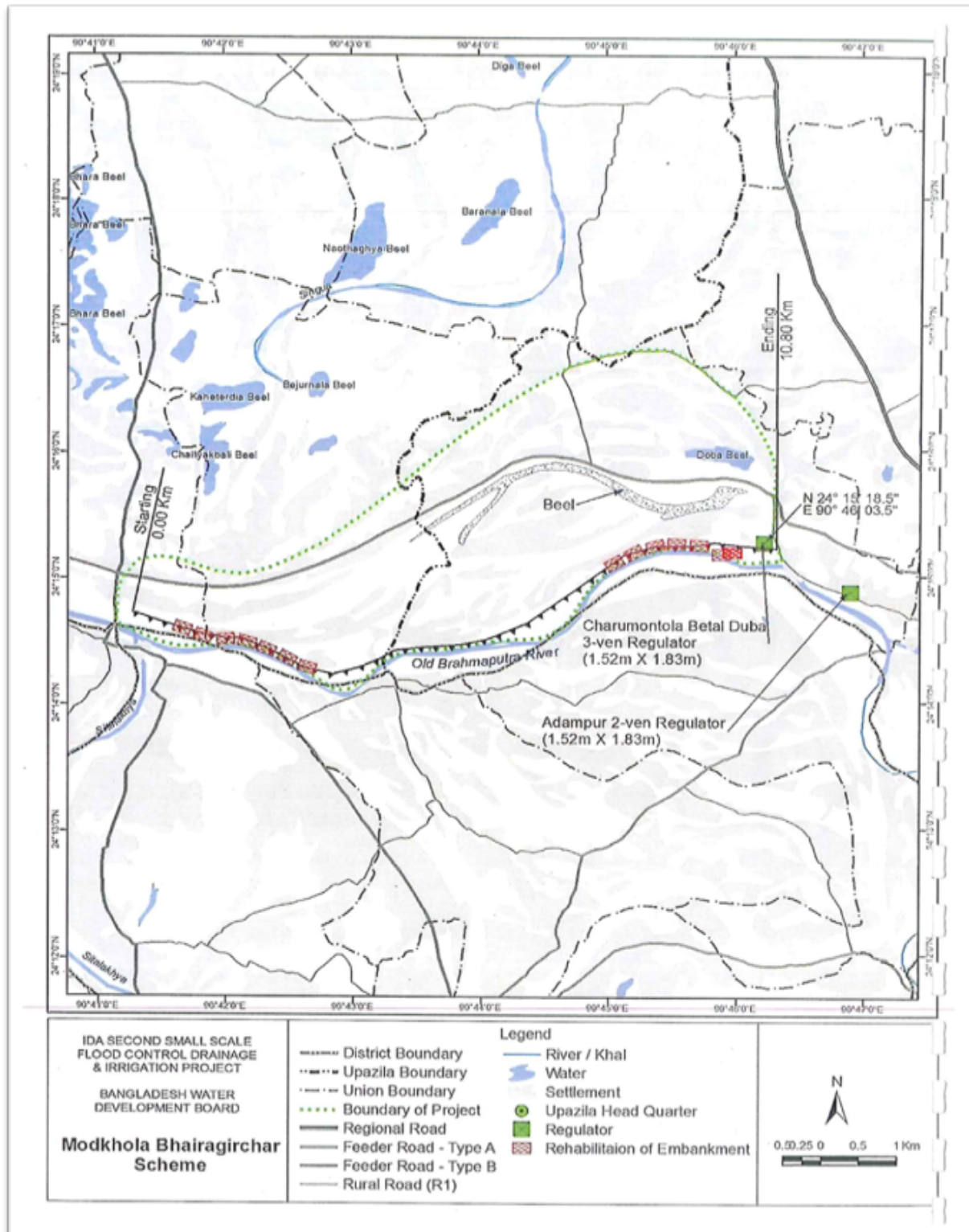


Figure 17: Map of Modkhola Bhairagir char Scheme

4. Ganakkhali sub-project

KISHOREGONJ		
4. Ganakkhali sub-project		
A	Location:	
	District:	Kishoregonj
	Upazila	Kuliarchar
	Union	Faridpur, Chaisuti, KuliarcharPourashabha area
B	Gross Area	2652 ha
C	Net Cultivable Area	1807 ha
D	Year of Construction	1991-1993
E	Intervention done during construction	
	i)	Embankment-0.355 km
	ii)	Regulator: 2-V 1no(1.5x1.8) atGanakkhali
	iii)	Regulator: 1-V 1nos (1.5x1.8) at Prodapnath
	iv)	Drainagr Sluice 1-V 1nos at Khatakhli
F	Proposed Intervention for rehabilitation under the project	
	i)	Repair/Replacement of Reg .gates with lifting device-4 nos
	ii)	Re-excavation of Drainage Canal U/s and D/S From Regulator Point-- 1500m
G	Cost of proposed intervention	Tk.100.00 Lakhs
H	Map of the rehabilitation Haor sub-project	See Figure attached herewith

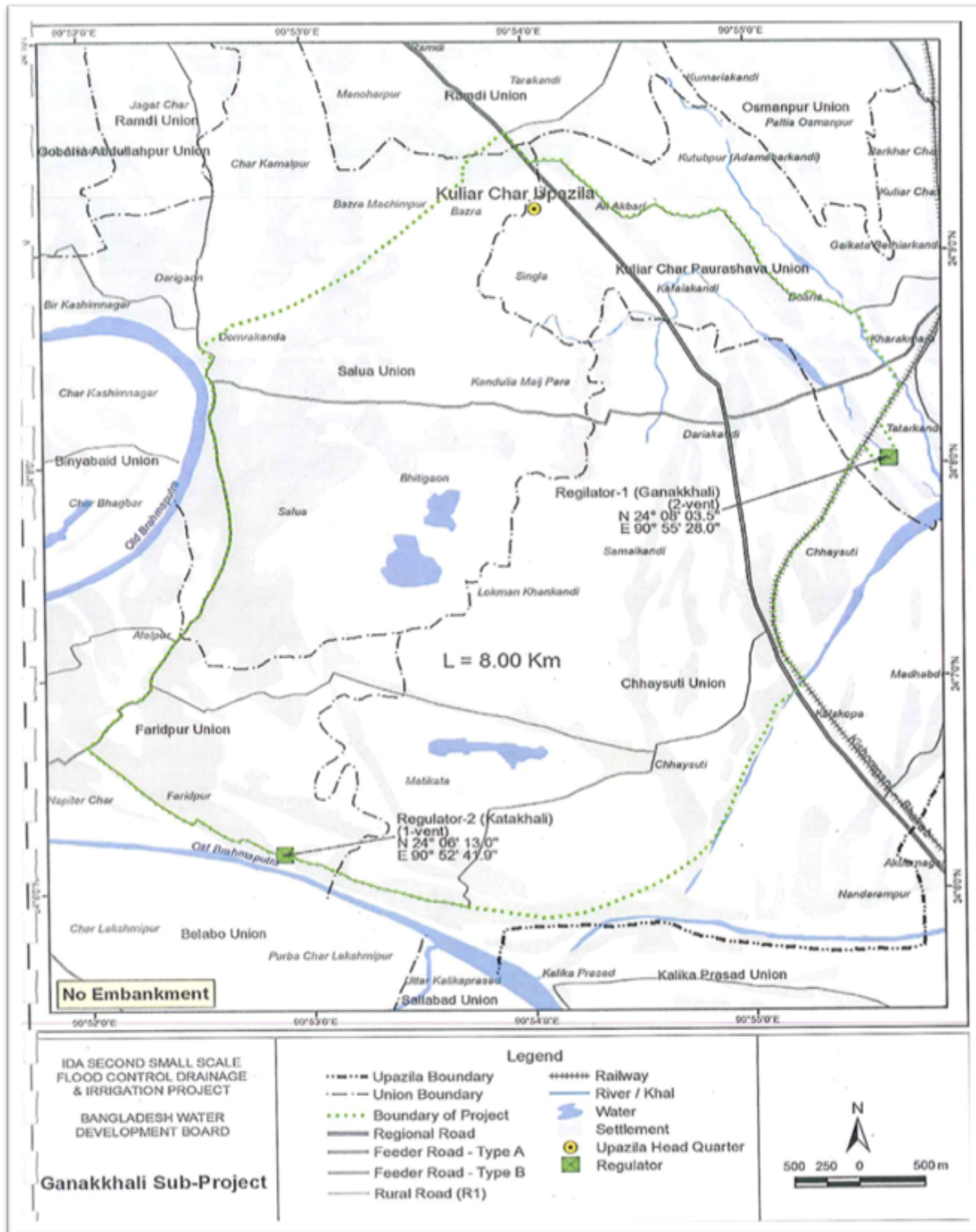


Figure 18: Map of Ganakkhali Sub-Project

5. Kaiardhola Ratna Scheme

HABIGONJ		
1. Kaiardhola Ratna Scheme		
A	Location:	
	District:	Habigonj
	Upazila	Ajmirigonj, Banachong
	Union	Bodolpur, Julshoka, Ajmirigonj, Dulotpur
B	Gross Area	11,900 ha
C	Net Cultivable Area	11205 ha
D	Year of Construction	1997-1998 to 2005-06
E	Intervention done during construction	
	i)	Submergible embankment: 26.00 km
	ii)	Regulator: 3 nos.
	iii)	Khal re-excavation: 40.00 km
F	Proposed Intervention for rehabilitation under the project	
	i)	Rehabilitation of submersible embankment=16.00 km
	ii)	Replacement of Regulator gates=9 nos.
G	Cost of proposed intervention	Tk.380.14 Lakh
H	Map of the rehabilitation Haor sub-project	See Figure attached herewith

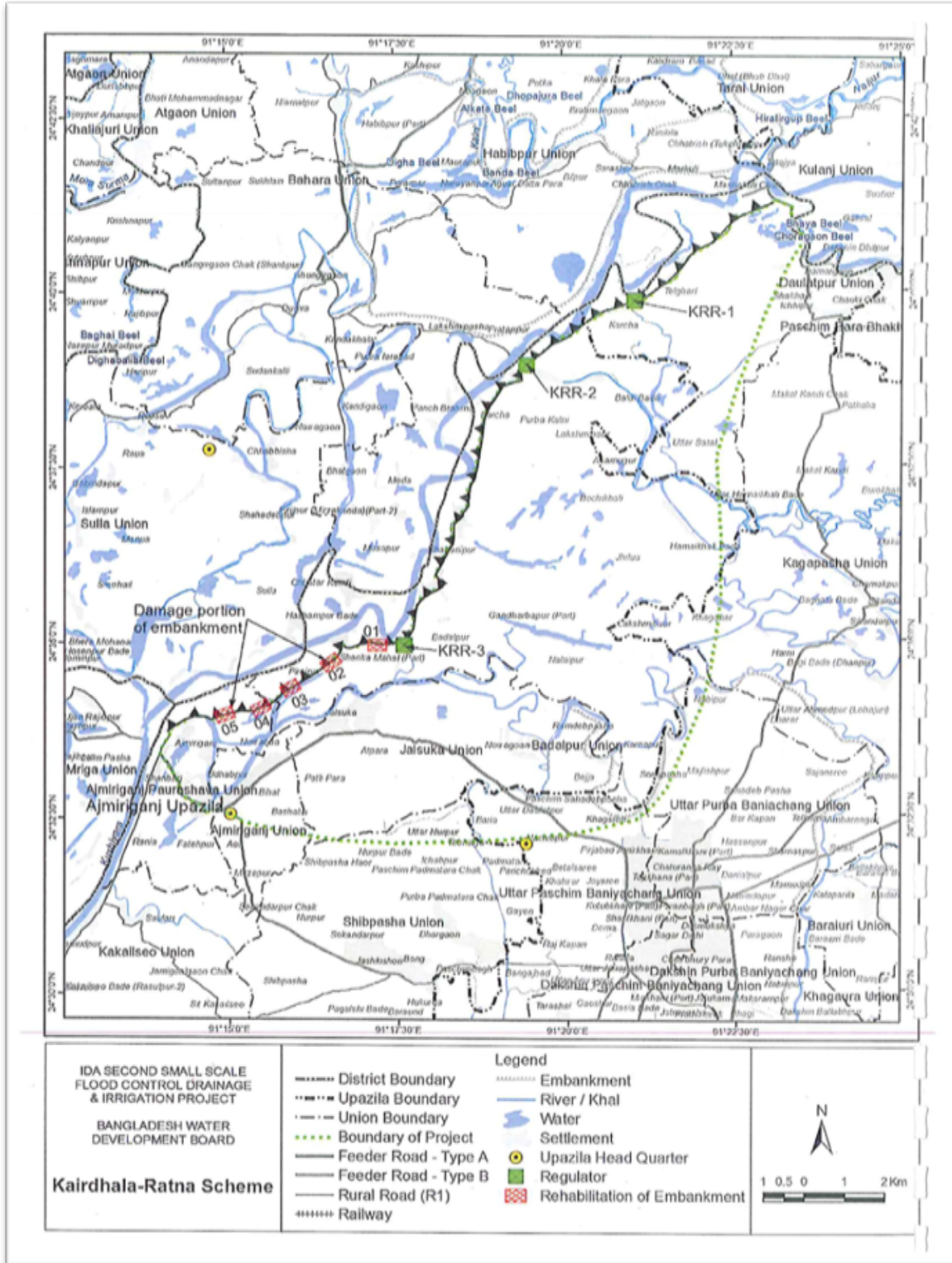


Figure 19: Map of Kairdhala- Ratna Scheme

6. Bashira River Scheme

HABIGONJ		
9. Bashira River Scheme		
A	Location:	
	District:	Habiganj
	Upazila	Ajmarigonj, Baniachong
	Union	Kakailchew, Moratpur, Ismalpur
B	Gross Area	4521 ha
C	Net Cultivable Area	4061 ha
D	Year of Construction	From 1981-82 to 1987-88
E	Intervention done during construction	
	i)	Submersible Embankment: 15.00 Km
	ii)	Regulator: 2 Nos
F	Proposed Intervention for rehabilitation under the project	
	i)	Rehabilitation of submersible embankment=6.00 km
	ii)	Re-installation of regulator=2 nos.
	iii)	Re-excavation of canal (rehab.)=20.00 km
G	Cost of proposed intervention	Tk.609.36 Lakh
H	Map of the rehabilitation Haor sub-project	See Figure attached herewith

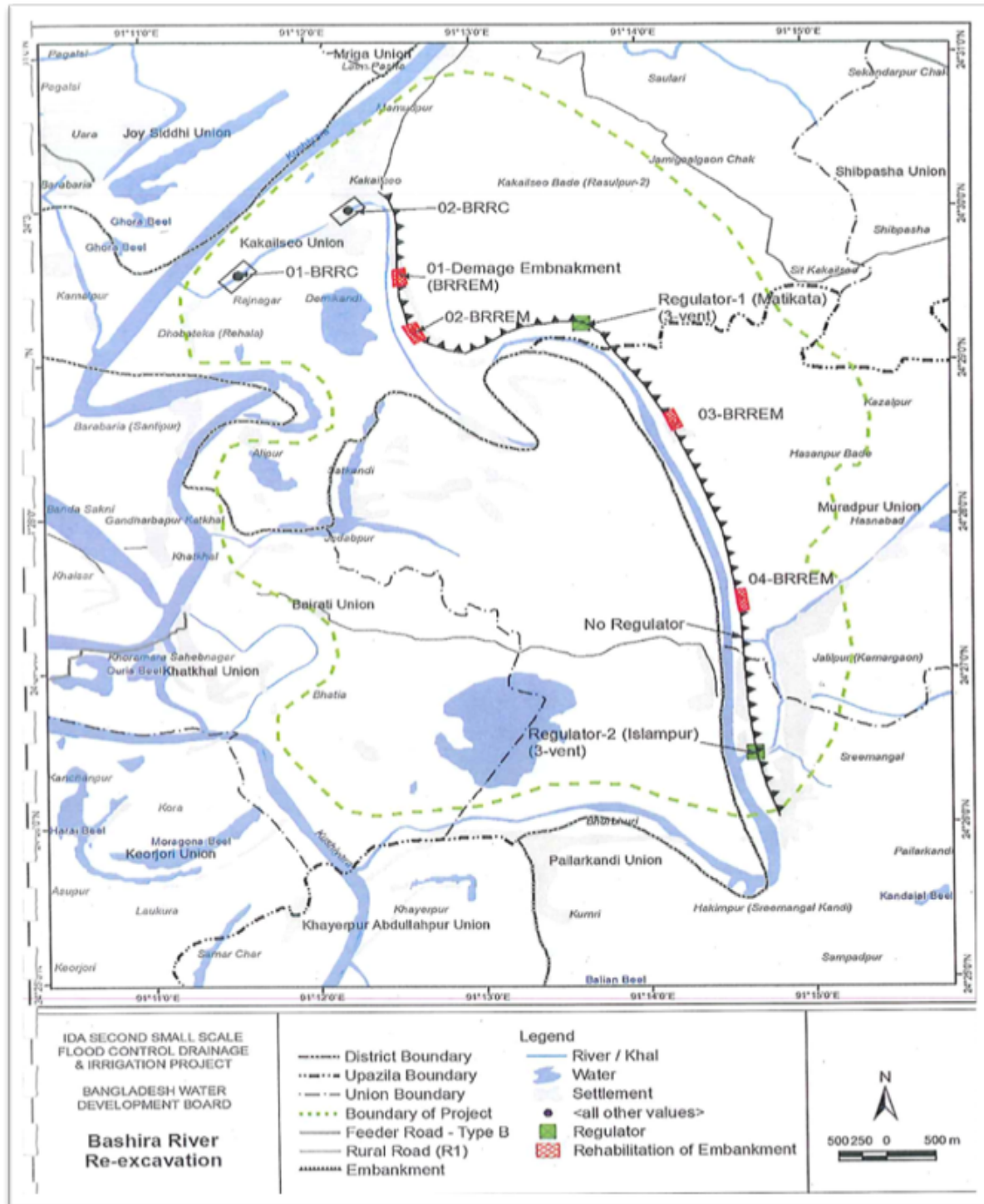


Figure 20: Map of Bashira River Re-excavation

7. Aralia Khal Scheme

HABIGONJ		
10. Aralia Khal Scheme		
A	Location:	
	District:	Habiganj
	Upazila	Baniachong
	Union	Sujatpur
B	Gross Area	1501 ha
C	Net Cultivable Area	1406
D	Year of Construction	From 2000-01 to 2004-05
E	Intervention done during construction	
	i)	Re-excavation of Khal: 2.390 Km
	ii)	Regulator: 1 No.
F	Proposed Intervention for rehabilitation under the project	
	i)	Replacement of regulator gates=4nos.
	ii)	Re-excavation of canal (rehab.)=2.40 km
G	Cost of proposed intervention	Tk.24.104 lakh
H	Map of the rehabilitation Haor sub-project	See Figure attached herewith

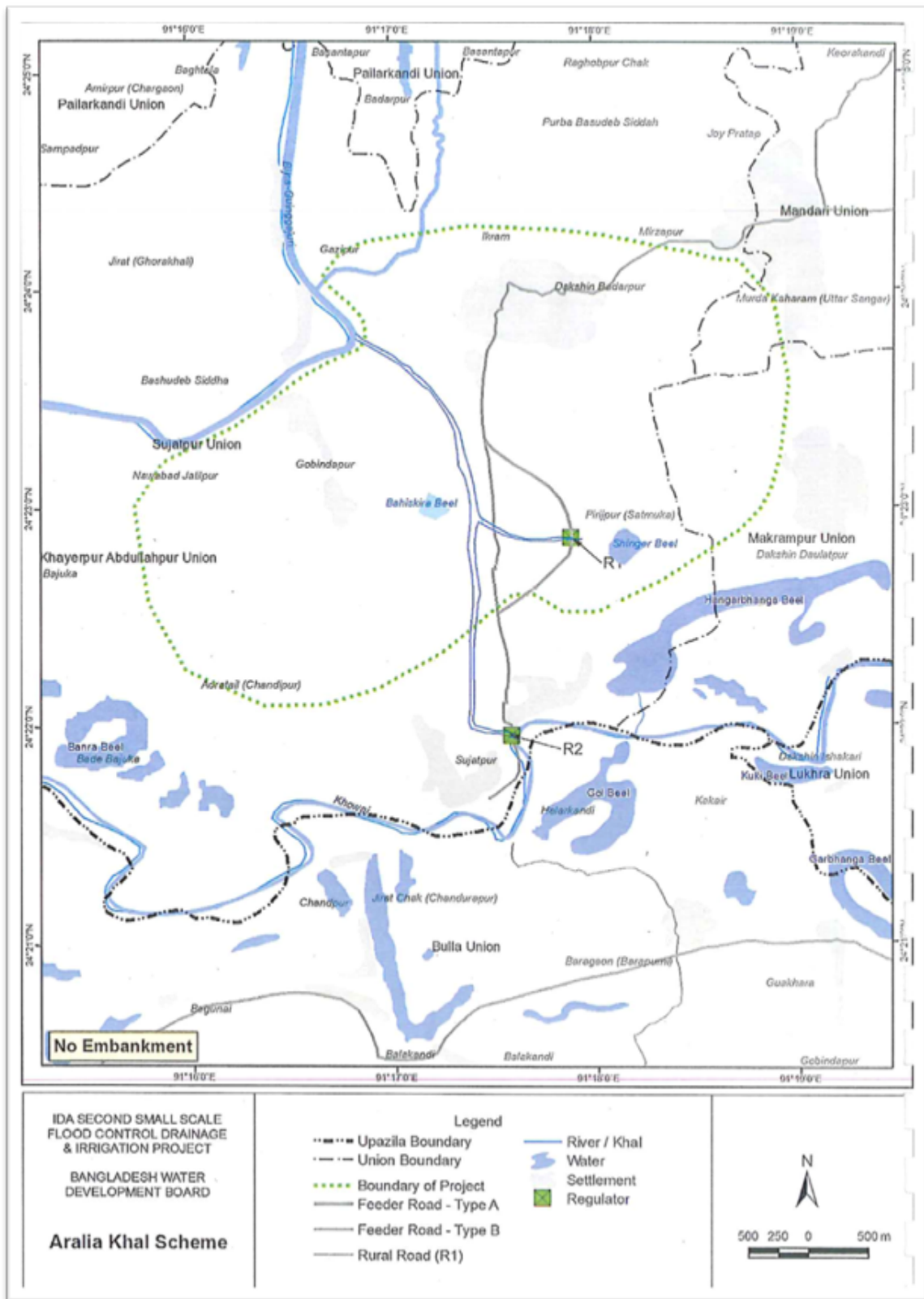


Figure 21: Map of Aralia Khal Scheme

8. Ghuingajuri FCD Sub Project

HABIGANJ		
13. Ghuingajuri FCD Sub Project		
A	Location:	
	District:	Habiganj
	Upazila	Bahubal, Baniachong Sadar
	Union	Bahubal, Snanghat, Putijuri, Satkaphan, Pukra, Khagaura, Poil, Tegharia
B	Gross Area	20441 ha
C	Net Cultivable Area	17418 ha
D	Year of Construction	From 1986-87 to 1992-93
E	Intervention done during construction	
	i)	Regulator: 35 Nos
	ii)	Embankment: 41.270 Km
F	Proposed Intervention for rehabilitation under the project	
	i)	Rehabilitation of full embankment=0.600 km
	ii)	Replacement of regulator gates=20 nos.
	iii)	Re-excavation of canal (rehab)=4.500 km
G	Cost of proposed intervention	Tk.107.335 Lakh
H	Map of the rehabilitation Haor sub-project	See Figure attached herewith

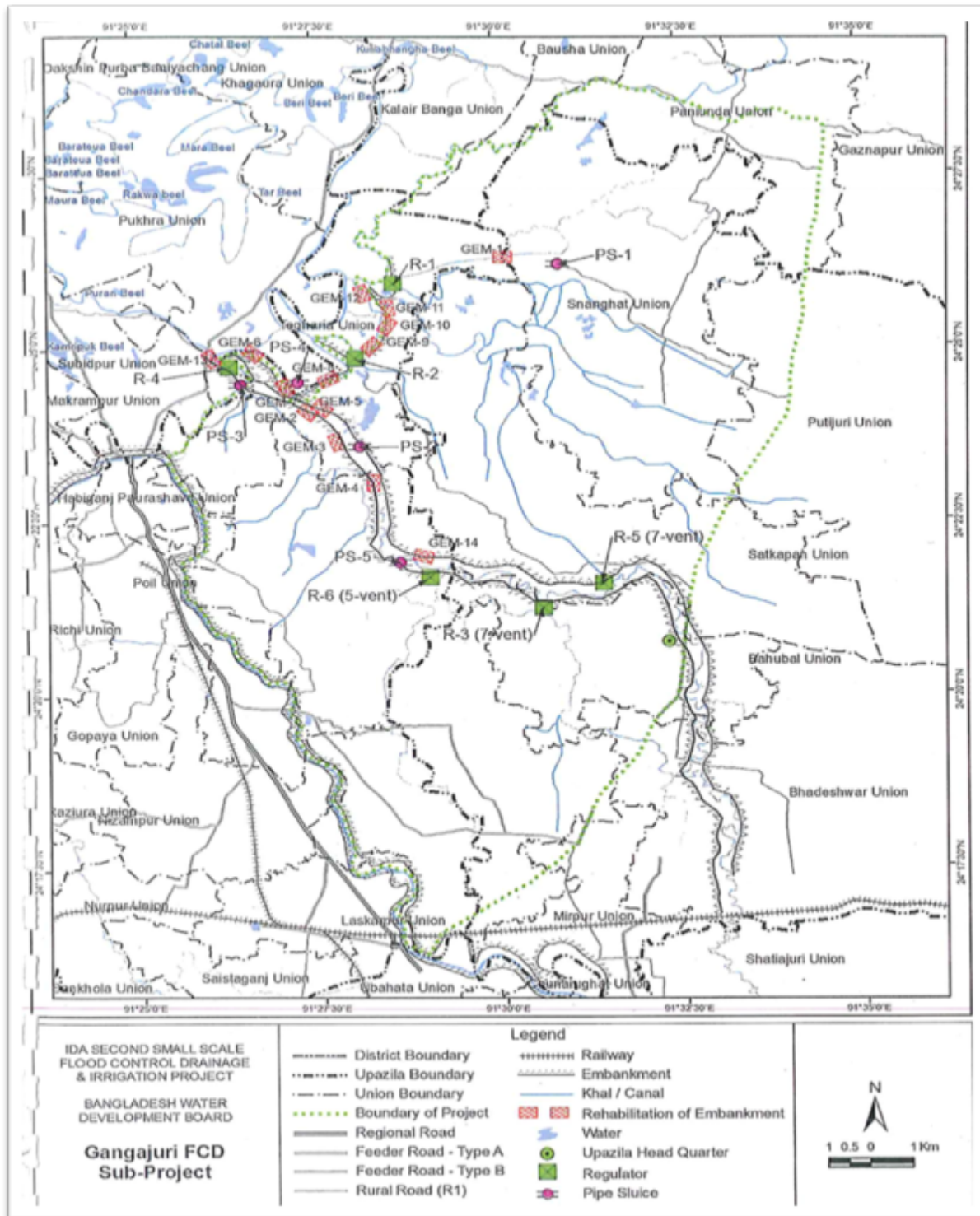


Figure 22: Map of Gangajuri FCD Sub-Project

9. Chandal Beel Scheme

BRAHAMANBARIA		
1. Chandal Beel Scheme		
A	Location:	
	District:	Brahmanbaria
	Upazila	Bancharampur
	Union	DariaDoulal
B	Gross Area	1012 ha
C	Net Cultivable Area	842 ha
D	Year of Construction	From 1989-90 to 1991-92
E	Intervention done during construction	
	i)	Construction of Regulator=1 no. (2-Vent)
	ii)	
	iii)	
F	Proposed Intervention for rehabilitation under the project	
	i)	Rehab. of full embankment=200 m
	ii)	Re-installation of regulator= 1 no.
	iii)	Re-excavation of canal (rehab.)= 230.00 m
G	Cost of proposed intervention	Tk.220.32 Lakh
H	Map of the rehabilitation Haor sub-project	See Figure attached herewith

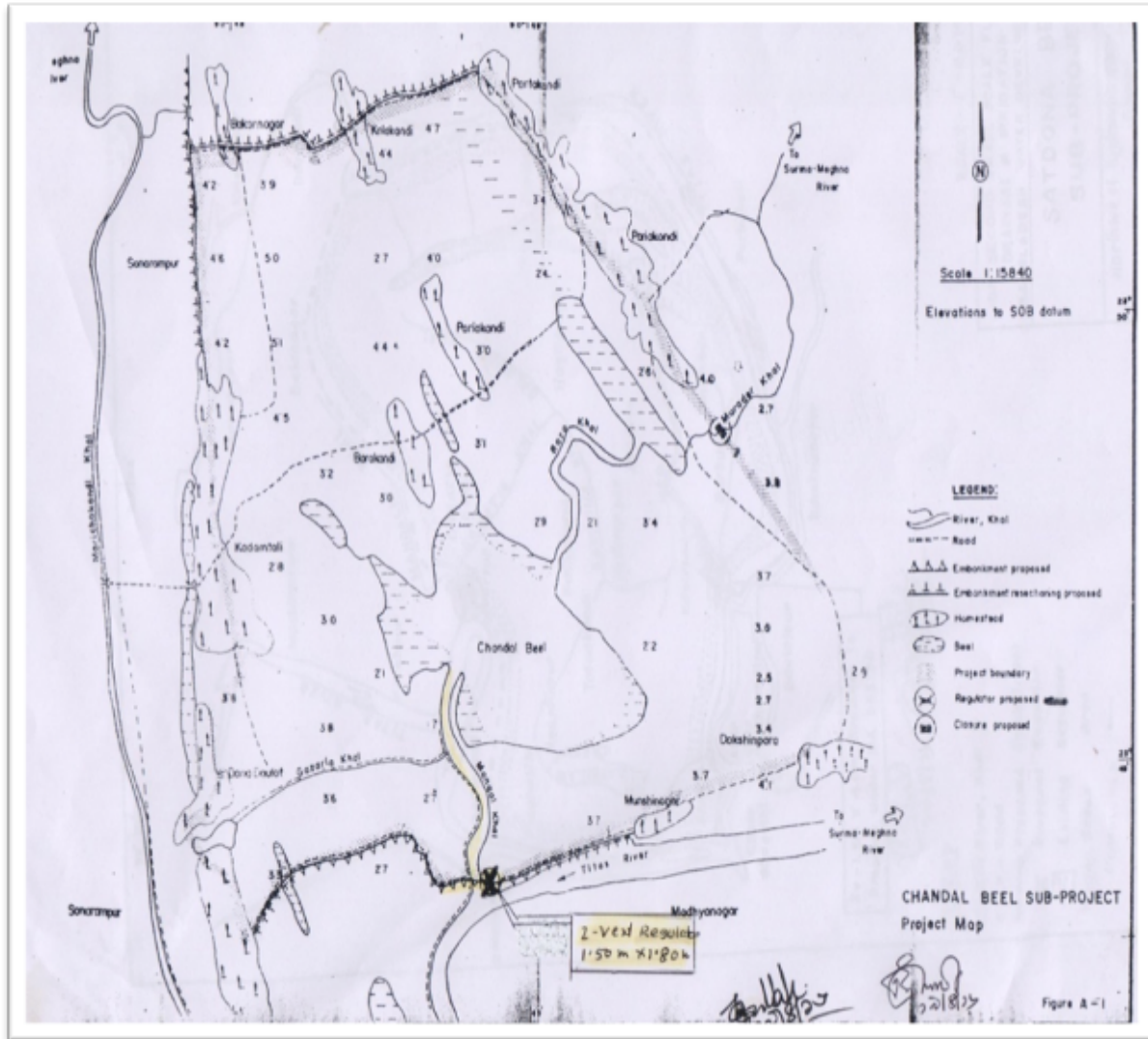


Figure 23: Map of Chandal Beel Scheme

10. Satdona Beel Scheme

Brahmanbaria		
2. Satdona Beel Scheme		
A	Location:	
	District:	Brahmanbaria
	Upazila	Bancharampur
	Union	Salemabad
B	Gross Area	5049 ha
C	Net Cultivable Area	4153 ha
D	Year of Construction	From 1984-85 to 1991-92
E	Intervention done during construction	
	i)	Construction of regulator = 2 Nos (2 Vent; 1.5m x 1.8m)
F	Proposed Intervention for rehabilitation under the project	
	i)	Re-installation of Regulator = 2 nos. (2 vent)
G	Cost of proposed intervention	Tk.400.00 Lakh
H	Map of the rehabilitation Haor sub-project	See Figure attached herewith

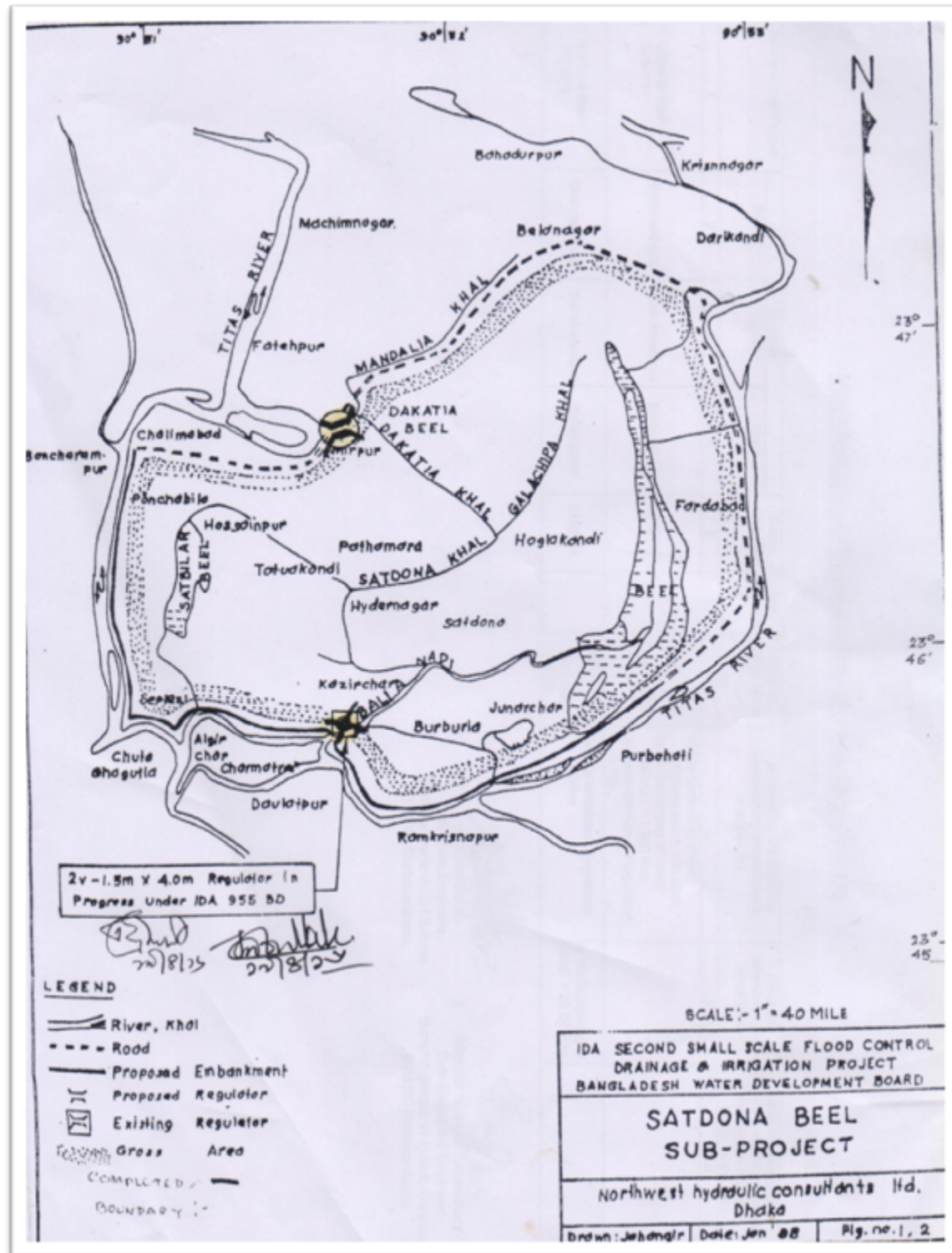


Figure 24: Map of Satdona Beel Sub-project

11. Dampara Water Management Scheme

NETROKONA		
1.Dampara Water Management Scheme		
A	Location:	
	District:	Netrokona
	Upazila	Purbodhola, Filpur
	Union	Jaria, Gagra, Boulai&Rupshi
B	Gross Area	15,004 ha
C	Net Cultivable Area	11,069 ha
D	Year of Construction	2000-2002:CIDA-GoB
E	Intervention done during construction	
	i)	Regulators = 2 Nos (1:10-V & 1 1-5V)
		Embankment: 48.00 km
F	Proposed Intervention for rehabilitation under the project	
	i)	Re-Sectioning of embankment: 22 km
	ii)	Regulator Construction: 1 no.—5-Vent
	iii)	Re-excavation of canal---20 km
	iv)	Gate replacement---20 nos.
G	Cost of proposed intervention	Tk.1145.00 Lakh
H	Map of the rehabilitation Haor sub-project	See Figure attached herewith

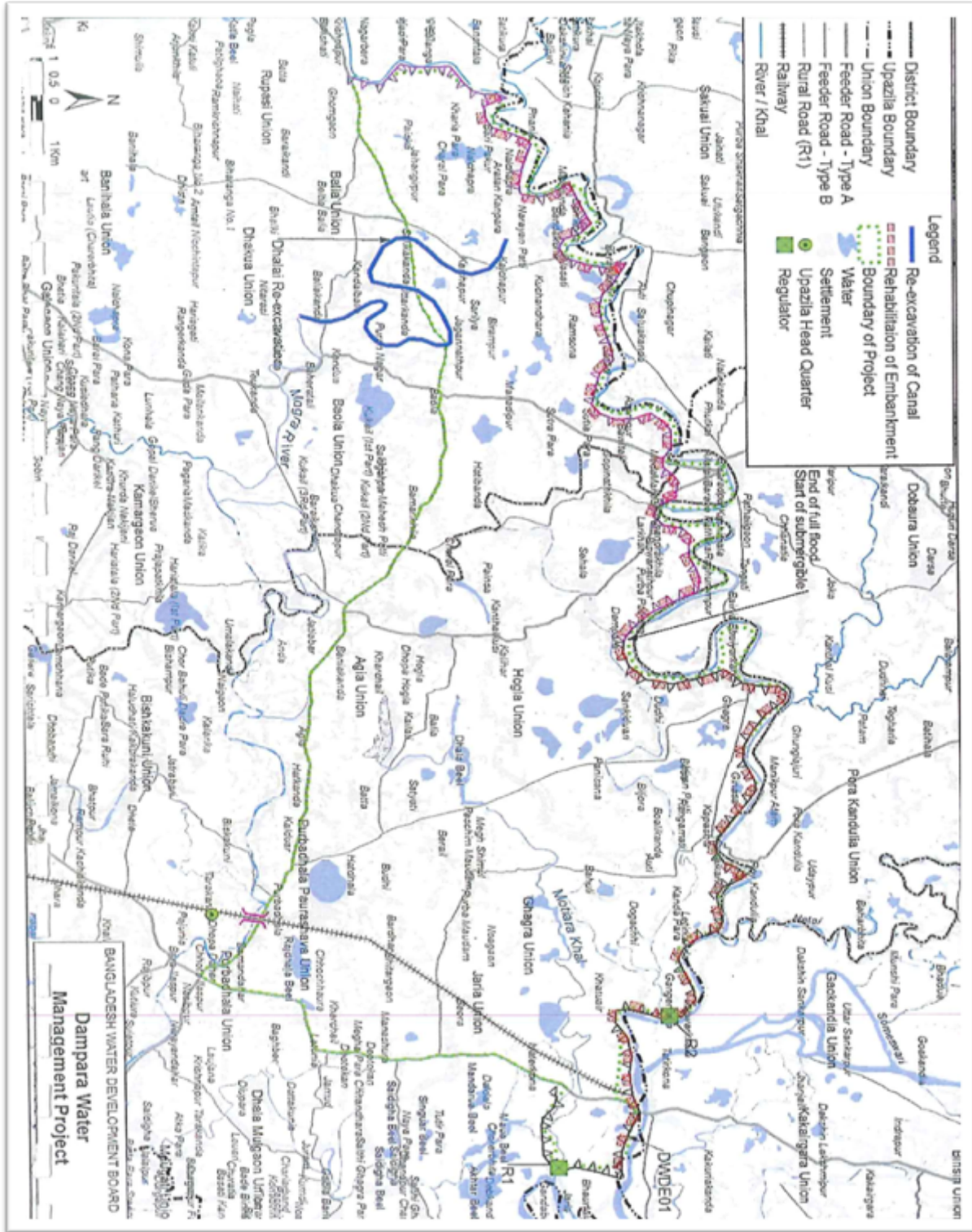


Figure 25: Map of Dampara Water Management Scheme

12. Kangsa River Scheme

NETROKONA		
2. Kangsa River Scheme		
A	Location:	
	District:	Netrokona
	Upazila	Purbodhola , NetrakonaSadar
	Union	Jaria, Dalamongaon, Mogati, Madni
B	Gross Area	11,337 ha
C	Net Cultivable Area	8,477 ha
D	Year of Construction	1989-90
E	Intervention done during construction	
	i)	Embankment—20.47 km
	ii)	Regulator—9 nos.
F	Proposed Intervention for rehabilitation under the project	
	i)	Re-Sectioning of embankment = 15.00 km
	ii)	Replacement of Gate= 20 nos.
	iii)	Re-excavation of canal= 22.00 km
G	Cost of proposed intervention	Tk.830 Lakh
H	Map of the rehabilitation Haor sub-project	See Figure attached herewith

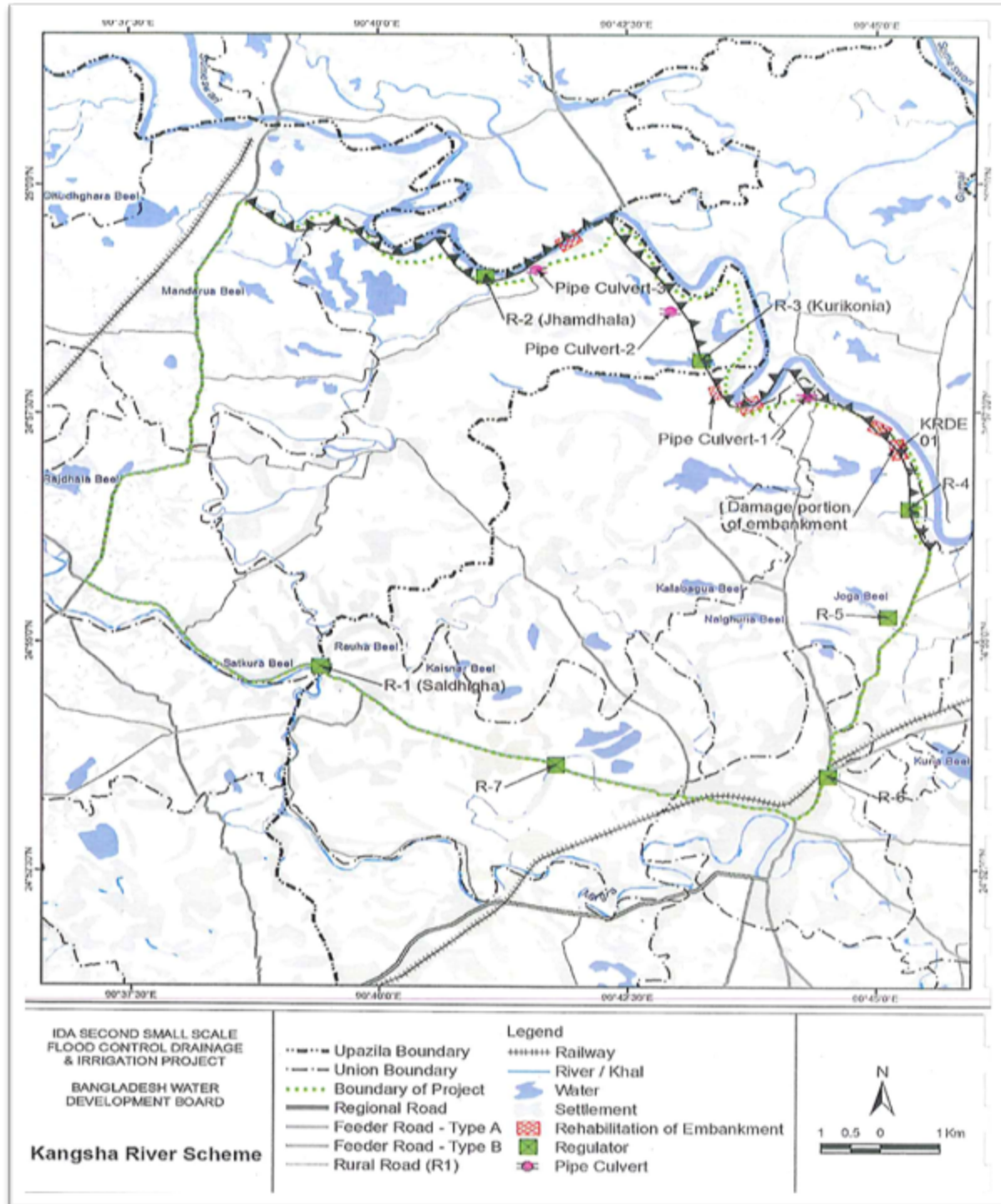


Figure 26: Map of Kangsha River Scheme

13. Singer Beel Scheme

NETROKONA		
3. Singer Beel Scheme		
A	Location:	
	District:	Netrokona
	Upazila	Kalmmakanda, Barhatta
	Union	Pogia, Chiram, Baosi, Asma
B	Gross Area	7,200 ha
C	Net Cultivable Area	5,842 ha
D	Year of Construction	1997-98 (EIP)
E	Intervention done during construction	
	i)	Embankment=22 km
	ii)	Regulator-1 no. 3-Vent
F	Proposed Intervention for rehabilitation under the project	
	i)	Re-Sectioning of full embankment = 10.00 Km
	ii)	Re-sectioning of submersible embankment=5 km
	iii)	Re-excavation of canal= 2 km
	iv)	Replacement of Regulator= 1 no.
G	Cost of proposed intervention	Tk.475.00 Lakh
H	Map of the rehabilitation Haor sub-project	See Figure attached herewith

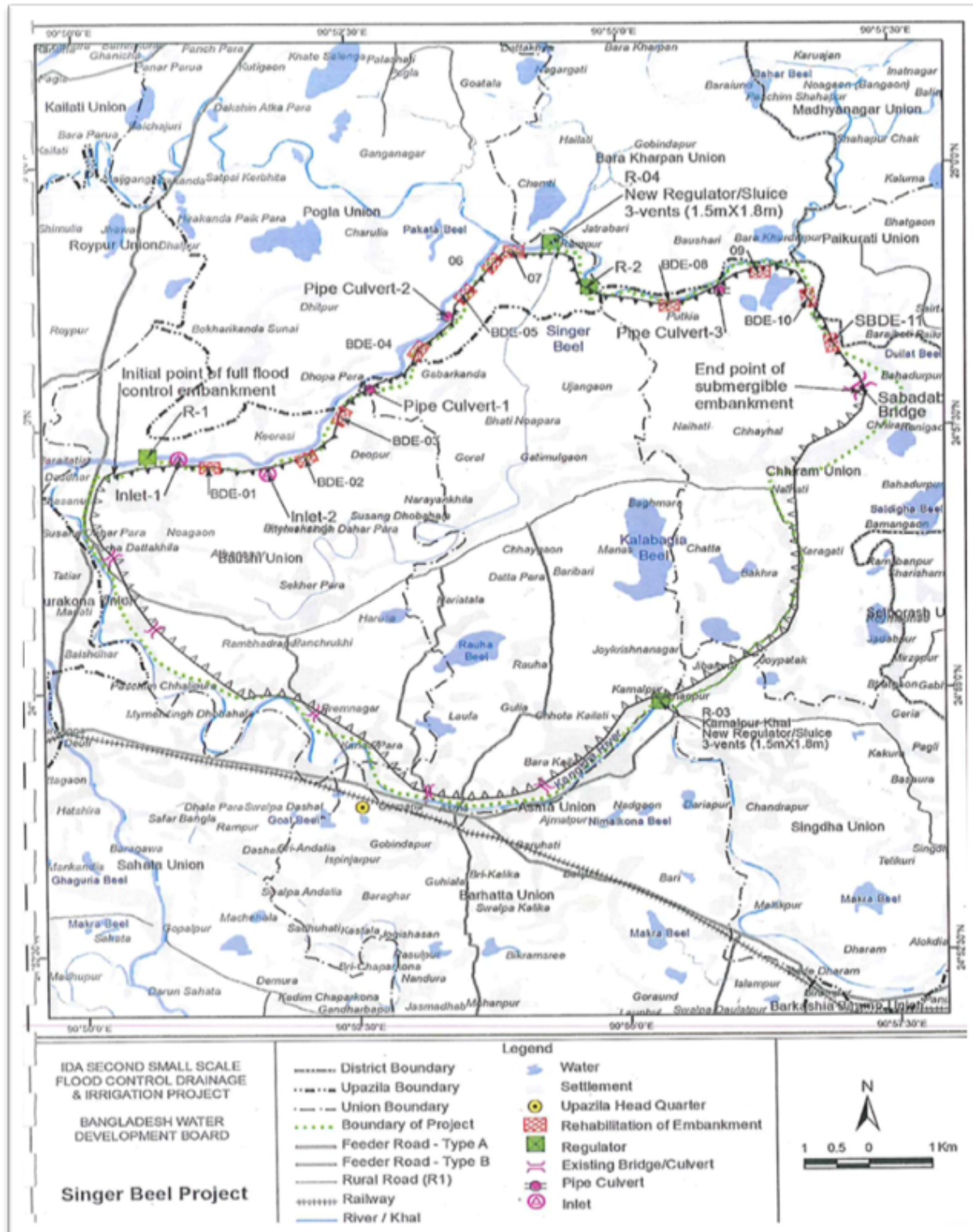


Figure 27: Map of Singer Beel Project

14. Khaliajuri FCD Polder # 02 Scheme

NETROKONA		
4.Khaliajuri FCD Polder # 02 Scheme		
A	Location:	
	District:	Netrokona
	Upazila	Khaliajuri
	Union	Khaliajuri, Chakua
B	Gross Area	6,611 ha
C	Net Cultivable Area	6,200 ha
D	Year of Construction	2005-06
E	Intervention done during construction	
	i)	Submersible Embankment= 52.10 km
	ii)	Regulator=3 nos.
F	Proposed Intervention for rehabilitation under the project	
	i)	Re-Sectioning of submergible embankment=20 km
	ii)	Replacement of Gates=3 nos.
G	Cost of proposed intervention	Tk.305 Lakh
H	Map of the rehabilitation Haor sub-project	See Figure attached herewith

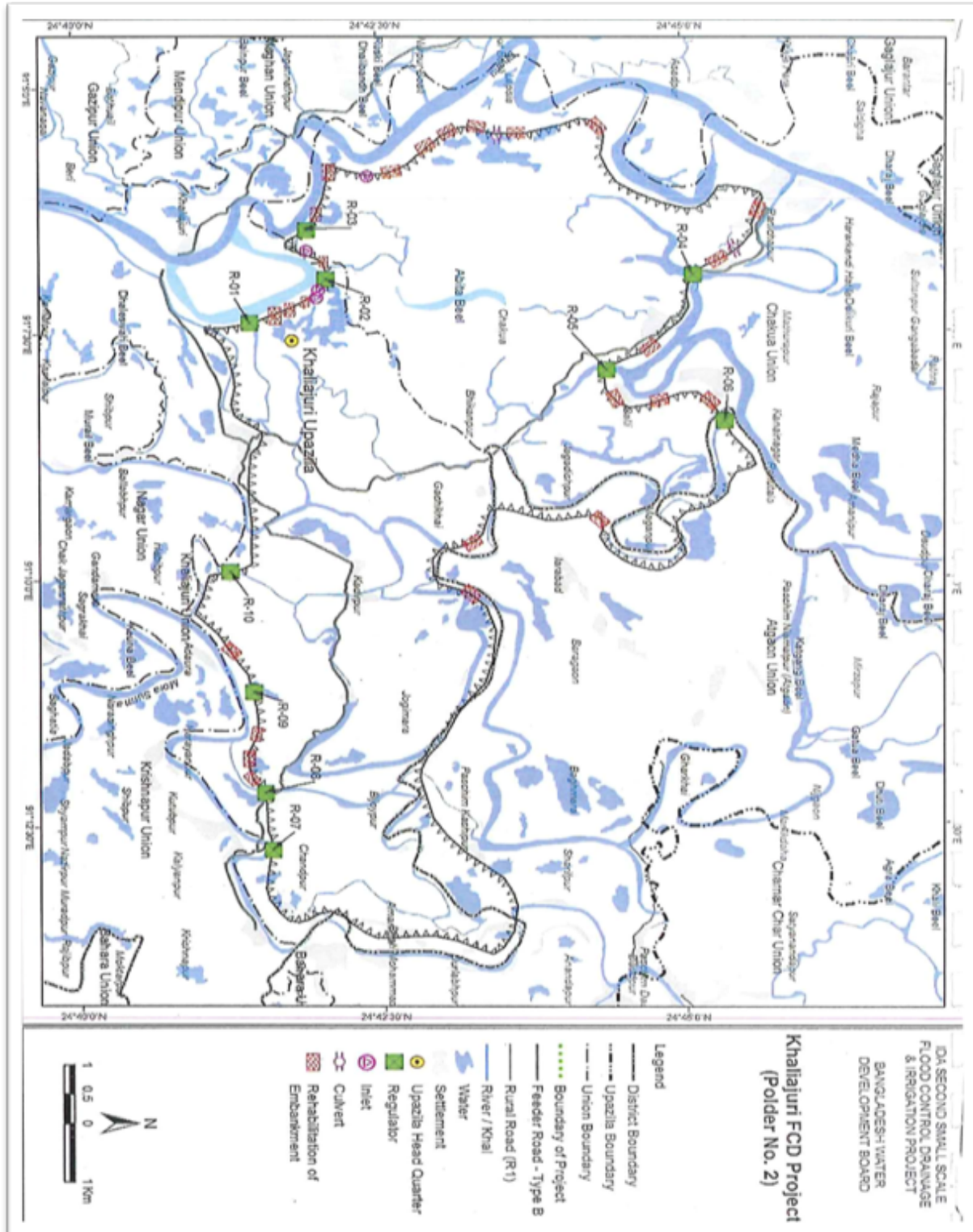


Figure 28: Map of Khaliajuri FCD Project (Polder No.2)

15. Khaliajuri FCD Polder # 04 Scheme

NETROKONA		
5. Khaliajuri FCD Polder # 04 Scheme		
A	Location:	
	District:	Netrokona
	Upazila	Khaliajuri. Madan
	Union	Mendipur, Gagipur
B	Gross Area	7,201.00 ha
C	Net Cultivable Area	6,866.00 ha
D	Year of Construction	2005-06
E	Intervention done during construction	
	i)	Construction of submersible embankment= 45 km
	ii)	Regulator=3 nos.
F	Proposed Intervention for rehabilitation under the project	
	i)	Rehabilitation of submersible embankment= 20 km
	ii)	Replacement of gates= 3 nos.
G	Cost of proposed intervention	Tk. 305.00 Lakh
H	Map of the rehabilitation Haor sub-project	See Figure attached herewith

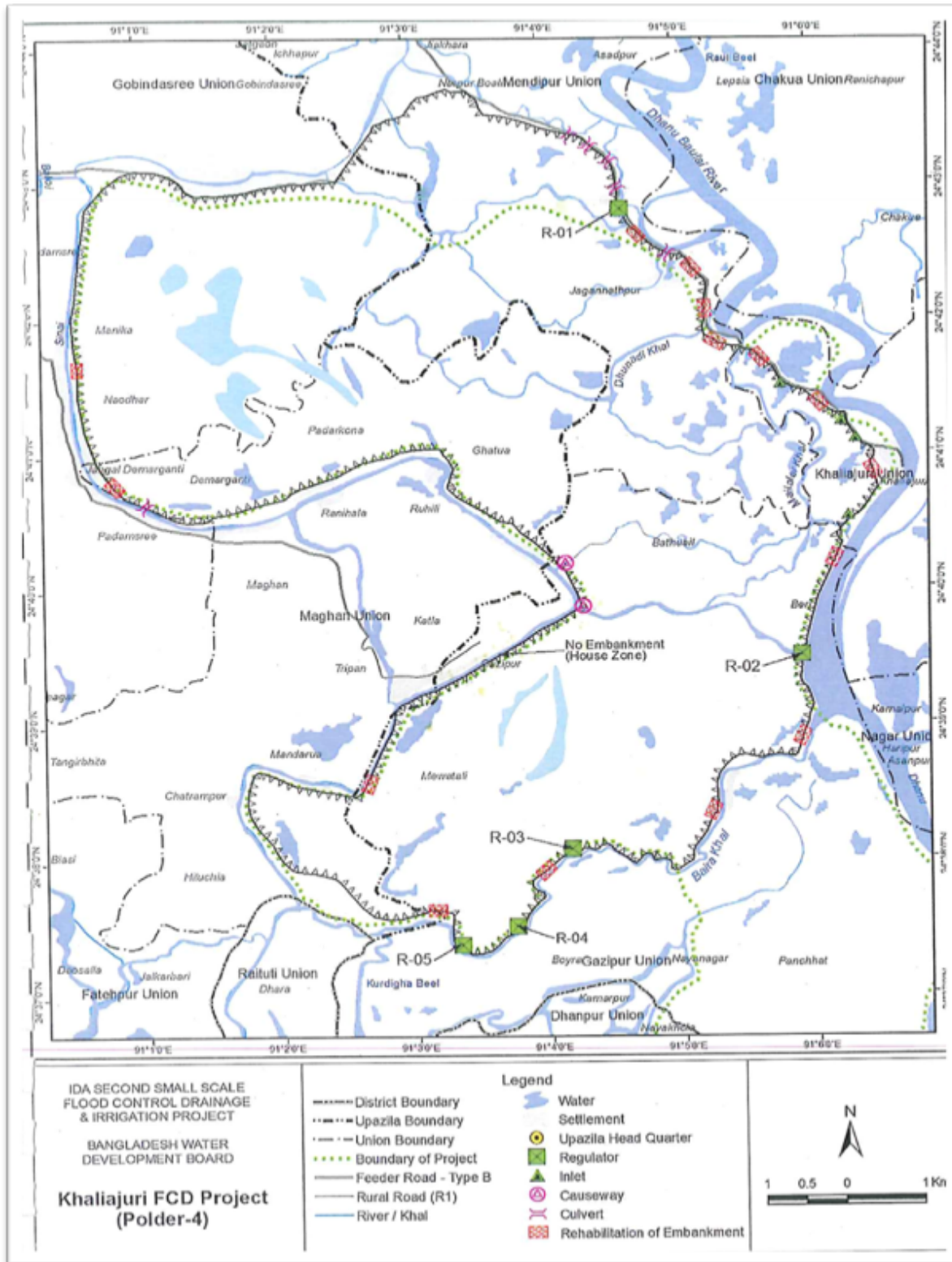


Figure 29: Map of Khaliajuri FCD Project (Polder-4)

**Annex B: Analytical method used in field investigation on soil, water,
noise & air quality**

(Analyses report is 84 pages,so is not attached with this annexes)

মৃত্তিকা, পানি ও পরিবেশ বিভাগ



Department of Soil, Water and Environment

University of Dhaka
Dhaka 1000
Bangladesh

Date: 12. 05. 2016

Mr. Md. Ataul Haq
Team Leader/Coordinator EIA Study Team
Haor Flood Management and Livelihood Improvement Project
DevConsultants Ltd.
House # 26(5th Floor), Road # 19, Sector-13
Uttara, Dhaka-1230


Subject: Submission of reports on field investigation and monitoring of air and noise quality at 14 different locations of various Haor areas of Bangladesh and analysis of collected Soil, Water and Sediment samples for EIA Study


Dear Sir,

With reference to your letter dated March 08, 2016 regarding request to submit reports on field investigation and monitoring of air and noise quality at 14 different locations of various Haor areas of Bangladesh and analysis of collected Soil, Water and Sediment samples for EIA Study, We do hereby submit the reports on the subject mentioned above for your further action.

Thanking you.

Yours Sincerely,


Dr. Md. Zakir Hossain Khan
Professor
Department of Soil, Water & Environment
University of Dhaka.
Enclosures:


(Dr. Sirajul Hoque)
Professor and Chairman
Dr. Sirajul Hoque
Professor & Chairman
Department of Soil, Water & Environment
University of Dhaka, Dhaka-1000

Sample Location Number	Report name and/or Name of the locations	Nos. of Pages
1	Tellahati of Boro Haor (Nikli) Subproject	6
2	Par Bajitpur of Nunnir Haor Subproject	6
3	Koundia of Chandpur Haor Subproject	6
4	Nolua Khal of Noapara Haor Subproject	6
5	Berachapra Khal of Naogaon Haor Subproject	6
6	Shantapur of Badla Haor Subproject	6
7	Joysidhol of Dakhshiner Haor Subproject	6
8	Tarail of Suniar Haor Subproject	6
9	Sajdul Baruni of Chatal Haor Subproject	6
10	Hanskuri of Ganesh Haor Subproject	6
11	Jawar Bazar of Jaliar Haor Subproject	6
12	Bhatakpur of Dharmapasha Uui Beel Subproject	6
13	Jaynagar Bazar of Dhakua Haor subproject	6
14	Lakhipur of Mokher Haor Subproject	6
	and a analytical methods used in the study	1

Telephone: 9661920-73/7470, Fax:(880-2) 8615583, e-mail: swed @du.ac.bd



মৃত্তিকা, পানি ও পরিবেশ বিভাগ
ঢাকা বিশ্ববিদ্যালয়



Department of Soil, Water and Environment
University of Dhaka
Dhaka 1000
Bangladesh

Analytical Methods Used in the Study

Ambient Air Quality Monitoring Technique:

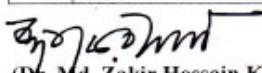
SPM and PM10: High Volume Air Sampler Method was employed for the determination of **SPM** (TSP and PM10) in ambient air. Airborne particulate matter retained/captured on the filter is determined gravimetrically. **NOx, SOx and CO etc.:** Direct measurement of NOx, SOx and CO etc. was conducted on a spot over a period of 1-h by using **GrayWolf Toxic Gas Monitor** equipped with NOx, SOx and CO sensors in a single Probe TG-502, data logger and mobile computing software.


Noise Level Monitoring:

A Noise/Sound Level Sensor was used to measure the intensity of various sound sources. Measurements were taken during different times of the day and night and at different locations and the changing levels were observed. L_{eq} Day and night and dB(A) Min and Max values as required were provided.

Soil, Water and Sediment: Methods mentioned below were followed for the determination of various parameters as requested in Soil, Water and Sediment samples.

Sl. No.	Parameters (Soil, Sediment and Water)	Analytical Methods
1	pH	pH meter (1:2.5)
2	Electrical Conductivity (EC)	EC meter (1:5)
3	Total Organic Carbon (TOC)	Wet oxidation method
4	Total Nitrogen (N)	Micro Kjeldahl Distillation
5	Total Phosphorus (P)	Yellow colour spectrophotometric method
6	Total Potassium (K)	Acid digestion and Flame photometer
7	Iron (Fe); Manganese (Mn)	Acid digestion and AAS
8	Zinc (Zn); Copper (Cu); Lead (Pb); Cadmium (Cd); Arsenic (As) (mg/kg)	Acid digestion and Atomic absorption spectrophotometer (AAS)
9	Total Hardness	EDTA Titration Method
10	TDS	TDS Multimeter
11	TSS	Gravimetric method
12	BOD; DO	DO meter
13	Chlorite; Fluoride	Titrimetric method
14	Nitrate; Sulphate	Spectrophotometer
15	Coliforms	Microbiological method
16	Particle Size Distribution (Sand, silt, clay)	Hydrometer method
17	Texture	Marshal's Textural Triangle Method


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Annex C: Flora and fauna in the project area

Annex C:

Flora and Fauna

The Haor areas are one of the largest wetland systems in the northeast region of Bangladesh with relative natural state. The haor consists of several *beels* of various sizes. Field visits indicated that the subproject sites and adjacent floodplain ecology has largely been changed in the area. Natural factors such as flood, river erosion, climatic effects, natural calamities, etc. also have impacted on ecological characteristics; however, the study area seems to be moderate to highly disturbed by the natural factors as well as anthropological activities.

The beels, khals and rivers together in subprojects present a unique ecosystem in the riverine environment of the subproject areas. The environment of the northeast of Bangladesh where the subprojects are located is subjected to mainly one crop paddy cultivation having risks of damage by early flash flood. The ecosystems found today in subproject area can be categorized into three main categories

- i. Low lying crop cultivation area with paddy cultivations
- ii. Homestead with home garden crops, and build up area with embankments, etc.
- iii. Flood plains that remains under water during most of the dry period and other aquatic systems such as ponds and khals where the fisheries activities are taking place

The environment assessment covered these three main ecosystems independently. However the subproject activities are expected to take place in all three areas of the ecosystems and thus may have cumulative impacts.

In view of the direct relationship between the project activities and the ecosystems mentioned above a detail flora and fauna survey of the areas was undertaken.

On the basis of habitat, the species are divided into two major categories viz. (a) aquatic, and (b) terrestrial.

1. Aquatic Life and fisheries

Aquatic plants (macrophytes)

In total 76 species of aquatic macrophytes have been identified under 54 genera is belonging to 40 families. From the study, a total of 32 dicotyledonous, 41 monocotyledonous and 3 Pteridophytes have been identified. Plants categories on the basis of habitats have observed that herbs 73 species followed by trees 03.

Out of 76 species of recorded aquatic macrophytes and their local status are abundance-16, common- 34 rare-24 and locally endangered-2 species. Uses of recorded aquatic plants are as weed-37 followed by medicinal-20, vegetables-09, fodder-4, timber-03, fruit-02, and fuel-1 in the project area. Inventory of identified aquatic macrophytes along with their local name, scientific name, family, types, habit, local status, and uses are given in **Table-C.2**. At a glance summary of information of aquatic macrophytes in the study area analysed in different ways (**Table-C.1**).

Table C.1: Summary Information on aquatic macrophytes recorded during Survey in the project area

Habit	Total	Types	No.	Local status	No.	Uses	No.
Angiosperm:		Tree	03	Abundance	16	Medicinal	20
Dicotyledonous	32	Shrub	0	Common	34	Weed	37
Monocotyledonous	41	Herb	73	Rare	24	Vegetables	09
Pteridophyta	03	Climber	0	Endangered	02	Fodder	04
						Timber	03
						Fruit	02
						Fuel	01
	76	76	76		76		76

Table C.2: Inventory of identified aquatic macrophytes along with their local name, scientific name, family, types, habit, local status, and uses.

SI/No	Local name	Scientific name	Family	Types	Habit	Local Status	Uses
1.	Shola	<i>Aeschynomene aspera</i>	Fabaceae	D	H	R	Fuel
2.	Helencha	<i>Alternanthera philoxeroides</i>	Amaranthaceae	M	H	C	Veg.
3.	Sachishak	<i>Alternanthera sessilis</i>	Amaranthaceae	M	H	A	Veg.
4.	Ghechu	<i>Aponageton appendiculatus</i>	Aponagetonaceae	M	H	A	Weed
5.	Ghechu	<i>Aponageton natans</i>	Aponagetonaceae	M	H	C	Weed
6.	Nal	<i>Arundo donax</i>	Poaceae	M	H	C	Weed
7.	Brahmmisak	<i>Bacopa monnieri</i>	Scrophulariaceae	D	H	C	Veg.
8.	Hijol	<i>Barringtonia acutangula</i>	Lecythidaceae	D	T	C	Tim
9.	Pani gach	<i>Centrostachys aquatica</i>	Amaranthaceae	M	H	C	Veg.
10.	Jhangi.	<i>Ceratophyllum muricatum</i>	Ceratophyllaceae	D	H	A	Fdd
11.	Chondanbeto	<i>Chenopodium ambroïoides</i>	Chenopodiaceae	D	H	A	Weed
12.	Bishlata	<i>Cissampelos pareira</i>	Menispermaceae	D	H	R	Med.
13.	Nunirleta	<i>Cleome hassleriana</i>	Capparidaceae	D	H	R	Med.
14.	Borun	<i>Crataeva nurvala</i>	Capparidaceae	D	T	R	Tim
15.	Chukai gas	<i>Croton bonplandianum</i>	Euphorbiaceae	D	H	A	Med.
16.	Boro chucha	<i>Cyperus iria</i>	Cyperaceae	M	H	C	Weed
17.	Kucha	<i>Cyperus cyperoides</i>	Cyperaceae	M	H	A	Weed
18.	Behua	<i>Cyperus difformis</i>	Cyperaceae	M	H	C	Weed
19.	Burethi	<i>Cyperus imbricatus</i>	Cyperaceae	M	H	C	Weed
20.	Chancha	<i>Cyperus michaelianus</i>	Cyperaceae	M	H	R	Weed
21.	Khagra	<i>Cyperus pilosus</i>	Cyperaceae	M	H	R	Weed
22.	Mutha ghach	<i>Cyperus rotundus</i>	Cyperaceae	M	H	A	Weed
23.	Chotoaun-gli ghach	<i>Digitaria ischaemum</i>	Poaceae	M	H	C	Med.
24.	Jat gach	<i>Echinochloa crusgalis</i>	Poaceae	M	H	C	Weed
25.	Parua ghas.	<i>Echinochloa stagnina</i>	Poaceae	M	H	C	Weed
26.	Kochuripana	<i>Eichhornia crassipes</i>	Pontederiaceae	M	H	A	Weed
27.	Chechri.	<i>Eleocharis acutangula</i>	Cyperaceae	M	H	A	Weed

SI/No	Local name	Scientific name	Family	Types	Habit	Local Status	Uses
28.	Rudrakhya	<i>Eleocharis congesta</i>	Cyperaceae	M	H	A	Weed
29.	Bara chechri	<i>Eleocharis dulcis</i>	Cyperaceae	M	H	A	Weed
30.	Malangakuri	<i>Eleusine indica</i>	Poaceae	M	H	C	Weed
31.	Mechitra	<i>Emilia sonchifolia</i>	Asteraceae	D	H	R	Med.
32.	Helencha	<i>Enhydra fluctuans</i>	Compositae	D	H	C	Med.
33.	Koni ghas	<i>Eragrostis tenella</i>	Poaceae	M	H	C	Fdd
34.	Makhna	<i>Euryale ferox</i>	Nymphaeaceae	D	H	R	Fr.
35.	Bara nirbishi.	<i>Fimbristylis dichotoma</i>	Cyperaceae	M	H	R	Weed
36.	Barakamra	<i>Gnephaliun lutea-album</i>	Asteraceae	D	H	C	Med.
37.	Nemuti	<i>Grangea madaeraspata</i>	Asteraceae	D	H	C	Med.
38.	Panseru	<i>Hemarthria compressa</i>	Poaceae	M	H	C	Med.
39.	Chailla.	<i>Hemarthria protensa</i>	Poaceae	M	H	C	Fdd
40.	Kasschara	<i>Hydrolea zeylanica</i>	Hydrophyllaceae	D	H	R	Weed
41.	Kalmishak	<i>Ipomoea aquatica</i>	Convolvulaceae	D	H	C	Veg.
42.	Arali	<i>Leersia hexandra</i>	Poaceae	M	H	A	Weed
43.	Khudi pana.	<i>Lemna aequinoctialis</i>	Lemnaceae	M	H	C	Weed
44.	Guripana	<i>Lemna minor</i>	Lemnaceae	M	H	C	Weed
45.	Karpur	<i>Limnophila heterophylla</i>	Scrophulariaceae	D	H	C	Weed
46.	Bijatigahash	<i>Limnophila sessiliflora</i>	Scrophulariaceae	D	H	R	Weed
47.	Bhui	<i>Lindernia antipoda</i>	Scrophulariaceae	D	H	R	Med.
48.	Bhuiokra	<i>Lippia alba</i>	Verbenaceae	D	H	C	Med.
49.	Keshordam	<i>Ludwigia adscendense</i>	Onagraceae	D	H	C	Med.
50.	Banlong	<i>Ludwigia hyssopifolia</i>	Onagraceae	D	H	C	Med.
51.	Shusni shak	<i>Marsilea quadrifolia s</i>	Marsileaceae	Pte	H	C	Med.
52.	Pani kochu	<i>Monochoria hastata</i>	Pontederiaceae	M	H	R	Weed
53.	Nukha	<i>Monochoria vaginalis</i>	Pontederiaceae	M	H	R	Weed
54.	Beguni Shapla	<i>Nymphaea nauchali</i>	Nymphaeaceae	D	H	R	Veg.
55.	Sada Shapla	<i>Nymphaea pubescens</i>	Nymphaeaceae	D	H	R	Veg.
56.	Lal sapla	<i>Nymphaea rubra</i>	Nymphaeaceae	D	H	R	Veg.
57.	Nil sapla	<i>Nymphaea stellata</i>	Nymphaeaceae	D	H	R	Veg.
58.	Chandmala	<i>Nymphoides hydrophylla</i>	Menyanthaceae	D	H	A	Med.
59.	Choto chadmala	<i>Nymphoides indicum</i>	Menyanthaceae	D	H	C	Med.
60.	Jhara dhan	<i>Oryza rufipogon</i>	Poaceae	M	H	C	Weed
61.	Ducklettuce	<i>Ottelia alismoides</i>	Hydrocharitaceae	M	H	C	Weed
62.	Nol	<i>Phragmites karka</i>	Poaceae	M	H	R	Med.
63.	Bhuiokra	<i>Phyla nodiflora</i>	Verbenaceae	D	H	C	Med.
64.	Topa pana	<i>Pistia stratiotes</i>	Araceae	M	H	R	Weed
65.	Anjaban	<i>Polygonum plebejum</i>	Polygonaceae	D	H	A	Med.
66.	Karoch	<i>Pongamia pinnata</i>	Fabaceae	D	T	C	Tim
67.	Pani agacha.	<i>Potamogeton malaianus</i>	Potamogetonaceae	M	H	C	Weed
68.	Banna Golap	<i>Rosa clinophylla</i>	Rosaceae	M	H	EN	Weed
69.	Khagra.	<i>Saccharum spontaneum</i>	Poaceae	M	H	A	Fdd
70.	Kuripana	<i>Salvinia cuculata</i>	Salviniaceae	Pte.	H	R	Weed
71.	Tetulapana	<i>Salvinia natans</i>	Salviniaceae	Pte.	H	R	Weed
72.	Holud Sial Leza	<i>Setaria Glauca</i>	Poaceae	M	H	A	Med.
73.	Paniphal	<i>Trapa bispinosa</i>	Trapaceae	D	H	R	Fr.
74.	Singara	<i>Trapa maximowickzii</i>	Trapaceae	M	H	EN	Weed
75.	Binna grass	<i>Vetiveria zizanioides</i>	Poaceae	M	H	C	Weed
76.	Guripana.	<i>Wolffia arrhiza</i>	Lemnaceae	M	H	R	Weed

Source: Field survey, Focus group discussion and public consultation

NB: Taxonomic group/types (D=Dicotyledonous, M= Monocotyledonous, Pteri=Pteridophytes), Habit (T=Tree, S=Shrub, Status: A=Abundance, C=Common, R=Rare, En=Endangered. Uses: Med=Medicinal, Veg=Vegetables, Fr=Fruit, Fdd=Fodder, Tim= Timber.

Fisheries resources in the subproject area

Most of the Haor in the project area are important for fisheries. They provide the winter shelter for the mother fishery, and in the early monsoon these mother fisheries produce millions of fries for the entire downstream fishing communities. The diversity of wetland habitats, seasonal inundation and fluctuation of water regime and connectivity of the haor with the Rivers, canal, khals, and beels system make the haor suitable for capture fisheries production. Free flow of water at the early monsoon from River to the haor facilitates immigration of fish from the river to the haor. Varied depth classes of the haor basin provide habitats for young fish grow larger, adults to grow maturity and the brood fish to spawn at various suitable habitats. Consequently, protection of these fisheries not only benefits local people, but also yields gains for all the people in the lower floodplains. In total of 100 fish species reported to be found in the Haor in a survey conducted during December 2015 to January 2016. From survey, secondary information and public consultation total 99 fish species recorded from all sub-project from 74 genres under 34 families are given in **Table C.3**. Among them 32 threatened fish species identified and categorized according to red data book of fishes IUCN-Bangladesh. Among them 11 are critically endangered and 10 are endangered and 11 are vulnerable (IUCN Bangladesh, 2003). However, fishing practices now being observed and the habitat degradation, if continue, would accelerate the process of species extinction. If appropriate conservation measures are not taken, the still rich fisheries (number of diversity) of the haor would be collapsed in near future.

Table C.3: Inventory of Fish species in the sub-Project area

S/ N	Local name	English name	Scientific Name	Family	IUCN National status
1.	Chanda	Indian glassy chanda	<i>Chanda ranga</i>	Ambassidae	No
2.	Lamba Chanda	Glass fishes	<i>Chanda nama</i>	Ambassidae	No
3.	Lamba Chanda	Glass fishes	<i>Chanda nama</i>	Ambassidae	Vul
4.	Koi	Climbing perches	<i>Anabas testudineus</i>	Anabantidae	No
5.	<u>Khailsha</u>	Banded gouram	<i>Colisa fasciata</i>	Anabantidae	No
6.	Bamosh	Fresh water eels	<i>Anguilla bengalensis</i>	Anguillidae	CR
7.	Ayer	Catfishes	<i>Aorichthys aor</i>	Bagridae	Vul
8.	Ghagot / Guzi Air	Catfishes	<i>Aorichthys seenghala</i>	Bagridae	EN
9.	Baghair	Catfishes	<i>Bagarius bagarius</i>	Bagridae	CR
10.	Batsi		<i>Batasio batasio</i>	Bagridae	No
11.	Tengra	Bumble-bee Catfish	<i>Batasio tengana</i>	Bagridae	EN
12.	Tengra	Catfishes	<i>Mystus bleekeri</i>	Bagridae	No
13.	Golsha tengra	Catfishes	<i>Mystus cavasius</i>	Bagridae	Vul
14.	Ghagot /Gozi Aor	Catfishes	<i>Mystus seenghala</i>	Bagridae	No
15.	Bajari tengra	Catfishes	<i>Mystus tengra</i>	Bagridae	No
16.	Rita	Catfishes	<i>Rita rita</i>	Bagridae	CR
17.	Kakila	Needlefishes	<i>Xenentodon cancila</i>	Blonidae	No
18.	Chaka	Catfishes	<i>Chaca chaca</i>	Chacidae	CR
19.	Tilashol	Snakeheads	<i>Channa barca</i>	Channidae	No
20.	Gajar	Snakeheads	<i>Channa marulius</i>	Channidae	Vul

S/ N	Local name	English name	Scientific Name	Family	IUCN National status
21.	Gazar	Snake Headfish	Channa Marulius.	Channidae	No
22.	Gaucha	Snakeheads	<i>Channa orientalis</i>	Channidae	No
23.	Taki	Snakeheads	<i>Channa punctatus</i>	Channidae	No
24.	Shoal	Snakeheads	<i>Channa striatus</i>	Channidae	No
25.	Telapia	Mozambique tilapia	<i>Oreochromis mossambicus</i>	Cichlidae	No
26.	Magur	Walking catfishes	<i>Clarias batrachus</i>	Clariidae	No
27.	Kechhkhi	Ganges river sprat	<i>Corica soborna</i>	Clupeidae	No
28.	Chapila	Indian River Shad	<i>Gudusia chapra</i>	Clupeidae	No
29.	Ilish	Shads	<i>Hilsa ilisha</i>	Clupeidae	No
30.	Panga	Loaches	<i>Acanthopthalmuspangia</i>	Cobitidae	NO
31.	Rani	Loaches	<i>botia dario</i>	Cobitidae	CR
32.	Gura chingri	Guntea loach	<i>Lepidocephalichthys guntea</i>	Cobitidae	No
33.	Puiya	<i>berdmorei</i>	<i>Lepidocephalus</i>	Cobitidae	No
34.	Gutum	Loaches	<i>lepidoccephalus guntea</i>	Cobitidae	No
35.	Pahari Gutum	Loaches	<i>Somileptes gongota</i>	Cobitidae	No
36.	Laiya	Rasboras	<i>Aspidoparia jaya</i>	Cyprinidae	No
37.	Bhol	Rasboras	<i>Barilius bola</i>	Cyprinidae	No
38.	Koksa	Rasboras	<i>Barilius sp.</i>	Cyprinidae	No
39.	Catla	Carps and barbs	<i>Catla catla</i>	Cyprinidae	No
40.	Jarua	Carps and barbs	<i>Chagunius chagunio</i>	Cyprinidae	No
41.	Chep Chela	Rasboras	<i>Chela laubuca</i>	Cyprinidae	EN
42.	Mrigel	Carps and barbs	<i>Cirrhinus mrigala</i>	Cyprinidae	No
43.	Raik	the carps and minnows	<i>Cirrhinus reba</i>	Cyprinidae	EN
44.	Kalabata/Tatkini	Suckers	<i>Crossocheilus latius</i>	Cyprinidae	CR
45.	Carpio/Common carp	Commo carp	<i>Cyprinus carpio</i>	Cyprinidae	No
46.	Chebil	Giant Danio	<i>Danio aequipinnatus</i>	Cyprinidae	No
47.	Banspata	Rasboras	<i>Danio devario</i>	Cyprinidae	No
48.	Darkina	Minnows	<i>Esonmus danricus</i>	Cyprinidae	No
49.	Ghar Pola	Suckers	<i>Garra gotyla</i>	Cyprinidae	No
50.	Lasu	Carps and barbs	<i>Labeo reba</i>	Cyprinidae	No
51.	Angrot	Carps and barbs	<i>Labeo angra</i>	Cyprinidae	No
52.	Bata mach	Carps and barbs	<i>Labeo bata</i>	Cyprinidae	No
53.	Kalibaush	Orange-fin	<i>Labeo calbasu</i>	Cyprinidae	Vul
54.	Goinna	Carps and barbs	<i>Labeo gonius</i>	Cyprinidae	Vul
55.	Ghora	Carps and barbs	<i>Labeo pangusia</i>	Cyprinidae	No
56.	Roi / Rohu	Carps and barbs	<i>Labeo rohita</i>	Cyprinidae	No
57.	Dhela		<i>Osteobrama cotio</i>	Cyprinidae	EN
58.	Shorpoti	Surpunti	<i>Puntinus sarana</i>	Cyprinidae	No
59.	Tit puti	Ticto barb	<i>Puntius ticto</i>	Cyprinidae	Vul
60.	Darkina	Rasboras	<i>Rasbora rasbora</i>	Cyprinidae	Vul
61.	Katari	Minnows	<i>Salmostoma bacala</i>	Cyprinidae	No
62.	Fulchela	Minnows	<i>Salmostoma phulo</i>	Cyprinidae	No
63.	Mohasol	Carps and barbs	<i>Tor tor</i>	Cyprinidae	No
64.	Mola	Mola Carplet	<i>Amblypharyngodon microlepis</i>	Cyprinidae.	No
65.	Chela	Silver razor Minnow	<i>Chela atpar</i>	Cyprinidae.	No
66.	Kanpona	Killifishes	<i>Aplocheilus panchax</i>	Cyprinodontidae	No

S/ N	Local name	English name	Scientific Name	Family	IUCN National status
67.	Shakush	Stingrays	<i>Himantura fluviatilis</i>	Dasyatidae	No
68.	Phasa	Anchovies	<i>Setipinna taty</i>	Engraulidae	No
69.	Baila	Gobies	<i>Glossogobius giuris</i>	Gobiidae	No
70.	Lal Ceoa	eel goby	<i>Odontamblyopus rubicundus</i>	Gobiidae	No
71.	Ek thuita	Halfbeaks	<i>Dermogenys pusillus</i>	Hemirhamphidae	CR
72.	Shing	Stinging catfishes	<i>Heteropneustes fossilis</i>	Heteropneustidae	No
73.	Tara baim	Spiny eels	<i>Macroglyptothorax aral</i>	Mastacembelidae	Vul
74.	Barabaim	Spiny eels	<i>Mastacembelus armatus</i>	Mastacembelidae	Vul
75.	Chirka baim		<i>Mastacembelus pancalus</i>	Mastacembelidae	No
76.	Kholla	Mullets	<i>Rhinomugil corsula</i>	Mugilidae	No
77.	Meni/ Bhedi	Mud perches/leaf fishes	<i>Nandus nandus</i>	Nandida	No
78.	Napti Koi	Mud perches	<i>Badis badis</i>	Nandidae	EN
79.	Balichata	Loaches	<i>Nemacheilus botia</i>	Nemacheilidae	No
80.	Chital	Knife fishes	<i>Notopterus chitala</i>	Notopteridae	CR
81.	Foli	Knife fishes	<i>Notopterus notopterus</i>	Notopteridae	EN
82.	Naftani	Ganges river sprat	<i>Ctenops nobilis</i>	Osphronemidae	CR
83.	Galda Chingri	Giant freshwater prawn	<i>Macrobrachium rosenbergii</i>	Palaemonidae	No
84.	Taposi	Mango Fish	<i>Polynemus paradiseus</i>	Polynemidae	No
85.	Titari	Minnows	<i>Psilorhynchus sucatio</i>	Psilorhynchidae	No
86.	Baspati /Kajuli	Catfishes	<i>Ailia coila</i>	Schilbeidae	EN
87.	Ghaura	Cat fishes	<i>Clupisoma garua</i>	Schilbeidae	CR
88.	Muri bacha	Catfishes	<i>Clupisoma muriei</i>	Schilbeidae	No
89.	Bacha	Catfishes	<i>Eutropiichthys vacha</i>	Schilbeidae	EN
90.	Pangus	Catfishes	<i>Pangasius pangasius</i>	Schilbeidae	CR
91.	Batasi	Matherinoides	<i>Pseudeutropius</i>	Schilbeidae	No
92.	Kani Pabda	Butter catfishes	<i>Ompok bimaculatus</i>	Siluridae	No
93.	Madhu Pabda	Butter catfishes	<i>Ompok pabda</i>	Siluridae	Vul
94.	Boal	Fresh water shark	<i>Willago attu</i>	Siluridae	No
95.	Gang tengra	Indian gagata	<i>Gagata cenia</i>	Sosoridae	No
96.	Telchitta /Teli	Catfishes	<i>Glyptothorax telchitta</i>	Sosoridae	No
97.	Kala tengra	Catfishes	<i>Mystus vittatus</i>	Sosoridae	No
98.	Kuicha	Mud eels	<i>Monopterus albus</i>	Synbranchidae	EN
99.	Potka	Puffers	<i>Tetraodon lineatus</i>	Tetraodontidae	No

Source: IUCN Bangladesh, 2003 & CWBMP, 2006 and Public consultation, FGD, Market survey.

NB: CR=Critical Endangered, EN=Endangered, Vul=Vulnerable, NO=Not threatened

2. Terrestrial habitat and Flora and Fauna

Terrestrial plants (macrophytes)

In total 204 species of terrestrial plants have been identified from 158 genera belonged to 65 families through field survey, public consultation and focus group discussion (FGD). From the study, a total of 157 dicotyledonous, 45 monocotyledonous from angiosperm group and 2 species from pteridophyta group have been identified and there was no gymnosperm recorded. Plants categories on the basis of habitats

are observed that trees- 70 followed by herbs- 78, shrubs- 46 and Climbers- 10. Medicinal-93, fruits-25, timber-24, ornament-18, fuel-14, vegetable-12, compost-05 and others-13 species. Inventory of terrestrial macrophytes recorded from the study area during survey. Inventory of identified terrestrial macrophytes with local name, scientific name, family, types, habit and uses (**Table C.5**). At a glance summary of information of terrestrials macrophytes in the study area analysed in different ways (**Table-C.4**)

Table C.4: Summary Information on terrestrial macrophytes recorded during Survey in the project area

Habit	Number	Types	Number	Uses	Number
Angiosperm		Tree	70	Medicinal	93
Dicotyledonous	157	Shrub	46	Fruits	25
Monocotyledonous	45	Herb	78	Timber	24
Pteridophyta	02	Climber	10	Ornament	18
				Fuel	14
				Vegetables	12
				Compost	05
				Others	13
Total	204		204		204

Terrestrial plants recorded from homestead and roadside which are illustrated in the table C.5.

Table C.5: Inventory of terrestrial macrophytes recorded from the study area during survey with local name, scientific name, family, types, habit and uses.

Sl/ No	Local name	Scientific name	Family	Types	Habit	Use
1.	Ulotkambal	<i>Abroma augusta</i>	Sterculiaceae	D	S	Medicinal
2.	Akashmoni	<i>Acacia auriculiformis</i>	Fabaceae	D	T	Timber
3.	Rita	<i>Acacia concinna</i>	Fabaceae	D	T	Medicinal
4.	Akashmoni	<i>Acacia moniliformis</i>	Fabaceae	D	T	Timber
5.	Muktajhuri	<i>Acalypha indica</i>	Euphorbiaceae	D	T	Medicinal
6.	Apang	<i>Achyranthes aspera</i>	Amaranthaceae	D	H	Medicinal
7.	Telikodom	<i>Adina cordifolia</i>	Malvaceae	D	H	Medicinal
8.	Bel	<i>Aegle marmelos</i>	Rutaceae	D	T	Fruit
9.	Fulcuri	<i>Ageratum conyzoides</i>	Asteraceae	D	H	Medicinal
10.	Sil koro	<i>Albizia lucida</i>	Fabaceae	D	T	Timber
11.	Koro	<i>Albizia procera</i>	Fabaceae	D	T	Timber
12.	Mankachu	<i>Alocasia indica</i>	Araceae	M	H	Veg.
13.	Chatim	<i>Alstonia scholaris</i>	Apocynaceae	D	T	Medicinal
14.	Helencha	<i>Alternanthera philoxeroides</i>	Amaranthaceae	D	H	Veg.
15.	Sachishak	<i>Alternanthera sessilis</i>	Amaranthaceae	D	H	Veg.
16.	Kata noty	<i>Amaranthus spinosus</i>	Amaranthaceae	D	H	Medicinal
17.	Notey stak	<i>Amaranthus viridis</i>	Amaranthaceae	D	H	Medicinal
18.	Oul	<i>Amorphophallus companulatus</i>	Araceae	M	H	Medicinal
19.	Ata	<i>Anona squamosa</i>	Annonaceae	D	T	Fruit
20.	Kadam	<i>Anthocephalus cadamba</i>	Rubiaceae	D	T	Ornament
21.	Supari	<i>Areca catechu</i>	Arecaeae	M	S	Fruit
22.	Chambul	<i>Artocarpus chaplasha</i>	Moraceae	D	T	Timber
23.	Kathal	<i>Artocarpus heterophyllus</i>	Moraceae	D	T	Fruit
24.	Shotomoli	<i>Asparagus racemosus</i>	Liliaceae			Medicinal
25.	Bilimbi	<i>Averrhoa bilimbi</i>	Averrhoaceae	D	T	Timber
26.	Kamrangha	<i>Averrhoa carambola</i>	Averrhoaceae	D	T	Fruit

Sl/ No	Local name	Scientific name	Family	Types	Habit	Use
27.	Deshi Neem	<i>Azadirachta indica</i>	Meliaceae	D	T	Medicinal
28.	Bash	<i>Bambusa arundinacea</i>	Poaceae	M	S	Other
29.	Tolla bash	<i>Bambusa tulda</i>	Poaceae	M	S	Other
30.	Kanchan	<i>Bauhinia purpurea</i>	Fabaceae	D	T	Flower
31.	Latkan	<i>Bixa orellana</i>	Bixaceae	D	S	Fruit
32.	Kukur muti	<i>Blumea membranacea</i>	Asteraceae	D	H	Medicinal
33.	Punarnovha	<i>Boerhaavia diffusa</i>	Nyctaginaceae	D	H	Medicinal
34.	Shimul	<i>Bombax ceiba</i>	Bombacaceae	D	T	Medicinal
35.	Tal	<i>Borassus flabellifer</i>	Arecaeae	M	T	Fruit
36.	Pathor kuchi	<i>Bryophyllum calycinum</i>	Crassulaceae	D	H	Medicinal
37.	Polash	<i>Butea monosperma</i>	Fabaceae	D	T	Ornament
38.	Radha chura	<i>Caesalpinia pulcherrima</i>	Fabaceae	D	T	Ornament
39.	Arhar dal	<i>Cajanus cajan</i>	Fabaceae	D	S	Veg.
40.	Kadambet	<i>Calamus erectus</i>	Palmae	M	H	Furniture
41.	Bet	<i>Calamus viminalis</i>	Palmae	M	H	Furniture
42.	Botolbrush	<i>Callistemon linearis</i>	Myrtaceae	D	T	Ornament
43.	Akonda (Baguni)	<i>Calotropis gigantea</i>	Asclepiadaceae	D	S	Medicinal
44.	Akonda (Sada)	<i>Calotropis procera</i>	Asclepiadaceae	D	S	Medicinal
45.	Kolaboti	<i>Canna indica</i>	Musaceae	M	H	Ornament
46.	Keya	<i>Capparis spinosa</i>	Cappariaceae	D	C	Ornament
47.	Phutka	<i>Cardiospermum haliacacanthum</i>	Sapindaceae			Medicinal
48.	Papaw	<i>Carica papaya</i>	Cariaceae	D	S	Fruit
49.	Dad mordon	<i>Cassia alata</i>	Fabaceae	D	S	Medicinal
50.	Sonalu	<i>Cassia fistula</i>	Fabaceae	D	T	Medicinal
51.	Kolkoshundha	<i>Cassia occidentalis</i>	Fabaceae	D	S	Medicinal
52.	Minjuri	<i>Cassia siamea</i>	Fabaceae	D	T	Timber
53.	Chotokolcashunda	<i>Cassia sophora</i>	Fabaceae	D	S	Medicinal
54.	Thankuni	<i>Centella asiatica</i>	ceae			Medicinal
55.	Nak phul.	<i>Centipeda minima</i>	raceae			Medicinal
56.	Bathua Sak	<i>Chenopodium album</i>	Chenopodiaceae	D	H	Veg.
57.	Chikrassi	<i>Chikrassi tabularis</i>	Meliaceae	D	T	Timber
58.	Prem kanta	<i>Chrysopogon aciculatus</i>	Poaceae	M	H	Compost
59.	Lebu	<i>Citrus aurantifolia</i>	Rutaceae	D	S	Medicinal
60.	Kamola lebu	<i>Citrus reticulata</i>	Rutaceae	M	S	Fruit
61.	Bhat	<i>Clerodendrum viscosum</i>	Verbenaceae	D	S	Medicinal
62.	Murtha	<i>Clinogyne dichotoma</i>	Marantaceae	M	S	Fuel
63.	Oporajita	<i>Clitoria ternatea</i>	Fabaceae	D	C	Flower
64.	Telakucha	<i>Coccinea indica</i>	Menispermaceae	D	C	Medicinal
65.	Narikel	<i>Cocos nucifera</i>	Arecaeae	M	T	Fruit
66.	Pata bahar	<i>Codiaeum variegatum</i>	Euphorbiaceae	D	S	Ornament
67.	Kach guta	<i>Coix lachrymajobi</i>	Poaceae	M	H	Compost
68.	Kochu	<i>Colocasia esculenta</i>	Araceae	M	H	Veg.
69.	Kala Kachu	<i>Colocasia nymphaeolia</i>	Araceae	M	H	Veg.
70.	Agacha	<i>Commelina erecta</i>	Commelinaceae	M	H	Medicinal
71.	Kansira	<i>Commelina benghalensis</i>	Commelinaceae	M	H	Medicinal
72.	Kanshira	<i>Commelina diffusa</i>	Commelinaceae	M	H	Medicinal
73.	Chukai gach	<i>Croton bonplandianum</i>	Fabaceae	D	H	Veg.
74.	Bon morich	<i>Croton joufra</i>	Euphorbiaceae	D	H	Fuel
75.	Agacha	<i>Croton sparsiflorus</i>	Euphorbiaceae	D	H	Fuel
76.	Khagra	<i>Crozophora plicata</i>	Euphorbiaceae	D	H	Fuel
77.	Agacha	<i>Cyanotis axillaris</i>	Commelinaceae	D	H	Compost
78.	Durba ghach	<i>Cynodon dactylon</i>	Poaceae	M	H	Medicinal
79.	Dalia	<i>Dahlia hybrida</i>	Asteraceae	D	S	Ornament
80.	Sissoo	<i>Dalbergia sissoo</i>	Fabaceae	D	T	Timber
81.	Kalodatura	<i>Datura metel</i>	Solanaceae	M	H	Medicinal
82.	Sada datura	<i>Datura stramonium</i>	Solanaceae	M	H	Medicinal
83.	Krishnochura	<i>Delonix regia</i>	Fabaceae	D	T	Timber

Sl/ No	Local name	Scientific name	Family	Types	Habit	Use
84.	Sadaphuli	<i>Dentella repens</i>	Rubiaceae	D	H	Medicinal
85.	Bon motorshuti	<i>Desmodim pulchellum</i>	Fabaceae	D	S	Pulse
86.	Chalta	<i>Dillenia indica</i>	Dilleniaceae	D	T	Veg.
87.	Bon alu	<i>Dioscorea bulbifera</i>	Dioscoreaceae	M	C	Medicinal
88.	Gash Alu	<i>Dioscorea pentaphylla</i>	Dioscoreaceae	M	C	Veg.
89.	Gub	<i>Diospyros peregrina</i>	Ebenaceae	D	T	Medicinal
90.	Dheki shak	<i>Diplazium esculentum</i>	Athyriaceae	Pte	H	Veg.
91.	Garjan	<i>Dipterocarpus turbinatus</i>	Dipterocarpaceae	D	T	Timber
92.	Dheki shak	<i>Dryopteris filix-mas</i>	Polypodiaceae	M	H	Medicinal
93.	Duranto agacha	<i>Duranta repens</i>	Verbenaceae	D	S	Fuel
94.	Kalocashy	<i>Eclipta alba</i>	Asteraceae	D	H	Medicinal
95.	Jalpai	<i>Elaeocarpus robustus</i>	Elaeocarpaceae	D	T	Medicinal
96.	Helencha	<i>Enhydra fluctuans</i>	Asteraceae	M	H	Veg.
97.	Raintree	<i>Enterolobium saman</i>	Fabaceae	D	T	Timber
98.	Mandar	<i>Erythrina indica</i>	Fabaceae	D	T	Medicinal
99.	Eucaliptus	<i>Eucalyptus citriodora</i>	Myrtaceae	D	T	Timber
100.	Golap jam	<i>Eugenia jambos</i>	Myrtaceae	D	T	Fruit
101.	Boro dudhia	<i>Euphorbia hirta</i>	Euphorbiaceae	D	H	Medicinal
102.	Koth bel	<i>Feronia elephantum</i>	Rutaceae	D	S	Fruit
103.	Kathbel	<i>Feronia limonia</i>	Rutaceae	D	T	Fruit
104.	Khoksha	<i>Ficus racemosa</i>	Moraceae	D	T	Timber
105.	Pakur	<i>Ficus bejamina</i>	Moraceae	D	T	Timber
106.	Bot	<i>Ficus benghalensis</i>	Moraceae	D	T	Timber
107.	Dumur	<i>Ficus glomerata</i>	Moraceae	D	T	Medicinal
108.	Jog dumur	<i>Ficus hispida</i>	Moraceae	D	T	Medicinal
109.	Ashwatha	<i>Ficus religiosa</i>	Moraceae	D	T	Medicinal
110.	Gima	<i>Glinus appositifolius</i>	Molluginaceae	D	H	Medicinal
111.	Gamari	<i>Gmelina arborea</i>	Verbenaceae	D	T	Timber
112.	Boncopi	<i>Gnaphalium offline</i>	Asteraceae	D	H	Medicinal
113.	Hatishur	<i>Heliotropium indicum</i>	Boraginaceae	D	H	Medicinal
114.	Hatisur	<i>Heliotropium indicum</i>	Palmae	D	H	Medicinal
115.	Chailla.	<i>Hemarthria protensa</i>	Poaceae	M	H	Fdd
116.	Anantamul	<i>Hemidesmus indica</i>	Asclepiadaceae	D	H	Medicinal
117.	Joba	<i>Hibiscus rosa-sinensis</i>	Malvaceae	D	S	Medicinal
118.	Kurchi	<i>Holarrhena antidysenterica</i>	Apocynaceae	D	T	Medicinal
119.	Thankuni	<i>Hydrocotyle asiatica</i>	Umbeliferae	D	H	Medicinal
120.	Tokma	<i>Hyptis suaveolens</i>	Labiatae	D	S	Medicinal
121.	Oulu	<i>Imperata cylindrica</i>	Poaceae	M	H	Compost
122.	Dhol kolmi	<i>Ipomoea fistulosa</i>	Convolvulaceae	D	S	Fuel
123.	Rongon (Lal)	<i>Ixora parviflora</i>	Rubiaceae	D	S	Ornament
124.	Bali	<i>Jasminium sambac</i>	Oleaceae	D	S	Ornament
125.	Bharenda	<i>Jatropha gossypifolia</i>	Euphorbiaceae	D	S	Medicinal
126.	Pathorkuchi	<i>Kalanchoe pinnata</i>	Cragularaceae	D	H	Medicinal
127.	Jarul	<i>Lagerstroemia speciosa</i>	Lythraceae	D	T	Ornament
128.	Jiga	<i>Lannea coromandelica</i>	Anacardiaceae	D	T	Fuel
129.	Bhadi	<i>Lannea coromandelion</i>	Anacardiaceae	D	T	Fuel
130.	Mendhi	<i>Lawsonia inermis</i>	Lythraceae	D	S	Medicinal
131.	Rokto drone	<i>Leomorus sibiricus</i>	Labiatae	D	H	Medicinal
132.	Epil epil	<i>Leucaena leucocephala</i>	Fabaceae	D	T	Timber
133.	Telikadam	<i>Leucaena leucocephala</i>	Fabaceae	D	T	Timber
134.	Dondocolash	<i>Leucas aspera</i>	Labiatae	D	H	Medicinal
135.	Lechu	<i>Litchi chinensis</i>	Sapindaceae	D	T	Fruit
136.	Aam	<i>Mangifera indica</i>	Anacardiaceae	D	T	Fruit
137.	Sofeda	<i>Manilkara zapota</i>	Sapotaceae	D	T	Ornament
138.	Pudina	<i>Mantha spicata</i>	Manthaceae	D	H	Medicinal
139.	Ghora neem	<i>Melia sempervirens</i>	Meliaceae	D	T	Medicinal
140.	Champaphul	<i>Michalea champaca</i>	Magnoliaceae	D	T	Ornament

Sl/ No	Local name	Scientific name	Family	Types	Habit	Use
141.	Asham lota	<i>Mikania scandens</i>	Asteraceae	D	C	Medicinal
142.	Lozzaboti	<i>Mimosa pudica</i>	Fabaceae	D	H	Medicinal
143.	Sajna	<i>Moringa oleifera</i>	Moringanaceae	D	T	Medicinal
144.	Kola	<i>Musa paradisiaca</i>	Musaceae	M	H	Fruit
145.	Kola	<i>Musa sapientum</i>	Musaceae	M	H	Fruit
146.	Sheuly	<i>Nyctanthes arborescens</i>	Nyctaginaceae	D	S	Medicinal
147.	Ram tulshi	<i>Ocimum basilicum</i>	Labiatae	D	S	Medicinal
148.	Tulshi	<i>Ocimum gratissimum</i>	Labiatae	D	S	Medicinal
149.	Kalo tulshi	<i>Ocimum sanctum</i>	Labiatae	D	S	Medicinal
150.	Amrul sak	<i>Oxalis corniculata</i>	Oxalidaceae	D	H	Medicinal
151.	Money plant	<i>Pachira aquatica</i>	Malvaceae	M	C	Ornament
152.	Gandha badli	<i>Paederia foetida</i>	Rubiaceae	D	C	Ornament
153.	Luchipata	<i>Peperomia pellucida</i>	Piperaceae	D	H	Medicinal
154.	Bishkatali	<i>Persicaria barbata</i>	Polygonaceae	D	H	Medicinal
155.	Bishkatali	<i>Persicaria hydropiper</i>	Polygonaceae	D	H	Medicinal
156.	Khajur	<i>Phoenix sylvestris</i>	Arecaceae	M	T	Juice
157.	Nol	<i>Phragmites karka</i>	Poaceae	M	S	Fuel
158.	Sitki	<i>Phyllanthus reticulatus</i>	Euphorbiaceae	D	S	Fuel
159.	Bhoi amla	<i>Phyllanthus niruri</i>	Euphorbiaceae	D	H	Fuel
160.	Chatu dana	<i>Phyllanthus urinaria</i>	Euphorbiaceae			Medicinal
161.	Pepul	<i>Piper longum</i>	Piperaceae	D	H	Medicinal
162.	Topa pana	<i>Pistia stratiotes</i>	Araceae	M	H	Weed
163.	Debdaru	<i>Polyalthia longifolia</i>	Annonaceae	D	T	Timber
164.	Biskatali,	<i>Polygonum glabrum</i>	Polygonaceae	D	H	Medicinal
165.	Bish Katali	<i>Polygonum pedunculare</i>	Polygonaceae	D	H	Medicinal
166.	Karoch	<i>Pongamia pinnata</i>	Fabaceae	D	T	Kata fish
167.	Nunisak	<i>Portulaca oleracea</i>	Portulacaceae	D	H	Medicinal
168.	Payara	<i>Psidium guava</i>	Myrtaceae	D	S	Fruit
169.	Dalim	<i>Punica granatum</i>	Punicaceae	D	S	Fruit
170.	Shorpoghandha	<i>Rauvolfia serpentina</i>	Apocynaceae	D	H	Medicinal
171.	Varenda	<i>Ricinus communis</i>	Euphorbiaceae	D	S	Medicinal
172.	Golap	<i>Rosa centifolia</i>	Rosaceae	D	S	Ornament
173.	Murta/patipata	<i>Schumannianthus dichotomus</i>	Marantaceae			Shitalpati
174.	Moneyplant	<i>Scindapus aurios</i>	Araceae	M	C	Ornament
175.	Bon dhoney	<i>Scoparia dulcis</i>	Scrophulariaceae	D	H	Medicinal
176.	Bok phul	<i>Sesbania grandiflora</i>	Fabaceae	M	S	Ornament
177.	Holud Sial Leza	<i>Setaria Glauca</i>	Poaceae	M	H	Fdd
178.	Jhan jhan agacha	<i>Sida acuta</i>	Malvaceae	D	S	Fuel
179.	Guti agahach	<i>Sida cordata</i>	Malvaceae	D	S	Fuel
180.	Kumari lota	<i>Smilax macrophylla</i>	Smilacaceae	M	C	Medicinal
181.	Titabegun	<i>Solanum filicifolium</i>	Solanaceae	M	H	Medicinal
182.	Bon bagun	<i>Solanum nigrum</i>	Solanaceae	D	S	Medicinal
183.	Kata bagun	<i>Solanum torvum</i>	Solanaceae	D	S	Medicinal
184.	Marhatitiga	<i>Spilanthes acmella</i>	Asteraceae	D	H	Medicinal
185.	Amra	<i>Spondias mangifera</i>	Anacardiaceae	D	T	Fruit
186.	Sheora	<i>Streblus asper</i>	Moraceae	D	T	Fuel
187.	Mehogoni	<i>Swietenia mahagoni</i>	Meliaceae	D	T	Timber
188.	Kalojam	<i>Syzygium cumini</i>	Myrtaceae	D	T	Fruit
189.	Khudi jam	<i>Syzygium fruticosum</i>	Myrtaceae	D	S	Fruit
190.	Jamrul	<i>Syzygium samrangense</i>	Myrtaceae	D	T	Fruit
191.	Tatul	<i>Tamarindus indica</i>	Fabaceae	D	T	Medicinal
192.	Shegun	<i>Tectona grandis</i>	Verbenaceae	D	T	Timber
193.	Arjun	<i>Terminalia arjuna</i>	Combretaceae	D	T	Medicinal
194.	Bohera	<i>Terminalia belerica</i>	Combretaceae	D	T	Medicinal
195.	Kaatbadam	<i>Terminalia catappa</i>	Combretaceae	D	T	Timber
196.	Horitoki	<i>Terminalia chebula</i>	Combretaceae	D	T	Medicinal
197.	Medda	<i>Trewia polycarpa</i>	Asteraceae	D	T	Timber

Sl/ No	Local name	Scientific name	Family	Types	Habit	Use
198.	Tunaki	<i>Tridax procumbens</i>	Asteraceae	D	H	Compost
199.	Ghetkochu	<i>Triphonium dilobatum</i>	Araceae	M	H	Medicinal
200.	Shialmutra	<i>Vernonia patula</i>	Asteraceae	M	H	Medicinal
201.	Nayantara	<i>Vinca rosea</i>	Apocynaceae	M	H	Medicinal
202.	Nishinda	<i>Vitex negundo</i>	Verbenaceae	D	S	Medicinal
203.	Ghagra	<i>Xanthium indicum</i>	Asteraceae	D	S	Medicinal
204.	Boroi	<i>Zizyphus mauritiana</i>	Rhamnaceae	D	T	Fruit

Source: Field survey, Public consultation, and FGD

Legend: Types: - D = Dicot, M = Monocot, Habit: H = Herb, S = Shrub, T= Tree, C=climber

Homestead plants - Homesteads area rich diversity of economic, timbers, fruits and medicinal plants of different categories i.e. trees, shrubs, herbs and climbers: In the homestead area commonly planted tree species are the leguminous i.e. koro (*Albizia procera*) for timber and fuel wood, the palm (*Areca catechu*) for fruit, Mango (*Mangifera indica*) for fruit and timber, Mahogany (*Swietenia mahagoni*) for timber, Jackfruit (*Artocarpus heterophyllus*) for fruit, timber and fuel wood, and Banana (*Musa sp.*) for fruit. Larger trees representing the top canopy include Gogon Siris (*Albizia richrdiana*), Rain tree (*Samanea saman*), and Krishnachura (*Delonix regia*). Pitali (*Trewia nudiflora*) for timber and fuel wood, and Barun (*Crataeva nurvala*), Hijal (*Barringtonia acutangula*) for fuel wood and used as jungla for fish conservation and palm (*Borassus flabellifer*). Among the shrubs *Ficus hispida* (Dumur) is most common. In general, the vegetation contributes effectively to providing food, fodder, medicines, fuel and other household requirements. Some of the species are used for multiple purposes. Dominant family is the Fabaceae followed by Asteraceae, Euphorbiaceae, Poaceae, Moraceae, Labiatae, Araceae, Myrtaceae, Rutaceae etc. Homestead flora includes exotic species some of which are naturalized (e.g., *Albizia richrdiana*, *Psidium guajava*, *Swietenia mahagoni*, *Dalbergia sissoo*, *Acacia auriculiformis*, and *Eucalyptus camaldulensis*). Most of the plants are commonly found to other homestead of Bangladesh.

Roadside plants - study area is enriching with flora and fauna because of less disturb in the study area and community peoples are more concern on afforestation on roadside. Roadside plantation are considered the social forestry, different organization afforestation on the road side and adjacent community people take care and in future will get benefit from social forestry. In the road site normally afforestation done by tall trees and mostly exotic species because of fast growing like *Acacia* (*Acacia auriquiriformia*) and *Eucalyptus* sp. Rain tree, Koro (*Albizia sp.*) Sissy (*Dalbergia sissoo*), Mehogani (*Swetiana mehogani*) species also planted in the road site. Palm (*Borassus flabellifar*), Banyan tree (*Ficus bengalensis*) and Ashwat (*Ficus religiosa*) are the indicator plants on the basis of these plants market, school established

Medicinal plants – Medicinal plant provides accessible and culturally relevant sources of primary health care, the remedies based on these plants often have minimal side effect. The medicinal values of a particular species of plant differ from one locality to another or from one community to another. Hence it is highly imperative to document local knowledge on the medicinal properties of plants to gain wider and in-

depth knowledge on their curative abilities. Many of these plants often considered as weeds contain active substances with medicinal properties. It has been recorded that about 450-500 plants available in Bangladesh has therapeutic values (Yousuf *et al.* 1994; Ghani, 1998). Medicinal plants used by the community seemed to be sustainable, but commercial extraction of some valuable species was found unsustainable.

During survey observed a local practitioner, Kabiraj Anowar Hossain of Joynagar- village, union-Mohonpur, Upazila Sunamganj Sadar under Suamganj district. Every evening he is sitting at the corner of Joynagagar bazaar with different Species of medicinal plants parts. Mr. Hossain has been collected the medicinal plants from different locations for herbal treatment by these medicinal plants for the recovery of primary ailment. Name of plants are Telakachu (*Coccinia cordifolia*), sada Lazzabati (*Mimosa Indica*), Neem (*Azadiracta indica*), Kalozira, Akanda, haritaki, Bahera, Arjun, tulsi etc.



Terrestrial fauna in the study area

A total of 243 wildlife species, comprising 14 species of amphibians, 50 species of reptiles, 30 species of mammals, birds (threatened)-29 and birds (not threatened)-120 species have been recorded through field survey, public consultation and focus group discussion (Table C.6). The assessment is based on frequency of occurrence of fauna and public consultation shows that no amphibian's species are critically endangered, one species are endangered, and 6 are vulnerable and 7 are lower risk. In case of reptiles 4 species recorded critically endangered, 19 endangered, 20 vulnerable and 7 are lower risk. Out of 30 mammals, 4 are critically endangered, 8 are endangered, and 6 are vulnerable and 12 species are lower risk within the study area. Beside these, 32 species of birds are threatened among them 14 species are critically endangered, 13 species are endangered, 2 species are vulnerable and 3 species are lower risk. 129 species of birds recorded are not threatened in the study area.

Table C-6: Summary of Terrestrial Fauna Findings in the Study Area

Group	Total No.	Threatened Status				Not Threatened
		Critically Endangered	Endangered	Vulnerable	Lower risk	
Amphibians	14	0	1	6	7	
Reptiles	50	4	19	20	7	
Mammals	30	4	8	6	12	
Birds(Threatened)	152	14	13	2	3	120
Total	246	22	41	34	29	120

A full inventory of the wildlife species have been developed based on the results from all sampling sites that is provided in Table-C 7, C 8, C 9, C 10 and C 11.

Amphibians

Field observations suggest that local amphibian populations are abundant. More species are likely present especially in the existing habitat and would be detected with greater sampling effort. Frogs and toads are ecologically diverse, inhabiting aquatic and terrestrial niches with great success. They are sensitive to environmental factors including noise and other disturbance that influence their behaviour, and are represented in the study area by terrestrial, arboreal and aquatic species. Habitat in the study area is generally favourable for amphibians.

Within the findings of amphibians microglossid frogs were found highest in number. Members of the Microhylidae family usually prefer paddy fields, grasslands, gardens, arable lands, homestead forests, roadsides, drainage and ditches. The niche preferences of these frogs were dump areas such as under refuse, trash and vegetation, rocks, logs, burrows and leaf litter. Asian Brown Tree Frog (*Polypedates leucomystax*) is a tree dwelling frog belonging to the family Rhacophoridae, and recorded by community in homestead forests, along roadsides and around human habitation. It is arboreal; niche preferences were branches of the trees, tree holes, from lower to mid canopy, bushy areas and nearby stagnant water bodies. This frog was very common and was found highest in number among tree frog species.

The Indian Bull Frog (*Hoplobatrachus tigerinus*) is listed in the CITES Database. Two species viz., Green Frog (*Euphlyctis hexadactylus*), and Indian Tree Frog (*Polypedates maculatus*) were also observed within the study area. In total 14 species of amphibia identified through field survey, focus group discussion and public consultations but all species categories into national status (CR– Critically Endangered, EN– Endangered, VU– Vulnerable, LR– Lower Risk) according to red data book on amphibia of IUCN Bangladesh 2001. Among the species one species is endangered which is Taipeh Frog (*Rana taipehensis*), 6 species are Vulnerable and the rest are lower risk in the study area. Most of the species were recorded in the from bamboo near homestead and crop fields. Inventory of amphibian in the project area are given in **Table C.7**

Table C.7: Inventory of Amphibians in the project area

Sl. No.	Local name	English Name	Scientific Name	Family	National Status
1	Kola Bang	Asian common Toad	<i>Bufo melanostictus</i>	Bufonidae	LR
2	Marbel Kola Bang	Marbled Toad	<i>Bufo stomaticus</i>	Bufonidae	LR
3	Sabuj Bang	Green Frog	<i>Euphlyctis hexadactylus</i>	Dicroglossidae	LR
4	Kola Bang	Jerdon's Bullfrog	<i>Hoplobatrachu crassus</i>	Dicroglossidae	LR
5	Sona Bang	Indian's Bull Frog	<i>Hoplobatrachu tigerinus</i>	Dicroglossidae	LR
6	Dagianar Bang	Striped Sticky Frog	<i>Kalophrynus interlineatus</i>	Microhylidae	LR
7	Bhepo Bang	Painted Bull Frog	<i>Kaloula fulchra</i>	Microhylidae	VU
8	Sreelonkan Sona Bang	Srilankan painted Bull Frog	<i>Kaloula taprobanica</i>	Microhylidae	VU
9	Lalchok Bang	Smith's Litter Frog	<i>Leptobrachium smithi</i>	Megophryidae	VU
10	Pana bang	Boulenger's Frog	<i>Rana alticola</i>	Ranidae	VU
11	Gechobang	Taipeh Frog	<i>Rana taipehensis</i>	Ranidae	EN
12	Barogachobang	Large Tree Frog	<i>Rhacophorus maximus</i>	Rhacophoridae	VU
13	Balon Bang	Ballon Frog	<i>Uperodon globulosus</i>	Microhylidae	LR
14	Mokot Bang	Concave Crowned Horned Toad	<i>Xenophrys parva</i>	Megophryidae	VU

Source: Field survey, FGD and Public consultation, Red data book on amphibian of IUCN-Bangladesh 2000

National status: CR – Critically Endangered, EN – Endangered, VU – Vulnerable, LR – Lower Risk,

Reptile:

In total 50 species of Reptile identified through field survey, focus group discussion and public consultations but all species categories into national status (CR–Critically Endangered, EN– Endangered, VU – Vulnerable, LR – Lower Risk) according to red data book on amphibia of IUCN Bangladesh 2000. Which are listed in **Table C.8**. Out of which 4 species are Elongated Tortoise (*Indotestudo elongate*), Flying Lizard (*Draco blanfordii*), Reticulated Python (*Python reticulate*), Russell's viper (*Vipera russelli*) are critically Endangered and 19 species are endangered and 20 species were recoded vulnerable.

Table C.8: Inventory of Reptiles in the project area

Sl. No.	Local Bengali Name	English Name	Scientific Name	Family	National Status
1	Laudopa sap	Common Vine Snake	<i>Ahaetulla nusutus</i>	Colubridae	VU
2		Sripped keelback	<i>Amphiesma stolata</i>	Colubridae	LR
3	Bawlakasim	Ganges Soft shell Turtle	<i>Aspideretes gangeticus</i>	Trionychidae	EN
4	Dhomkasim	Peacock-marked Soft shell Turtle	<i>Aspideretes hurum</i>	Trionychidae	EN
5	Sabij Phornimunsha	Green Cat Snake	<i>Boiga cyanea</i>	Colubridae	VU
6	Shonkini sap	Banded Krait	<i>Bungarus fasciatus</i>	Elapidae	EN
7	Kalkeute	Common Krait	<i>Bungarus saeruleus</i>	Colubridae	EN
8	Roktochosa	Garden Lizard	<i>Calotes rouxii</i>	Agamidae	VU
9	Kalnagani	Golden Flying Snake	<i>Chrysopelea ornata</i>	Colubridae	EN
10	Daras	Rat Snake	<i>Coluber mucosus</i>	Colubridae	VU
11	Daras	Green Rat Snake	<i>Coluber nigromarginatus</i>	Colubridae	VU
12	Bent-toed hecko	Khasi Hills Bent-toed hecko	<i>Cryptodactylus khasiensis</i>	Gekkonidae	LR
13	Bidda kaitta	Malayan Box Turtle	<i>Cuora amboinensis</i>	Bataguridae	EN
14	Gecho sap	Painted Bronzedback Tree Snake	<i>Dendrelaphis pictus</i>	Colubridae	VU
15	Gechosap	Bronzeback Tree Snake	<i>Dendrelaphis tristis</i>	Colubridae	VU
16	Urinto Kitkite	Flying Lizard	<i>Draco blanfordii</i>	Agamidae	CR
17	Dhud draj	Copperhead Trinket Snake	<i>Elaphe radiata</i>	Colubridae	EN
18	Takkok	Wall Lizard	<i>Gekko gekko</i>	Gekkonidae	VU
19	Kalokaitta	Black Pond Turtle	<i>Geoclemys hamiltonii</i>	Bataguridae	EN
20	Kalikaitta	Brahminy River Turtle	<i>Hardella thurjii</i>	Bataguridae	EN
21	Tiktiki	House Lizard	<i>Hemidactylus bowringii</i>	Gekkonidae	VU
22	Halde pahari Kasim	Elongated Tortoise	<i>Indotestudo elongata</i>	Testudinidae	CR
23	Korikaitta	Assam Roofed Turtle	<i>Kachuga sylhetensis</i>	Bataguridae	EN
24	Mazari kaitta	Indian Tent Turtle	<i>Kachuga tentoria</i>	Bataguridae	EN
25	Sundi kashim	Spotted Flapshell Turtle	<i>Lissemys punctata</i>	Trionychidae	VU
26	Ghorginni sap	Common Wolf Snake	<i>Lycodon aulicus</i>	Colubridae	VU
27	Ghorginni sap	Banded Wolf Snake	<i>Lycodon fasciatus</i>	Colubridae	VU
28	Ghorginni sap	Yellow-speckled Wolf Snake	<i>Lycodon jara</i>	Colubridae	VU
29	Anjon	Keeled Grass skink	<i>Mabuya carinata</i>	Scincidae	LR

Sl. No.	Local Bengali Name	English Name	Scientific Name	Family	National Status
30		Striped Skink	<i>Mabuya dissimilis</i>	Scincidae	VU
31	Anjona	Bronze Grass skink	<i>Mabuya macularius</i>	Scincidae	LR
32	Sabuj Dhora	Green Keelback Snake	<i>Macropisthodon plumbicolor</i>	Colubridae	EN
33	Kasim	Bangladesh Black Turtle	<i>Melanocheys trijuga</i>	Bataguridae	EN
34	Haldekaitta	Yellow Turtle	<i>Morenia petersi</i>	Bataguridae	VU
35	Gokrasap	Monocellate Cobra	<i>Naja kaouthia</i>	Colubridae	VU
36	Khoea Gobra	Binocellate Cobra	<i>Naja naja</i>	Colubridae	EN
37	Kukri	Spot-tailed Kukri Snake	<i>Oligodon dorsalis</i>	Colubridae	VU
38	Rajkobra	King Cobra	<i>Ophiophagus hanna</i>	Colubridae	EN
39	Chondrobora	Mock Viper	<i>Psammodynastes pulverulentus</i>	Colubridae	LR
40	Sabuj Daraj	Green rat snake	<i>Ptyas niromintata</i>	Colubridae	LR
41	Lizard	Blue throated lizard	<i>Ptyctolaenus gularis</i>	Agamidae	LR
42	Ajagar	Rock Python	<i>Python molurus</i>	Boidae	EN
43	Golbahar	Reticulated Python	<i>Python reticulata</i>	Boidae	CR
44	Lal dhora	Rednecked Keelback	<i>Rhabdophis subminiatus</i>	Colubridae	VU
45	Vivarsap	Spot-tailed Pit Viper	<i>Trimeresurus erythrurus</i>	Colubridae	EN
46	Viversap	Bamboo Pit Viper	<i>Trimeresurus gramineus</i>	Colubridae	EN
47	Guisap	Bengal Monitor	<i>Varanus bengalensis</i>	Varanidae	VU
48	Sonagui	Yellow Monitor	<i>Varanus flavescens</i>	Varanidae	EN
49	Chondrobo	Russell's Viper	<i>Vipera russelli</i>	Colubridae	CR
50	Kalmete dora sap	Darkbellied Marsh Snake	<i>Xenochrophis cerasogaster</i>	Colubridae	VU

Source: Field survey, FGD and Public consultation, Red data book on Reptile of IUCN-Bangladesh 2000
 National status: CR – Critically Endangered, EN – Endangered, VU – Vulnerable, LR – Lower Risk,



Photo 1: Endangered (IUCN Red List) Ring Monitor Lizard



Photo 2: Ring Lizard

Mammals:

The survey period is not realistic for wildlife assessment. However, few common species have been seen. Thus interviews were held with local elite, hunters, to assess the presence of mammals. List of mammals are given in the Table-C.9.

In total 30 species of mammals identified through field survey, focus group discussion and public consultations but all species categories into national status (CR–Critically Endangered, EN– Endangered, VU – Vulnerable, LR – Lower Risk) according to red data book on mammals of IUCN Bangladesh 2000. 30 species mammals of 22 genuses under 15 families during the survey through public consultation in 29 subproject area. Out of 30 species 5 species are threatened including gangetic river dolphin (*Platanista gangetica*) or Susuk, other than that 4 critically endangered Pigtailed Macaque (*Macaca nemestrina*), Slow Loris (*Nycticebus coucang*), and Common Otter (*Lutra lutra*) Bear Cat (*Arctictis binturong*). 8 endangered, Jungle Cat (*Felis chaus*), Indian Crested Porcupine (*Hystrix indica*), Rufous-tailed Hare *Lepus nigricollis*), Smooth-coated Otter (*Lutra perspicillata*), Ganges River Dolphin (*Platanista gangetica*), Large Indian Civet (*Viverra zibetha*), Fishing Cat (*Prionailurus viverrinus*), Capped Langur (*Trachypithecus pileatus*).

Gangetic Dolphin - The population of the Gangetic Dolphin is decreasing day by day, mainly as a consequence of human activities. Many individual dolphins suffocate after getting entangled in fishing nets, which is causing significant reduction in local population numbers. Dams along the dolphin migration route prevent it from migrating and separate potential breeding populations. Young are born year-round in this species, mainly over October to March with a significant birth peak takes place in December and January, at the beginning of the dry season, and again from May to July. Gestation lasts eight to nine months. Decreasing depth of the river and excessive movement of water transport vehicles is causing the segregation of the populations.



Photo 3: Endangered (IUCN Red List) Common otter (*Lutra lutra*)



Photo 4: Gengatic dolphin (*Platanista gengatica*) exist in the different rivers in the sub-project area



Photo 5: Critically Endangered (IUCN Red List) Indian Hare (*Lepus nigricollis*)

Table C.9: Inventory of mammal under 29 sub-project are given below

Sl. No.	Local bengali Name	English Name	Scientific Name	Family	National Status
1	Gechobang	Bear Cat	<i>Arctictis binturong</i>	Viverridae	CR
2	Erabadi Kathbirali	Irrawaddy Squirrel	<i>Callosciurus pygerythrus</i>	Sciuridae	LR
3	Pati shial	Jackal	<i>Canis aureus</i>	Canidae	VU
4	Ban biral	Jungle Cat	<i>Felis chaus</i>	Felidae	EN
5	Chotto Indian bezy	Small Indian Mongoose	<i>Herpestes auropunctatus</i>	Herpestidae	LR
6	Baro bezi	Common Mongoose	<i>Herpestes edwardsi</i>	Herpestidae	VU
7	Kakrabhokbezy	Crab eating Mongoose	<i>Herpestes urva</i>	Herpestidae	LR
8	Ullok	Hoolock Gibbon	<i>Hoolock hoolock</i>	Hylobatidae	LR
9	Sazaru	Indian Crested Porcupine	<i>Hystrix indica</i>	Hystricidae	EN
10	Khorghos	Rufous-tailed Hare	<i>Lepus nigricollis</i>	Leporidae	EN
11	Utbiral	Common Otter	<i>Lutra lutra</i>	Mustelidae	CR
12	Ud/Bhodor	Smooth-coated Otter	<i>Lutra perspicillata</i>	Mustelidae	EN
13	Banor	Rhesus Macaque	<i>Macaca mulatta</i>	Cercopithecidae	VU
14	Ultalezy banor	Pigtailed Macaque	<i>Macaca nemestrina</i>	Cercopithecidae	CR
15		Yellow throated Marten	<i>Martes flavigula</i>	Mustelidae	LR
16	Roktokheko Banar	Greater false Vampire Bat	<i>Megaderma lyra</i>	Megadermatidae	LR
18	Maya Harin	Barking deer	<i>Muntiacus muntjak</i>	Cervidae	LR
19	Lazzabati Banor	Slow Loris	<i>Nycticebus coucang</i>	Loridae	CR
20	Himaloyee	Himalayan Palm Civet	<i>Paguma larvata</i>	Viverridae	LR

Sl. No.	Local bengali Name	English Name	Scientific Name	Family	National Status
	Ghondogukul				
21	Asian Ghondogukul	Asian Palm Civet	<i>Paradoxurus hermaphroditus</i>	Viverridae	LR
22	Ghondoghokul	Common Palm Civet	<i>Paradoxurus hermaphroditus</i>	Viverridae	VU
23	Uromto kathbirali	Flying squirrel	<i>Petaurista petaurista</i>	Sciuridae	LR
24	Shoshok	Ganges River Dolphin	<i>Platanista gangetica</i>	Platanistidae	EN
25	Mesobiral	Fishing Cat	<i>Prionailurus viverrinus</i>	Felidae	EN
26	Banor	Phayre's Leaf Monkey	<i>Trachypitecus phayrei</i>	Cerocopithecidae	LR
27	Mokhpora hanuman	Capped Langur	<i>Trachypitecus pileatus</i>	Colobidae	EN
28	Bagidas	Large Indian Civet	<i>Viverra zibetha</i>	Viverridae	EN
29	Khatas	Small Indian Civet	<i>Viverricula indica</i>	Viverridae	VU
30	Khekshial	Bengal Fox	<i>Vulpes bengalensis</i>	Canidae	VU

Source: Field survey, FGD and Public consultation, Red data book on mammals of IUCN-Bangladesh 2000

National status: CR – Critically Endangered, EN – Endangered, VU – Vulnerable, LR – Lower Risk,

Birds:

Birds were assessed during walk-over surveys. Bird's information also collected through people's interview. Identification of birds was by both visual and vocal characteristics. The bird inventory was coordinated with the vegetation/ecosystem types identified during the floristic survey. Timing for observations of birds was usually through the whole spot survey that is around one hour. The survey area and overall proposed all subprojects mostly covered seasonal wetlands as floodplain, hence identified water birds over the inundated agricultural field and especially emphasized to locate and collect information on birds colony, roosting places and nesting sites.

As the habitat changes during the dry season the water birds remain close to the perennial water bodies including canals, rivers and other water areas. Mentionable included waterfowl (ducks and geese) and fish-eating birds (herons and kingfishers), both resident and migratory. Other bird species observed in wetland areas are Cinnamon Bittern (*Ixobrychus cinnamomeus*), Purple Swamphen (*Porphyrio porphyrio*), Bronze-winged Jacana (*Metopidius indicus*), White Breasted Waterhen (*Amauornis phoenicurus*), Little Grebe (*Tachybaptus ruficollis*), Black-crowned Night Heron (*Nycticorax nycticorax*) and three species of kingfisher, little cormorant (*Phalacrocorax niger*) and 5 species of egrets & herons.

In total 145 species of birds have been identified through field survey, focus group discussion and public consultations but all species were categories into national status (CR – Critically Endangered, EN – Endangered, VU – Vulnerable, LR – Lower Risk) according to red data book on amphibia of IUCN Bangladesh 2000. Checklists of birds are in **Table C.10**. Out of 145 species of birds 32 threatened species recorded. Among them 14 species are critically endangered, 13 species are endangered and 2 species are vulnerable and 3 species are lower risk and the rest are not threatened.

Table C.10: An inventory of Birds species are in the project area

Sl/No.	Local name	English Name	Scientific Name	Family	National status
1.	Chondona	Alexandrine Parakeet	<i>Psittacula eupatria</i>	Psittacidae	CR
2.	Kalotitir	Black Francolin	<i>Francolinus francolinus</i>	Phasianidae	CR
3.	Tota	Black-breasted Parrot bill	<i>Paradoxornis flavirostris</i>	Sylviidae	CR
4.	Buchahash	Comb Duck	<i>Sarkidiornis melanotos</i>	Anatidae	CR
5.	Paharinilkanto	Dollar Bird	<i>Eurystomus orientalis</i>	Coraciidae	CR
6.	Rajdonesh	Great Hornbill	<i>Buceros bicornis</i>	Strigidae	CR
7.	Hargila	Greater Adjutant	<i>Leptoptilos dubius</i>	Ciconiidae	CR
8.	Kathmoyour	Grey Peacock Pheasant	<i>Polyplectron bicalcaratum</i>	Phasianidae	CR
9.	Baghabok	Malayan Night Heron	<i>Gorsachius melanolophos</i>	Ardeidae	CR
10.	Rongila bok	Painted Stork	<i>Mycteria leucocephala</i>	Ciconiidae.	CR
11.	Paharigugu	Pale-capped Pigeon	<i>Columba punicea</i>	Columbidae	CR
12.	Kura	Pallas's Fish Eagle	<i>Haliaeetus leucoryphus</i>	Accipitridae	CR
13.	Satbhaila	Spot-throated Babbler	<i>Pellornium albiventris</i>	Pellorneidae	CR
14.	Panga	Yellow-throated Laughing Thrush	<i>Garrulax galbanus</i>	Sylviidae	CR
15.	Kalosalik	Asian glossy starling	<i>Aplonis panayensis</i>	Sturnidae	DD
16.	Kokil	Banded Bay Cuckoo	<i>Cacomantis sonneratii</i>	Cuculidae	DD
17.	Kaththokra	Great slaty wood pecker	<i>Mulleripicus pulverulentus</i>	Picidae	DD
18.	Gangchil	Lesser Crested Tern	<i>Sterna bengalensis</i>	Laridae	DD
19.	Bok	Pacific Reef Egret	<i>Egretta sacra</i>	Ardeidae	DD
20.	Kathtokra	Stripe-breasted Woodpecker	<i>Dendrocopos atratus</i>	Picidae	DD
21.	Salik	White-vented Myna	<i>Acridotheres cinereus</i>	Sturnidae	DD
22.	Gangchil	Black-bellied Tern	<i>Sterna acuticauda</i>	Laridae	EN
23.	Shamsundar	Black-headed Munia	<i>Lonchua malacca</i>	Ciconiidae	EN
24.	Mashranga	Blyth's Kingfisher	<i>Alco hercules</i>	Alcedinidae	EN
25.	Bhotompecha	Brown fish owl	<i>Bubo zeylonensis</i>	Strigidae	EN
26.	Dinkana	Grey Nightjar	<i>Caprimulgus indus</i>	Caprimulgidae	EN
27.	Mothora	Kalij Pheasant	<i>Lophura leucomelanos</i>	Ciconiidae	EN
28.	Modontak	Lesser Adjutant	<i>Leptoptilos javanicus</i>	Ciconiidae	EN
29.	Kaloghondi	Manipur Bush Quail	<i>Perdica manipurensis</i>	Phasianidae	EN
30.	Kawdonesh	Oriental Pied Hornbill	<i>Anthracoceros albirostris</i>	Bucerotidae	EN
31.	Laltrogon	Red-headed Trogon	<i>Harpactes erythrocephalus</i>	Trogonidae	EN
32.	Pecha	Spot bellied Eagle owl	<i>Bubo nipalensis</i>	Strigidae	EN
33.	Rajkew	Streaked Spider hunter	<i>Arachnothera magna</i>	Nectariniidae	EN
34.	Pecha	Tawney Fish Owl	<i>Ketupa flavipes</i>	Trogonidae	EN
35.		Flying squirrel	<i>Petaurista petaurista</i>	Sciuridae	LR
36.	Kaththokra	Irrawaddy Squirrel	<i>Callosciurus pygerythrus</i>	Sciuridae	LR
37.	Chokachoki	Ruddy shelduck	<i>Tadorna ferruginea</i>	Anatidae.	LR
38.	Ababil	Ashy wood swallow	<i>Artamus fuscus</i>	Artamidae	NO
39.	Kokil	Asian cuckoo	<i>Eudynamis scolopacea</i>	Cuculidae	NO
40.	Sadasepai	Asian Paradise-flycatcher	<i>Terpsiphone paradisi</i>	Monarchidae	NO
41.	Gosalik	Asian pied Starling	<i>Sturnus contra</i>	Sturnidae	NO
42.	Lokkipecha	Barn owl	<i>Tyto alba</i>	Strigidae	NO
43.	Ababil	Barn Swallow	<i>Hirundo rustica</i>	Hirundinidae	NO
44.	Khorulepecha	Barred Owlet	<i>Glaucidium cuculoides</i>	Strigidae	NO
45.	Baboi	Baya weaver	<i>Ploceus philippinus</i>	Ploceidae.	NO
46.	Kalobulbul	Black bulbul	<i>Hypsipetes mcclllandii</i>	Pycnonotidae	NO
47.	Phinge	Black Drongo	<i>Dicrurus macrocerus</i>	Dicruridae	NO
48.	Benebou	Black hooded oriole	<i>Oriolus xanthomus</i>	Oriolidae.	NO
49.	Dholachil	Black shoulder kite	<i>Elanus caeruleus</i>	Accipitridae	NO
50.	Kalopitkatthokra	Blackbacked woodpecker	<i>Chrysocolaptes festivus</i>	Picidae	NO
51.	Nisibok	Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	Ardeidae	NO
52.	Haldebok	Black-naped Oriole	<i>Oriolus oriolus</i>	Oriolidae.	NO
53.	Jurali	Black-tailed godwit	<i>Limosa limosa</i>	Scolopacidae	NO

Sl/No.	Local name	English Name	Scientific Name	Family	National status
54	Nilkanmasranga	Blue-eared Kingfisher	<i>Alcedo meninting</i>	Alcedinidae	NO
55	Basantobauri	Blue-throated barbet	<i>Megalaima asiatica</i>	Megalaimidae	NO
56	Chil	Brahminy kite	<i>Haliastur indus</i>	Accipitridae	NO
57	Chotofinge	Bronzed Drongo	<i>Dicrurus aeneus</i>	Dicruridae	NO
58	Gongakabutor	Brown-headed Gull	<i>Larus brunnicephalus</i>	Laridae	NO
59	Gobok	Cattle Egret	<i>Bubulcus ibis</i>	Ardeidae	NO
60	Choichora	Chestnut headed bee-eater	<i>Merops leschelaunti</i>	Meropida	NO
61	Chenabok	Chinese Pond Heron	<i>Ardeola bacchus</i>	Ardeidae	NO
62	Masranga	Collared Kingfisher	<i>Todiremphus chloris</i>	Halcyonidae,	NO
63	Kalokot	Common coot	<i>Fulica atra</i>	Rallidae	NO
64	Harichacha	Common Green Magpie	<i>Cissa chinensis</i>	Corvidae	NO
65	Chotomasranga	Common Kingfisher	<i>Alcedo atthis</i>	Alcedinidae	NO
66	Fatigjal	Common lora	<i>Aegithina tiphia</i>	Aegithinidae	NO
67	Salik	Common Myna	<i>Acridotheres tristis</i>	Sturnidae	NO
68	Chotobasuntobauri	Coppersmith/ Barbet	<i>Megalaima haemacephla</i>	Megalaimidae	NO
69	Balihash	Cotton Pigmy Goose	<i>Nettapus coromandelianus</i>	Anatidae	NO
70	Ziria	Crab Plover	<i>Dromas ardeola</i>	Dromadidae	NO
71	Tila Eagle	Crested serpent eagle	<i>Spilornis cheela</i>	Accipitridae	NO
72	Rajgugu	Emeral dove	<i>Chalcophaps indica</i>	Columbidae	NO
73	Khadakhocha	Fantail snipe	<i>Gallinago gallinago</i>	Scolopacidae.	NO
74	Bulbul	Golden-fronted Leaf Bird	<i>Chloropsis aurifrons</i>	Chloropseidae	NO
75	Jalkak	Great Cormorant	<i>Phalacrocorax carbo</i>	Phalacrocoracidae	NO
76	Sadabok	Great Egret	<i>Casmerodius albus</i>	Ardeidae	NO
77	Titpakhi	Great tit	<i>Parus major</i>	Paridae	NO
78	Kanakua	Greater coucal	<i>Centropus sinensis</i>	Cuculidae	NO
79	Rangila Chega	Greater painted snipe	<i>Rostratula bengalensis</i>	Rostratulidae	NO
80	Sabujkoel	Green-billed malkoha	<i>Phaenicophaeus tristis</i>	Cuculidae	NO
81	Dosormatha kathokra	Grey Capped Pigmy Woodpecker	<i>Dendrocopos canicapillus</i>	Picidae	NO
82	Shonkosalik	Grey Headed Myna	<i>Sturnus pagodarum</i>	Sturnidae	NO
83	Dosorbok	Grey heron	<i>Ardeoa cinerea</i>	Ardeidae	NO
84	Dosorziria	Grey Plover	<i>Pluvialis squatarola</i>	Charadriidae	NO
85	Photphoti	Grey-headed Canary Flycatcher	<i>Culicicapa ceylonensis</i>	Stenostiridae	NO
86	Papia	Hawk cuckoo	<i>Cuculus varius</i>	Cuculidae	NO
87	Moyna	Hill myna	<i>Gracula religiosa</i>	Sturnidae	NO
88	Nilpaki	Hooded pitta	<i>Pitta sordida</i>	Pittidae	NO
89	Patikak	House crow	<i>Corvus splenens</i>	Corvidae	NO
90	Choroi	House sparrow	<i>Passer domesticus</i>	Passeridae	NO
91	Ababil	House swift	<i>Apus affinis</i>	Apodidae	NO
92	Boukthotha	Indian cuckoo	<i>Cuculus micropterus</i>	Cuculidae	NO
93	Kochbok	Indian Pond heron	<i>Ardeola grayii</i>	Ardeidae	NO
94	Nilkanto	Indian Rollar	<i>Coracias benghalensis</i>	Coraciidae	NO
95	Jhotisalik	Jungle myna	<i>Acridotheres fuscus</i>	Sturnidae	NO
96	Piria	Kentish Plover	<i>Charadrius alexandrinus</i>	Charadriidae	NO
97	Khonjon	Large Pied Wagtail	<i>Motacilla maderapatensis</i>	Motacillidae	NO
98	Kokil	Lesser coucal	<i>Centropus bengalensis</i>	Cuculidae	NO
99	Soral	Lesser whistling	<i>Dendrocygna javanica</i>	Anatidae	NO
10	Khodekatthokra	Lesser yellow nape	<i>Picoides canicapillus</i>	Picidae	NO
10	Chotogugu	Little Brown dove	<i>Streptopelia senegalensis</i>	Columbidae	NO
10	Pankori	Little Cormorant	<i>Phalacrocorax niger</i>	Phalacrocoracidae	NO
10	Chotobok	Little egret	<i>Egretta garzetta</i>	Ardeidae	NO
10	Doel	Magpie Robin	<i>Copsychus saularis</i>	Muscicapidae	NO
10	Nilshir	Mallard	<i>Platyrhynchos</i>	Anatidae	NO
10	Jalerchapaki	Marsh Sandpiper	<i>Tringa stagnatilis</i>	Scolopacidae	NO

SI/No.	Local name	English Name	Scientific Name	Family	National status
10	Korchebok	Median egret	<i>Egretta intermedia</i>	Ardeidae	NO
10	Samokkhol	Openbil stork	<i>Anastomus oscitans</i>	Ciconiidae	NO
10	Chil	Oriental Honey-buzzard	<i>Pernis ptilorhynchus</i>	Accipitridae	NO
11	Mithoa	Pacific Golden Plover	<i>Pluvialis dominicus</i>	Charadriidae	NO
11	Thotmota Phulchosi	Pale billed flowerpecker	<i>Dicaeum agile</i>	Dicaeidae	NO
11	Bhobonchil	Pariah kite	<i>Milvus migrans</i>	Accipitridae	NO
11	Pankori	Pheasant-tailed Jacana	<i>Hydrophasianus chirurgus</i>	Jacanidae	NO
11	Papia	Pied Cockoo	<i>Clamator jacobinus</i>	Cuculidae.	NO
11	Chatak	Pied crested cuckoo	<i>Clamator coromandus</i>	Cuculidae	NO
11	Kalim	Purple Moorhen	<i>Porphyrio porphyrio</i>	Rallidae	NO
11	Halde moutose	Purple rumped sunbird	<i>Nectarinia zeylonica</i>	Nectariniidae.	NO
11	Moutoshi	Purple sunbird	<i>Nectarinia asiatica</i>	Nectariniidae.	NO
11	Vimraj	Racked tailed drongo	<i>Dicrurus paradiseus</i>	Dicruridae	NO
12	Lalmonia	Red Munia	<i>Estrilda amandava</i>	Estrildidae	NO
12	Bulbuli	Red-vented Bulbul	<i>Pycnonotus cafer</i>	Pycnonotidae	NO
12	Sepaibulbuli	Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	Pycnonotidae	NO
12	Masranga	River tern	<i>Sterna aurantia</i>	Laridae	NO
12	Kalishama	Robin	<i>Saxicolides fulicata</i>	Muscicapidae	NO
12	Payra	Rock pigeon	<i>Columba livia</i>	Columbidae	NO
12	Tia	Rose ringed parakeet	<i>Psittacula krameri</i>	Psittacidae	NO
12	Harichacha	Rufous Tree Pie	<i>Dendrocitta vagabunda</i>	Corvidae	NO
12	Rangu	Rufous turtle dove	<i>Streptopelia orientalis</i>	Columbidae	NO
12	Tilamonia	Scaly-breasted Munia	<i>Lonchura punctulata</i>	Ciconidae	NO
13	Shama	Shama	<i>Copsychus malabaricus</i>	Muscicapidae	NO
13	Soyeli	Small minivet	<i>Pericrocotus cinnamomeus</i>	Campephagidae	NO
13	Baboi	Small Pratincole	<i>Glareola lactea</i>	Glareolidae	NO
13	Kotorepecha	Spotted owl	<i>Athene brama</i>	Strigidae	NO
13	Tontoni	Tailor bird	<i>Orthotomus sutorius</i>	Cisticolidae	NO
13	Tota	Vernal Hanging Parrot	<i>Loriculus vernalis</i>	Psittaculidae	NO
13	Gangchil	Whiskered tern	<i>Chlidonias hydridus</i>	Sternidae	NO
13	Kantechora	White ibis	<i>Threskiornis melanocephala</i>	Threskiornithidae	NO
13	Masranga	White Throated Kingfisher	<i>Halcyon smymensis</i>	Alcedinidae	NO
13	Manikjore	Whitenectd stork	<i>Ciconia episcopus</i>	Ciconiidae	NO
14	Monia	White-rumped Munia	<i>Lonchura striata</i>	Ciconidae	NO
14	Sakun	White-rumped Vulture	<i>Gyps bengalensis</i>	Accipitridae	NO
14	Harial	YBengal Green Pigeon	<i>Treron phoenicoptera</i>	Columbidae	NO
14	Darkak	Jungle crow	<i>Corvus macrorhynchos</i>	Corvidae	NO.
14	Bhotompecha	Brown Fish Owl	<i>Ketupa zeylonensis</i>	Trogonidae	VU
14	Sappaki	Darter	<i>Anhinga melanogaster</i>	Anhingidae	VU

Source: Field survey, FGD and Public consultation, Red data book on birds of IUCN-Bangladesh 2000

National status: CR – Critically Endangered, EN – Endangered, VU – Vulnerable, LR – Lower Risk,

Water fowl

Waterfowl came in some Haor of Bangladesh in winter season. Those haors are less disturbance, good habitat and having food for them like Tabgura haor, Hakaluki Haor, BaroHaor, Naogaon, Chandpur, suniar, badla, chatal haor etc. In total 55 species of water fowl recorded which are of 26 genuses and under 7 families are in table C.11.

Table C.11: An inventory of waterfowl in the project area

S/N	Local name	English name	Scientific name	Family
1	Lenza	Northern pintail	<i>Anas acuta</i>	Anatidae
2	Khontimoki	Northern Shoveller	<i>Anas clypeata</i>	Anatidae
3	Patarihash	Common Teal	<i>Anas crecca</i>	Anatidae
4	Lalshir	Wigeon	<i>Anas penelopa</i>	Anatidae
5	Nilshir	Mallard	<i>Anas platyrhynchos</i>	Anatidae
6	Patihash	Spot-billed Duck	<i>Anas poecilorhyncha</i>	Anatidae
7	Ziria hash	Blue-winged Teal	<i>Anas querquedula</i>	Anatidae
8	Gadwell	Gadwall	<i>Anas strepera</i>	Anatidae
9	Bhotihash	Ferruginous pochard	<i>Aythya nyroca</i>	Anatidae
10	Barobhoti hsh	Baers Pochard	<i>Aythya baer</i>	Anatidae
11	Kalohash	Common Pochard	<i>Aythya ferina</i>	Anatidae
12	Bamonia	Tufted Duck	<i>Aythya fuligula</i>	Anatidae
13	Barosorali	Fulvous Whistling Duck	<i>Dendrocygna bicolor</i>	Anatidae
14	Choto sorali	Lesser Whistling Duck	<i>Dendrocygna javanica</i>	Anatidae
15	Balihash	Cotton Pygmy Goose (Cotton Teal)	<i>Nettion coromandelianus</i>	Anatidae
16	Bochahash	Comb Duck	<i>Sarkidiornis melanotos</i>	Anatidae
18	Choka-choki	Ruddy Shelduck	<i>Tadorna ferruginea</i>	Anatidae
19	Barogolinda	Eastern Curlew	<i>Numenius madagascariensis</i>	Burhinidae
20	Ziria	Kentish Plover	<i>Charadrius alexandrinus</i>	Charadriidae
21	Choto ziria	Little Ringed Plover	<i>Charadrius dubius</i>	Charadriidae
22	Lalmonia	Common Ringed Plover	<i>Charadrius hiaticula</i>	Charadriidae
23	Baro dholziria	Greater Sand Plover	<i>Charadrius leschenaultia</i>	Charadriidae
24	Choto Dholaziria	Lesser Sand Plover	<i>Charadrius Mongolus</i>	Charadriidae
25	Dosur titi	Grey-headed Lapwing	<i>Vanellus cinereus</i>	Charadriidae
26	Hot titi	Sociable Lapwing	<i>Vanellus gregarius</i>	Charadriidae
27	Hot titi	Red-wattled Lapwing	<i>Vanellus indicus</i>	Charadriidae
28	Sada latifa	White-tailed Lapwing	<i>Vanellus leucurus</i>	Charadriidae
29	Halud latifa	Yellow- wattled Lapwing	<i>Vanellus malabaricus</i>	Charadriidae
30	Uttere Titi	Northern Lapwing	<i>Vanellus vanellus</i>	Charadriidae
31	Batan	Golden Plover	<i>Pluvialis dominicus</i>	Charadriidae
32	Khopa dobori	Great Crested Grebe	<i>Podiceps cristatus</i>	Podicipedidae
33	Kalikoot	Common Coot	<i>Fulica atra</i>	Rallidae
34	Chitra kake	Spotted Crane	<i>Porzana porzana</i>	Rallidae
35	Jalchori rail	Water Rail	<i>Rallus aquaticus</i>	Rallidae
36	Patibatan	Common Sandpiper	<i>Actitis hypoleucos</i>	Scolopacidae
37	Chapakipio	Curlew Sandpiper	<i>Calidris feruginea</i>	Scolopacidae
38	Choto Chapaki	Little Stint	<i>Calidris minuta</i>	Scolopacidae
39	Teminker chapaki	Temmink's Stint	<i>Calidris temminkii</i>	Scolopacidae
40	Khada Khocha	Common Snipe	<i>Gallinago gallinago</i>	Scolopacidae
41	Chaga	Pintail Snipe	<i>Gallinago stenura</i>	Scolopacidae
42	Gonga Kabutor	Brown-headed Gull	<i>Larus brunicephalus</i>	Scolopacidae
43	Danlin	Bar-tailed Godwit	<i>Limosa lapponica</i>	Scolopacidae
44	Jurali	Black-tailed Godwit	<i>Limosa limosa</i>	Scolopacidae
45	Geolabatan	Ruff	<i>Philomachus pugnax</i>	Scolopacidae
46	Eurasio morgichaga	Eurasian Woodcock	<i>Scolopax rusticola</i>	Scolopacidae
47	Banbatan	Wood Sandpiper	<i>Tringa glareola</i>	Scolopacidae
48	Greensank	Greenshank	<i>Tringa nebularia</i>	Scolopacidae
49	Sabujbatan	Green Sandpiper	<i>Tringa ochropus</i>	Scolopacidae
50	Jaler khada palki	Marsh Sandpiper	<i>Tringa stagnatilis</i>	Scolopacidae
51	Lalpapio	Redshank	<i>Tringa totanus</i>	Scolopacidae
52	Terekbatan	Terek Sandpiper	<i>Xenus cinereus</i>	Scolopacidae
54	Gangchil	Whiskered Tern	<i>Chlidonias hybridus</i>	Sternidae
55	Gangchil	Gull-bellied Tern	<i>Gelochelidon nilotica</i>	Sternidae
56	kalohash	Black-bellied Tern	<i>Sterna acuticauda</i>	Sternidae
57	Gangchil	Common Tern	<i>Sterna hirundo</i>	Sternidae

Sources: Coastal Wetland Biodiversity Management Project (CWBMP)-2006

Butterfly

The greatest threats to butterflies are habitat change and loss due to residential, commercial and agricultural development. Climate change is also a threat to butterfly (Van Swaay, *et al* 2010). Butterflies require body temperatures of 30⁰-35⁰C for optimal growth and development. There are several ways in which climate change may affect butterflies. If the microclimate changes, this will affect their survival. Changes in temperature may result in asynchrony between food sources and breeding, causing starvation of offspring that emerges too early (Van Swaay, *et al.* 2010).

Bangladesh with its humid tropical climate unique geographic location is generally known to be rich in butterfly fauna. It is said that, butterflies in Bangladesh belong to ten different families. These are Hespiriidae, Papilionidae, Pieridae, Nymphalidae, Danaidae, Satyridae, Lycaenidae, Amathusiidae, Acraeidae and Riodionidae. Butterflies need vegetative parts of specific plant during their developmental stages and flowering plants during the adult stage as food sources (Bashar, 2013.a). In addition to that, they need some selective plants for taking shelter wherever and whenever it stands necessary and essential. To have these types of floral combinations, additive abiotic factors are needed to be available. This means that special type of ecosystem like Forest Ecosystem always stands as more suitable for butterfly habitats and at the same time for butterfly colonization.

Reserved forest is the best habitat for Butterfly. 40 species of butterfly have been recorded from the secondary sources those are of from 29 genres under 5 families. Among the families dominant family are Nymphalidae followed by Papilionidae and Pieridae are in **Table C.12**.

Table C.12: An inventory of butterfly in the Haor area

S/N	English name	Scientific name	Family
1.	Tawny Rajah	<i>Charaxes psaphon imna</i>	<i>Charade</i>
2.	Zebra Blue	<i>Leptotes plinius</i>	Lycaenidae
3.	Common castor	<i>Aridne merione</i>	Nymphalida
4.	Plain tiger	<i>Danaous chrysippus</i>	Nymphalidae
5.	Common palmfly	<i>Elymnias hypermnestra</i>	Nymphalidae
6.	Common crow	<i>Euploea core</i>	Nymphalidae
7.	Long branded Blue Crow	<i>Euploea deione</i>	Nymphalidae
8.	Blue spotted Crow	<i>Euploea midamus rogenhoferi</i>	Nymphalidae
9.	Great Eggfly	<i>Hypolimnas bolina</i>	Nymphalidae
10.	Peacock pansy	<i>Junonia almona</i>	Nymphalidae
11.	Blue Pansy	<i>Junonia arithya</i>	Nymphalidae
12.	Grey Pansy	<i>Junonia atlites</i>	Nymphalidae
13.	Yellow pansy	<i>Junonia hierta</i>	Nymphalidae
14.	Lemon Pansy	<i>Junonia lemonias</i>	Nymphalidae
15.	Knight	<i>Lebadea martha martha</i>	Nymphalidae
16.	Commander	<i>Moduza procris</i>	Nymphalidae
17.	Common Bush Brown	<i>Mycalesis perseus</i>	Nymphalidae
18.	Common sailor	<i>Neptis hylas</i>	Nymphalidae
19.	Glassy tiger	<i>Parantica aglea</i>	Nymphalidae
20.	Clipper	<i>Parthenos sylvia</i>	Nymphalidae
21.	Common leopard	<i>Phalantha phalantha</i>	Nymphalidae
22.	Common nawab	<i>Polyura athamus</i>	Nymphalidae

23.	Chocolate Pansy	<i>Precis iphita</i>	<i>Nymphalidae</i>
24.	Indian Palm Bob	<i>Saustus gremius</i>	<i>Nymphalidae</i>
25.	Common earl	<i>Tanaecia julli</i>	<i>Nymphalidae</i>
26.	Grey count	<i>Tanaecia lepidea</i>	<i>Nymphalidae</i>
27.	Common jay	<i>Graphium doson axion</i>	<i>Papilionidae</i>
28.	Common bluebottle	<i>Graphium sarpedon</i>	<i>Papilionidae</i>
29.	Common rose	<i>Pachliopta aristolochiae</i>	<i>Papilionidae</i>
30.	Yellow Helen	<i>Papilio chaon chaon</i>	<i>Papilionidae</i>
31.	Lime butterfly	<i>Papilio demoleus</i>	<i>Papilionidae</i>
32.	Common Mormon	<i>papilio polytes</i>	<i>Papilionidae</i>
33.	Great Mormon	<i>Papiliomemon agenor</i>	<i>Papilionidae</i>
34.	Common bird wing	<i>Troides helena cerberus</i>	<i>Papilionidae</i>
35.	Striped Albatros	<i>Appias libythea olferna</i>	<i>Pieridae</i>
36.	Chocolate Albatros	<i>Appias lycidos lenora</i>	<i>Pieridae</i>
37.	Common Emigrant	<i>Catopsilia pomona</i>	<i>Pieridae</i>
38.	Common grass Yellow	<i>Eurema hecabe</i>	<i>Pieridae</i>
39.	Dark Wanderar	<i>Pareronia ceylonica</i>	<i>Pieridae</i>
40.	Tree yellow	<i>Gandaca haryana assamica</i>	<i>Pieridae</i>

Source: Identity of wildlife, Mohammad Sayed Ali, DFO Habiganj, 2016

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The picture below shows the (i) threatened plants,(ii) threat for environment, (iii) threatened species and (iv) threatened wildlife in the project area

i) Threatened plants in the project area



Shorpogondha, *Rauvolfia serpentine*



Wild rose, *Rosa clinophylla*



Dadmordon, *Cassia alata*



Podda, *Nelumbo nucifera*

ii) Threats for environment



Poultry litter used in the fish farm, for fish fodder polluted the water and air. Cultured fishes are hygienic for human being?



Peat coal have been collected from the beel of haor, to be used as alternative fuel sources



Submersible embankment made inside the haor, but soil to be collected from silt up beel that will be used as fish sanctuary, concern that top soil will not damage, make sure culvert to be installed in a suitable distance



Local fishing trap used by fisherman, at the Baro haor.

(iii) Threatened species in the project area



Baro Baim , Spiny eel fish (*Mastacembelus armatus*) is a vulnerable fish species



Locally threatened Medicinal plant, named *Terminalia belerica* (Bahera)



One of the Critical Endangered species of birds - Pallas's Fish Eagle (*Haliaeetus leucoryphus*) found in the Haor area.



Ilish(*Hilsa Hilsa*) are found in the Kusiara river

Continued..



Mohashoal which is threatened species



One of the Critically Endangered fish species named Chital Knife fishes (*topterus chitala*),



One of the locally threatened fish species named Royna



One the rare fish species named Leso

Continued..



One of Endangered fish species Foli fishes Knife fish(*Notopterus notopterus*).



One of the vulnerable fish species, Butter catfishes (*Ompok Pabda*),



One of the vulnerable fish species Ayer, Catfish(*Aorichthys aor*),



Goinna fish. Caps and barbs, Goinna (*Labeo gonius*), one of the vulnerable fish species

iv) Threatened wildlife in the project area



Endangered (IUCN Red List) Ring Monitor Lizard



Critically Endangered (IUCN Red List) Indian Hare (*Lepus nigricollis*)



Endangered (IUCN Red List) Common otter (*Lutra lutra*)



**Gengatic river dolphin (*Platanista bengalica*)
photo from Dano river**

Annex D: Summary of FGDs conducted in 29 Haor

Sub-project wise summary of FGD HFM&LIP 1. FGD of Boro Haor Sub-project

Address: Village-Chariakandi, Union-Danaputuli, Upazila-Sadar, Dist-Kishoreganj

FGD conducted -3rd December 2015.



FGD going on

Land use-

Agricultural practices, fishery, road, pond, canal, river, beel homestead, plantation, bazaar, education institutes, etc.

Agricultural practices-

BR-22, 28 and 29, peanut, mustard, potato, bringal, chili, Khesari, maskolai, etc

Agricultural related problems are

- Irrigation problem
- Flash flood damage the crops
- Bank loan did not get easily
- Lack of training

Fisheries-

In the fish farm cultured-

White fish culture like roi, catla, mrigel, shorpoti, silver carp, grass carp, brigade, pangus etc.

In the Haor /Beel

Major fishes are koi, catfish, shing, magur, taki, shol, boal, poti, chanda, baim etc.

Destructive gear use-like current net, berjal, dekijal, kata fishing in the river

Fish marketing problems are-

- Fishermen did not sell directly, sell through foria
- Carrying problem
- Preservation problem because of lack of ice mill

Aquatic plants-

Water lily (white, red, and blue), lotus (extinct) water hyacinth, haicha, cyperus, panimorich, arali, khagra, acmela, durali, helencha, sapla, koroch, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluk, duck weed, guripana, bishkhatali, croton, deshi kochori, maloncha, mamakola, khudepana, etc.

Animals

Birds- Bolua paki (palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, cuckoo, etc.

Migratory birds-Migratory birds access this haor every year during winter season

Resident birds-

Mammals- Mongoose, fox, monitors lizard, jungle cat, jack, rat, squirrel, shrew,

Reptile-lizard, ring lizard, snake,

Amphibians-frogs, turtles

Terrestrial plant-

road side and homestead area are rain tree, jam, mango, kathal, mehogani, medda, Bel, chatla, tulsi, bot, pakur, assath, akashmoni, kola, sadakoroi, bans, payara, lemon, papaw, khejur, jalmander, shetodron, krishna, baroi, ram tulsi, gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal, kamranga, eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, baganbilash, etc.

ECA-NA

EPA-NA

Water supply- DTW, STW, ponds, river, canal etc

Sanitation-

25% open latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river through the piped or river canal or water bodies. Human waste did not manage properly causes air and water pollution.

Transportation-

In the earth way-CNG, motor cycle, bus, pick up

In the water way-boat, trawler etc

Industries-NA

Power sources-8 hour's outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased
- Remove water logged
- Ensuring water facilities for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, poultry rearing or duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke
- AIG activities to be ensured for vulnerable women

Water use-domestic, washing, irrigation, bathing, etc

Potable water from tube well (shallow and deep), pond water for bathing, cooking, washing.

Irrigation-haor, beel, pond water, shallow tube well water use for irrigation

Livestock-cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic.

Delivery mostly in home by local midwife

Education-

Moktob, madrasa, primary school, high school

Current use of land-

Crops production-seed bed, paddy, wheat, jute etc.

Indigenous people –NA

Sites of historical significance-NA

Causes of fish decreases-

- Over fishing and over population and habitat destruction
- Dewatering the beel for fishing henceforth decrease the fishes in the haor area
- Lack of open water body
- Develop physical infrastructures in side haor area
- Destructive gear use for fishing like current net use, small mesh size net use, fry collection etc.
- Fishing in the breeding season like Boisak, justo and ashar month

Impact of submersible dyke-

- Protect the crops from early flood
- Harvesting in schedule time
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed
- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Soil erosion to be protect through turfing establishment of dyke
- Both side of dyke to be planted swamp species like hijal, korocho, barun, jarul, kadam, tal, etc
- Roosting and nesting side will develop
- To be increased natural fish migration
- To be increased irrigation facilities
- To be increased carrying facilities of goods

Constraints of the sub-project-

- To be started the implementation in unsuitable time
- Labor crisis during work because of harvesting time
- Poor communication
- Problems of carrying goods
- Lack of community participation
- Working started at the eleventh hour

Suggestion for overall improvement of environment-

- Khal re-excavation and need basis set up sluice gate
- High price of fertilizers and insecticide in the market

- To be needed DTW and provided agricultural instruments
- Lacking of working facilities
- Turfing on the embankment for soil erosion protection
- Afforestation on both side of embankment and submersible dyke and species will be swamp
- Decrease the use of chemical in the crops
- To be changed the cropping pattern
- Pest control through the IPM and IPMC(Integrated pest management combination)
- To be concerned about fish migration
- To be set up sluice gate/culvert for water control
- Aware the community about chemical use in the crops
- Need basis training to be provided among the women and material distributed and follow up/monitoring
- Awareness create on sanitation
- Initiatives to be taken for conservation of threatened species of fishes
- Alternative fuel sources to be arranged like shola/dhoincha practices for decrease the pressure on trees
- To be used improved stove for proper use fire
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary in the beels and river or canal
- Human waste to compost then used in the crops land

Note:

Meratola to Mokdia, simolkandi, betal, jebabil, shorbomongal beel connected khal via ramdi digamdi betal sluice gate khal to be re-excavated and Betal crematory to up to union perished village protection wall.

2. FGD of Nunnir Haor Sub-project

Address: Village-Gurui, Union-Gurui, Upazila-Nickli, Dist-Kishoreganj

FGD conducted -4th December 2015



FGD going on

Land use-

Agricultural practices, fishery, road, pond, canal, river, homestead, plantation, bazaar, education institutes, etc.

Agricultural practices-

BR-22, 28 and High yielding varieties 49 and 50

Cropping pattern-Paddy, mustard, chilli, jute, ground nut, maize etc

Agricultural related problems are

- Irrigation problem
- Flash flood
- Pest infestation
- Road communication
- Khal silt up
- Embankment

Suggestion for improvement

- Khal re-excavation
- Submersible dyke
- DTW set up
- Power tiller

- Development of road for communication
- Training on cropping pattern

Fisheries-

In the fish farm cultured-

White fish culture like rohi, catla, mrigel, shorpoti, silver carp, grass carp, pangus etc.

In the Haor / Beel

Major fishes are koi, shing, magur, taki, soal, boal, poti, chanda, baim etc.

Destructive gear use-like current jal, berjal, dekijal, kata fishing in the river

Fish marketing problems are-

- Fishermen did not sell directly, sell through foria
- Carrying problem
- Preservation problem because of lack of ice mill

Aquatic plants-

Water lily, water hyacinth, haicha, panimorich, arali, khagra, acmela, durali, helencha, sapla, koroch, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluk, duck weed, guripana, bishkhatali, croton, deshi kochori, maloncha, mamakola, khudepana, etc.

Animals

Birds-

Bolua paki (palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, crow, doel, salik, cuckoo, etc.

Migratory birds- NA

Resident birds-

Mammals- mongoose, fox, monitor lizard, jungle cat, jack, rat, squirrel, screw, etc

Reptile-lizard, ring lizard, snake

Amphibians-frogs, turtles

Terrestrial plant-

road side and homestead area are rain tree, jam, aim, kathal, mehogani, medda, Bel, chatla, tulsi, bot, pakur, assath, akashmoni, kola, sadakoroi, bans, payara, lemon, papaw, boroi, khejur, jalmander, shetodron, krishna, ram tulsi, gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal, kamranga,

eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, baganbilash, etc.

ECA-NA

EPA-NA

Water supply- DTW, STW, ponds, river, canal etc

Sanitation-

25% open latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river through the piped or river canal or water bodies. Human waste did not manage properly causes air and water pollution.

Transportation-

In the earth way-CNG, motor cycle, bus, pick up

In the water way-boat, trawler, engine boat etc

Industries-NA

Power sources-8 hour's outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased
- Remove water logged
- Ensuring water facilities for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, poultry rearing or duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke
- AIG activities to be ensured for vulnerable women

Water use-domestic, washing, irrigation, bathing, etc

Potable water from tube well (shallow and deep), pond water for bathing, cooking, washing.

Irrigation-haor, beel, pond water, shallow tube well water use for irrigation

Livestock-cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic.
Delivery mostly in home by local midwife

Education-

Moktob, madrasa, primary school, high school

Current use of land-

Crops production-seed bed, paddy, wheat, jute etc.

Indigenous people –NA

Sites of historical significance-NA

Causes of fish decreases-

- Dewatering the beel for fishing henceforth decrease the fishes in the haor area
- Lack of open water body
- Develop physical infrastructures in side haor area
- Destructive gear use for fishing like current net use, small mesh size net use, fries collection etc.
- Fishing in the breeding season like Boisak, justo and ashar month
- Did not follow government rule, lease policy including file fishing.

Impact of submersible dyke-

- Protect the crops from early flood
- Harvesting in schedule time
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed
- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Soil erosion to be protect through turfing establishment of dyke
- Both side of dyke to be planted swamp species like hijal, korocho, barun, jarul, kadam, tal, etc
- Livelihood develop from plantation
- Roosting and nesting side will develop
- To be increased natural fish migration
- To be increased irrigation facilities
- To be increased carrying facilities of goods

Constraints of the sub-project-

- To be started the implementation in unsuitable time
- Labor crisis during work because of harvesting time
- Poor communication
- Problems of carrying goods
- Lack community participation
- Working started at the eleventh hour

Suggestion for overall improvement of environment

- Khal re-excavation and need basis set up sluice gate
- High price of fertilizers and insecticide in the market
- To be needed DTW and provided agricultural instruments
- Lacking of working facilities
- Turfing on the embankment for soil erosion protection
- Afforestation on both side of embankment and submersible dyke and species will be swamp
- Decrease the use of chemical in the crops
- To be changed the cropping pattern
- Pest control through the IPM and IPMC (Integrated pest management combination)
- To be concerned about fish migration
- To be set up sluice gate/culvert for water control
- Aware the community about chemical use in the crops
- Need basis training to be provided among the women and material distributed and follow up/monitoring
- Awareness create on sanitation
- Initiatives to be taken for conservation of threatened species of fishes
- Alternative fuel sources to be arranged like shola/dhoincha practices for decrease the pressure on trees
- To be used improved stove for proper use fire
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary in the beels and river or canal
- Human waste to compost then used in the crops land

3. FGD of Chandpur Haor sub project

Address: Village-Pardiakul, Union-Sahasharn, Upazila-Kotiadi, Dist-Kishoreganj

FGD conducted -5th December 2015.



FGD going on

Land use-

Agricultural practices, fishery, road, pond, canal, river, seed bed, etc

Agricultural practices-

BR-28, BR-29, Mustard, Potato, bringer, chili, radish etc

Fisheries-

In the fish farm cultured-

White fish culture like roi, catla, mrigel, shorpoti, mono-sex tilapia, silver carp, grasscarp, pangus etc.

In the Haor/Beel

Kaski, royna, boicha, chringri, mola, dela, eel fish, chital, taki, mohashol, shring, koi, puti titputi, desi shorpoti, pabda, roi, meni/beda, kakila, kalibous,ayer, magur, shol, gajur, baila, shrimp, boal, pangus, baim, tarabaim, mola, dela, boicha,

Aquatic plants-

hyacinth, haicha, cyperus, panimorich, arali, khagra, acmela, durali, helecha, sapla, koroch, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluki, duck weed, guripana, khodepana, lemna, bishkhatali, croton, deshi kochori, maloncha, durali, mamakola, etc.

Animals

Birds- Bolua paki (palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, cuckoo, squirrel,

Migratory birds-Migratory birds access this haor every year

Resident birds-

Mammals- mongoose, fox, monitors lizard, jungle cat, jack, rat, squirrel, shrew, etc,

Reptile- Lizard, ring lizard, snake

Amphibians-frog, turtles,

Terrestrial plant- road side and homestead area are rain tree, jam, aam, kathal, mehogani, medda, Bel, chatla, tulsi, bot, pakur, assath, akashmoni, kola, sadakoroi, bans, payara, amra, lemon, papaw, boroi, khejur, jalmander, shetodron, roktodron, mangium, supari, nol khagra, kadam, tal, kamranga, eucalyptus, sheora, sajna, jalpai, badi, etc.

ECA-NA

EPA-NA

Water supply-

Sanitation-

10 % open latrine, 80% ring slab and rest 10% sanitary latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river through the piped or river canal or water bodies. Human waste did not manage properly. Causes air and water pollution

Transportation-

In rainy season-boat, engine boat and launch, bike

In winter season-bike, auto rickshaw, CNG, Micro, cycle, etc

Industries-NA

Power sources-8 hour's outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased
- Remove water logged
- Water to be used for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management

- Need basis to be arranged training program by project authority like on sewing, handicraft, poultry rearing or duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke
- AIG activities to be ensured for vulnerable women

Water use potable water from tube well (shallow and deep), pond water for bathing, cooking, washing. No arsenic in this area.

Irrigation-haor water, beel water, pond water, shallow tube well water use for irrigation

Livestock-Cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic. Delivery mostly in home by local midwife

Education-Moktob, madrassa, primary school, high school

Current use of land-Crops production-seed bed, garlic, mustard, tomato, chili, bringal, raddish, carrot, lalsak, etc

Indigenous people –NA

Sites of historical significance-NA

Causes of fish decreases-

- Destructive gear use for fishing like current net use, small mesh size net use, fry collection etc
- Fishing in the breeding season like Boisak justo and month of ashar
- Dewatering the beel for fishing
- Did not follow government rule, lease policy and did not do file fishing.
- Chemical use in the crops
- No fish sanctuary
- Poison use in the water then fish collection
- Poison use in the soil after dewatering the beel for came out the fishes those are hidden below soil surface

Impact of submersible dyke-

- Protect the crops from early flood
- Harvesting in schedule time

- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed
- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Soil erosion to be protect through turfing establishment of dyke
- Both side of dyke to be planted swamp species like hijal, koroch, barun, jarul, kadam, tal,etc
- Livelihood develop from plantation
- Roosting and nesting side will develop
- Habitat will develop waterfowl

Constraints of the sub-project-

- Started the implementation in suitable time
- Labor crisis during work because of harvesting time
- Poor communication
- Problems of carrying goods
- Lack community participation
- Working started at the eleventh hour

Suggestion for overall improvement of environment-

- Turfing on the embankment for soil erosion protection
- Afforestation on both side of embankment and submersible dyke and species will be swamp
- Decrease the use of chemical in the crops
- To be changed the cropping pattern
- Pest control through the IPM
- Aware the community about chemical use in the crops
- Motivate the farmers to be used compost instead of inorganic fertilizers
- Remove IAS
- Need basis training to be provided among the women and material distributed and follow up/monitoring.

4. FGD of Naogaon Haor sub project

Address: Village-Singpur, Union-Singpur, Upazila-Nikli, District-Kishoreganj

FGD conducted-6th December, 2015



FGD going on

Land use-

Agricultural practices, fishery, road, pond, canal, river, homestead, plantation, bazaar, education institutes, etc

Agricultural practices-

BR-28, BR-29, Mustard, Potato, bringal chili, til, wheat, radish etc

Fisheries-

In the fish farm cultured- white fish culture like roi, catla, mrigel, shorpoti, mono-sex tilapia, silver carp, grasscarp, brigade, pangus etc.

In the Haor/Beel-

Chapila, бага ауе, kolla, royna, boicha, chingri, moal, dela, eel fish, chital, taki, mohashol, shring, koi, puti titputi, desi shorpoti, pabda, roi, meni/beda, kakila, kalibous, ауе, magur, shol, gajur, baila, shrimp, boal, pangus, baim, tarabaim, mola, dela, kaski, titputi, boicha, ауе, goizza ауе, gazur, mohashol, napit koi, poli, ekthutia, tengra, etc.

Destructive gear use-like current jal, berjal, dekijal,

Kata fishing in the river

Aquatic plants-

hyacinth, haicha, cyperus, panimorich, arali, khagra, acmela, durali, helecha, sapla, koroch, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluki, duck weed, guripana, khodepana, lemna, bishkhatali, croton, deshi kochori, maloncha, durali, mamakola, khudepana, etc.

Animals

Birds- Bolua paki (palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, cuckoo, squirrel, etc.

Migratory birds- Migratory birds access this haor every year

Resident birds-

Mammals- mongoose, fox, monitors lizard, jungle cat, jack, rat, squirrel, shrew, etc

Reptile- lizard, ring lizard, snake

Amphibians- frog, turtles,

Terrestrial plant-

road side and homestead area are rain tree, jam, aam, kathal, mehogani, medda, Bel, chatla, tulsi, bot pakur, assath, akashmoni, kola, sadakoroi, bans, payara, amra, lemon, papaw, boroi, khejur, jalmander, shetodron, tulsi sada, krishni, ram tulsi) gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal, kamranga, eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, etc.

ECA-NA

EPA-NA

Sanitation-

10 % open latrine, 80% ring slab and rest 10% sanitary latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river through the piped or river canal or water bodies. Human waste did not manage properly. Causes air and water pollution

Transportation-

In rainy season-boat, engine boat and launch, bike

In winter season-bike, auto rickshaw, CNG, Micro,cycle,etc

Industries-NA

Power sources- 8 hours outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased
- Remove water logged
- Water to be used for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, poultry rearing or duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke
- AIG activities to be ensured for vulnerable women

Water use-

potable water from tube well (shallow and deep), pond water for bathing, cooking, washing. No arsenic in this area.

Irrigation-haor water, beel water, pond water, shallow tube well water use for irrigation

Livestock-

cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic. Delivery mostly in home by local midwife

Education-

Moktob, madrasa, primary school, high school

Current use of land-

Crops production-seed bed, garlic, mustard, tomato, chili, bringal, raddish, carrot, lalsak, etc

Indigenous people –NA

Sites of historical significance-NA

Causes of fish decreases-

- Destructive gear use for fishing like current net use, small mesh size net use, fry collection etc
- Fishing in the breeding season like Boisaak justo and asar month
- Dewatering the beel for fishing
- Did not follow government rule, lease policy and did not do file fishing.
- Chemical use in the crops
- No fish sanctuary
- Poison use in the water then fish collection
- Poison use in the soil after dewatering the beel for came out the fishes those are hidden below soil surface

Impact of submersible dyke-

- Protect the crops from early flood
- Harvesting in schedule time
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed
- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Soil erosion to be protect through turfing establishment of dyke
- Both side of dyke to be planted swamp species like hijal, koroch, barun, jarul, kadam, tal,etc
- Livelihood develop from plantation
- Roosting and nesting side will develop
- Habitat will develop waterfowl
- To be increased yield
- To be increased natural fish migration
- To be increased irrigation facilities
- To be increased carrying facilities of goods

Constraints of the sub-project-

- Started the implementation in unsuitable time
- Labor crisis during work because of harvesting time
- Poor communication
- Problems of carrying goods
- Lack community participation
- Working started at the eleventh hour

Suggestion for overall improvement of environment-

- Turing on the embankment for soil erosion protection

- Afforestation on both side of embankment and submersible dyke and species will be swamp
- Decrease the use of chemical in the crops
- To be changed the cropping pattern
- Pest control through the IPM and IPMC(Integrated pest management combination)
- To be concerned about fish migration
- To be set up sluice gate/culvert for water control
- To be stopped poultry litter used in the fisheries
- Repair and re-excavation of existing embankment and submersible dyke
- To be stopped hunting
- Aware the community about chemical use in the crops
- Motivate the farmers to be used compost instead of inorganic fertilizers
- Remove IAS
- Need basis training to be provided among the women and material distributed and follow up/monitoring
- To be registrar the water management committee
- To be practiced the short cycling varieties rice
- Awareness create on sanitation
- Initiatives to be taken for conservation of threatened species of fishes
- Alternative fuel sources to be arranged like shola/dhoincha practices for decrease the pressure on trees
- To be used improved stove for proper use fire
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary the beels and river or canal
- Human waste to compost then used in the crops land
- To be stopped peat coal collection from haor

5. FGD of Noapara Haor sub project

Address: Village-Madda dhampara, Union-Dampara, Upazila-Nikli, Dist-Kishoreganj FGD conducted -7th December 2015.



FGD going on

Land use-

Agricultural practices, fishery, road, pond, canal, river, homestead, plantation, bazaar, education institutes, etc.

Agricultural practices-

BR-28, BR-29, Mustard, Potato, bringal, chili, til, wheat, maize, radish etc

Agricultural related problems are

- Irrigation problem
- Flash flood damage the yield
- Financial problem
- Lack of training
- Marketing problem

Fisheries-

In the fish firm cultured-

White fish culture like roi, catla, mrigel, shorpoti, mono-sex tilapia, silver carp, grass carp, brigade, pangus etc.

In the Haor/Beel-

Chapala, бага ауеr, kolla, royna, boicha, chingri, moal, dela, eel fish, chital, taki, shring, koi, puti titputi, desi shorpoti, pabda, roi, meni/beda, kakila, kalibous,ayer, magur, shol, gajur, baila, shrimp, boal,

pangus, baim, tarabaim, mola, dela, kaski, titputi, boicha, ayer, goizza, ayer, gazur, mohashol, napit koi, poli, ekthutia, tengra, basa etc.

Destructive gear use-like current jal, berjal, dekijal,

Kata fishing in the river

Fish marketing problems are-

Fishermen did not sell directly, sell through foria

- Carrying problem
- Preservation problem because of lack of ice mill

Aquatic plants-

hyacinth, haicha, cyperus, panimorich, arali, khagra, acmela, durali, helecha, sapla, koroch, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluki, duck weed, guripana, khodepana, lemna, bishkhatali, croton, deshi kochori, maloncha, durali, mamakola, khudepana, etc.

Animals

Birds- Bolua paki (palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, cuckoo, squirrel, etc.

Migratory birds-Migratory birds access this haor every year

Resident birds-

Mammals- mongoose, fox, monitors lizard, jungle cat, jack, rat, squirrel, shrew, etc

Reptile-lizard, ring lizard, snake

Amphibians-frog, turtles,

Terrestrial plant-

road side and homestead area are rain tree, jam, aam, kathal, mehogani, medda, Bel, chatla, tulsi, bot pakur, assath, akashmoni, kola, sadakoroi, bans, payara, amra, lemon, papaw, boroi, khejur, jalmander, shetodron, tulsi sada, krishna, baboi, ram tulsi) gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal, kamranga, eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, baganbilash, etc.

Scarcity of medicinal plants

ECA-NA

EPA-NA

Sanitation-

40 % open latrine, 50% ring slab and rest 10% sanitary latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river through the piped or river canal or water bodies. Human waste did not manage properly. Causes air and water pollution. Mass create awareness program.

Transportation-

In rainy season-boat, engine boat and launch, bike

In winter season-bike, auto rickshaw, CNG, Micro, cycle, etc

Industries-NA

Power sources-8 hours outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased
- Remove water logged
- Water to be used for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, poultry rearing or duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke
- AIG activities to be ensured for vulnerable women

Water use-

Potable water from tube well (shallow and deep), pond water for bathing, cooking, washing. No arsenic in this area.

Irrigation-haor water, beel water, pond water, shallow tube well water use for irrigation

Livestock-cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic.
Delivery mostly in home by local midwife

Education-Moktob, madrasa, primary school, high school

Current use of land-

Crops production-seed bed, garlic, mustard, tomato, chili, bringal, radish, carrot, amaranth, lalsak, etc

Indigenous people –NA

Sites of historical significance-NA

Causes of fish decreases-

- Destructive gear use for fishing like current net use, small mesh size net use, fry collection etc
- Fishing in the breeding season like boisak, justo and ashar month
- Dewatering the beel for fishing
- Did not follow government rule, lease policy and did not do file fishing.
- Chemical use in the crops
- No fish sanctuary
- Poison use in the water then fish collection
- Poison use in the soil after dewatering the beel for came out the fishes those are hidden below soil surface

Impact of submersible dyke-

- Protect the crops from early flood
- Harvesting in schedule time
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed
- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Soil erosion to be protect through turfing establishment of dyke
- Both side of dyke to be planted swamp species like hijal, koroch, barun, jarul, kadam, tal, etc
- Livelihood develop from plantation
- Roosting and nesting side will develop
- Habitat will develop waterfowl
- To be increased yield
- To be increased natural fish migration
- To be increased irrigation facilities
- To be increased carrying facilities of goods

Constraints of the sub-project-

- Started the implementation in unsuitable time
- Labor crisis during work because of harvesting time
- Poor communication
- Problems of carrying goods
- Lack community participation
- Working started at the eleventh hour

Suggestion for overall improvement of environment-

- Turfing on the embankment for soil erosion protection
- Afforestation on both side of embankment and submersible dyke and species will be swamp
- Decrease the use of chemical in the crops
- To be changed the cropping pattern
- Pest control through the IPM and IPMC(Integrated pest management combination)
- To be concerned about fish migration
- To be set up sluice gate/culvert for water control
- To be stopped poultry litter used in the fisheries
- Repair and re-excavation of existing embankment and submersible dyke
- To be stopped hunting
- Aware the community about chemical use in the crops
- Motivate the farmers to be used compost instead of inorganic fertilizers
- Remove IAS
- Need basis training to be provided among the women and material distributed and follow up/monitoring
- To be registrar the water management committee
- To be practiced the short cycling varieties rice
- Awareness create on sanitation
- Initiatives to be taken for conservation of threatened species of fishes
- Alternative fuel sources to be arranged like shola/dhoincha practices for decrease the pressure on trees
- To be used improved stove for proper use fire
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary the beels and river or canal
- Human waste to compost then used in the crops land
- To be stopped peat coal collection from haor

6. FGD of Badla Haor Sub-project

Address: Village-Patch khahania, Union-Boribari, Upazila-Itna, Dist-Kishoreganj

FGD conducted - 9th December 2015.



FGD going on

Land use-

Agricultural practices, fishery, road, pond, canal, river, homestead, plantation, bazaar, education institutes, etc.

Agricultural practices-

BR-28, BR-29, peanut, mustard, potato, bringal, chili, Khesari, maskolai, etc.

Agricultural related problems are

- Irrigation problem
- Flash flood damage the crops
- Bank loan did not get easily
- Lack of training

Fisheries-

In the fish farm cultured-

White fish culture like roi, catla, mrigel, shorpoti, mono-sex tilapia, silver carp, grass carp, brigade, pangus etc.

In the Haor/Beel-

Major fishes are Taki, Soal, Boal, Gajur, poti, Gulsa, Ayer, Gotum and baim etc.

Destructive gear use-like current jal, berjal, dekijal,

Kata fishing in the river

Fish marketing problems are-

- Fishermen did not sell directly, sell through foria
- Carrying problem
- Preservation problem because of lack of ice mill

Aquatic plants-

hyacinth, haicha, cyperus, panimorich, arali, khagra, acmela, durali, helencha, sapla, koroch, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluki, duck weed, guripana, bishkhatali, croton, deshi kochori, maloncha, mamakola, khudepana, etc.

Animals

Birds- Bolua paki (palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, cuckoo, , etc.

Migratory birds- Migratory birds access this haor every year

Resident birds-

Mammals- mongoose, fox, monitor lizard, jungle cat, jack, rat, squirrel, shrew, etc

Reptile- lizard, ring lizard, snake

Amphibians- frogs, turtles

Terrestrial plant-

road side and homestead area are rain tree, jam, aam, kathal, mehogani, medda, Bel, chatla, tulsi, bot pakur, assath, akashmoni, kola, sadakoroi, bans, payara, lemon, papaw, boroi, khejur, jalmander, shetodron, krishna, baboi, ram tulsi, gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal, kamranga, eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, baganbilash, etc.

ECA-NA

EPA-NA

Water supply-

Sanitation-

70 % open latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river through the piped or river canal or water bodies. Human waste did not manage properly causes air and water pollution.

Transportation-

In rainy season-boat, engine boat and bike

In winter season-bike, auto rickshaw, CNG, cycle, etc

Industries-NA

Power sources-8 hour's outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased
- Remove water logged
- Ensuring water facilities for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, poultry rearing or duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke
- AIG activities to be ensured for vulnerable women

Water use- Potable water from tube well (shallow and deep), pond water for bathing, cooking, washing. No arsenic in this area.

Irrigation-haor water, beel water, pond water, shallow tube well water use for irrigation

Livestock-cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services- They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic. Delivery mostly in home by local midwife

Education- Moktob, madrassa, primary school, high school

Current use of land-

Crops production-seed bed, garlic, mustard, tomato, chili, bringal, raddish, carrot, amaranth, lalsak, etc

Indigenous people –NA

Sites of historical significance-NA

Causes of fish decreases-

- Destructive gear use for fishing like current net use, small mesh size net use, fry collection etc
- Fishing in the breeding season like Boisak justo and ashar month
- Dewatering the beel for fishing
- Did not follow government rule, lease policy including file fishing.
- Chemical use in the crops
- Poison use in the water then fishing
- Poison use in the soil after dewatering the beel for came out the fishes those are hidden below the top soil

Impact of submersible dyke-

- Protect the crops from early flood
- Harvesting in schedule time
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed
- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Soil erosion to be protect through turfing establishment of dyke
- Both side of dyke to be planted swamp species like hijal, korocho, barun, jarul, kadam, tal, etc
- Livelihood develop from plantation
- Roosting and nesting side will develop
- To be increased natural fish migration
- To be increased irrigation facilities
- To be increased carrying facilities of goods

Constraints of the sub-project-

- To be started the implementation in unsuitable time
- Labor crisis during work because of harvesting time
- Poor communication
- Problems of carrying goods
- Lack community participation
- Working started at the eleventh hour

Suggestion for overall improvement of environment-

- Improve communication
- Lacking of working facilities
- Turfing on the embankment for soil erosion protection

- Afforestation on both side of embankment and submersible dyke and species will be swamp
- Decrease the use of chemical in the crops
- To be changed the cropping pattern
- Pest control through the IPM and IPMC(Integrated pest management combination)
- To be concerned about fish migration
- To be set up sluice gate/culvert for water control
- To be stopped poultry litter used in the fisheries
- Repair and re-excavation of existing embankment and submersible dyke
- To be stopped hunting
- Aware the community about chemical use in the crops
- Need basis training to be provided among the women and material distributed and follow up/monitoring
- To be registered the water management committee
- To be practiced the short cycling varieties rice
- Awareness create on sanitation
- Initiatives to be taken for conservation of threatened species of fishes
- Alternative fuel sources to be arranged like shola/dhoincha practices for decrease the pressure on trees
- To be used improved stove for proper use fire
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary the beels and river or canal
- Human waste to compost then used in the crops land

7. FGD of Modhkhola Bhairagirchar Haor Sub-project

Address: Village-Betal, Union-Mashua, Upazila-Kotiadi, Dist-Kishoreganj

FGD conducted -10th December 2015.



FGD going on

Land use-

Agricultural practices, fishery, road, pond, canal, river, homestead, plantation, bazaar, education institutes, etc.

Agricultural practices-

BR-22, 28 and 29, peanut, mustard, potato, bringal, chili, Khesari, maskolai, etc

Agricultural related problems are

- Irrigation problem at Dolnabari and dayera bon area
- Shorbomongal khal siltup and crops damage for water logged

Fisheries-

In the fish farm cultured-

White fish culture like roi, catla, mrigel, shorpoti, silver carp, grass carp, brigade, pangus etc.

In the Haor /Beel-

Major fishes are koi, shing, magur,taki, soal, boal, poti, chanda, baim etc.

Destructive gear use-like current jal, berjal, dekijal, kata fishing in the river

Fish marketing problems are-

- Fishermen did not sell directly, sell through foria
- Carrying problem
- Preservation problem because of lack of ice mill

Aquatic plants-

Water lily, water hyacinth, haicha, cyperus, panimorich, arali, khagra, acmela, durali, helencha, sapla, koroach, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluk, duck weed, guripana, bishkhatali, croton, deshi kochori, maloncha, mamakola, khudepana, etc.

Animals

Birds- Bolua paki (palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, cuckoo, etc.

Migratory birds- Migratory birds access this haor every year during winter season

Mammals- Mongoose, fox, monitors lizard, jungle cat, jack, rat, squirrel, shrew,

Reptile- lizard, ring lizard, snake

Amphibians- frogs, turtles

Terrestrial plant-

road side and homestead area are rain tree, jam, aam, kathal, mehogani, medda, Bel, chatla, tulsi, bot pakur, assath, akashmoni, kola, sadakoroi, bans, payara, lemon, papaw, boroi, khejur, jalmander, shetodron, krishna, baboi, ram tulsi, gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal, kamranga, eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, baganbilash, etc.

ECA-NA

EPA-NA

Water supply- DTW, STW, ponds, river, canal etc

Sanitation-

25% open latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river through the piped or river canal or water bodies. Human waste did not manage properly causes air and water pollution.

Transportation-

In the earth way-CNG, motor cycle, bus, pick up

In the water way-boat, trawler etc

Industries-NA

Power sources- 8 hour's outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased
- Remove water logged
- Ensuring water facilities for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, poultry rearing or duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke
- AIG activities to be ensured for vulnerable women

Water use-domestic, washing,irrigation, bathing, etc

Potable water from tube well (shallow and deep), pond water for bathing, cooking, washing.

Irrigation-haor, beel, pond water, shallow tube well water use for irrigation

Livestock-cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic.
Delivery mostly in home by local midwife

Education-Moktob, madrassa, primary school, high school

Current use of land-

Crops production-seed bed, paddy, wheat, jute etc.

Indigenous people –NA

Sites of historical significance-NA

Causes of fish decreases-

- Dewatering the beel for fishing henceforth decrease the fishes in the haor area
- Lack of open water body
- Develop physical infrastructures in side haor area

- Destructive gear use for fishing like current net use, small mesh size net use, fry collection etc.
- Fishing in the breeding season like Boisak justo and asar month
- Did not follow government rule, lease policy including file fishing.

Impact of submersible dyke-

- Protect the crops from early flood
- Harvesting in schedule time
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed
- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Soil erosion to be protect through turfing establishment of dyke
- Both side of dyke to be planted swamp species like hijal, koroch, barun, jarul, kadam, tal, etc
- Livelihood develop from plantation
- Roosting and nesting side will develop
- To be increased natural fish migration
- To be increased irrigation facilities
- To be increased carrying facilities of goods

Constraints of the sub-project-

- To be started the implementation in unsuitable time
- Labor crisis during work because of harvesting time
- Poor communication
- Problems of carrying goods
- Lack community participation
- Working started at the eleventh hour

Suggestion for overall improvement of environment-

- Khal re-excavation and need basis set up sluice gate
- High price of fertilizers and insecticide in the market
- To be needed DTW and provided agricultural instruments
- Lacking of working facilities
- Turfing on the embankment for soil erosion protection
- Afforestation on both side of embankment and submersible dyke and species will be swamp
- Decrease the use of chemical in the crops
- To be changed the cropping pattern
- Pest control through the IPM and IPMC(Integrated pest management combination)
- To be concerned about fish migration

- To be set up sluice gate/culvert for water control
- Aware the community about chemical use in the crops
- Need basis training to be provided among the women and material distributed and follow up/monitoring
- Awareness create on sanitation
- Initiatives to be taken for conservation of threatened species of fishes
- Alternative fuel sources to be arranged like shola/dhoincha practices for decrease the pressure on trees
- To be used improved stove for proper use fire
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary in the beels and river or canal
- Human waste to compost then used in the crops land

Note:

Meatloaf to Media, simolkandi, betal, jebabil, shorbomongal beel connected khal via ramdi digamdi betal sluicgate khal to be re-excavated and Betal crematory to upto union parished village protection wall.

8. FGD of Ganakkhali Haor Sub-project

Address: Village-Kandi, Union-Shaysuti, Upazila-Kuliarchar, Dist-Kishoreganj

FGD conducted -12th December 2015.



FGD going on

Land use-

Agricultural practices, fishery, road, pond, canal, river, homestead, plantation, bazaar, education institutes, etc.

Agricultural practices-

BR-22, 28 and High yielding varieties

Cropping pattern-Paddy, potato, chili, jute, vegetables, etc

Agricultural related problems are

- Irrigation problem, water logging
- Inactive sluice gate
- Ganakkhali khal silt up
- Flash flood
- Lack of training on agriculture
- Scarcity / insufficient of irrigation water

Suggestion for improvement

- Khal re-excavation
- Active the sluice gate

- Submersible dyke
- DTW set up
- Development of road for communication

Fisheries-

In the fish farm cultured-

White fish culture like roi, catla, mrigel, shorpoti, silver carp, grass carp, brigade, pangus etc.

In the Hoar /Beel

Major fishes are koi, shing, shoal, boal, gulsa, tengra, boicha, chanda, poti, roi, ayer, chanda, baim etc.

Endangered species are pabda, royna, poloi, chital, etc

Destructive gear use-like current jal, berjal, dekijal, kata fishing in the river

Fish marketing problems are-

- Fishermen did not sell directly, sell through foria
- Carrying problem because road communication is not good for carrying fishes in the trading centre
- Preservation problem because of lack of ice mill

Aquatic plants-

Water lily, water hyacinth, haicha, panimorich, arali, khagra, acmela, durali, helencha, sapla, korocho, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluk, duck weed, guripana, bishkhatali, croton, deshi kochori, maloncha, mamakola, khudepana, etc.

Animals

Birds-

Bolua paki (palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, crow, doel, salik, cuckoo, etc.

Migratory birds- NA

Resident birds-

Mammals- mongoose, fox, monitor lizard, jungle cat, jack, rat, squirrel, shrew, etc

Reptile-lizard, ring lizard, snake

Amphibians-frogs, turtles

Terrestrial plant-

road side and homestead area are rain tree, jam, aam, kathal, mehogani, medda, Bel, chatla, tulsi, bot pakur, assath, akashmoni, kola, sadakoroi, bans, payara, lemon, papaw, boroi, khejur, jalmander, shetodron, krishna, baboi, ram tulsi, gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal, kamranga, eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, baganbilash, etc.

ECA-NA

EPA-NA

Water supply- DTW, STW, ponds, river, canal etc

Sanitation-

25% open latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river through the piped or river canal or water bodies. Human waste did not manage properly causes air and water pollution.

Transportation-

In the earth way- Nosimon, CNG, motor cycle, cycle, van, bus, pick up, auto rickshaw

In the water way-boat, trawler, engine boat etc

Industries-NA

Power sources-8 hour's outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased
- Remove water logged
- Ensuring water facilities for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, poultry rearing or duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke
- AIG activities to be ensured for vulnerable women

Water use-domestic, washing, irrigation, bathing, etc

Potable water from tube well (shallow and deep), pond water for bathing, cooking, washing.

Irrigation-haor, beel, pond water, shallow tube well water use for irrigation

Livestock-cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic.
Delivery mostly in home by local midwife

Education-Moktob, madrassa, primary school, high school

Current use of land-

Crops production-seed bed, paddy, wheat, jute etc.

Indigenous people –NA

Sites of historical significance-NA

Causes of fish decreases-

- Dewatering the beel for fishing henceforth decrease the fishes in the haor area
- Lack of open water body
- Develop physical infrastructures in side haor area
- Destructive gear use for fishing like current net use, small mesh size net use, fry collection etc.
- Fishing in the breeding season like Boisaak justo and asar month
- Did not follow government rule, lease policy including file fishing.

Impact of submersible dyke-

- Protect the crops from early flood
- Harvesting in schedule time
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed
- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Soil erosion to be protect through turfing establishment of dyke
- Both side of dyke to be planted swamp species like hijal, korocho, barun, jarul, kadam, tal, etc
- Livelihood develop from plantation
- Roosting and nesting side will develop

- To be increased natural fish migration
- To be increased irrigation facilities
- To be increased carrying facilities of goods

Constraints of the sub-project-

- To be started the implementation in unsuitable time
- Labor crisis during work because of harvesting time
- Poor communication
- Problems of carrying goods
- Lack community participation
- Working started at the eleventh hour

Suggestion for overall improvement of environment-

- Khal re-excavation and need basis set up sluice gate
- High price of fertilizers and insecticide in the market
- To be needed DTW and provided agricultural instruments
- Lacking of working facilities
- Turfing on the embankment for soil erosion protection
- Afforestation on both side of embankment and submersible dyke and species will be swamp
- Decrease the use of chemical in the crops
- To be changed the cropping pattern
- Pest control through the IPM and IPMC(Integrated pest management combination)
- To be set up sluice gate/culvert for water control
- Aware the community about chemical use in the crops
- Awareness create on sanitation
- Initiatives to be taken for conservation of threatened species of fishes
- Alternative fuel sources to be arranged like shola/dhoincha practices for decrease the pressure on trees
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary in the beels and river or canal
- Human waste to compost then used in the crops land

9. FGD of Alalia Haor Sub-project

Address: Village-Bahadia, Union-agaroshindu, Upazila-Pakundia, Dist-Kishoreganj

FGD conducted -13th December 2015.



FGD going on

Land use-

Agricultural practices, fishery, road, pond, canal, river, homestead, plantation, bazaar, education institutes, etc.

Agricultural practices-

BR-22, 28 and High yielding varieties

Cropping pattern-Paddy, wheat, maize, potato, jute, kolai, etc

Agricultural related problems are

- Water logging due to heavy raining
- Water scarcity during ripening of paddy
- Lacking of agricultural instruments
- Inactive sluice gate
- **Suggestion for improvement**
- Khal re-excavation
- Repair the regulator
- Needed training on agricultural practices and availability of agri -instruments
- Village protection wall
- Development of road for communication

Fisheries-

In the fish farm cultured-

White fish culture like rohi, catla, mrigel, shorpoti, silver carp, grass carp, pangas, etc.

In the Haor/Beel-

Major fishes are koi, shing, shoal, boal, gulsa, tengra, boicha, chanda, poti, ayer, chanda, baim etc.

Endangered species are pabda, royna, poloi, chital, etc

Destructive gear use-like current jal, berjal, dekijal, kata fishing in the river

Fish marketing problems are-

- Carrying problem because road communication is not good for carrying fishes in the trading centre
- Preservation problem because of lack of ice mill

Aquatic plants-

Water lily, water hyacinth, haicha, panimorich, arali, khagra, acmela, durali, helencha, sapla, korocho, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluk, duck weed, guripana, bishkhatali, croton, deshi kochori, maloncha, mamakola, khudepana, etc.

Animals

Birds- Bolua paki(palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, crow, doel, salik, cuckoo, etc.

Migratory birds- NA

Resident birds-

Mammals- mongoose, fox, monitor lizard, jungle cat, jack, rat, squirrel, shrew, etc

Reptile-lizard, ring lizard, snake

Amphibians-frogs, turtles

Terrestrial plant-

road side and homestead area are rain tree, jam, aam, kathal, mehogani, medda, Bel, chatla, tulsi, bot pakur, assath, akashmoni, kola, sadakoroi, bans, payara, lemon, papaw, boroi, khejur, jalmander, shetodron, krishna, ram tulsi, gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal, kamranga, eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, baganbilash, etc.

ECA-NA

EPA-NA

Water supply- DTW, STW, ponds, river, canal etc

Sanitation-

25% open latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river through the piped or river canal or water bodies. Human waste did not manage properly causes air and water pollution.

Transportation-

In the earth way- Nosimon, CNG, motor cycle, cycle, van, bus, pick up, auto rickshaw

In the water way-boat, trawler, engine boat etc

Industries-NA

Power sources-8 hour's outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased
- Remove water logged
- Ensuring water facilities for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, cottage, duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke
- AIG activities to be ensured for vulnerable women

Water use-domestic, washing, irrigation, bathing, etc

Potable water from tube well (shallow and deep), pond water for bathing, cooking, washing.

Irrigation-haor, beel, pond water, shallow tube well water use for irrigation

Livestock-cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic.
Delivery mostly in home by local midwife

Education-

Moktob, madrasa, primary school, high school

Current use of land-

Crops production-seed bed, paddy, wheat, jute etc.

Indigenous people –NA

Sites of historical significance-NA

Causes of fish decreases-

- Dewatering the beel for fishing henceforth decrease the fishes in the haor area
- Lack of open water body
- Destructive gear use for fishing like current net use, small mesh size net use, fries collection etc.
- Fishing in the breeding season (Boisak, justo and asar)
- Did not follow government rule, lease policy including file fishing.
- Lack of fish sanctuary

Impact of submersible dyke-

- Protect the crops from early flood
- Harvesting in schedule time
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed
- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Both side of dyke to be planted swamp species like hijal, korocho, barun, jarul, kadam, tal, etc
- Livelihood develop from plantation
- Roosting and nesting side will develop
- To be increased natural fish pass/migration
- Habitat develop of fishes
- To be increased irrigation facilities

Constraints of the sub-project-

- To be started the implementation in unsuitable time
- Labor crisis during work because of harvesting time
- Poor communication
- Problems of carrying goods

Suggestion for overall improvement of environment-

- Khal re-excavation and need basis set up sluice gate
- High price of fertilizers and insecticide in the market
- Having poultry farm at the pakundia and bahadia villages, poultry litter did not manage properly which polluted the air and water
- Decrease the use of chemical in the crops
- To be changed the cropping pattern
- Pest control through the IPM and IPMC (Integrated pest management combination)
- Aware the community about chemical use in the crops
- Initiatives to be taken for conservation of threatened species of fishes
- Alternative fuel sources to be arranged like shola/dhoincha practices for decrease the pressure on trees
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary in the beels and river or canal

Note:

Water logging is the great problem in the haor area and around 8 months water logged in the haor, they did not cultivate crops properly, remove water from haor through re-excavation of silt up water bodies like bilbhora, boiradi, bahadia, khama, kotiadi, satiadi.

10.FGD of Suniar Haor Sub-project

Address: Village-jawer, Union-Jawer, Upazila-Tarail, Dist-Kishoreganj

FGD conducted -14th December 2015.



FGD going on

Land use-

Agricultural practices, fishery, road, pond, canal, river, homestead, plantation, bazaar, education institutes, etc.

Agricultural practices-

BR-22, 28 and 29, peanut, mustard, potato, bringal, chili, Khesari, maskolai, etc

Agricultural related problems are

- Irrigation problem in the month of Choitra
- Scarcity of agricultural instruments
- Block supervisor did not supervise properly
- Most of the farmers received loan from bank with high interest

Fisheries-

In the fish farm cultured-

White fish culture like roi, catla, mrigel, shorpoti, mono-sex tilapia, silver carp, grass carp, brigade, pangus etc.

In the Haor/Beel-

Major fishes are Taki, Soal, Boal, Gajur, poti, Gulsa, Ayer, Gotum and baim etc.

Destructive gear use-like current jal, berjal, dekijal,

Kata fishing in the river

Fish marketing problems are-

- Fishermen did not sell directly, sell through foria
- Carrying problem
- Preservation problem because of lack of ice mill

Aquatic plants-

Water lily, water hyacinth, haicha, cyperus, panimorich, arali, khagra, acmela, durali, helencha, sapla, korocho, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluki, duck weed, guripana, bishkhatali, croton, deshi kochori, maloncha, mamakola, khudepana, etc.

Animals

Birds- Bolua paki (palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, cuckoo, etc.

Migratory birds- Migratory birds access this haor every year

Mammals- mongoose, fox, monitors lizard, jungle cat, jack, rat, squirrel, shrew.

Reptile- lizard, ring lizard, snake

Amphibians- frogs, turtles

Terrestrial plant-

road side and homestead area are rain tree, jam, aam, kathal, mehogani, medda, Bel, chatla, tulsi, bot, pakur, assath, akashmoni, kola, sadakoroi, bans, payara, lemon, papaw, boroi, khejur, jalmander, shetodron, krishna, baboi, ram tulsi, gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal, kamranga, eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, baganbilash, etc.

ECA-NA

EPA-NA

Water supply- DTW, STW, ponds, river, canal etc

Sanitation-

70 % open latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river through the piped or river canal or water bodies. Human waste did not manage properly causes air and water pollution.

Transportation-

In the earth way-CNG, motor cycle, bus,

In the water way-boat, trawler etc

Industries-NA

Power sources-8 hour's outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased
- Remove water logged
- Ensuring water facilities for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, poultry rearing or duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke
- AIG activities to be ensured for vulnerable women

Water use-

Potable water from tube well (shallow and deep), pond water for bathing, cooking, washing. No arsenic in this area.

Irrigation-haor water, beel water, pond water, shallow tube well water use for irrigation

Livestock-cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic. Delivery mostly in home by local midwife

Education-

Moktob, madrassa, primary school, high school

Current use of land-

Crops production-seed bed, garlic, mustard, potato, wheat, jute, garlic, onion, chili, bringal, etc

Indigenous people –NA

Sites of historical significance-NA

Causes of fish decreases-

- Silt up the fish migration way
- Develop physical infrastructures in side haor area
- Make pond inside haor
- Destructive gear use for fishing like current net use, small mesh size net use, fry collection etc
- Fishing in the breeding season like Boisak justo and asar month
- Dewatering the beel for fishing
- Did not follow government rule, lease policy including file fishing.
- Chemical use in the crops
- Poison use in the water then fishing
- Poison use in the soil after dewatering the beel for came out the fishes those are hidden below the top soil

Impact of submersible dyke-

- Protect the crops from early flood
- Harvesting in schedule time
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed
- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Soil erosion to be protect through turfing establishment of dyke
- Both side of dyke to be planted swamp species like hijal, korocho, barun, jarul, kadam, tal, etc
- Livelihood develop from plantation
- Roosting and nesting side will develop
- To be increased natural fish migration
- To be increased irrigation facilities
- To be increased carrying facilities of goods

Constraints of the sub-project-

- To be started the implementation in unsuitable time
- Labor crisis during work because of harvesting time
- Poor communication
- Problems of carrying goods
- Lack community participation

- Working started at the eleventh hour

Suggestion for overall improvement of environment-

- Khal re-excavation and need basis set up sluice gate
- High price of fertilizers and insecticide in the market
- To be needed DTW and provided agricultural instruments
- Lacking of working facilities
- Turfing on the embankment for soil erosion protection
- Afforestation on both side of embankment and submersible dyke and species will be swamp
- Decrease the use of chemical in the crops
- To be changed the cropping pattern
- Pest control through the IPM and IPMC(Integrated pest management combination)
- To be concerned about fish migration
- To be set up sluice gate/culvert for water control
- To be stopped poultry litter used in the fisheries
- Repair and re-excavation of existing embankment and submersible dyke
- To be stopped hunting
- Aware the community about chemical use in the crops
- Need basis training to be provided among the women and material distributed and follow up/monitoring
- To be registered the water management committee
- To be practiced the short cycling varieties rice
- Awareness create on sanitation
- Initiatives to be taken for conservation of threatened species of fishes
- Alternative fuel sources to be arranged like shola/dhoincha practices for decrease the pressure on trees
- To be used improved stove for proper use fire
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary the beels and river or canal.
- Human waste to compost then used in the crops land

11. FGD of Baraikhali khal Sub-project

Address: Village-Gangatia, Union-Gobindanathpur, Upazila-Hosenpur, Dist-Kishoreganj

FGD conducted -15th December 2015.



FGD going on

Land use-

Agricultural practices, fishery, road, pond, canal, river, homestead, plantation, bazaar, educational institutes, etc.

Agricultural practices-

BR-22, 28 and High yielding varieties

Cropping pattern-Paddy, wheat, maize, potato, jute, kolai, etc

Agricultural related problems are

- Water logging due to khal/canal silt up
- Small size sluice gate which did not cover
- Lacking of agricultural instruments and training
- Scarcity of water during ripening of crops
- DTW for irrigation

Suggestion for improvement

- Khal re-excavation
- To be set up 6 vent sluice gate
- Needed training on agricultural practices and cropping pattern
- Development of road for communication

Fisheries-

In the fish farm cultured-

White fish culture like roi, catla, mrigel, shorpoti, silver carp, grass carp, brigade, pangus etc.

In the Haor/Beel-

Major fishes are koi, shing, shoal, boal, gulsa, tengra, boicha, chanda, poti, ayer, chanda, baim etc.

Endangered species are pabda, royna, poloi, chital, etc

Destructive gear use-like current jal, berjal, dekijal, kata fishing in the river

Fish marketing problems are-

- Carrying problem because road communication is not good for carrying fishes in the trading centre
- Preservation problem because of lack of ice mill

Aquatic plants-

Water lily, water hyacinth, haicha, panimorich, arali, khagra, acmela, durali, helencha, sapla, koroach, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluk, duck weed, guripana, bishkhatali, croton, deshi kochori, maloncha, mamakola, khudepana, etc.

Animals

Birds- Bolua paki(palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, crow, doel, salik, cuckoo, etc.

Migratory birds- NA

Resident birds-

Mammals- Mongoose, fox, monitors lizard, jungle cat, jack, rat, squirrel, shrew, etc.

Reptile-lizard, ring lizard, snake

Amphibians-frogs, turtles

Terrestrial plant-

road side and homestead area are rain tree, jam, aam, kathal, mehogani, medda, Bel, chatla, tulsi, bot pakur, assath, akashmoni, kola, sadakoroi, bans, payara, lemon, papaw, boroi, khejur, jalmander, shetodron, krishna, baboi, ram tulsi, gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal, kamranga, eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, baganbilash, etc.

ECA-NA

EPA-NA

Water supply- DTW, STW, ponds, river, canal etc

Sanitation-

25% open latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river through the piped or river canal or water bodies. Human waste did not manage properly causes air and water pollution.

Transportation-

In the earth way- Nosimon, CNG, motor cycle, cycle, van, bus, pick up, auto rickshaw

In the water way-boat, trawler, engine boat etc

Industries-NA

Power sources-8 hour's outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased
- Remove water logged
- Ensuring water facilities for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, cottage, duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke
- AIG activities to be ensured for vulnerable women

Water use-domestic, washing, irrigation, bathing, etc

Potable water from tube well (shallow and deep), pond water for bathing, cooking, washing.

Irrigation-haor, beel, pond water, shallow tube well

Livestock-cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic. Delivery mostly in home by local midwife

Education-Moktob, madrasa, primary school, high school

Current use of land-

Crops production-seed bed, paddy, mustard, potato, chili, onion, vegetable etc.

Indigenous people –NA

Sites of historical significance-NA

Causes of fish decreases-

- Dewatering the beel for fishing henceforth decrease the fishes in the haor area
- Lack of open water body
- Destructive gear use for fishing like current net use, small mesh size net use, fries collection etc.
- Fishing in the breeding season (Boisak, justo and asar)
- Did not follow government rule, lease policy including file fishing.
- Lack of fish sanctuary

Impact of submersible dyke-

- Protect the crops from early flood
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed
- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Both side of dyke to be planted swamp species like hijal, korocho, barun, jarul, kadam, tal, etc
- Livelihood develop from plantation
- Roosting and nesting side will develop
- To be increased natural fish pass/migration
- Habitat develop of fishes
- To be increased irrigation facilities

Constraints of the sub-project-

- To be started the implementation in unsuitable time
- Labor crisis during work because of harvesting time
- Poor communication

- Problems of carrying goods

Suggestion for overall improvement of environment-

- Due small scale sluice gate which have no capacity to manage water
- Khal re-excavation and need basis set up sluice gate
- High price of fertilizers and insecticide in the market
- Decrease the use of chemical in the crops
- To be changed the cropping pattern
- Pest control through the IPM and IPMC(Integrated pest management combination)
- Aware the community about chemical use in the crops
- Initiatives to be taken for conservation of threatened species of fishes
- Alternative fuel sources to be arranged like shola/dhoincha practices for decrease the pressure on trees
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary in the beels and river or canal

12. FGD of Dakhshiner Haor Sub-project

Address: Village-Jayshidhi, Union-Jayshiddhi, Upazila-Itna, Dist-Kishoreganj

FGD conducted -17th December 2015.



FGD going on

Land use-

Agricultural practices, fishery, road, pond, canal, river, homestead, plantation, bazaar, educational institutes, etc.

Agricultural practices-

BR-22, 28 and High yielding varieties

Cropping pattern-Paddy, wheat, maize, potato, jute, kolai, etc

Agricultural related problems are

- Flash flood
- Lately water recession from haor/water logged
- Water logging due to khal/canal silt up
- Lacking of agricultural instruments and training
- Scarcity of water during ripening of crops/drought

Suggestion for improvement

- Khal re-excavation
- Embankment and protection wall
- Repair of existing sluice gate
- Newly set up sluice gate
- DTW for irrigation

- Needed training on agricultural practices and cropping pattern and modern agricultural instruments
- Development of road for communication

Fisheries-

In the fish farm cultured-

White fish culture like roi, catla, mrigel, shorpoti, silver carp, grass carp, brigade, pangus etc.

In the Haor /Beel-

Major fishes are boal, ayer, gulsha, tengra, shing, koi, magur, shoal, taki, poti, shrimp, pabda, baim etc.

Endangered species are Mohashoal, nanid, rani, deshi pangus, chital, etc

Destructive gear use-like current jal, berjal, dekijal, kata fishing in the river

Fish marketing problems are-

- Fishing, preservation and carrying problem in the project area
- Preservation problem because of lack of ice mill

Aquatic plants-

Water lily, water hyacinth, haicha, panimorich, arali, khagra, acmela, durali, helencha, sapla, korocho, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluk, duck weed, guripana, bishkhatali, croton, deshi kochori, maloncha, mamakola, khudepana, etc.

Animals

Birds- Bolua paki (palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, crow, doel, salik, cuckoo, etc.

Migratory birds- NA

Resident birds-

Mammals- Mongoose, fox, monitors lizard, jungle cat, jack, rat, squirrel, shrew, etc.

Reptile-lizard, ring lizard, snake

Amphibians-frogs, turtles

Terrestrial plant-

road side and homestead area are rain tree, jam, aam, kathal, mehogani, medda, Bel, chatla, tulsi, bot pakur, assath, akashmoni, kola, sadakoroi, bans, payara, lemon, papaw, boroi, khejur, jalmander, shetodron, krishna, baboi, ram tulsi, gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal,

kamranga, eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, baganbilash, etc.

ECA-NA

EPA-NA

Water supply- DTW, STW, ponds, river, canal etc

Sanitation-

25% open latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river through the piped or river canal or water bodies. Human waste did not manage properly causes air and water pollution.

Transportation-

In the earth way- CNG, motor cycle, cycle, van, bus, pick up, auto - rickshaw

In the water way-boat, trawler, engine boat etc

Industries-NA

Power sources-8 hour's outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased
- Remove water logged
- Ensuring water facilities for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, cottage, duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke

Water use-domestic, washing, irrigation, bathing, etc

Potable water from tube well (shallow and deep), pond water for bathing, cooking, washing.

Irrigation-haor, beel, pond water, shallow tube well

Livestock-cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic.
Delivery mostly in home by local midwife

Education-Moktob, madrasa, primary school, high school

Current use of land-

Crops production-seed bed, paddy, mustard, potato, chili, onion, vegetable etc.

Indigenous people –NA

Sites of historical significance-NA

Causes of fish decreases-

- Dewatering the beel for fishing henceforth decrease the fishes in the haor area
- Lack of open water body
- Destructive gear use for fishing like current net use, small mesh size net use, fries collection etc.
- Fishing in the breeding season (Boisak, justo and asar)
- Did not follow government rule, lease policy including file fishing.
- Lack of fish sanctuary

Impact of submersible dyke-

- Protect the crops from early flood
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed
- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Both side of dyke to be planted swamp species like hijal, korocho, barun, jarul, kadam, tal, etc
- Livelihood develop from plantation
- Roosting and nesting side will develop
- To be increased natural fish pass/migration
- Habitat develop of fishes
- To be increased irrigation facilities

Constraints of the sub-project-

- To be started the implementation in unsuitable time
- Labor crisis during work because of harvesting time
- Poor communication

- Problems of carrying goods

Suggestion for overall improvement of environment-

- Due small scale sluice gate which have no capacity to manage water
- Khal re-excavation and need basis set up sluice gate
- High price of fertilizers and insecticide in the market
- Decrease the use of chemical in the crops
- To be changed the cropping pattern
- Pest control through the IPM and IPMC(Integrated pest management combination)
- Aware the community about chemical use in the crops
- Initiatives to be taken for conservation of threatened species of fishes
- Alternative fuel sources to be arranged like shola/dhoincha practices for decrease the pressure on trees
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary in the beels and river or canal

13. FGD of Chatal Haor Sub-project

Address: Village-Sahila, Union-Boribari, Upazila-Itna, Dist-Kishoreganj

FGD conducted -19th December 2015.



FGD going on

Land use-

Agricultural practices, fishery, road, pond, canal, river, homestead, plantation, bazaar, educational institutes, etc.

Agricultural practices-BR-22, 28

Cropping pattern-Paddy, wheat, maize, potato, jute, kolai, etc

Agricultural related problems are

- Flash flood/ early flood
- Irrigation
- Paddy carrying problem because of bad communication
- Lacking of agricultural instruments and training
- Scarcity of water during ripening of crops/drought

Suggestion for improvement

- Embankment
- Khal re-excavation
- Embankment and protection wall
- DTW for irrigation
- Needed training on agricultural practices and cropping pattern and modern agricultural instruments
- Development of road for communication
- Protection wall to protect the periphery of village and homestead area

Fisheries-

In the fish farm cultured-

White fish culture like Shoal, rui, katla, mrigel, shorpoti, silver carp, grass carp, brigade, pangus etc.

In the Haor/Beel-

Major fishes are shoal, bacha, rui. boal, catla, chital, mrigel, gonia, poti, baim, kalibaus, sing, magur, chanda, tengra, gulsha, ayer, shrimp, kaski, tarabaim, dehi shorpoti, taki, kakila, royna, poli, itcha,etc.

Endangered species are Mohashoal, nanid, rani, deshi pangus, rani,etc

Destructive gear use-like current jal, berjal, dekijal, kata fishing in the river

Fish marketing problems are-

- Fishing, preservation and carrying problem in the project area
- Preservation problem because of lack of ice mill

Aquatic plants-

Water lily, water hyacinth, haicha, panimorich, arali, khagra, acmela, durali, helencha, sapla, korocho, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluk, duck weed, guripana, bishkhatali, croton, deshi kochori, maloncha, mamakola, khudepana, etc.

Animals

Birds- Bolua paki(palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, crow, doel, salik, cuckoo, etc.

Migratory birds- NA

Resident birds-

Mammals- Mongoose, fox, monitors lizard, jungle cat, jack, rat, squirrel, shrew, etc.

Reptile-lizard, ring lizard, snake

Amphibians-frogs, turtles

Terrestrial plant-

road side and homestead area are rain tree, jam, aam, kathal, mehogani, medda, Bel, chatla, tulsi, bot pakur, assath, akashmoni, kola, sadakoroi, bans, payara, lemon, papaw, boroi, khejur, jalmander, shetodron, krishna, baboi, ram tulsi, gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal, kamranga, eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, baganbilash, etc.

ECA-NA

EPA-NA

Water supply- DTW, STW, ponds, river, canal etc

Sanitation-

25% open latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river through the piped or river canal or water bodies. Human waste did not manage properly causes air and water pollution.

Transportation-

In the earth way- CNG, motor cycle, cycle, van, bus, pick up, auto - rickshaw

In the water way-boat, trawler, engine boat etc

Industries-NA

Power sources-8 hour's outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased
- Remove water logged
- Ensuring water facilities for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, cottage, duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke

Water use-domestic, washing, irrigation, bathing, etc

Potable water from tube well (shallow and deep), pond water for bathing, cooking, washing.

Irrigation-haor, beel, pond water, shallow tube well

Livestock-cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic.
Delivery mostly in home by local midwife

Education-Moktob, madrasa, primary school, high school

Current use of land-

Crops production-seed bed, paddy, mustard, potato, chili, onion, vegetable etc.

Indigenous people –NA

Sites of historical significance-NA

Causes of fish decreases-

- Dewatering the beel for fishing henceforth decrease the fishes in the haor area
- Lack of open water body
- Destructive gear use for fishing like current net use, small mesh size net use, fries collection etc.
- Fishing in the breeding season (Boisak, justo and asar)
- Did not follow government rule, lease policy including file fishing.
- Lack of fish sanctuary

Impact of submersible dyke-

- Protect the crops from early flood
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed
- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Both side of dyke to be planted swamp species like hijal, korocho, barun, jarul, kadam, tal, etc
- Livelihood develop from plantation
- Roosting and nesting side will develop
- Habitat develop of fishes

Constraints of the sub-project-

- To be started the implementation in unsuitable time
- Labor crisis during work because of harvesting time
- Poor communication
- Problems of carrying goods

Suggestion for overall improvement of environment-

- Due small scale sluice gate which have no capacity to manage water
- Khal re-excavation and need basis set up sluice gate
- High price of fertilizers and insecticide in the market
- Decrease the use of chemical in the crops
- To be changed the cropping pattern
- Pest control through the IPM and IPMC(Integrated pest management combination)
- Aware the community about chemical use in the crops
- Initiatives to be taken for conservation of threatened species of fishes
- Alternative fuel sources to be arranged like shola/dhoincha practices for decrease the pressure on trees
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary in the beels and river or canal

Note:

- Artificial dam established in the haor which create the problem for fish migration, breeding and habitat destruction
- In the Baro beel having scope around 5 acres of land for the establishment of sanctuary and in the jaykhab beel 2 acres of land.

14. FGD of Ganesh haor Sub-project

Address: Village-Gopalashram, Union-Shukari, Upazila-Atpara, Dist-Netrokona

FGD conducted -21st December 2015.



FGD going on

Land use-

Agricultural practices, fishery, road, pond, canal, river, homestead, plantation, bazaar, educational institutes, etc.

Agricultural practices-BR-22, 28

Cropping pattern-Paddy, wheat, mustard, potato, jute, onion. Garlic, vegetable, etc

Agricultural related problems are

- Flash flood/ early flood
- Crops damage due to rain water stagnant
- Mogra river water entrance into the haor and damage the crops
- Paddy carrying problem because of bad communication
- Lacking of agricultural instruments and training

Suggestion for improvement

- Khal re-excavation
- Embankment
- DTW for irrigation
- Development of road for communication
- Protection wall to protect the periphery of village and homestead area

- Inorganic fertilizer to be used instead of organic fertilizer

Fisheries-

In the fish farm cultured-

White fish culture like Shoal, rui, katla, mrigel, shorpoti, silver carp, grass carp, brigade, pangus etc.

In the Haor/Beel-

Major fishes are shoal, bacha, rui, darkina. boal, catla, chital, mrigel, gonja, poti, baim, kalibaus, sing, magur, chanda, tengra, gulsha, ayer, shrimp, kaski, tarabaim, dehi shorpoti, taki, kakila, royna, poli, itcha, potka, etc.

Endangered species are Mohashoal, nanid, rani, deshi pangus, rani,bata, etc

Destructive gear use-like current jal, berjal, dekijal, kata fishing in the river

Fish marketing problems are-

- Fishing, preservation and carrying problem in the project area
- Preservation problem because of lack of ice mill

Aquatic plants-

Water lily, water hyacinth, haicha, panimorich, arali, khagra, acmela, durali, helencha, sapla, koroach, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluk, duck weed, guripana, bishkhatali, croton, deshi kochori, maloncha, mamakola, khudepana, etc.

Animals

Birds- Bolua paki(palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, crow, choro, tia, baboi, kingfisher, ababil, owl, vulture, doel, salik, cuckoo, etc.

Migratory birds- NA

Resident birds-

Mammals- mongoose, fox, monitor lizard, jungle cat, jack, rat, bat, ,, squirrel, shrew, etc

Reptile-lizard, ring lizard, snake

Amphibians-frogs, turtles

Terrestrial plant-

road side and homestead area are rain tree, jam, aam, kathal, mehogani, medda, Bel, chatla, tulsi, bot pakur, assath, akashmoni, kola, sadakoro, bans, payara, lemon, papaw, boroi, khejur, jalmander, shetodron, krishna, baboi, ram tulsi, gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal,

kamranga, eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, baganbilash, etc.

ECA-NA

EPA-NA

Water supply- DTW, STW, ponds, river, canal etc

Sanitation-

25% open latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river through the piped or river canal or water bodies. Human waste did not manage properly causes air and water pollution.

Transportation-

In the earth way- CNG, motor cycle, cycle, van, bus, pick up, auto - rickshaw

In the water way-boat, trawler, engine boat etc

Industries-NA

Power sources-6 hour's outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased
- Remove water logged
- Ensuring water facilities for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, cottage, duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke

Water use-domestic, washing, irrigation, bathing, etc

Potable water from tube well (shallow and deep), pond water for bathing, cooking, washing.

Irrigation-haor, beel, pond water, shallow tube well

Livestock-cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic.
Delivery mostly in home by local midwife

Education-

Moktob, madrasa, primary school, high school

Current use of land-

Crops production-seed bed, paddy, mustard, potato, chili, onion, vegetable etc.

Indigenous people –NA

Sites of historical significance-NA

Causes of fish decreases-

- Dewatering the beel for fishing henceforth decrease the fishes in the haor area
- Lack of open water body
- Destructive gear use for fishing like current net use, small mesh size net use, fries collection etc.
- Fishing in the breeding season (Boisak, justo and asar)
- Did not follow government rule, lease policy including file fishing.
- Lack of fish sanctuary

Impact of submersible dyke-

- Protect the crops from early flood
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed
- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Both side of dyke to be planted swamp species like hijal, korocho, barun, jarul, kadam, tal, etc
- Livelihood develop from plantation
- Roosting and nesting side will develop
- Habitat develop of fishes
- To be increased irrigation facilities

Constraints of the sub-project-

- To be started the implementation in unsuitable time

- Labor crisis during work because of harvesting time
- Poor communication
- Problems of carrying goods

Suggestion for overall improvement of environment-

- Khal re-excavation and need basis set up sluice gate
- High price of fertilizers and insecticide in the market
- Decrease the use of chemical in the crops
- To be changed the cropping pattern
- Pest control through the IPM and IPMC(Integrated pest management combination)
- Aware the community about chemical use in the crops
- Initiatives to be taken for conservation of threatened species of fishes
- Alternative fuel sources to be arranged like shola/dhoincha practices for decrease the pressure on trees
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary in the beels and river or canal

15. FGD of Khangsha river Scheme Sub-project

Address: Village-Jaria, Union-Jaria, Upazila-Parbadhola, Dist-Netrokona

FGD conducted -22nd December 2015.



FGD going on

Land use-

Agricultural practices, brick kiln, fishery, road, pond, canal, river, homestead, plantation, bazaar, educational institutes, etc.

Agricultural practices-

BR-22, 28

Cropping pattern-Paddy, mustard, onion, garlic, chili, potato, vegetable, etc

Agricultural related problems are

- Flash flood/ early flood
- Asar to Ashin month water remain stagnant that impact on crops
- Khangsha river silt up and over flow of water that damage the crops
- Irrigation problem and scarcity of water during ripening period
- Paddy carrying problem because of bad communication
- Lacking of modern agricultural instruments and training

Suggestion for improvement

- Khangsha river re-excavation
- Repair the embankment

- DTW for irrigation
- Replacement of reg. gate
- Protection wall to protect the periphery of village and homestead area

Fisheries-

In the fish farm cultured-

White fish culture like shoal, rui, katla, mrigel, shorpoti, silver carp, grass carp, brigade, pangus etc.

In the Haor/Beel-

Major fishes are shoal, bacha, chitra, chapila, rui, darkina. boal, catla, chital, mrigel, gonja, poti, baim, kalibaus, sing, magur, chanda, tengra, gulsha, ayer, shrimp, kaski, tarabaim, dehi shorpoti, taki, kakila, royna, poli, itcha, potka, etc.

Endangered species are Mohashoal, nanid, rani, deshi pangus, rani, bata, etc

Destructive gear use-like current jal, berjal, dekijal, kata fishing in the river

Fish marketing problems are-

- Fishing, preservation and carrying problem in the project area
- Preservation problem because of lack of ice mill

Aquatic plants-

Water lily, water hyacinth, haicha, panimorich, arali, khagra, acmela, durali, helencha, sapla, koroch, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluk, duck weed, guripana, bishkhatali, croton, deshi kochori, maloncha, mamakola, khudepana, etc.

Animals

Birds- Bolua paki (palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, crow, choro, tia, baboi, kingfisher, ababil, owl, vulture, doel, salik, cuckoo, etc.

Migratory birds- NA

Mammals- mongoose, fox, monitor lizard, jungle cat, jack, rat, bat, ,, squirrel, shrew, etc

Reptile- lizard, ring lizard, snake

Amphibians- frogs, turtles

Terrestrial plant-

road side and homestead area are rain tree, jam, aam, kathal, mehogani, medda, Bel, chatla, tulsi, bot pakur, assath, akashmoni, kola, sadakoro, bans, payara, lemon, papaw, boroi, khejur, jalmander, shetodron, krishna, baboi, ram tulsi, gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal,

kamranga, eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, baganbilash, etc.

ECA-NA

EPA-NA

Water supply- DTW, STW, ponds, river, canal etc

Sanitation-

25% open latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river through the piped or river canal or water bodies. Human waste did not manage properly causes air and water pollution.

Transportation-

In the earth way- CNG, nosimon, motor cycle, cycle, van, bus, pick up, auto - rickshaw

In the water way-boat, trawler, engine boat etc

Industries-NA

Power sources-6 hour's outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased
- Remove water logged
- Ensuring water facilities for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, cottage, duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke

Water use-domestic, washing, irrigation, bathing, etc

Potable water from tube well (shallow and deep), pond water for bathing, cooking, washing.

Irrigation-haor, beel, pond water, shallow tube well

Livestock-cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic.
Delivery mostly in home by local midwife

Education-Moktob, madrasa, primary school, high school

Current use of land-

Crops production-seed bed, paddy, mustard, potato, chili, onion, vegetable etc.

Indigenous people –NA

Sites of historical significance-NA

Causes of fish decreases-

- Dewatering the beel for fishing henceforth decrease the fishes in the haor area
- Lack of open water body
- Destructive gear use for fishing like current net use, small mesh size net use, fries collection etc.
- Fishing in the breeding season (Boisak, justo and asar)
- Did not follow government rule, lease policy including file fishing.
- Lack of fish sanctuary

Impact of submersible dyke-

- Protect the crops from early flood
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed
- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Both side of dyke to be planted swamp species like hijal, koroch, barun, jarul, kadam, tal, etc
- Livelihood develop from plantation
- Roosting and nesting side will develop
- Habitat develop of fishes
- To be increased irrigation facilities

Constraints of the sub-project-

- To be started the implementation in unsuitable time
- Labor crisis during working time in working place because of harvesting time
- Poor communication
- Problems of carrying goods

Suggestion for overall improvement of environment-

- Khangsha river, mora river, lawar river re-excavation and need basis set up sluice gate
- Establishment of sanctuary for increase the fish production
- Conservation of threatened species of fish
- Re-excavation of silt up beel and establish beel sanctuary
- Installation of new regulator in need basis
- High price of fertilizers and insecticide in the market
- Decrease the use of chemical in the crops
- To be changed the cropping pattern
- Pest control through the IPM and IPMC(Integrated pest management combination)
- Aware the community about chemical use in the crops
- Initiatives to be taken for conservation of threatened species of fishes
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary in the beels and river or canal

16. FGD of Khaliajuri FCD Polder-2 Sub-project

Address: Village-Khaliajuri, Union-Khaliajuri, Upazila-Khaliajuri, Dist-Netrokona

FGD conducted -24th December 2015.



FGD going on

Land use-

Agricultural practices, brick kiln, fishery, road, pond, canal, river, homestead, plantation, bazaar, educational institutes, etc.

Agricultural practices- BR-22, 28

Cropping pattern-Paddy, mustard, onion, garlic, chili, potato, vegetable, etc

Agricultural related problems are

- Khal and beel silt up
- No water management
- Flash flood/ early flood
- Irrigation problem and scarcity of water during ripening period
- Paddy carrying problem because of bad communication
- Lacking of modern agricultural instruments and training

Suggestion for improvement

- Rehabilitation of submersible embankment
- Replacement of regulatory gates
- Installation of DTW for irrigation
- Protection wall to protect the periphery of village and homestead area

Fisheries-

In the fish farm cultured-

White fish culture like shoal, rui, katla, mrigel, shorpoti, silver carp, grass carp, brigade, pangus etc.

In the Haor/Beel-

Major fishes are shoal, bacha, chitra, chapila, rui, darkina. boal, catla, chital, mrigel, gonias, poti, baim, kalibaus, sing, magur, chanda, tengra, gulsha, ayer, shrimp, kaski, tarabaim, dehi shorpoti, gotum, nati, taki, kakila, royna, poli, itcha, potka, etc.

Endangered species are Mohashoal, nanid, rani, deshi pangus, rani, bata, etc

Destructive gear use-like current jal, berjal, dekijal, kata fishing in the river

Fish marketing problems are-

- Fishing, preservation and carrying problem in the project area
- Preservation problem because of lack of ice mill

Aquatic plants-

Water lily, water hyacinth, haicha, panimorich, arali, khagra, acmela, durali, helencha, sapla, korocho, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluk, duck weed, guripana, bishkhatali, croton, deshi kochori, maloncha, mamakola, khudepana, etc.

Animals

Birds- Bolua paki (palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, crow, choro, tia, baboi, kingfisher, ababil, owl, vulture, doel, salik, cuckoo, etc.

Migratory birds- NA

Resident birds-

Mammals- mongoose, fox, monitor lizard, jungle cat, jack, rat, bat, ,, squirrel, shrew, etc

Reptile-lizard, ring lizard, snake

Amphibians-frogs, turtles

Terrestrial plant-

road side and homestead area are rain tree, jam, aam, kathal, mehogani, medda, Bel, chatla, tulsi, bot pakur, assath, akashmoni, kola, sadakoro, bans, payara, lemon, papaw, boroi, khejur, jalmander, shetodron, krishna, baboi, ram tulsi, gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal, kamranga, eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, baganbilash, etc.

ECA-NA

EPA-NA

Water supply- DTW, STW, ponds, river, canal etc

Sanitation-

45% open latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river through the piped or river canal or water bodies. Human waste did not manage properly causes air and water pollution.

Transportation-

In the earth way- motor cycle, cycle,

In the water way-boat, trawler, engine boat etc

Industries-NA

Power sources-6 hour's outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased
- Remove water logged
- Ensuring water facilities for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, cottage, duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke

Water use-domestic, washing, irrigation, bathing, etc

Potable water from tube well (shallow and deep), pond water for bathing, cooking, washing.

Irrigation-haor, beel, pond water, shallow tube well

Livestock-cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic.
Delivery mostly in home by local midwife

Education- Moktob, madrasa, primary school, high school

Current use of land-

Crops production-seed bed, paddy, mustard, potato, chili, onion, vegetable etc.

Indigenous people –NA

Sites of historical significance-NA

Causes of fish decreases-

- Dewatering the beel for fishing henceforth decrease the fishes in the haor area
- Lack of open water body
- Destructive gear use for fishing like current net use, small mesh size net use, fries collection etc.
- Fishing in the breeding season (Boisak, justo and asar)
- Did not follow government rule, lease policy including file fishing.
- Lack of fish sanctuary

Impact of submersible dyke-

- Protect the crops from early flood
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed
- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Both side of dyke to be planted swamp species like hijal, korocho, barun, jarul, kadam, tal, etc
- Livelihood develop from plantation
- Roosting and nesting side will develop
- Habitat develop of fishes
- To be increased irrigation facilities

Constraints of the sub-project-

- To be started the implementation in unsuitable time
- Labor crisis during working time in working place because of harvesting time
- Poor communication from Netrokona to Khaliajuri
- Problems of carrying goods

Suggestion for overall improvement of environment-

- 120 km existing embankment but required repair and afforestation
- Establishment of sanctuary for increase the fish production
- Conservation of threatened species of fish
- Re-excavation of silt up beel and establish beel sanctuary
- Installation of new regulator in need basis
- Village protection wall
- High price of fertilizers and insecticide in the market
- Decrease the use of chemical in the crops
- To be changed the cropping pattern
- Pest control through the IPM and IPMC(Integrated pest management combination)
- Initiatives to be taken for conservation of threatened species of fishes
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary in the beels and river or canal

17. FGD of Khaliajuri FCD Polder-4 Sub-project

Address: Village-Jaganathpur, Union-Mendipur, Upazila-Khaliajuri, Dist-Netrokona

FGD conducted -26th December 2015.



FGD going on

Land use-

Agricultural practices, brick kiln, fishery, road, pond, canal, river, homestead, plantation, bazaar, educational institutes, etc.

Agricultural practices- BR-22, 28

Cropping pattern-Paddy, mustard, onion, garlic, chili, potato, vegetable, etc

Agricultural related problems are

- Dhono river, Khal and beel silt up
- Flash flood/ early flood
- Drought problem
- Irrigation problem and scarcity of water during ripening period
- Paddy carrying problem because of bad communication
- Lacking of modern agricultural instruments and training

Suggestion for improvement

- Khal re-excavation from darundar to mendipur (5km), west choker khal
- Rajghat to up to naotana sluice gate Rehabilitation of submersible embankment
- Dhono river re-excavation
- Replacement of regulatory gates
- Installation of DTW for irrigation
- Protection wall to protect the periphery of village and homestead area

Fisheries-

In the fish farm cultured-

White fish culture like shoal, rui, katla, mrigel, shorpoti, silver carp, grass carp, brigade, pangus etc.

In the Haor/Beel-

Major fishes are shoal, bacha, chitra, chapila, rui, darkina. boal, catla, chital, mrigel, gonja, poti, baim, gozar, kalibaus, sing, magur, chanda, tengra, gulsha, ayer, shrimp, kaski, tarabaim, dehi shorpoti, gotum, nati, taki, kakila, royna, poli, itcha, potka, etc.

Endangered species are Mohashoal, nanid, desi shorpoti, deshi pangus, rani,bata, etc

Destructive gear use-like current jal, berjal, dekijal, kata fishing in the river

Fish marketing problems are-

- Fishing, preservation and carrying problem in the project area
- Preservation problem because of lack of ice mill

Aquatic plants-

Water lily, water hyacinth, haicha, panimorich, arali, khagra, acmela, durali, helencha, sapla, koroch, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluk, duck weed, guripana, bishkhatali, croton, deshi kochori, maloncha, mamakola, khudepana, etc.

Animals

Birds- Bolua paki (palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, crow, choro, tia, baboi, kingfisher, ababil, owl, vulture, doel, salik, cuckoo, etc.

Migratory birds- NA

Resident birds- sea gull, cormorant, heron, dahuk, kalim,

Mammals- mongoose, fox, monitor lizard, jungle cat, jack, rat, bat, ,, squirrel, shrew, etc

Reptile-lizard, ring lizard, snake

Amphibians-frogs, turtles

Terrestrial plant-

road side and homestead area are rain tree, jam, aam, kathal, mehogani, medda, Bel, chatla, tulsi, bot pakur, assath, akashmoni, kola, sadakoro, bans, payara, lemon, papaw, boroi, khejur, jalmander, shetodron, krishna, baboi, ram tulsi, gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal,

kamranga, eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, baganbilash, etc.

ECA-NA

EPA-NA

Water supply- DTW, STW, ponds, river, canal etc

Sanitation-

45% open latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river through the piped or river canal or water bodies. Human waste did not manage properly causes air and water pollution.

Transportation-

In the earth way- motor cycle, cycle,

In the water way-boat, trawler, engine boat etc

Industries-NA

Power sources-6 hour's outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased
- Remove water logged
- Ensuring water facilities for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, cottage, duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke

Water use-domestic, washing, irrigation, bathing, etc

Potable water from tube well (shallow and deep), pond water for bathing, cooking, washing.

Irrigation-haor, beel, pond water, shallow tube well

Livestock-cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic.
Delivery mostly in home by local midwife

Education-Moktob, madrasa, primary school, high school

Current use of land-

Crops production-seed bed, paddy, mustard, potato, chili, onion, vegetable etc.

Indigenous people –NA

Sites of historical significance-NA

Causes of fish decreases-

- Dewatering the beel for fishing henceforth decrease the fishes in the haor area
- Lack of open water body
- Destructive gear use for fishing like current net use, small mesh size net use, fries collection etc.
- Fishing in the breeding season (Boisak, justo and asar)
- Did not follow government rule, lease policy including file fishing.
- Lack of fish sanctuary

Impact of submersible embankment-

- Protect the crops from early flood
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed
- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Both side of dyke to be planted swamp species like hijal, koroch, barun, jarul, kadam, sheora, babla, bot, pakur, tal, etc
- Roosting and nesting side will develop
- Habitat develop of fishes

Constraints of the sub-project-

- To be started the implementation in unsuitable time
- Labor crisis during working time in working place because of harvesting time

- Poor communication from Netrokona to Khaliajuri
- Problems of carrying goods

Suggestion for overall improvement of environment-

- Rehabilitation of submersible embankment and replacement of regulator
- Establishment of sanctuary for increase the fish production
- Embankment
- Conservation of threatened species of fish
- Re-excavation of silt up beel and khal
- Installation of new regulator in need basis
- Village protection wall
- High price of fertilizers and insecticide in the market
- Decrease the use of chemical in the crops
- To be changed the cropping pattern
- Pest control through the IPM and IPMC(Integrated pest management combination)
- Initiatives to be taken for conservation of threatened species of fishes
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary in the beels and river or canal

18. FGD of Singer beel Sub-project

Address: Village-Khoikona, Union-Chiram, Upazila-Bahatta, Dist-Netrokona

FGD conducted -28th December 2015.



FGD going on

Land use-

Agricultural practices, brick kiln, fishery, road, pond, canal, river, homestead, plantation, bazaar, educational institutes, etc.

Agricultural practices-BR-22, 28

Cropping pattern-Paddy, jute, mustard, maskolai, chili, potato, vegetable, etc

Agricultural related problems are

- Potokia to bahadurpur (4km) khal silt up
- No regulator for water management, for this reason baushi up, ashmar up, and chiram up area flooded
- Existing embankment damage n some locations and crops damaged seriously
- In dry season water level down and scarcity of irrigation water
- Irrigation problem and scarcity of water during ripening period
- Paddy carrying problem because of bad communication
- Lacking of modern agricultural instruments and training

Suggestion for improvement

- Re-excavation of full embankment(200 m)
- Re-excavation of submersible embankment(130m) and canal(2km)
- Replacement of regulator gates

- Installation of DTW for irrigation
- Protection wall to protect the periphery of village and homestead area

Fisheries-

In the fish farm cultured-

White fish culture like shoal, rui, catla, mrigel, shorpoti, silver carp, grass carp, brigade, pangus etc.

In the Haor/Beel-

Major fishes are shoal, bacha, chitra, chapila, rui, darkina. boal, catla, chital, mrigel, gonja, poti, baim, gozar, kalibaus, sing, magur, chanda, tengra, gulsha, ayer, shrimp, kaski, tarabaim, dehi shorpoti, gotum, nati, taki, kakila, royna, poli, itcha, potka, etc.

Endangered species are Mohashoal, nanid, desi shorpoti, deshi pangus, rani,bata, etc

Destructive gear use-like current jal, berjal, dekijal, kata fishing in the river

Fish marketing problems are-

- Fishing, preservation and carrying problem in the project area
- Preservation problem because of lack of ice mill

Aquatic plants-

Water lily, water hyacinth, haicha, panimorich, arali, khagra, acmela, durali, helencha, sapla, korocho, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluk, duck weed, guripana, bishkhatali, croton, deshi kochori, maloncha, mamakola, khudepana, etc.

Animals

Birds- Bolua paki (palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, crow, choro, tia, baboi, kingfisher, ababil, owl, vulture, doel, salik, cuckoo, etc.

Migratory birds- NA

Resident birds- sea gull, cormorant, heron, dahuk, kalim

Mammals- Mongoose, fox, monitors lizard, jungle cat, jack, rat, squirrel, shrew, bat, ,, quirel,

Reptile-lizard, ring lizard, snake, anjuli, monitor lizard,

Amphibians-frogs, turtles

Terrestrial plant-

road side and homestead area are rain tree, jam, aam, kathal, mehogani, medda, Bel, chalta, tulsi, bot pakur, assath, akashmoni, kola, sadakoroi, bans, payara, lemon, papaw, boroi, khejur, jalmander, shetodron, krishna, baboi, ram tulsi, gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal, kamranga, eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, baganbilash, etc.

ECA-NA

EPA-NA

Water supply- DTW, STW, ponds, river, canal etc

Sanitation-

42% open latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river, canal, water bodies through the piped. Human waste did not manage properly causes air and water pollution.

Transportation-

In the earth way- motor cycle, CNG, auto-rickshaw.

In the water way-boat, trawler, engine boat etc

Industries-NA

Power sources-6 hour's outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased
- Remove water logged
- Ensuring water facilities for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, cottage, duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke

Water use-domestic, washing, irrigation, bathing, etc

Potable water from tube well (shallow and deep), pond water for bathing, cooking, washing.

Irrigation-haor, beel, pond water, shallow tube well

Livestock-cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic.

Delivery mostly in home by local midwife

Education-Moktob, madrasa, primary school, high school

Current use of land-

Crops production-seed bed, paddy, mustard, potato, chili, onion, vegetable etc.

Indigenous people –NA

Sites of historical significance-NA

Causes of fish decreases-

- Dewatering the beel for fishing henceforth decrease the fishes in the haor area
- Lack of open water body
- Destructive gear use for fishing like current net use, small mesh size net use, fries collection etc.
- Fishing in the breeding season (Boisak, justo and asar)
- Did not follow government rule, lease policy including file fishing.
- Lack of fish sanctuary

Impact of submersible embankment-

- Protect the crops from early flood
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed
- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Both side of dyke to be planted swamp species like hijal, korocho, barun, jarul, kadam, sheora, babla, bot, pakur, tal, etc
- Roosting and nesting side will develop
- Habitat develop of fishes

Constraints of the sub-project-

- To be started the implementation in unsuitable time
- Labor crisis during working time in working place because of harvesting time
- Problems of carrying goods

Suggestion for overall improvement of environment-

- Establishment of Hijal plantation in the embankment of Gomai river
- Re-excavation of full embankment(200 m)
- Re-excavation of submersible embankment(130m) and canal(2km)
- Replacement of regulator gates
- Establishment of sanctuary for increase the fish production
- Conservation of threatened species of fish
- Re-excavation of silt up beel and khal
- Installation of new regulator in need basis
- Village protection wall
- High price of fertilizers and insecticide in the market
- Decrease the use of chemical in the crops
- To be changed the cropping pattern
- Pest control through the IPM and IPMC(Integrated pest management combination)
- Initiatives to be taken for conservation of threatened species of fishes
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary in the beels and river or canal

19. FGD of Dharmapasa Rui beel Sub-project

Address: Village-Paikurati, Union-Paikurati, Upazila-Dharmapasa, Dist-Sunamganj

FGD conducted -29th December 2015.



FGD going on

Land use-

Agricultural practices, fishery, road, pond, canal, river, homestead, plantation, bazaar, educational institutes, etc.

Agricultural practices-BR-22, 28

Cropping pattern-Paddy, jute, mustard, maskolai, chili, potato, vegetable, etc

Agricultural related problems are

- Flash flood or early flood
- Existing embankment damaged in some locations and crops damaged seriously
- In dry season water level down and scarcity of irrigation water
- Irrigation problem and scarcity of water during ripening period
- Paddy carrying problem because of bad communication
- Lacking of modern agricultural instruments and training

Suggestion for improvement

- Repair of existing embankment
- Khal reexcavation
- Installation of DTW for irrigation
- Protection wall to protect the periphery of village and homestead area

Fisheries-

In the fish farm cultured-

White fish culture like shoal, rui, catla, mrigel, shorpoti, silver carp, grass carp, brigade, pangus etc.

In the Haor/Beel-

Major fishes are shoal, bacha, chitra, chapila, rui, darkina, boal, kholla, baila, catla, chital, mrigel, gonja, poti, baim, gozar, kalibaus, sing, magur, chanda, tengra, gulsha, ayer, shrimp, kaski, tarabaim, dehi shorpoti, gotum, nati, taki, kakila, royna, poli, itcha, potka, etc.

Endangered species are Mohashoal, nanid, desi shorpoti, deshi pangus, rani, bata, etc

Destructive gear use- like current jal, berjal, dekijal, kata fishing in the river

Fish marketing problems are-

- Fishing, preservation and carrying problem in the project area
- Preservation problem because of lack of ice mill

Aquatic plants-

Water lily, water hyacinth, haicha, panimorich, arali, khagra, acmela, durali, helencha, sapla, koroch, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluk, duck weed, guripana, bishkhatali, croton, deshi kochori, maloncha, mamakola, khudepana, etc.

Animals

Birds- Bolua paki (palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, crow, choro, tia, baboi, kingfisher, ababil, owl, vulture, doel, salik, cuckoo, etc.

Migratory birds- NA

Resident birds- sea gull, cormorant, heron, dahuk, kalim

Mammals- mongoose, fox, jungle cat, jack, rat, bat, ,, squirrel, shrew, etc

Reptile- lizard, ring lizard, snake, anjuli, monitor lizard,

Amphibians- frogs, turtles

Terrestrial plant-

road side and homestead area are rain tree, jam, aam, kathal, mehogani, medda, Bel, chalta, tulsi, bot, pakur, assath, akashmoni, kola, sadakoro, bans, payara, lemon, papaw, boroi, khejur, jalmander, shetodron, krishna, ram tulsi, gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal, kamranga,

eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, baganbilash, etc.

ECA-NA

EPA-NA

Water supply- DTW, STW, ponds, river, canal etc

Sanitation-

34% open latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river, canal, water bodies through the piped. Human waste did not manage properly causes air and water pollution.

Transportation-

In the earth way- motor cycle, auto-rickshaw, motor cycle, tempo, nosimon, pick up.

In the water way-boat, trawler/, engine boat etc

Industries-NA

Power sources-6 hour's outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased
- Ensuring water facilities for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, cottage, duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke

Water use-domestic, washing, irrigation, bathing, etc

Potable water from tube well (shallow and deep), pond water for bathing, cooking, washing.

Irrigation-haor, beel, pond water, shallow tube well

Livestock-cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic. Delivery mostly in home by local midwife

Education- Moktob, madrasa, primary school, high school

Current use of land-

Crops production-seed bed, paddy, mustard, potato, chili, onion, vegetable etc.

Indigenous people –NA

Sites of historical significance-NA

Causes of fish decreases-

- Dewatering the beel for fishing henceforth decrease the fishes in the haor area
- Lack of open water body
- Destructive gear use for fishing like current net use, small mesh size net use, fries collection etc.
- Fishing in the breeding season (Boisak, justo and asar)
- Did not follow government rule, lease policy including file fishing.

Impact of submersible embankment-

- Protect the crops from early flood
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed
- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Both side of dyke to be planted swamp species like hijal, korocho, barun, jarul, kadam, sheora, babla, bot, pakur, tal, etc
- Roosting and nesting side will develop
- Habitat develop of fishes

Constraints of the sub-project-

- To be started the implementation in unsuitable time
- Labor crisis during working time in working place because of harvesting time
- Problems of carrying goods

Suggestion for overall improvement of environment-

- Establishment of Hijal plantation in the embankment of Gomai river

- Re-excavation of full embankment(200 m)
- Re-excavation of submersible embankment(130m) and canal(2km)
- Replacement of regulator gates
- Establishment of sanctuary for increase the fish production
- Conservation of threatened species of fish
- Re-excavation of silt up beel and khal
- Installation of new regulator in need basis
- Village protection wall
- High price of fertilizers and insecticide in the market
- Decrease the use of chemical in the crops
- To be changed the cropping pattern
- Pest control through the IPM and IPMC(Integrated pest management combination)
- Initiatives to be taken for conservation of threatened species of fishes
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary in the beels and river or canal

20. FGD of Dhampara Water Management Scheme Sub-project

Address: Village-Kapashia, Union-Ghagra, Upazila-Purbadhala, Dist-Netrokona

FGD conducted -31st December 2015.



FGD going on

Land use-

Agricultural practices, fishery, road, pond, canal, river, homestead, plantation, bazaar, educational institutes, etc.

Agricultural practices-BR-22, 28

Cropping pattern-Paddy, wheat, maize, jute, mustard, maskolai, chili, potato, vegetable, etc

Agricultural related problems are

- Flash flood or early flood
- Inactive sluice gate at katuria
- Existing embankment damaged in some locations and crops damaged seriously
- In dry season water level down and scarcity of irrigation water
- Irrigation problem and scarcity of water during ripening period
- Paddy carrying problem because of bad communication
- Lacking of modern agricultural instruments and training

Suggestion for improvement

- Kutchmai hal re-excavation

- Khal of chochoa beel,-2V, khal of atla beel-2V, and khal of rangamatia beel-1V vent regulator to be installment.
- Installation of sluice gate at katuria
- Khal re-excavation
- Installation of DTW for irrigation
- Protection wall to protect the periphery of village and homestead area

Fisheries-

In the fish farm cultured-

White fish culture like shoal, rui, catla, mrigel, shorpoti, silver carp, grass carp, brigade, pangus etc.

In the Haor/Beel-

Major fishes are shoal, bacha, chitra, chapila, rui, darkina,boal, kholla, baila, catla, chital, mrigel, gonja, poti, baim, gozar, kalibaus, sing, magur, chanda, tengra, gulsha, ayer, shrimp, kaski, tarabaim, dehi shorpoti, gotum, nati, taki, kakila, royna, poli, itcha, potka, etc.

Endangered species are Mohashoal, nanid, desi shorpoti, deshi pangus, rani,bata, etc

Destructive gear use-like current jal, berjal, dekijal, kata fishing in the river

Fish marketing problems are-

- Fishing, preservation and carrying problem in the project area
- Preservation problem because of lack of ice mill

Aquatic plants-

Water lily, water hyacinth, haicha, panimorich, arali, khagra, acmela, durali, helencha, sapla, koroch, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluk, duck weed, guripana, bishkhatali, croton, deshi kochori, maloncha, mamakola, khudepana, etc.

Animals

Birds- Bolua paki (palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, crow, choro, tia, baboi, kingfisher, ababil, owl, vulture, doel, salik, cuckoo, etc.

Migratory birds- NA

Resident birds- sea gull, cormorant, heron, dahuk, kalim

Mammals- mongoose, fox, jungle cat, jack, rat, bat, ,, squirrel, shrew, etc

Reptile-lizard, ring lizard, snake, anjuli, monitor lizard,

Amphibians-frogs, turtles

Terrestrial plant-

road side and homestead area are rain tree, jam, aam, kathal, mehogani, medda, Bel, chalta, tulsi, bot. pakur, assath, akashmoni, kola, sadakoroi, bans, payara, lemon, papaw, boroi, khejur, jalmander, shetodron, krishna, baboi, ram tulsi, gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal, kamranga, eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, baganbilash, etc.

ECA-NA

EPA-NA

Water supply- DTW, STW, ponds, river, canal etc

Sanitation-

34% open latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river, canal, water bodies through the piped. Human waste did not manage properly causes air and water pollution.

Transportation-

In the earth way- auto-rickshaw, CNG, Nosimon, korimon,

In the water way-boat, trawler/, engine boat etc

Industries-NA

Power sources-6 hour's outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased
- Ensuring water facilities for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, cottage, duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke

Water use-domestic, washing, irrigation, bathing, etc

Potable water from tube well (shallow and deep), pond water for bathing, cooking, washing.

Irrigation-haor, beel, pond water, shallow tube well

Livestock-cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic.

Delivery mostly in home by local midwife

Education- Moktob, madrasa, primary school, high school

Current use of land-

Crops production-seed bed, paddy, mustard, potato, chili, onion, vegetable etc.

Indigenous people –NA

Sites of historical significance-NA

Causes of fish decreases-

- Dewatering the beel for fishing henceforth decrease the fishes in the haor area
- Lack of open water body
- Destructive gear use for fishing like current net use, small mesh size net use, fries collection etc.
- Fishing in the breeding season (Boisak, justo and asar)
- Did not follow government rule, lease policy including file fishing.

Impact of submersible embankment-

- Protect the crops from early flood
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed
- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Both side of dyke to be planted swamp species like hijal, koroch, barun, jarul, kadam, sheora, babla, bot, pakur, tal, etc
- Roosting and nesting side will develop

- Habitat develop of fishes

Constraints of the sub-project-

- To be started the implementation in unsuitable time
- Labor crisis during working time in working place because of harvesting time
- Problems of carrying goods

Suggestion for overall improvement of environment-

- Installation of regulator gates
- Set up tiba (to be made high land with concrete to keep the harvested crop for the time being or processing)
- Establishment of sanctuary for increase the fish production
- Conservation of threatened species of fish
- Re-excavation of silt up beel and khal
- Installation of new regulator in need basis
- Village protection wall
- High price of fertilizers and insecticide in the market
- Decrease the use of chemical in the crops
- To be changed the cropping pattern
- Pest control through the IPM and IPMC(Integrated pest management combination)
- Initiatives to be taken for conservation of threatened species of fishes
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary in the beels and river or canal

21. FGD of Dhakua Haor Sub-project

Address: Village-Joynagor, Union-Mohonpur, Upazila-Sunamganj sadar, Dist-Sunamganj

FGD conducted -3rd January 2016.



FGD going on

Land use-

Agricultural practices, fishery, road, pond, canal, river, homestead, plantation, bazaar, educational institutes, etc.

Agricultural practices-BR-22, 28

Cropping pattern-Paddy, wheat, maize, jute, mustard, maskolai, chili, potato, vegetable, etc

Agricultural related problems are

- Waterlogged at Dhakua Haor
- Scarcity of fertilizers and seed
- Sluice gate controlled by muscle men that impact on ultra poor
- Over flooded surma river during monsoon
- Flash flood or early flood
- Existing embankment damaged in some locations and crops damaged seriously
- In dry season water level down and scarcity of irrigation water
- Irrigation problem and scarcity of water during ripening period
- Paddy carrying problem because of bad communication

Suggestion for improvement

- Community demanded embankment from Pundia to charier
- Installation of DTW for irrigation
- Protection wall to protect the periphery of village and homestead area
- Having right to the community people they will controlled the sluice gate

Fisheries-

In the fish farm cultured-

White fish culture like shoal, rui, katla, mrigel, shorpoti, silver carp, grass carp, brigade, pangus etc.

In the Haor /Beel-

Major fishes are shoal, bacha, chitra, chapila, rui, darkina,boal, kholla, baila, catla, chital, mrigel, gonja, poti, baim, gozar, kalibaus, sing, magur, chanda, tengra, gulsha, ayer, shrimp, kaski, tarabaim, dehi shorpoti, gotum, nati, taki, kakila, royna, poli, itcha, potka, etc.

Endangered species are Mohashoal, nanid, desi shorpoti, deshi pangus, rani,bata, etc

Destructive gear use-like current jal, berjal, dekijal, kata fishing in the river

Fish marketing problems are-

- Fishing, preservation and carrying problem in the project area
- Preservation problem because of lack of ice mill

Aquatic plants-

Water lily, water hyacinth, haicha, panimorich, arali, khagra, acmela, durali, helencha, sapla, koroach, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluk, duck weed, guripana, bishkhatali, croton, deshi kochori, maloncha, mamakola, khudepana, etc.

Animals

Birds- Bolua paki (palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, crow, choro, tia, baboi, kingfisher, ababil, owl, vulture, doel, salik, cuckoo, etc.

Migratory birds- NA

Resident birds- sea gull, cormorant, heron, dahuk, kalim

Mammals- mongoose, fox, jungle cat, jack, rat, bat, ,, squirrel, shrew, etc

Reptile-lizard, ring lizard, snake, anjuli, monitor lizard,

Amphibians-frogs, turtles

Terrestrial plant-

road side and homestead area are rain tree, jam, aam, kathal, mehogani, medda, Bel, chalta, tulsi, bot pakur, assath, akashmoni, kola, sadakoroi, bans, payara, lemon, papaw, boroi, khejur, jalmander, shetodron, krishna, baboi, ram tulsi, gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal, kamranga, eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, baganbilash, etc.

ECA-NA

EPA-NA

Water supply- DTW, STW, ponds, river, canal etc

Sanitation-

70% open latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river, canal, water bodies through the piped. Human waste did not manage properly causes air and water pollution.

Transportation-

In the earth way- auto-rickshaw, CNG, Nosimon, korimon,

In the water way-boat, trawler/ engine boat etc

Industries-NA

Power sources-6 hour's outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased
- Ensuring water facilities for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, cottage, duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke

Water use-domestic, washing, irrigation, bathing, etc

Potable water from tube well (shallow and deep), pond water for bathing, cooking, washing.

Irrigation-haor, beel, pond water, shallow tube well

Livestock-cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic. Delivery mostly in home by local midwife

Education-

Moktob, madrasa, primary school, high school

Current use of land-

Crops production-seed bed, paddy, mustard, potato, chili, onion, vegetable etc.

Indigenous people –NA

Sites of historical significance-NA

Causes of fish decreases-

- Dewatering the beel for fishing henceforth decrease the fishes in the haor area
- Lack of open water body
- Destructive gear use for fishing like current net use, small mesh size net use, fries collection etc.
- Fishing in the breeding season (Boisak, justo and asar)
- Did not follow government rule, lease policy including file fishing.

Impact of submersible embankment-

- Protect the crops from early flood
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed
- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Both side of dyke to be planted swamp species like hijal, koroch, barun, jarul, kadam, sheora, babla, bot, pakur, tal, etc
- Roosting and nesting side will develop
- Habitat develop of fishes

Constraints of the sub-project-

- To be started the implementation in unsuitable time

- Labor crisis during working time in working place because of harvesting time
- Problems of carrying goods

Suggestion for overall improvement of environment-

- Installation of regulator gates
- Set up tiba(to be made high land with concrete to keep the harvested crop for the time being or processing)
- Establishment of sanctuary for increase the fish production
- Conservation of threatened species of fish
- Re-excavation of silt up beel and khal
- Installation of new regulator in need basis
- Aware the community on sanitation
- High price of fertilizers and insecticide in the market
- Decrease the use of chemical in the crops
- Pest control through the IPM and IPMC(Integrated pest management combination)
- Initiatives to be taken for conservation of threatened species of fishes
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary in the beels and river or canal
- Open water controlled by muscle men need to be opened for fishermen

22. FGD of Jaliar Haor Sub-project

Address: Village-Mahercoal Noagaon, Union-Dakkin Khurmar, Upazila-Chatak, Dist-Sunamganj

FGD conducted -4th January 2016.



FGD going on

Land use-

Agricultural practices, fishery, road, pond, canal, river, homestead, plantation, bazaar, educational institutes, etc.

Agricultural practices-BR-22, 28

Cropping pattern-Paddy, wheat, maize, jute, mustard, maskolai, chili, potato, vegetable, etc

Agricultural related problems are

- Waterlogged at Jaliar haor
- Sluice gate controlled by muscle men that impact on cultivation and crops
- Over flooded surma river during monsoon
- Flash flood or early flood
- Harvesting problem
- In dry season water level down and scarcity of irrigation water
- Irrigation problem(65% vested land) and scarcity of water during ripening period
- Paddy carrying problem because of bad communication

Suggestion for improvement

- West side of Araier khal to be installed 2V regulator
- Re-excavation of the Surma river
- Installation of DTW for irrigation

- Protection wall to protect the periphery of village and homestead area
- Regulator should controlled by community people

Fisheries-

In the fish farm cultured-

White fish culture like shoal, rui, katla, mrigel, shorpoti, silver carp, grass carp, brigade, pangus etc.

In the Haor/Beel-

Major fishes are shoal, bacha, chitra, chapila, rui, darkina,boal, kholla, baila, catla, chital, mrigel, gonia, poti, baim, gozar, kalibaus, sing, magur, chanda, tengra, gulsha, ayer, shrimp, kaski, tarabaim, dehi shorpoti, gotum, nati, taki, kakila, royna, poli, itcha, potka, etc.

Endangered species are Mohashoal, nanid, desi shorpoti, deshi pangus, rani,bata, etc

Destructive gear use-like current jal, berjal, dekijal, kata fishing in the river

Fish marketing problems are-

- Fishing, preservation and carrying problem in the project area
- Preservation problem because of lack of ice mill

Aquatic plants-

Water lily, water hyacinth, haicha, panimorich, arali, khagra, acmela, durali, helencha, sapla, korocho, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluk, duck weed, guripana, bishkhatali, croton, deshi kochori, maloncha, mamakola, khudepana, etc.

Animals

Birds- Bolua paki (palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, crow, choro, tia, baboi, kingfisher, ababil, owl, vulture, doel, salik, cuckoo, etc.

Migratory birds- NA

Resident birds- sea gull, cormorant, heron, dahuk, kalim

Mammals- mongoose, fox, jungle cat, jack, rat, bat, ,, squirrel, shrew, etc

Reptile-lizard, ring lizard, snake, anjuli, monitor lizard,

Amphibians-frogs, turtles

Terrestrial plant-

road side and homestead area are rain tree, jam, aam, kathal, mehogani, medda, Bel, chalta, tulsi, bot pakur, assath, akashmoni, kola, sadakoroi, bans, payara, lemon, papaw, boroi, khejur, jalmander, shetodron, krishna, baboi, ram tulsi, gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal, kamranga, eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, baganbilash, etc.

ECA-NA

EPA-NA

Water supply- DTW, STW, ponds, river, canal etc

Sanitation-

70% open latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river, canal, water bodies through the piped. Human waste did not manage properly causes air and water pollution.

Transportation-

In the earth way- bike,

In the water way-boat, trawler/ engine boat etc

Industries-NA

Power sources-6 hour's outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased
- Ensuring water facilities for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, cottage, duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke

Water use-domestic, washing, irrigation, bathing, etc

Potable water from tube well (shallow and deep), pond water for bathing, cooking, washing.

Irrigation-haor, beel, pond water, shallow tube well

Livestock-cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic.
Delivery mostly in home by local midwife

Education-

Moktob, madrasa, primary school, high school

Current use of land-

Crops production-seed bed, paddy, mustard, potato, chili, onion, vegetable etc.

Indigenous people –NA

Sites of historical significance-NA

Causes of fish decreases-

- Dewatering the beel for fishing henceforth decrease the fishes in the haor area
- Lack of open water body
- Destructive gear use for fishing like current net use, small mesh size net use, fries collection etc.
- Fishing in the breeding season (Boisak, justo and asar)
- Did not follow government rule, lease policy including file fishing.

Impact of submersible embankment-

- Protect the crops from early flood
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed
- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Both side of dyke to be planted swamp species like hijal, korocho, barun, jarul, kadam, sheora, babla, bot, pakur, tal, etc
- Roosting and nesting side will develop
- Habitat develop of fishes

Constraints of the sub-project-

- To be started the implementation in unsuitable time
- Labor crisis during working time in working place because of harvesting time

- Problems of carrying goods

Suggestion for overall improvement of environment-

- Installation of regulator gates
- Set up tiba (to be made high land with concrete to keep the paddy for processing)
- Establishment of sanctuary for increase the fish production
- Conservation of threatened species of fish
- Re-excavation of silt up beel and khal
- Installation of new regulator in need basis
- Village protection wall
- Aware the community on sanitation
- High price of fertilizers and insecticide in the market
- Decrease the use of chemical in the crops
- To be changed the cropping pattern
- Pest control through the IPM and IPMC(Integrated pest management combination)
- Initiatives to be taken for conservation of threatened species of fishes
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary in the beels and river or canal
- Open water controlled by muscle men need to be opened for fishermen

23. FGD of Ghuingaijuri Haor Sub-project

Address: Village-Modahorpur, Union-Shosanghat, Upazila-Bahubal, Dist-Sunamganj

FGD conducted -6th January 2016.



FGD going on

Land use-

Agricultural practices, fishery, road, pond, canal, river, homestead, plantation, bazaar, educational institutes, etc.

Agricultural practices-BR-22, 28, hira, hira-2

Cropping pattern-Paddy, wheat, jute, mustard, maskolai, chili, potato, vegetable, etc

Agricultural related problems are

- Waterlogged at Jaliar haor
- Sluice gate controlled by muscle men that impact on cultivation and crops
- Over flooded Mono and Kusiara river during monsoon
- Atlail, jailar,bijna,baghmarar,mokonar khal silt up and causes water logged
- Water could not manage because there is no regulator in the sub project area
- Flash flood or early flood
- In dry season water level down and scarcity of irrigation water
- Irrigation problem and scarcity of water during ripening period
- Paddy carrying problem because of bad communication

Suggestion for improvement

- Embankment at Bijna river
- Khal re-excavation

- Installation of regulator
- Installation of DTW for irrigation
- Protection wall to protect the periphery of village and homestead area
- Regulator should be controlled by community people

Fisheries-

In the fish farm cultured-

White fish culture like shoal, rui, katla, mrigel, shorpoti, silver carp, grass carp, brigade, pangus etc.

In the Haor/Beel-

Major fishes are shoal, bacha, chitra, chapila, rui, darkina, boal, kholla, baila, catla, chital, mrigel, gonla, poti, baim, gozar, kalibaus, sing, magur, chanda, tengra, gulsha, ayer, shrimp, kaski, tarabaim, dehi shorpoti, gotum, nati, taki, kakila, royna, poli, itcha, potka, etc.

Endangered species are Mohashoal, nanid, desi shorpoti, deshi pangus, rani, bata, etc.

Destructive gear use- like current jal, berjal, dekijal, kata fishing in the river

Fish marketing problems are-

- Fishing, preservation and carrying problem in the project area
- Preservation problem because of lack of ice mill

Aquatic plants-

Water lily, water hyacinth, haicha, panimorich, arali, khagra, acmela, durali, helencha, sapla, koroch, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluk, duck weed, guripana, bishkhatali, croton, deshi kochori, maloncha, mamakola, khudepana, etc.

Animals

Birds- Bolua paki (palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, crow, choro, tia, baboi, kingfisher, ababil, owl, vulture, doel, salik, cuckoo, etc.

Migratory birds- NA

Resident birds- sea gull, cormorant, heron, dahuk, kalim

Mammals- mongoose, fox, jungle cat, jack, rat, bat, ,, squirrel, shrew, etc

Reptile- lizard, ring lizard, snake, anjuli, monitor lizard,

Amphibians- frogs, turtles

Terrestrial plant-

road side and homestead area are rain tree, jam, aam, kathal, mehogani, medda, Bel, chalta, tulsi, bot pakur, assath, akashmoni, kola, sadakoroi, bans, payara, lemon, papaw, boroi, khejur, jalmander, shetodron, krishna, baboi, ram tulsi, gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal, kamranga, eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, baganbilash, etc.

ECA-NA

EPA-NA

Water supply- DTW, STW, ponds, river, canal etc

Sanitation-

40% open latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river, canal, water bodies through the piped. Human waste did not manage properly causes air and water pollution.

Transportation-

In the earth way- bike,CNG, auto-rickshaw, nosimon

In the water way-boat, trawler/ engine boat etc

Industries-NA

Power sources-6 hour's outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased
- Ensuring water facilities for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, cottage, duck rearing, vegetable cultivation, small enterprises, cottage, etc

- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke

Water use-domestic, washing, irrigation, bathing, etc

Potable water from tube well (shallow and deep), pond water for bathing, cooking, washing.

Irrigation-haor, beel, pond water, shallow tube well

Livestock-cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic.

Delivery mostly in home by local midwife

Education- Moktob, madrasa, primary school, high school

Current use of land-

Crops production-seed bed, paddy, mustard, potato, chili, onion, vegetable etc.

Indigenous people –NA

Sites of historical significance-NA

Causes of fish decreases-

- Dewatering the beel for fishing henceforth decrease the fishes in the haor area
- Lack of open water body
- Destructive gear use for fishing like current net use, small mesh size net use, fries collection etc.
- Fishing in the breeding season (Boisak, justo and asar)
- Did not follow government rule, lease policy including file fishing.

Impact of submersible embankment-

- Protect the crops from early flood
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed
- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Both side of dyke to be planted swamp species like hijal, korocho, barun, jarul, kadam, sheora, babla, bot, pakur, tal, etc

- Roosting and nesting side will develop
- Habitat develop of fishes

Constraints of the sub-project-

- To be started the implementation in unsuitable time
- Labor crisis during working time in working place because of harvesting time
- Problems of carrying goods

Suggestion for overall improvement of environment-

- Around 40% Acacia which are environment friendly
- Number of brick kiln in this area
- Scarcity of potable water
- Dead body of cow floating in the river, causes water pollution
- Installation of regulator gates
- Set up tibia (to be made high land with concrete to keep the paddy for processing)
- Establishment of sanctuary for increase the fish production
- Conservation of threatened species of fish
- Re-excavation of silt up beel and khal
- Installation of new regulator in need basis
- Village protection wall
- Aware the community on sanitation
- High price of fertilizers and insecticide in the market
- Decrease the use of chemical in the crops
- To be changed the cropping pattern
- Pest control through the IPM and IPMC(Integrated pest management combination)
- Initiatives to be taken for conservation of threatened species of fishes
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary in the beels and river or canal
- Open water controlled by muscle men need to be opened for fishermen

24. FGD of Kair Dhala Ratna Sub-project

Address: Village-Jolmokh, Union-Jolmokha, Upazila-Azmiriganj, Dist-Habiganj

FGD conducted -9th January 2016.



FGD goin on

Land use-

Agricultural practices, fishery, road, pond, canal, river, homestead, plantation, bazaar, educational institutes, etc.

Agricultural practices-BR-28,29, hira,

Cropping pattern-Paddy, wheat, jute, mustard, maskolai, chili, potato, vegetable, etc

Agricultural related problems are

- Waterlogged
- Embankment of Kair Dhala is broken in some locations and entrance water into the haor and damaged the crops
- Shokrayer khal, kair dhala khal,simae khal,botnar khal are silt up
- Pest infestation
- Irrigation problem
- Flash flood or early flood
- In dry season water level down and scarcity of irrigation water
- Irrigation problem and scarcity of water during ripening period
- Paddy carrying problem because of bad communication

Suggestion for improvement

- Khals re-excavation
- Installation of DTW for irrigation
- Installation of regulator
- Improvement of communication
- Trained the farmer on HYV and pest control and practices of IPMC

Fisheries-

In the fish farm cultured-

White fish culture like shoal, rui, katla, mrigel, shorpoti, silver carp, grass carp, brigade, pangus etc.

In the Haor/Beel-

Major fishes are shoal, bacha, chitra, chapila, rui, darkina, boal, kholla, baila, catla, chital, mrigel, gonla, poti, baim, gozar, kalibaus, sing, magur, chanda, tengra, gulsha, ayer, shrimp, kaski, tarabaim, dehi shorpoti, gotum, nati, taki, kakila, royna, poli, itcha, potka, etc.

Endangered species are Mohashoal, nanid, desi shorpoti, deshi pangus, rani, bata, etc.

Destructive gear use-like current jal, berjal, dekijal, kata fishing in the river

Fish marketing problems are-

- Fishing, preservation and carrying problem in the project area
- Preservation problem because of lack of ice mill

Causes of fish decreases-

- Dewatering the beel for fishing henceforth decrease the fishes in the haor area
- Water body silt up
- Fish migration problem
- Lack of breeding ground
- Habitat destruction
- Lack of open water body
- Destructive gear use for fishing like current net use, small mesh size net use, fries collection etc.
- Fishing in the breeding season (Boisak, justo and asar)
- Did not follow government rule, lease policy including file fishing.

Aquatic plants-

Water lily, water hyacinth, haicha, panimorich, arali, khagra, acmela, durali, helencha, sapla, korocho, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluk, duck weed, guripana, bishkhatali, croton, deshi kochori, maloncha, mamakola, khudepana, etc.

Animals

Birds- Bolua paki (palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, crow, choro, tia, baboi, kingfisher, ababil, owl, vulture, doel, salik, cuckoo, etc.

Migratory birds- NA

Resident birds- sea gull, cormorant, heron, dahuk, kalim

Mammals- mongoose, fox, jungle cat, jack, rat, bat, squirrel, shrew, etc

Reptile- lizard, ring lizard, snake, anjuli, monitor lizard,

Amphibians- frogs, turtles

Terrestrial plant-

road side and homestead area are rain tree, jam, aam, kathal, mehogani, medda, Bel, chalta, tulsi, bot pakur, assath, akashmoni, kola, sadakoro, bans, payara, lemon, papaw, boroi, khejur, jalmander, shetodron, krishna, baboi, ram tulsi, gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal, kamranga, eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, baganbilash, etc.

ECA-NA

EPA-NA

Water supply- DTW, STW, ponds, river, canal etc

Sanitation-

40% open latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river, canal, water bodies through the piped. Human waste did not manage properly causes air and water pollution.

Transportation-

In the earth way- bike, CNG, auto-rickshaw, nosimon

In the water way-boat, trawler/ engine boat etc

Industries-NA

Power sources-6 hour's outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased

- Ensuring water facilities for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, cottage, duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke

Water use-domestic, washing, irrigation, bathing, etc

Potable water from tube well (shallow and deep), pond water for bathing, cooking, washing.

Irrigation-haor, beel, pond water, shallow tube well

Livestock-cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic.

Delivery mostly in home by local midwife

Education- Moktob, madrasa, primary school, high school

Current use of land-

Crops production-seed bed, paddy, mustard, potato, chili, onion, vegetable etc.

Indigenous people –NA

Sites of historical significance-NA

Impact of submersible embankment-

- Protect the crops from early flood
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed
- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Both side of dyke to be planted swamp species like hijal, korocho, barun, jarul, kadam, sheora, babla, bot, pakur, tal, etc
- Roosting and nesting side will develop
- Habitat develop of fishes

Constraints of the sub-project-

- Administrative complexity
- To be started the implementation in unsuitable time
- Labor crisis during working time in working place because of harvesting time
- Problems of carrying goods

Suggestion for overall improvement of environment-

- Scarcity of potable water
- Installation of regulator gates
- Set up tiba (to be made high land with concrete to keep the paddy for processing)
- Establishment of sanctuary for increase the fish production
- Conservation of threatened species of fish
- Re-excavation of silt up beel and khal
- Installation of new regulator in need basis
- Village protection wall
- Aware the community on sanitation
- High price of fertilizers and insecticide in the market
- Decrease the use of chemical in the crops
- To be changed the cropping pattern
- Pest control through the IPM and IPMC(Integrated pest management combination)
- Initiatives to be taken for conservation of threatened species of fishes
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary in the beels and river or canal
- Open water controlled by muscle men need to be opened for fishermen.

25. FGD of Mokar Haor Sub-project

Address: Village-Mokha, Union-Kagapasa, Upazila-Baniachong, Dist-Habiganj

FGD conducted -10th January 2016.



FGD goin on

Land use-

Agricultural practices, fishery, road, pond, canal, river, homestead, plantation, bazaar, educational institutes, etc.

Agricultural practices-BR-28,29, hira, Aftab

Cropping pattern-Paddy, wheat, jute, mustard, maskolai, chili, potato, vegetable, etc

Agricultural related problems are

- Waterlogged
- Sutan river water entrance into the haor and damaged the crops
- Crops carrying problem
- Katar khal, batir khatar river khal, potoipasar khal are silt up
- Lack of space for crops processing
- Pest infestation
- Irrigation problem
- Flash flood or early flood
- In dry season water level down and scarcity of irrigation water
- Paddy carrying problem because of bad communication

Suggestion for improvement

- Khals re-excavation
- Installation of DTW for irrigation
- Installation of regulator
- Improvement of communication
- Establishment of village protection wall
- Made high land crops dry up and processing
- Trained the farmer on HYV and pest control and practices of IPMC

Fisheries-

In the fish farm cultured-

White fish culture like shoal, rui, katla, mrigel, shorpoti, silver carp, grass carp, brigade, pangus etc.

In the Haor/Beel-

Major fishes are shoal, bacha, chitra, chapila, rui, darkina, boal, kholla, baila, catla, chital, mrigel, gonla, poti, baim, gozar, kalibaus, sing, magur, chanda, tengra, gulsha, ayer, shrimp, kaski, tarabaim, dehi shorpoti, gotum, nati, taki, kakila, royna, poli, itcha, potka, etc.

Endangered species are Mohashoal, nanid, desi shorpoti, deshi pangus, rani,bata, etc.

Destructive gear use-like current jal, berjal, dekijal, kata fishing in the river

Fish marketing problems are-

- Fishing, preservation and carrying problem in the project area
- Preservation problem because of lack of ice mill

Causes of fish decreases-

- Dewatering the beel for fishing henceforth decrease the fishes in the haor area
- Water body silt up
- Fish migration problem
- Lack of breeding ground
- Habitat destruction
- Lack of open water body
- Destructive gear use for fishing like current net use, small mesh size net use, fries collection etc.
- Fishing in the breeding season (Boisak, justo and asar)
- Did not follow government rule, lease policy including file fishing.

Aquatic plants-

Water lily, water hyacinth, haicha, panimorich, arali, khagra, acmela, durali, helencha, sapla, koroch, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluk, duck weed, guripana, bishkhatali, croton, deshi kochori, maloncha, mamakola, khudepana, etc.

Animals

Birds- Bolua paki (palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, crow, choro, tia, baboi, kingfisher, ababil, owl, vulture, doel, salik, cuckoo, etc.

Migratory birds- NA

Resident birds- sea gull, cormorant, heron, dahuk, kalim

Mammals- mongoose, fox, jungle cat, jack, rat, bat, squirrel, shrew, etc

Reptile- lizard, ring lizard, snake, anjuli, monitor lizard,

Amphibians- frogs, turtles

Terrestrial plant-

road side and homestead area are rain tree, jam, aam, kathal, mehogani, medda, Bel, chalta, tulsi, bot pakur, assath, akashmoni, kola, sadakoro, bans, payara, lemon, papaw, boroi, khejur, jalmander, shetodron, krishna, baboi, ram tulsi, gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal, kamranga, eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, baganbilash, etc.

ECA-NA

EPA-NA

Water supply- DTW, STW, ponds, river, canal etc

Sanitation-

40% open latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river, canal, water bodies through the piped. Human waste did not manage properly causes air and water pollution.

Transportation-

In the earth way- bike, CNG, auto-rickshaw, nosimon

In the water way-boat, trawler/ engine boat etc

Industries-NA

Power sources- 6 hour's outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased
- Ensuring water facilities for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, cottage, duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke

Water use-domestic, washing, irrigation, bathing, etc

Potable water from tube well (shallow and deep), pond water for bathing, cooking, washing.

Irrigation-haor, beel, pond water, shallow tube well

Livestock-cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic.

Delivery mostly in home by local midwife

Education-

Moktob, madrasa, primary school, high school

Current use of land-

Crops production-seed bed, paddy, mustard, potato, chili, onion, vegetable etc.

Indigenous people –NA

Sites of historical significance-NA

Impact of submersible embankment-

- Protect the crops from early flood
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed

- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Both side of dyke to be planted swamp species like hijal, koroch, barun, jarul, kadam, sheora, babla, bot, pakur, tal, etc
- Roosting and nesting side will develop
- Habitat develop of fishes

Constraints of the sub-project-

- Administrative complexity
- To be started the implementation in unsuitable time
- Labor crisis during working time in working place because of harvesting time
- Problems of carrying goods

Suggestion for overall improvement of environment-

- Scarcity of potable water
- Installation of regulator gates
- Set up tiba (to be made high land with concrete to keep the paddy for processing)
- Establishment of sanctuary for increase the fish production
- Conservation of threatened species of fish
- Re-excavation of silt up beel and khal
- Installation of new regulator in need basis
- Village protection wall
- Aware the community on sanitation
- High price of fertilizers and insecticide in the market
- Decrease the use of chemical in the crops
- To be changed the cropping pattern
- Pest control through the IPM and IPMC(Integrated pest management combination)
- Initiatives to be taken for conservation of threatened species of fishes
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary in the beels and river or canal

26. FGD of Aralia Khal Sub-project

Address: Village-Kusa Khagaura, Union-Khagaura, Upazila-Baniachong, Dist-Habiganj

FGD conducted -11th January 2016.



FGD going on

Land use-

Agricultural practices, fishery, road, pond, canal, river, homestead, plantation, bazaar, educational institutes, etc.

Agricultural practices-BR-28, 29, hira, Basmati

Cropping pattern-Paddy, jute, potato, vegetable, etc

Agricultural related problems are

- Khal and beels silt up
- Aralia khal, Sunankhali khal to Khalia Bhanga silt up
- Irrigation water scarcity during dry season or ripening period
- Borak river water flooded the area and damaged the crops
- Waterlogged
- Crops carrying problem
- Lack of space for crops processing
- Pest infestation
- Irrigation problem
- Flash flood or early flood
- Scarcity of quality seeds and fertilizers
- In dry season water level down and scarcity of irrigation
- Paddy carrying problem because of bad communication

Suggestion for improvement

- Khal re-excavation(aralia, beri, kamar khal and sunamkhali khal)
- Beril hal re-excavation for irrigation facilities
- Installation of DTW for irrigation
- Installation of regulator
- Improvement of communication
- Establishment of village protection wall
- Made high land crops dry up and processing
- Trained the farmer on HYV and pest control and practices of IPMC

Fisheries-

In the fish farm cultured-

White fish culture like shoal, rui, katla, mrigel, shorpoti, silver carp, grass carp, brigade, pangus etc.

In the Haor/Beel-

Major fishes are shoal, bacha, chitra, chapila, rui, darkina,boal, kholla, baila, catla, chital, mrigel, gonias, poti, baim, gozar, kalibaus, sing, magur, chanda, tengra, gulsha, ayer, shrimp, kaski, tarabaim, dehi shorpoti, gotum, nati, taki, kakila, royna, poli, itcha, potka, etc.

Endangered species are Mohashoal, nanid, desi shorpoti,deshi pangus, rani,bata, etc.

Destructive gear use-like current jal, berjal, dekijal, kata fishing in the river

Fish marketing problems are-

- Fishing, preservation and carrying problem in the project area
- Preservation problem because of lack of ice mill

Causes of fish decreases-

- Dewatering the beel for fishing henceforth decrease the fishes in the haor area
- Water body silt up
- Fish migration problem
- Lack of breeding ground
- Habitat destruction
- Lack of open water body
- Destructive gear use for fishing like current net use, small mesh size net use, fries collection etc.
- Fishing in the breeding season (Boisak, justo and asar)
- Did not follow government rule, lease policy including file fishing.

Aquatic plants-

Water lily, water hyacinth, haicha, panimorich, arali, khagra, acmela, durali, helencha, sapla, koroch, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluk, duck weed, guripana, bishkhatali, croton, deshi kochori, maloncha, mamakola, khudepana, etc.

Animals

Birds- Bolua paki (palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, crow, choro, tia, baboi, kingfisher, ababil, owl, vulture, doel, salik, cuckoo, etc.

Migratory birds- NA

Resident birds- sea gull, cormorant, heron, dahuk, kalim

Mammals- mongoose, fox, jungle cat, jack, rat, bat, ,, squirrel, shrew, etc

Reptile- lizard, ring lizard, snake, anjuli, monitor lizard, matisap, daraj sap, gokra, cobra, sutanali,

Amphibians- frogs, turtles

Terrestrial plant-

road side and homestead area are rain tree, jam, aam, kathal, mehogani, medda, Bel, chalta, tulsi, bot pakur, assath, akashmoni, kola, sadakoro, bans, payara, lemon, papaw, boroi, khejur, jalmander, shetodron, krishna, baboi, ram tulsi, gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal, kamranga, eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, baganbilash, etc.

ECA-NA

EPA-NA

Water supply- DTW, STW, ponds, river, canal etc

Sanitation-

40% open latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river, canal, water bodies through the piped. Human waste did not manage properly causes air and water pollution.

Transportation-

In the earth way- bike, CNG, auto-rickshaw,

In the water way-boat, trawler/ engine boat etc

Industries-NA

Power sources- 6 hour's outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased
- Ensuring water facilities for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, cottage, duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke

Water use-domestic, washing, irrigation, bathing, etc

Potable water from tube well (shallow and deep), pond water for bathing, cooking, washing.

Irrigation-haor, beel, pond water, shallow tube well

Livestock-cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic.

Delivery mostly in home by local midwife

Education- Moktob, madrasa, primary school, high school

Current use of land-

Crops production-seed bed, paddy, mustard, potato, chili, onion, vegetable etc.

Indigenous people –NA

Sites of historical significance-NA

Impact of submersible embankment-

- Protect the crops from early flood
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed

- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Both side of dyke to be planted swamp species like hijal, koroch, barun, jarul, kadam, sheora, babla, bot, pakur, tal, etc
- Roosting and nesting side will develop
- Habitat develop of fishes

Constraints of the sub-project-

- Administrative complexity
- To be started the implementation in unsuitable time
- Labor crisis during working time in working place because of harvesting time
- Problems of carrying goods

Suggestion for overall improvement of environment-

- Scarcity of potable water
- Installation of regulator gates
- Set up tiba (to be made high land with concrete to keep the paddy for processing)
- Establishment of sanctuary for increase the fish production
- Conservation of threatened species of fish
- Re-excavation of silt up beel and khal
- Installation of new regulator in need basis
- Village protection wall
- Aware the community on sanitation
- High price of fertilizers and insecticide in the market
- Decrease the use of chemical in the crops
- To be changed the cropping pattern
- Pest control through the IPM and IPMC(Integrated pest management combination)
- Initiatives to be taken for conservation of threatened species of fishes
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary in the beels and river or canal

27. FGD of Bashira river re-excavation Sub-project

Address: Village-Rosulpur, Union-Khakailcheo, UpazilaAzmiriganj, Dist-Habiganj

FGD conducted -12th January 2016.



FGD going on

Land use-

Agricultural practices, fishery, road, pond, canal, river, homestead, plantation, bazaar, educational institutes, etc.

Agricultural practices-BR-28, 29, hira, Cropping pattern-Paddy, jute, potato, vegetable, etc

Agricultural related problems are

- Bashira river silt up and over flow water into the agricultural land and damaged the crops
- No sluice gate for water management
- Rosulpur and shibpasa haor connectivity is not good for this reason crops carrying problem
- Lack of space for crops processing
- Pest infestation
- Irrigation problem
- Scarcity of quality seeds and fertilizers

Suggestion for improvement

- Bashira river reexcavation and establishment of side embankment
- Installation of DTW for irrigation
- Installation of sluice gate (3vent)
- Establishment of submersible embankment

- Improvement of communication
- Establishment of village protection wall

Fisheries-

In the fish farm cultured-

White fish culture like shoal, rui, katla, mrigel, shorpoti, silver carp, grass carp, brigade, pangus etc.

In the Haor/Beel-

Major fishes are shoal, bacha, chitra, chapila, rui, darkina,boal, kholla, baila, catla, chital, mrigel, gonja, poti, baim, gozar, kalibaus, sing, magur, chanda, tengra, gulsha, ayer, shrimp, kaski, tarabaim, dehi shorpoti, gotum, nati, taki, kakila, royna, poli, itcha, potka, etc.

Endangered species are Mohashoal, nanid, desi shorpoti, deshi pangus, rani,bata, etc.

Destructive gear use-like current jal, berjal, dekijal, kata fishing in the river

Fish marketing problems are-

- Fishing, preservation and carrying problem in the project area
- Preservation problem because of lack of ice mill

Causes of fish decreases-

- Dewatering the beel for fishing henceforth decrease the fishes in the haor area
- Water body silt up
- Fish migration problem
- Lack of breeding ground
- Habitat destruction
- Lack of open water body
- Destructive gear use for fishing like current net use, small mesh size net use, fries collection etc.
- Fishing in the breeding season (Boisak, justo and asar)
- Did not follow government rule, lease policy including file fishing.

Aquatic plants-

Water lily, water hyacinth, haicha, panimorich, arali, khagra, acmela, durali, helencha, sapla, koroch, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluk, duck weed, guripana, bishkhatali, croton, deshi kochori, maloncha, mamakola, khudepana, etc.

Animals

Birds- Bolua paki (palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, crow, choro, tia, baboi, kingfisher, ababil, owl, vulture, doel, salik, cuckoo, etc.

Migratory birds- NA

Resident birds- sea gull, cormorant, heron, dahuk, kalim

Mammals- mongoose, fox, jungle cat, jack, rat, bat, ,, squirrel, shrew, etc

Reptile- lizard, ring lizard, snake, anjuli, monitor lizard, matisap, daraj sap, gokra, cobra, sutanali,

Amphibians- frogs, turtles

Terrestrial plant-

road side and homestead area are rain tree, jam, aam, kathal, mehogani, medda, Bel, chalta, tulsi, bot pakur, assath, akashmoni, kola, sadakoro, bans, payara, lemon, papaw, boroi, khejur, jalmander, shetodron, krishna, baboi, ram tulsi, gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal, kamranga, eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, baganbilash, etc.

ECA-NA

EPA-NA

Water supply- DTW, STW, ponds, river, canal etc

Sanitation-

40% open latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river, canal, water bodies through the piped. Human waste did not manage properly causes air and water pollution.

Transportation-

In the earth way- bike, CNG, auto-rickshaw,

In the water way-boat, trawler/ engine boat etc

Industries-NA

Power sources-6 hour's outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased

- Ensuring water facilities for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, cottage, duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke

Water use-domestic, washing, irrigation, bathing, etc

Potable water from tube well (shallow and deep), pond water for bathing, cooking, washing.

Irrigation-haor, beel, pond water, shallow tube well

Livestock-cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic.

Delivery mostly in home by local midwife

Education- Moktob, madrasa, primary school, high school

Current use of land-

Crops production-seed bed, paddy, mustard, potato, chili, onion, vegetable etc.

Indigenous people –NA

Sites of historical significance-NA

Impact of submersible embankment-

- Protect the crops from early flood
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed
- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Both side of dyke to be planted swamp species like hijal, korocho, barun, jarul, kadam, sheora, babla, bot, pakur, tal, etc
- Roosting and nesting side will develop
- Habitat develop of fishes

Constraints of the sub-project-

- Administrative complexity
- To be started the implementation in unsuitable time
- Labor crisis during working time in working place because of harvesting time
- Problems of carrying goods

Suggestion for overall improvement of environment-

- Scarcity of potable water
- Installation of regulator gates
- Set up tiba (to be made high land with concrete to keep the paddy for processing)
- Establishment of sanctuary for increase the fish production
- Conservation of threatened species of fish
- Re-excavation of silt up beel and khal
- Installation of new regulator in need basis
- Village protection wall
- Aware the community on sanitation
- High price of fertilizers and insecticide in the market
- Decrease the use of chemical in the crops
- To be changed the cropping pattern
- Pest control through the IPM and IPMC(Integrated pest management combination)
- Initiatives to be taken for conservation of threatened species of fishes
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary in the beels and river or canal

28. FGD of Chandal Beel Sub-project

Address: Village-Paharia Khandi, Union-Paharia khandi, Upazila-Bancharampur, Dist-Brahmanbaria

FGD conducted -14th January 2016.



FGD going on

Land use-

Agricultural practices, fishery, road, pond, canal, river, homestead, plantation, bazaar, educational institutes, etc.

Agricultural practices-BR-28, 29, 58

Cropping pattern-Paddy, jute, potato, vegetable, etc

Agricultural related problems are

- Chandal beel silt up and irrigation problem
- Titas river close to chandal beel which is also silt up that impact on the crops of chandal beel during ripening period
- Paharia baro khal already silt up and 2vent regulator also inactive
- Water logged in this area because of inactive and lack of maintenance of regulator
- Lack of space for crops processing
- Pest infestation
- Irrigation problem
- Scarcity of quality seeds and fertilizers

Suggestion for improvement

- Re-excavation of chandal beel to cherangkhal khal

- Tital river re-excavation
- At paharia khandi 2vent regulator to be repaired
- Installation of DTW for irrigation
- Improvement of communication
- Establishment of village protection wall

Fisheries-

In the fish farm cultured-

White fish culture like shoal, rui, katla, mrigel, shorpoti, silver carp, grass carp, brigade, pangus etc.

In the Haor/Beel-

Major fishes are shoal, bacha, chitra, chapila, rui, darkina,boal, kholla, baila, catla, chital, mrigel, gonia, poti, baim, gozar, kalibaus, sing, magur, chanda, tengra, gulsha, ayer, shrimp, kaski, tarabaim, dehi shorpoti, gotum, nati, taki, kakila, royna, poli, itcha, potka, etc.

Endangered species are Mohashoal, nanid, desi shorpoti, deshi pangus, rani,bata, etc.

Destructive gear use-like current jal, berjal, dekijal, kata fishing in the river

Fish marketing problems are-

- Fishing, preservation and carrying problem in the project area
- Preservation problem because of lack of ice mill

Causes of fish decreases-

- Dewatering the beel for fishing henceforth decrease the fishes in the haor area
- Water body silt up
- Fish migration problem
- Lack of breeding ground
- Habitat destruction
- Lack of open water body
- Destructive gear use for fishing like current net use, small mesh size net use, fries collection etc.
- Fishing in the breeding season (Boisak, justo and asar)
- Did not follow government rule, lease policy including file fishing.

Aquatic plants-

Water lily, water hyacinth, haicha, panimorich, arali, khagra, acmela, durali, helencha, sapla, koroch, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluk, duck weed, guripana, bishkhatali, croton, deshi kochori, maloncha, mamakola, khudepana, etc.

Animals

Birds- Bolua paki (palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, crow, choroi, tia, baboi, kingfisher, ababil, owl, vulture, doel, salik, cuckoo, etc.

Migratory birds- NA

Resident birds- sea gull, cormorant, heron, dahuk, kalim

Mammals- mongoose, fox, jungle cat, jack, rat, bat, ,, squirrel, shrew, etc

Reptile- lizard, ring lizard, snake, anjuli, monitor lizard, matisap, daraj sap, gokra, cobra, sutanali,

Amphibians- frogs, turtles

Terrestrial plant-

road side and homestead area are rain tree, jam, aam, kathal, mehogani, medda, Bel, chalta, tulsi, bot pakur, assath, akashmoni, kola, sadakoroi, bans, payara, lemon, papaw, boroi, khejur, jalmander, shetodron, krishna, baboi, ram tulsi, gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal, kamranga, eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, baganbilash, etc.

ECA-NA

EPA-NA

Water supply- DTW, STW, ponds, river, canal etc

Sanitation-

40% open latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river, canal, water bodies through the piped. Human waste did not manage properly causes air and water pollution.

Transportation-

In the earth way- bike, CNG, auto-rickshaw, micro,bus, truck

In the water way-boat, trawler/ engine boat etc

Industries-NA

Power sources-6 hour's outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased

- Ensuring water facilities for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, cottage, duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke

Water use-domestic, washing, irrigation, bathing, etc

Potable water from tube well (shallow and deep), pond water for bathing, cooking, washing.

Irrigation-haor, beel, pond water, shallow tube well

Livestock-cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic. Delivery mostly in home by local midwife

Education-

Moktob, madrasa, primary school, high school

Current use of land-

Crops production-seed bed, paddy, mustard, potato, chili, onion, vegetable etc.

Indigenous people –NA

Sites of historical significance-NA

Impact of submersible embankment-

- Protect the crops from early flood
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed
- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Both side of dyke to be planted swamp species like hijal, korocho, barun, jarul, kadam, sheora, babla, bot, pakur, tal, etc
- Roosting and nesting side will develop
- Habitat develop of fishes

Constraints of the sub-project-

- Administrative complexity
- To be started the implementation in unsuitable time
- Labor crisis during working time in working place because of harvesting time
- Problems of carrying goods

Suggestion for overall improvement of environment-

- Scarcity of potable water
- Installation of regulator gates
- Set up tiba (to be made high land with concrete to keep the paddy for processing)
- Establishment of sanctuary for increase the fish production
- Conservation of threatened species of fish
- Re-excavation of silt up beel and khal
- Aware the community on sanitation
- High price of fertilizers and insecticide in the market
- Decrease the use of chemical in the crops
- To be changed the cropping pattern
- Pest control through the IPM and IPMC(Integrated pest management combination)
- Initiatives to be taken for conservation of threatened species of fishes
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary in the beels and river or canal

29. FGD of Satdona Beel Scheme Sub-project

Address: Village-Mipur, Union-Solimakhandi, Upazila-Bancharampur, Dist-Brahmanbaria

FGD conducted -16th January 2016.



FGD going on

Land use-

Agricultural practices, fishery, road, pond, canal, river, homestead, plantation, bazaar, educational institutes, etc.

Agricultural practices-BR-28, 29

Cropping pattern-Paddy, jute, potato, vegetable, etc

Agricultural related problems are

- Satdona beel adjacent to Mirpur khal already silt up and create water logged and its impact on crops
- In summer irrigation problem
- No sluice gate for water management
- Water logged in this area because of inactive and lack of maintenance of regulator
- Lack of space for crops processing
- Pest infestation
- Irrigation problem
- Scarcity of quality seeds and fertilizers

Suggestion for improvement

- Re-excavation of Mirpur Khal
- Installation of sluice gate

- Installation of DTW for irrigation
- Improvement of communication
- Establishment of village protection wall

Fisheries-

In the fish farm cultured-

White fish culture like shoal, rui, katla, mrigel, shorpoti, silver carp, grass carp, brigade, pangus etc.

In the Haor/Beel-

Major fishes are shoal, bacha, chitra, chapila, rui, darkina,boal, kholla, baila, catla, chital, mrigel, gonias, poti, baim, gozar, kalibaus, sing, magur, chanda, tengra, gulsha, ayer, shrimp, kaski, tarabaim, dehi shorpoti, gotum, nati, taki, kakila, royna, poli, itcha, potka, etc.

Endangered species are Mohashoal, nanid, desi shorpoti, deshi pangus, rani,bata, etc.

Destructive gear use-like current jal, berjal, dekijal, kata fishing in the river

Fish marketing problems are-

- Fishing, preservation and carrying problem in the project area
- Preservation problem because of lack of ice mill

Causes of fish decreases-

- Dewatering the beel for fishing henceforth decrease the fishes in the haor area
- Water body silt up
- Fish migration problem
- Lack of breeding ground
- Habitat destruction
- Lack of open water body
- Destructive gear use for fishing like current net use, small mesh size net use, fries collection etc.
- Fishing in the breeding season (Boisak, justo and asar)
- Did not follow government rule, lease policy including file fishing.

Aquatic plants-

Water lily, water hyacinth, haicha, panimorich, arali, khagra, acmela, durali, helencha, sapla, korocho, hijal, barun, jarul, dolkolmi, panokolmi, chagalleda, saluk, duck weed, guripana, bishkhatali, croton, deshi kochori, maloncha, mamakola, khudepana, etc.

Animals

Birds- Bolua paki (palash fish eagle), cormorant, sea gull, heron, pigeon, dove, moyna, gangsalik, jutsalik, magpie robin, crow, choroi, tia, baboi, kingfisher, ababil, owl, vulture, doel, salik, cuckoo, etc.

Migratory birds- NA

Resident birds- sea gull, cormorant, heron, dahuk, kalim

Mammals- mongoose, fox, jungle cat, jack, rat, bat, ,, squirrel, shrew, etc

Reptile- lizard, ring lizard, snake, anjuli, monitor lizard, matisap, daraj sap, gokra, cobra, sutanali,

Amphibians- frogs, turtles

Terrestrial plant-

road side and homestead area are rain tree, jam, aam, kathal, mehogani, medda, Bel, chalta, tulsi, bot pakur, assath, akashmoni, kola, sadakoroi, bans, payara, lemon, papaw, boroi, khejur, jalmander, shetodron, krishna, baboi, ram tulsi, gazarisal, roktodron, mangium, supari, nol khagra, kadam, tal, kamranga, eucalyptus, sheora, tetul, choijal, sajna, jalpai, badi, acmela, commelina, croton, money plant, sirish, kotbel, baganbilash, etc.

ECA-NA

EPA-NA

Water supply- DTW, STW, ponds, river, canal etc

Sanitation-

40% open latrine in the sub-project area. Community those are living adjacent to river side their toilet waste direct discharge to river, canal, water bodies through the piped. Human waste did not manage properly causes air and water pollution.

Transportation-

In the earth way- bike, CNG, auto-rickshaw, micro,bus, truck

In the water way-boat, trawler/ engine boat etc

Industries-NA

Power sources-6 hour's outages

Water management-

- Water management committee formation(WMC)
- Water reservoir for irrigation
- Registration of the WMC from WDB
- 30% women to be in the WMC
- Fish production to be increased

- Ensuring water facilities for irrigation
- Water management department having Power for registration and authorization
- Participatory approach for embankment management
- Need basis to be arranged training program by project authority like on sewing, handicraft, cottage, duck rearing, vegetable cultivation, small enterprises, cottage, etc
- WMC operate the regulator, water reservoir for irrigation and management/repair the submersible dyke

Water use-domestic, washing, irrigation, bathing, etc

Potable water from tube well (shallow and deep), pond water for bathing, cooking, washing.

Irrigation-haor, beel, pond water, shallow tube well

Livestock-cow, goat, buffalo, cock/chicken and duck rearing

Population and communities-

Mostly Muslim and the rest Hindu and no other religious people living here

Health-services-

They have taken health service from Upazila health complex, clinic, diagnostic centre, sisor hasi clinic.

Delivery mostly in home by local midwife

Education-Moktob, madrasa, primary school, high school

Current use of land-

Crops production-seed bed, paddy, mustard, potato, chili, onion, vegetable etc.

Indigenous people –NA

Sites of historical significance-NA

Impact of submersible embankment-

- Protect the crops from early flood
- Remove water logged by set the proper manageable regulator or culvert
- Cropping pattern to be changed
- Through plantation on dyke after establishment of embankment biodiversity to be conserved
- Both side of dyke to be planted swamp species like hijal, koroch, barun, jarul, kadam, sheora, babla, bot, pakur, tal, etc
- Roosting and nesting side will develop
- Habitat develop of fishes

Constraints of the sub-project-

- Administrative complexity
- To be started the implementation in unsuitable time
- Labor crisis during working time in working place because of harvesting time
- Problems of carrying goods

Suggestion for overall improvement of environment-

- Scarcity of potable water
- Installation of regulator gates
- Set up tiba (to be made high land with concrete to keep the paddy for processing)
- Establishment of sanctuary for increase the fish production
- Conservation of threatened species of fish
- Re-excavation of silt up beel and khal
- Installation of new regulator in need basis
- Aware the community on sanitation
- High price of fertilizers and insecticide in the market
- Decrease the use of chemical in the crops
- Pest control through the IPM and IPMC(Integrated pest management combination)
- Initiatives to be taken for conservation of threatened species of fishes
- To be managed the solid waste in the market, made compost from solid waste
- To be established fish sanctuary in the beels and river or canal.

Annex E: List of Participants in Public Consultations (FGD and Other)

Table E.1: List of FGD Participants
1.Boro Haor Subproject (Nikli)

Form F(i): FGD Participant's List

List of Participants

Focused Group Boro Haor Date & Time 03-12-2015

Location চাউয়ালাদি

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	মোঃ আব্দুল হুসেন	চাউয়ালাদি		২০২২২২
2	মোঃ জাহাঙ্গীর	"		জাহাঙ্গীর
3	মোঃ আব্দুল মজিদ	"		আব্দুল মজিদ
4	মোঃ আব্দুল	"	01779-425090	আব্দুল
5	মোঃ আব্দুল রাহিম	"	01745-3804692	আব্দুল রাহিম
6	মোঃ আলমুজিবুল্লাহ	"	01	আলমুজিবুল্লাহ
7	মোঃ আব্দুল মজিদ	"		আব্দুল মজিদ
8	মোঃ আব্দুল আজিজ	"	01748-700566	আব্দুল আজিজ
9	মোঃ মুহাম্মদ ইমাম	"		মুহাম্মদ ইমাম
10	মোঃ নাসিম হুসৈন	"	01726-387357	নাসিম হুসৈন
11	মোঃ মজিদ	"		মজিদ
12	মোঃ মিজানুর রহমান	"		মিজানুর রহমান
13	মোঃ আব্দুল জামিল	"		আব্দুল জামিল
14	মোঃ জামিল	"		MD'ALI
15	মোঃ মিজান	"	01735-678800	মিজান
16	মোঃ মজিদ মিজান	"	01718-055727	মজিদ মিজান
17	মোঃ আব্দুল হুসৈন	"		আব্দুল হুসৈন
18	মোঃ জামিল	"	01729-196888	জামিল
19	মোঃ আব্দুল মজিদ	"		আব্দুল মজিদ
20	মোঃ আব্দুল মজিদ	"	01742-262247	আব্দুল মজিদ

Name of Field Coordinator Md. Monzurul Haque

Form F(i): FGD Participant's List

List of Participants

Focused Group Boro HaorDate & Time 03/12/2015Location চাউয়াবাদি

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	আব্দুল হামিদ	চাউয়াবাদি	01744196208	আব্দুল হামিদ
2	মোঃ আজহারুল ইসলাম	"	01746-648661	আব্দুল হামিদ
3	মোঃ ইমদাদুল	"		আব্দুল হামিদ
4	মোঃ জুয়েল হায়া	"	01753-838327	জুয়েল হায়া
5	মোঃ হুমায়ুন	"	01720-024229	হুমায়ুন
6	মোঃ রেজু	"	01780-257908	রেজু
7	মোঃ মোস্তাফিজ	"		মোস্তাফিজ
8	মোঃ হাবিজ মিয়া	"	01716-321125	হাবিজ মিয়া
9	মোঃ খায়রুল	"	01710-196098	খায়রুল
10	মোঃ গাফিল আলম	"	01767-924940	গাফিল আলম
11	মোঃ রুহুল আমীন	"	01728-477306	রুহুল আমীন
12	মোঃ বিল্লাল মিয়া	"		বিল্লাল মিয়া
13	মোঃ আব্দুল	"	01744-658556	আব্দুল
14	মোঃ রাজিব মিয়া	"	01722-490691	রাজিব মিয়া
15	মোঃ মোমেনুল ইসলাম	"		মোমেনুল ইসলাম
16	মোঃ মোস্তাফিজ হোসেন	"	01710-977555	মোস্তাফিজ হোসেন
17	মোঃ মুজিবুল হক	"	01720-802780	মুজিবুল হক
18	মোঃ মুজিব মিয়া	"	01767-925749	মুজিব মিয়া
19	মোঃ রুহুল মিয়া	"	01919-196067	রুহুল মিয়া
20	মোঃ নিতাই	"	01963-456919	নিতাই

Name of Field Coordinator Md. Monzurul Haque

Form F(i): FGD Participant's List

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List of Participants

Focused Group Boro Haor Date & Time 03/12/2015.
 Location বাড়িয়াবাড়ি

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	মোঃ জোব্বার মিয়া	বাড়িয়াবাড়ি	01791-093923	৬/১/১৫
2	মোঃ আমজাদ মিয়া	"		৯/১/১৫
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Name of Field Coordinator Md. Monzurul Haque.

2.Nunnir Haor Subproject

Form F(i): FGD Participant's List

List of Participants

Focused Group _____ Date & Time 04.12.2015

Location গুরুদাস গ্রাম

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	মোঃ মাহেদুল ইসলাম	গুরুদাস গ্রাম	01924-471347	মোঃ মাহেদুল ইসলাম
2	মোঃ মাহেদুল ইসলাম	চাতরা গ্রাম	01917-297639	মোঃ মাহেদুল ইসলাম
3	মোঃ বিল্লাহ হোসেন	গুরুদাস গ্রাম	01831-375457	মোঃ বিল্লাহ
4	মোঃ চন্দু মিয়া	গুরুদাস গ্রাম	01965-471348	মোঃ চন্দু মিয়া
5	মোঃ আবুল বাশার	"	01918-726836	মোঃ আবুল বাশার
6	মোঃ সাহজাদ মিয়া	"	01928-100492	মোঃ সাহজাদ মিয়া
7	মোঃ হাবিবুল ক্বারী	"	01928-485431	হাবিব
8	মোঃ মেদিস	"	01717-297353	মেদিস
9	মোঃ মোদন হোসেন চক্কী	পাড়া বাজিতপুর	01752-138112	মোঃ মোদন হোসেন চক্কী
10	চন্দু মিয়া	গুরুদাস গ্রাম	01915-922582	চন্দু মিয়া
11	মোঃ মাহমুদ মিয়া	"	01933-710175	মাহমুদ
12	মোঃ মাহমুদ হক	পাড়া বাজিতপুর	01794-673012	মোঃ মাহমুদ হক
13	মোঃ আবু বকর সিদ্দিক	দুলালনোভাপুর	01712-183685	সিদ্দিক
14	মোঃ আমজাদ হোসেন	গুরুদাস	01710-674906	আমজাদ
15	মোঃ মাহেদীন	দোমতপুর	01915-039006	মাহেদীন
16	মোঃ আবোয়াব হোসেন	গুরুদাস	01965-471201	আবোয়াব
17	মোঃ মোকলেমুল হোসেন	"	01913-021128	মোঃ মোকলেমুল হোসেন
18	মোঃ মিজু আলী	দোমতপুর		মোঃ মিজু আলী
19	মোঃ বেগম	গুরুদাস	01741907138	বেগম
20	মোঃ বিলকিস	"	01943-654916	বিলকিস

Name of Field Coordinator Md. Monzurul Haque

Form F(i): FGD Participant's List

List of Participants

Focused Group

Date & Time

Location

গুরুই গ্রাম

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	মাহেশ আক্তার	গুরুই গ্রাম	01623-634838	মাহেশ আক্তার
2	মাদিয়া পারভিন	"	01933-686968	Sadi
3	মিনা সান্ন	"	01756-168453	মিনা সান্ন
4	মুহাম্মদ উদ্দিন	"	01942-352477	মুহাম্মদ উদ্দিন
5	জাহান্না উদ্দিন	"		জাহান্না
6	লিজা পারভিন	"	0173-649097	লিজা পারভিন
7	দিলওয়ারা বেগম	"		দিলওয়ারা বেগম
8	বাহু মিয়া	"	01945-986007	বাহু
9	মনিরুল	"		মনিরুল
10	মাহিমা বেগম	"		মাহিমা
11	হাজেরা "	"		হাজেরা
12	মোরমদ আলী	"	01928-394852	মোরমদ আলী
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Name of Field Coordinator

Md. Monzurul Haque

3.Chandpur Haor Subproject

Form F(i): FGD Participant's List

2nd
Attendance
sheet
1st page

List of Participants

Focused Group চান্দপুর হাওড় Date & Time 05/12/2015

Location পারদিয়াবুল

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	মিজানুর রহমান বাদল	পারদিয়াবুল	01716-325445	
2	আবদুল আবদুল রহমান	দিয়াবুল	01703388046	
3	মোঃ ওবায়দুল ফারুক	"	01912-428707	
4	মোঃ মোহিদ দিদিবুল	পারদিয়াবুল	01731-726626	
5	মোঃ রুবেল মিয়া	দিয়াবুল	01850-753006	
6	মোঃ আব্বাস মিয়া	পারদিয়াবুল	01716-354256	
7	মোঃ মেলিম খান	"	017627-54324	
8	মোঃ জুইল ইসলাম	দিয়াবুল	01718-633725	
9	মোঃ রফিকুল ইসলাম	"	01719-597313	
10	মোঃ আমজদ খান	পারদিয়াবুল	01787-990355	
11	মোঃ হাবিবুর রহমান	"	01738-366738	
12	মোঃ যশহাদ মিয়া	"	01734-150747	
13	রফি আকবর	"	01734-150747	
14	জাকিয়া দুলাতনা	"	01739-721263	
15	হাসান আলী	"	01739-721263	
16	নাহিদা আক্তার	পারদিয়াবুল	01749-394898	
17	দুজা আক্তার	পারদিয়াবুল	01775-222661	
18	আনিমা	দিয়াবুল	01756-335963	
19	জব্বিনা আক্তার	"	01731-121875	
20	আয়েশা আক্তার	পারদিয়াবুল	01796-348368	

Name of Field Coordinator Md. Monzurul Haque

Form F(i): FGD Participant's List

List of Participants

Focused Group চান্দপুর হাওড় Date & Time 05/12/2015Location পারদিয়াবুল

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	মহিলা	দিয়াবুল		০৫/১২/১৫
2	পাশা আজার	"	০১৭৪৭৫৪৩২৪৯	মহিলা আজার
3	মোঃ হুমায়ুন উদ্দিন	পারদিয়াবুল		হুমায়ুন উদ্দিন
4	আবু বকর সিদ্দিক	দিয়াবুল	০১৭৩৬-৫১২৫৭৬	আবু বকর সিদ্দিক
5	মোঃ হুমায়ুন আজার	"	০১৭৩৭-৫৪৬৩১৭	মোঃ হুমায়ুন
6	মিউলী খানম	"	০১৭২৫-৫৪৩৭৭৪	মিউলী খানম
7	আশরাফ খানম	দিয়াবুল	০১৭৪৪১৭৪৪৪	আশরাফ খানম
8	পারভি খানম	"	০১৭৩১-০৭৪১৭৭	পারভি খানম
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Name of Field Coordinator Md. Monzurul Haque

4.Naogaon Haor Subproject

Form F(i): FGD Participant's List

List of Participants

Focused Group Naogaon Date & Time 06/12/2015 / 10:15
 Location দিংপুর, মির্জা,

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	মোঃ জাহিদুল হক	দিংপুর	01718817896	জাহিদুল হক
2	মোঃ আমজু উদ্দিন	দিংপুর	01836662100	আমজু উদ্দিন
3	মোঃ আব্দুল হান্নান	"	01911-667215	আব্দুল হান্নান
4	মোঃ আব্দুল মজিদ	"		আব্দুল মজিদ
5	মোঃ ফাহাদ	"	01960-459090	ফাহাদ
6	হাজী মজিদ আলী	"		হাজী মজিদ আলী
7	মোঃ আলমজু উদ্দিন	"	01713-564091	আলমজু উদ্দিন
8	মোঃ মনিরুল মিয়া	"	01969-303038 01710-856295	মনিরুল মিয়া
9	মালী	"	01944-702706	মালী
10	মোহনা	"		মোহনা
11	রুবেলা	"		রুবেলা
12	মুন্সুরা	"	-	মুন্সুরা
13	মুন্সুরা হোসেন	"	0191087395	মুন্সুরা
14	মালী	"		মালী
15	মালী	"		মালী
16	মালী	"	01912-524228	মালী
17	মালী	"	-	মালী
18	মালী	"		মালী
19	মালী	"		মালী
20	মোঃ মাজহারুল ইসলাম	"	01910-874238	মাজহারুল ইসলাম

Name of Field Coordinator _____

Form F(i): FGD Participant's List

List of Participants

Focused Group _____ Date & Time _____
Location _____

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	শ্রী: আবু কলাম	দরিদ্র	01917-923922	শ্রী: আবু কলাম
2	শ্রী: কবির হোসেন	"	01931-476241	শ্রী: কবির হোসেন
3	শ্রী: আব্দুল মালুম	"		শ্রী: আব্দুল মালুম
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Name of Field Coordinator _____

5.Noapara Haor Sub-Project

Form F(i): FGD Participant's List

List of Participants

Focused Group Noapara Haor Date & Time 07/12/2015 → 3:15

Location মুখ্য দামপাড়া

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	মোঃ আব্দুল জব্বার	দূর দামপাড়া	01960-487788	আব্দুল জব্বার
2	মোঃ কবির হোসেন	"		কবির
3	মোঃ ব্রহ্মদ আলী	"		আলী
4	মোঃ আমজ	"	01867-326436	আমজ
5	মোঃ জামাল উদ্দিন	"	01969-233306	জামাল
6	মোঃ নূর মোহাম্মদ	"		নূর
7	মোঃ চান্দ আলী	"		চান্দ
8	মোঃ শাহীদুল	"		শাহীদুল
9	মোঃ নূরুল	"	01989-232096	নূরুল
10	মোঃ আমনা	"		আমনা
11	শাহীদুল	"		শাহীদুল
12	শাহীদুল	"		শাহীদুল
13	বাহেদা	"		বাহেদা
14	আব্দুল্লাহ	"		আব্দুল্লাহ
15	উম্মি	"		উম্মি
16	ইয়াসমিন	"	01944-444475	ইয়াসমিন
17	দিয়ারা	"		দিয়ারা
18	মুজা খান্না	"		খান্না
19	রুহন আলী	"		রুহন আলী
20	মালিকা	"		মালিকা

Name of Field Coordinator Md. Monzurul Haque

Form F(i): FGD Participant's List

List of Participants

Focused Group Noapara HaorDate & Time 07/12/2015 → 3.15Location শ্রীদামপাড়া

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	আন কানু	শ্রীদামপাড়া	-	আন
2	মোরশেদা	"		মুসিদ্দা
3	আমলা	"	-	আমলা
4	ইদনায়া	"	-	ইদনায়া
5	জুহু	"		জুহু
6	খালুয়া	"		খালুয়া
7	মাক্কির নাথান	"	01961-757276	মাক্কির নাথান
8	খোরশেদা	"		খোরশেদা
9	বিনা	"		বিনা
10	এব্রিমা	"		এব্রিমা
11	বাদিয়া	"		বাদিয়া
12	মোরশেদা	"		মোরশেদা
13	মাক্কির	"		মাক্কির
14	মুজিব	"	01967-768523	মুজিব
15	মজিদ	"		মজিদ
16	মাহিদা			মাহিদা
17	আমরুয়া			
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Name of Field Coordinator Md. Monzurul Haque

6.Badla Haor Subproject

Form F(i): FGD Participant's List

List of Participants

Focused Group _____ Date & Time 09/12/2015/11:30

Location পাচকাহনিয়া

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	শ্রী: নাজমুল আলম	পাচকাহনিয়া	01784-722387	
2	শ্রী: দ্বার (শ্রীমতী)	"	01764-159896	
3	শ্রী: উদমান	"		
4	শ্রী: মিজানুর রহমান (মহেন্দ্র)	"	01951-224765	
5	শ্রী: রমজান	"		
6	শ্রী: চান মিয়া	"		
7	শ্রী: জামান গানি	"		
8	শ্রী: মোহাম্মদ	"	01915-058393	
9	শ্রী: খন্দকার মোস্তাফিজ	"	01710-711928	
10	শ্রী: নাদু মিয়া	"		
11	শ্রী: আব্দুল জব্বার মনি	"	01786-439388	
12	শ্রী: আবুল	"	01739-041026	
13	শ্রী: মরজান মিয়া	"		
14	শ্রী: মুক্ত রহমান	"		
15	শ্রী: ফুল মিয়া	"		
16	শ্রী: রমজান খা	"		
17	মহিয়ার	"	01777-059203	
18	নামিয়া	"		
19	ফুরিয়া	"	01935-984376	
20	হাবিবা	"		

Name of Field Coordinator _____

Form F(i): FGD Participant's List

List of Participants

Focused Group _____

Date & Time _____

Location _____

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	মসজিদা	পাচলক্ষিয়া		মসজিদা
2	মজমা	"		মজমা
3	হাফিজুর রহা	"		
4	মুনছুর	"		মুনছুর
5	মল্লিকা	"		
6	মল্লিকা	"		মল্লিকা
7	মল্লিকা	"		মল্লিকা
8	মল্লিকা	"		মল্লিকা
9	মল্লিকা			মল্লিকা
10	মিলকি	"	01918-156667	মিলকি
11	মুনছুর	"		মুনছুর
12	মল্লিকা	"	01935-984326	মল্লিকা
13	মিলকি	"	0195719756	মিলকি
14	মল্লিকা	"		মল্লিকা
15	মল্লিকা	"	01984-432750	মল্লিকা
16	মল্লিকা	"		মল্লিকা
17	মল্লিকা	"		মল্লিকা
18	মল্লিকা	"	01712-113004	মল্লিকা
19	মল্লিকা	"	01726-508240	মল্লিকা
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Name of Field Coordinator _____

ex-chairman
মল্লিকা

7.Modkhola Bhairagir char Subproject

Form F(i): FGD Participant's List

List of Participants

Focused Group _____ Date & Time 10/12/2015 : 11:00

Location বৈতাল বাজার

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	ইফ্রাছদন কুমার খরগা	(বৈতাল বাজার/মসজিদ)	01712-444033	
2	(মাঃ) হুমায়ুন জালাল	"/ কৃষিকাজ		
3	মিতারি চন্দ্র বর্মণ	"/ মসজিদ	01736-656745	মিতারি চন্দ্র বর্মণ
4	পারিজোষ চন্দ্র বিশ্বাস	"/ মসজিদজাতি	01925-589155	পারিজোষ চন্দ্র
5	সাজ্জদ চন্দ্র বর্মণ	"/ মসজিদ	01922-028728	সাজ্জদ
6	দিলীপ বর্মণ	"/ মসজিদ	01772621893	দিলীপ
7	তক্ষ শমু বর্মণ	"/ মসজিদ	01748-263321	তক্ষ শমু
8	বিক্রম বর্মণ	"/ মসজিদ	01753-173381 01753-173381	বিক্রম বর্মণ
9	তপন চন্দ্র বর্মণ	"/		তপন
10	সুস্মিতা রানী বর্মণ	"/ মসজিদজাতি		সুস্মিতা
11	খাদন চন্দ্র বর্মণ	"/ মসজিদজাতি	01718-336308	খাদন
12	মোহাম্মদ	"/ মসজিদ	01762-632837	মোহাম্মদ
13	নগেন্দ্র চন্দ্র বর্মণ	"/ মসজিদজাতি		নগেন্দ্র
14	মাহমুদ চন্দ্র	"/ "		মাহমুদ
15	স্মিতা রানী বর্মণ	"/	01961-740114	স্মিতা রানী বর্মণ
16	খসলা	"/		খসলা
17	দেখালী রানী বর্মণ	"/		দেখালী রানী
18	খুসুম বর্মণ	"/ মসজিদ	01916-358484	খুসুম
19	জোদনা রানী বর্মণ	"/		জোদনা
20	লিটন চন্দ্র বর্মণ	"/ মসজিদজাতি	01713-554639	লিটন চন্দ্র

Name of Field Coordinator _____

Form F(i): FGD Participant's List

List of Participants

Focused Group _____

Date & Time 10/12/15 / 11:00

Location _____

কোমল বাজার

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	মোঃ আবু তালেব	কোমল বাজার/কৃষিকাজ		তালেব
2	হাজী মোঃ গিয়াস উদ্দিন	৫/কৃষিকাজ	01946-773671	হাজী মোঃ গিয়াস উদ্দিন
3	আলহাজ্ব ইদ্রিস আলী চেয়ারম্যান	৫/২২ চেয়ারম্যান	01712-225971	ইদ্রিস
4	মোহেমা বেগম	৫/২২ কামার	01710-587681	মোহেমা
5	মোঃ বাইজিত হুইয়া	রামদি ৫/কৃষিকাজ	01728-929948	মোঃ বাইজিত
6	মোঃ রবিন মাহমুদ	বৈরাগি চর/৫	01723-965850	রবিন
7	মোঃ আব্দুল কাদির	কোমল/কৃষিকাজ	0	আব্দুল কাদির
8	মোঃ মোস্তফা কামাল	বৈরাগি চর/৫	01829-855348	মোঃ মোস্তফা কামাল
9	মোঃ দাদেলউজ্জ্বল	কোমল বাজার/৫	01712-304319	মোঃ দাদেলউজ্জ্বল
10	মোঃ দাতিবুউল মুন্নায দাতিবুউল মুন্নায	রামদি/কৃষিকাজ	01727-681571	মোঃ দাতিবুউল মুন্নায
11	মোঃ মোস্তফা কামাল	কোমল/৫	01716-531948	মোঃ মোস্তফা কামাল
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Name of Field Coordinator _____

8. Ganak Khali Sub-Project

Form F(i): FGD Participant's List

List of Participants

Focused Group Ganak Khali sub-project Date & Time 12/12/2015

Location কান্দিয়া, ডুমুরি-UP, কলিয়ারচৌরাসা, মিশারগাতি

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	খালু মিয়া	কান্দি গ্রাম		খালু
2	আব্দুল গফুর	"		আব্দুল গফুর
3	মোঃ মিল্লাত মিয়া	"	01942-210625	মিল্লাত
4	মোঃ হোসেন মিয়া	"	01950-305346	মোঃ হোসেন মিয়া
5	মোঃ শিশু মিয়া	"	01929-110326	শিশু
6	মোঃ জজ মিয়া	"	01951-499197	জজ মিয়া
7	মোঃ সাহিন	"	01988-345054	সাহিন
8	মোঃ শহিদ	"	01986-647350	শহিদ
9	মোঃ মোহাম্মদ	"	01912-996062	মোহাম্মদ
10	মোঃ বাকী বিল্লাহ	"	01921-556463	
11	মোঃ আব্দুল গফুর	"	01962-440305	আব্দুল গফুর
12	মোঃ আহম্মেদ	"		আহম্মেদ
13	মোঃ হানিফ	"		হানিফ
14	মোঃ চিচ্চু দত্ত		01716712217	চিচ্চু দত্ত
15	মোঃ দুলাল মিয়া		01935-525180	দুলাল
16	মোঃ আলিম মিয়া		01716-584167	আলিম
17	মোঃ সাহিদ হুদয়		01955721201	সাহিদ হুদয়
18	মোঃ সাহিদ			সাহিদ
19	আব্দুল হানিফ	"	01762894446	হানিফ
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Name of Field Coordinator _____

Form F(i): FGD Participant's List

Focused Group Granakhali List of Participants
 Date & Time 12/12/15, 11:50
 Location বাদিগ্রাম, হুগলি, কুমিল্লা-৬০, খিলদাঙ্গা

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	শ্রী: আনিসুল্লাহ	বাদিগ্রাম, হুগলি, কুমিল্লা-৬০	01711-052353	
2	শ্রী: আলী আকবর	বাদিগ্রাম, খিলদাঙ্গা	01729-46654	
3	শ্রী: আব্দুল মালিক	বাদিগ্রাম, হুগলি	01920463330	শ্রী: আব্দুল মালিক
4	অমিত	বাদিগ্রাম, খিলদাঙ্গা	No	অমিত
5	আবুল	বাদিগ্রাম, খিলদাঙ্গা	No	আবুল
6	আবুল	বাদিগ্রাম, হুগলি	No	আবুল
7	আবুল	বাদিগ্রাম, হুগলি	No	আবুল
8	শ্রী: হুমায়ুন	বাদিগ্রাম, হুগলি	01981265674	শ্রী: হুমায়ুন
9	শ্রী: হুমায়ুন	বাদিগ্রাম, হুগলি	01858981963	শ্রী: হুমায়ুন
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Name of Field Coordinator _____

9. Alalia-Bahadia Sub project

Form F(i): FGD Participant's List

List of Participants

Focused Group Alalia-Bahadia Date & Time 13/12/2015 to 11:30

Location আলিয়া মুন্সিফা

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	বসন্ত কান্ত (মহিলা)	বাগাইচা	০১৭১৩২৫০২৩	
2	আবদুল হক	বাগাইচা	০১৭১০৭৫০১১	
3	আবদুল হক	বাগাইচা		
4	আবদুল হক	বাগাইচা		
5	আবদুল হক	বাগাইচা		
6	আবদুল হক	বাগাইচা	০১৭১৭০৭২০১১	
7	আবদুল হক	বাগাইচা		
8	আবদুল হক	বাগাইচা	০১৭১০৫৫৫১৩২	
9	আবদুল হক	বাগাইচা	০১২২৪২৪২৩৩	
10	আবদুল হক	বাগাইচা	০১৭২০৭০৫০৬১	
11	আবদুল হক	বাগাইচা	০১৭১৭১৭১২০	
12	আবদুল হক	বাগাইচা		
13	আবদুল হক	বাগাইচা		
14	আবদুল হক	বাগাইচা	০১৭১৭১৭১২০	
15	আবদুল হক	বাগাইচা	০১৭১৭১৭১২০	
16	আবদুল হক	বাগাইচা	০১৭১৭১৭১২০	
17	আবদুল হক	বাগাইচা	০১৭১৭১৭১২০	
18	আবদুল হক	বাগাইচা	০১৭১৭১৭১২০	
19	আবদুল হক	বাগাইচা	০১৭১৭১৭১২০	
20	আবদুল হক	বাগাইচা	০১৭১৭১৭১২০	

Name of Field Coordinator _____

Form F(i): FGD Participant's List

List of Participants

Focused Group Akalin - Bakindia Date & Time 13/12/15 to 11:30
 Location বাহাদিগা মুন্সিগাতি

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	শ্রী: জোহান্না বেগম	বাহাদিগা	01782794740	জোহান্না
2	শ্রী: আব্দুল মাকসুম	"		শ্রী: আব্দুল মাকসুম
3	শ্রী: জিয়াউর রহমান			জিয়াউর রহমান
4	শ্রী: আলিক মিয়া	"	01733516200	আলিক
5	হাফিজা বিবি	"	01777594087	বিবি
6	নূরুজ্জামান		01724100026	নূরুজ্জামান
7	শ্রী: মান্নি মিয়া	"		মান্নি মিয়া
8	মুন্সুর আলী	"		মুন্সুর
9	উল্লাহ আলী	"	01748450417	উল্লাহ
10	আমির আলী	"	0173293233	আমির
11	মুন্সুর আলী	"	01713506313	মুন্সুর আলী
12	৬২৬ নং নম্বর			৬২৬ নং নম্বর
13	মিয়া			মিয়া
14	৬০১২ নং		01747-375290	৬০১২ নং
15	মিয়া		০৬৫০১৬২৯০৯৫৪৪	মিয়া
16	বাহাদিগা			বাহাদিগা
17	বাহাদিগা			
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Name of Field Coordinator _____

10. Sunair Haor Sub-Project

Form F(i): FGD Participant's List

List of Participants

Focused Group Sunair haor Date & Time 14/12/2015 : 12:00

Location জাতিয়ার গ্রাম / জাতিয়ার ইউনিয়ন

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	আবুল কালাম	জাতিয়ার		আবুল কালাম
2	মোঃ আমজাদ হোসেন	জাতিয়ার	০১৫০৭৫৬৭০৭	
3	(মোঃ জাঃ হুসেইন)	জাতিয়ার	০১৭৭৭২১৫০১০	
4	মোঃ মোকদ্দেস সিদ্দিক	জাতিয়ার	০২৭৪৫৫৫৮৮৪৪	মোঃ মোকদ্দেস
5	সুহেল			সুহেল
6	মোঃ রবুল মিয়া			রবুল
7	আঃ মোমেন হুসেইন			আঃ মোমেন হুসেইন
8	মোঃ আবদুল হাফিজ			হাফিজ
9	মোঃ মোস্তাফিজুর রহমান		০২৫৮০২০৭৬৭	মোঃ মোস্তাফিজুর
10	আব্দুল হুসেইন খান			আব্দুল হুসেইন
11	মোঃ রমজান			রমজান
12	আবুল কালাম			আবুল কালাম
13	মোঃ আমজাদ		০২৭০৮৬২০৬০০	আবদুল
14	মোঃ জাহিদ		০১৭৭-৭৪৭১৭২	মোঃ জাহিদ
15	মোঃ রবুল মিয়া		০১৭৪০-৭৫৬৮০৭	রবুল
16	মোঃ সুহেল		০২৭৮৭৭৮০৬৬৬	সুহেল
17	মোঃ মোস্তাফিজ		০১৭৬৭ ৩৪৬৫৫৭	মোঃ মোস্তাফিজ
18	মোঃ আবদুল		০১৭৪৭-১২৭৪৪৭	আবদুল
19	মোঃ মোস্তাফিজ		০১৭৪৭-৪০৩৫৪৭	মোঃ মোস্তাফিজ
20	মোঃ আবদুল		০১৭৪৭-৭৭০৭৭৭	আবদুল

Name of Field Coordinator Md. Monzurul Haque

Form F(i): FGD Participant's List

List of Participants

Focused Group Sunamchar Date & Time 14/12/15 to 12:00Location সুনামচার গ্রাম

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	জিয়াউর রহমান	সুনামচার	01752-894978	জিয়াউর রহমান
2	মার্ট মিয়া	"		মার্ট মিয়া
3	মোহাম্মদ	"	01739-866610	মোহাম্মদ
4	মোঃ ইদ্রিস মিয়া	"		ইদ্রিস
5	মোঃ মোনির মিয়া	"		মোনির
6	মোঃ বাবুল	"	01781801979	বাবুল
7	মোঃ আব্দুল আজিজ	"		আব্দুল আজিজ
8	মোঃ জাহিদুল	"	0298860262	জাহিদুল
9	মোঃ হেলাল	"	0298895662	হেলাল
10	মোঃ গোলাম		0298860262	গোলাম
11	মতি			মতি
12	মোঃ রুহ		02929602089	রুহ
13	মোঃ হেলাল		01822-808163	হেলাল
14	মোঃ আল		02972330360	আল
15	মোঃ আল			আল
16	মোঃ হেলাল		02975662289	হেলাল
17	মোঃ আমানুল ইসলাম	"	01755-504427	আমানুল ইসলাম
18	মোঃ মিয়া	"		মিয়া
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Chairman
UnionName of Field Coordinator Md. Monzurul Haque

11. Boraikhal Khal Sub-project

Form F(i): FGD Participant's List

List of Participants

Focused Group Boraikhal Khal Sub Project Date & Time 15/12/2015

Location দক্ষিণ পানান

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	আব্দুল গনিম	দক্ষিণ পানান/হাতি		আঃ গনিম
2	মোঃ মাহিদুজ্জামান	দক্ষিণ পানান/হাতি	01731-570290	মাহিদুজ্জামান
3	মোঃ মাহিদুজ্জামান	ডাঃ/হাতি	01715895734	মোঃ মাহিদুজ্জামান
4	মোঃ মোহাম্মদ	দ/হাতি	01988-645189	মোঃ মোহাম্মদ
5	আব্দুল আজিজ	দ/হাতি	01798-434703	আব্দুল আজিজ
6	আব্দুল হামিদ	দক্ষিণ পানান		আব্দুল হামিদ
7	মোঃ মাহিদুজ্জামান	দক্ষিণ পানান/হাতি	01744727813	মোঃ মাহিদুজ্জামান
8	মোঃ মাহিদুজ্জামান	দক্ষিণ পানান/হাতি	01729846873	মোঃ মাহিদুজ্জামান
9	মোঃ মাহিদুজ্জামান	দক্ষিণ পানান/হাতি		মোঃ মাহিদুজ্জামান
10	মোঃ মাহিদুজ্জামান	দক্ষিণ পানান/হাতি	01783480692	মোঃ মাহিদুজ্জামান
11	মোঃ মাহিদুজ্জামান	দক্ষিণ পানান/হাতি	01799228743	মোঃ মাহিদুজ্জামান
12	মোঃ মাহিদুজ্জামান	দক্ষিণ পানান/হাতি		মোঃ মাহিদুজ্জামান
13	মোঃ মাহিদুজ্জামান	দক্ষিণ পানান/হাতি	01715794049	মোঃ মাহিদুজ্জামান
14	মোঃ মাহিদুজ্জামান	দক্ষিণ পানান/হাতি	01911003996	মোঃ মাহিদুজ্জামান
15	মোঃ মাহিদুজ্জামান	দক্ষিণ পানান/হাতি	01744-927816	মোঃ মাহিদুজ্জামান
16	মোঃ মাহিদুজ্জামান	দক্ষিণ পানান/হাতি	01735917179	মোঃ মাহিদুজ্জামান
17	মোঃ মাহিদুজ্জামান	দক্ষিণ পানান/হাতি	01796-691071	মোঃ মাহিদুজ্জামান
18	মোঃ মাহিদুজ্জামান	দক্ষিণ পানান/হাতি	01730-653691	মোঃ মাহিদুজ্জামান
19	মোঃ মাহিদুজ্জামান	দক্ষিণ পানান/হাতি	01731687716	মোঃ মাহিদুজ্জামান
20	মোঃ মাহিদুজ্জামান	দক্ষিণ পানান/হাতি	01930774499	মোঃ মাহিদুজ্জামান

Name of Field Coordinator Monzurul Haque

Form F(i): FGD Participant's List

List of Participants

Focused Group Borrai' Khali Khali Subproject Date & Time 15.12.2015
 Location দক্ষিণ পানান

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	মোঃ মাহমুদুল হক	মাধ্যমিক / ৯	০১৭৫৪৪৩৩৭৮৬	মাহমুদুল হক
2	মোঃ মাহমুদুল হক	৫৭০-৯	০১৭৫৫৫২৫৪৮	মাহমুদুল হক
3	মোঃ আব্দুল মজিদ	দক্ষিণ পানান	০১৭২৬০৭৭৪৮	আব্দুল মজিদ
4	মোঃ আব্দুল হক	ভাংগী	০১৭২০৬৫৫৫০৬	আব্দুল হক
5	মোঃ ইমদাদুল হক	৫৭০-৯		আব্দুল হক
6	মোঃ মাহমুদুল হক	ভাংগী	০১৭৫৫৫৫৫৫	মাহমুদুল হক
7	মোঃ মাহমুদুল হক	৫৭০-৯	০১৭৬৭-৫৬৫৬৫	মাহমুদুল হক
8	মোঃ দিয়ারজ মিয়া	দক্ষিণ পানান		মিয়া
9	মোঃ গোলাম মিয়া	ভাংগী / মধ্য		গোলাম
10	মোঃ আব্দুল হক	৫ / ৫৭০-৯		আব্দুল হক
11	মোঃ আব্দুল হক	৫ / ৫৭০-৯		আব্দুল হক
12	মোঃ মাহমুদুল হক	৫ / ৫৭০-৯	০১৭২৬-৭৭৭৭৭৭৭	মাহমুদুল হক
13	মোঃ মাহমুদুল হক	পানান চিকিৎসা	০১৭১৪২৩৪৫৬	মাহমুদুল হক
14				
15				
16				
17				
18				
19				
20				

Name of Field Coordinator Md. Monzurul Haque

12. Dakhiner Haor Sub-Project

Form F(i): FGD Participant's List

List of Participants

Focused Group Dakhiner Haor project Date & Time 17/12/2015 : 1:30

Location জয়সিদ্ধি

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1				
2	শ্রী: কামরুন মিয়া	জয়সিদ্ধি / কৃষক	02227 02887	কামরুন মিয়া
3	কামরুন আলা	" কৃষিকাজ		কামরুন
4	শ্রী: তপস্বী মিয়া	" "		তপস্বী
5	দ্বিজেন্দ্র দাস	" কৃষক	01928 423986	দ্বিজেন্দ্র
6	শ্রী: রেজাউল করিম	উজান / কৃষিকাজ	01922 42225	রেজাউল
7	শ্রী: মোল্লাহামদ মিয়া	" / কৃষিকাজ	01851-999142	মো: মুহাম্মদ
8	মুদাস মুদাস	" / কৃষিকাজ		মুদাস
9	শ্রী: মাহমুদ মিয়া	" / কৃষিকাজ	01928 62322	মাহমুদ
10	শ্রী: আশিক উদ্দিন	" / কৃষিকাজ	01716-013425	শ্রী: আব্বাস উদ্দিন
11	শ্রী: মোল্লা-আমিন	জয়সিদ্ধি / কৃষিকাজ	01711 207510	আমিন
12	শ্রী: হাফিজ	" / কৃষিকাজ		হাফিজ
13	শ্রী: মোস্তাফিজ দাস	" / মধ্য		মোস্তাফিজ
14	আমির আলী	" / কৃষিকাজ	01759-574016	আমির আলী
15	মিয়াহামদ	" কৃষক	01711288609	মিয়াহামদ
16	মমিনুল চন্দ্র দাস	" / কৃষিকাজ	01741-595600	মমিনুল
17	শ্রী: আবদুল হক	জয়সিদ্ধি - কৃষক	01711354533	আবদুল হক
18	করেন চাকুর	" / "	01999-166477	করেন
19	নাজমুল ইসলাম	"	01916494533	নাজমুল
20	শ্রী: ইমদাদ হামদ	" / পরিমাপক	01711072452	ইমদাদ

Name of Field Coordinator _____

13. Chatal Haor Subproject

List of Participants				
Focused Group: Chatal Haor			Date & Time: 19/12/2015	
Location: Anshela, Itna				
ক্রম	নাম	পাড়া / গ্রাম	যোগাযোগ নম্বর	স্বাক্ষর
1.	আঃ সাহাভার হোসেন মুন্সি	আমহিনা, হুগল	01916442716	আঃ সাহাভার
2.	আঃ মিলন মল্লিক	" হুগল	07700889615	আঃ মিলন
3.	আঃ আমিনুল্লাহ কোক	" হাওড়া	01954565992	আঃ আমিনুল্লাহ
4.	আঃ মাকসুদ হোসেন মিল	" হুগল	01933009170	আঃ মাকসুদ
5.	আব্দুল হক	" হাওড়া	01796370520	আব্দুল হক
6.	হুমায়ূন	" হুগল	মার	হুমায়ূন
7.	আঃ নূরুল হুমায়ূন	" "	01993661835	আঃ নূরুল হুমায়ূন
8.	আঃ মাহমুদুল্লাহ	" "	01914180657	আঃ মাহমুদুল্লাহ
9.	মাহমুদ	" ইলিশিয়া	01924925145	মাহমুদ
10.	আল-আমিন	" হুগল	মার	-
11.	আঃ মাহমুদ হুমায়ূন	" "	01952915366	আঃ মাহমুদ হুমায়ূন
12.	মুহাম্মদ হুমায়ূন	" হাওড়া	01793126075	মুহাম্মদ হুমায়ূন
13.	আঃ হুমায়ূন মিল	" হুগল	01754054739	আঃ হুমায়ূন
14.	মাহমুদ কোক	" "	01960135181	মাহমুদ
15.	মাহমুদ হুমায়ূন	" "	01984413326	আঃ মাহমুদ হুমায়ূন
16.	আঃ মিলন মল্লিক	" "	01743491470	আঃ মিলন
17.	আঃ হুমায়ূন মিল	" "	01775359239	আঃ হুমায়ূন
18.	আব্দুল মাহমুদ মল্লিক	" "	মার	আঃ মাহমুদ
19.	মিলন	" হুগল	-	-

Date: 19/12/2015

	নাম	পিতা / মাতা	স্বাক্ষর	মোবাইল নম্বর
20	সুমন	আবদুল হক/সুমন	স্বাক্ষর	01711181
22	মো: আবদুল হক/সুমন	"	স্বাক্ষর	01916442716
22	সুমন	"	"	01969549659
26	আবদুল হক	"	"	01711181
28	সুমন	"	"	01962418545
28	সুমন	"	"	0171619100223
28	সুমন	"	"	01722244738
29	সুমন	"	"	01713599805
26	সুমন	"	"	01865159889
28	সুমন	"	"	017336591982
30	সুমন	"	"	01959328414
32	সুমন	"	"	01938522516
32	সুমন	"	"	
36	সুমন	"	"	
38	সুমন	"	"	

Name of Field Coordinator----

Md. Saidur Rahman

14. Ganesh Haor Subproject

Ganesh Haor project
Form F(i): FGD Participant's List

List of Participants

Focused Group Ganesh Haor Date & Time 21/12/2015 2:45
Location গাণেশ হাওর, পি.সি-৭নং মুন্সী কল্যাণী-আটমাড়া ডেপু-লকোনা

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	শ্রী: মির্জা জিয়া	গাণেশ হাওর, কৃষক	০১৭০৬৬২২৮০	
2	জিয়া	" কৃষক	নাহ	
3	শ্রী: মোহাম্মদ হামিদ	" কৃষক	০১৯২২৭৭৬০০৭	শ্রী: মোহাম্মদ
4	মোহাম্মদ হামিদ	" কৃষক	০১৭৬৮৫০৮৫০০	মোহাম্মদ হামিদ
5	মোহাম্মদ হামিদ	" কৃষক	০১৭৯২৯০৮৮০০	মোহাম্মদ হামিদ
6	মোহাম্মদ হামিদ	" কৃষক	০১৯২৭৭৬০০০৭	মোহাম্মদ হামিদ
7	মোহাম্মদ হামিদ	" কৃষক	০১৭১৫০২০২৭৫	মোহাম্মদ হামিদ
8	মোহাম্মদ হামিদ	" কৃষক	০১৭০৮-৭৬০০৭৫	মোহাম্মদ হামিদ
9	মোহাম্মদ হামিদ	" কৃষক	০১৭২৭৮২০৮১২	মোহাম্মদ হামিদ
10	শ্রী: মির্জা জিয়া	গাণেশ হাওর, কৃষক	নাহ	শ্রী: মির্জা জিয়া
11	মোহাম্মদ হামিদ	গাণেশ হাওর, কৃষক	০১৭৯২৯০৮৮০০	মোহাম্মদ হামিদ
12	মোহাম্মদ হামিদ	" কৃষক	নাহ	
13	শ্রী: মোহাম্মদ হামিদ	" কৃষক	নাহ	শ্রী: মোহাম্মদ হামিদ
14	মোহাম্মদ হামিদ	গাণেশ হাওর, কৃষক	০১৭০৮৫০৮৫০০	মোহাম্মদ হামিদ
15	মোহাম্মদ হামিদ	গাণেশ হাওর, কৃষক	০১৭৬৮৫০৮৫০০	মোহাম্মদ হামিদ
16	মোহাম্মদ হামিদ	গাণেশ হাওর, কৃষক	নাহ	মোহাম্মদ হামিদ
17	মোহাম্মদ হামিদ	" কৃষক	০১৭২২৭৭৬০০০৭	মোহাম্মদ হামিদ
18	মোহাম্মদ হামিদ	" কৃষক	০১৭০৮৫০৮৫০০	মোহাম্মদ হামিদ
19	মোহাম্মদ হামিদ	" কৃষক	নাহ	
20	মোহাম্মদ হামিদ	গাণেশ হাওর, কৃষক	০১৭১৮০৮১৩৬৭	মোহাম্মদ হামিদ



Name of Field Coordinator Md. Saidur Rahman

Ganesh Haor project

Form F(i): FGD Participant's List

List of Participants

Focused Group Discussion of Ganesh Haor Date & Time 21/12/15 2:45
 Location (সমানাম্রা, উপ-৭ নং মুকাদ্দা ডাঙরীয়া-আবদুল জিন্না (নওকোনা)

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	আঃ আরোফ হোসেন	সমানাম্রা, মুকাদ্দা	01726528877	
2	আবদুল আলী	" , কৃষি	01924083434	আবদুল আলী
3	আবুল মিলিন আহমেদ	" , কৃষি	01914626655	আবুল মিলিন
4	আমী আরজু	বরপাড়া, কৃষি	02924808066	আমী আরজু
5	আবদুল হকমান বানি	" , কৃষক	01715112766	আবদুল হকমান বানি
6	আবদুল হকমান	সমানাম্রা, মুকাদ্দা	01768071997	
7	আঃ জাকির মিয়া	বরপাড়া, কৃষি	01723328036	আঃ জাকির
8	সুপ্তি বানি	সমানাম্রা, কৃষি	নাহ	সুপ্তি বানি
9	আবদুল আজিজ	" , কৃষি	নাহ	আবদুল আজিজ
10	আবদুল	" "	নাহ	আবদুল
11	আবদুল	" "	01924083434	আবদুল
12	আবদুল	" "	01710361981	আবদুল
13	সিদ্দিকুর আজিজ	" "	নাহ	সিদ্দিকুর আজিজ
14	আবদুল আজিজ	" "	নাহ	
15	আবদুল	" , কৃষি	নাহ	আবদুল
16	কলিমুল মিন	সমানাম্রা, কৃষি	01936790671	কলিমুল মিন
17	কলিম মিয়া	" , কৃষি	নাহ	কলিম মিয়া
18	হাবি মিয়া	" , কৃষি	নাহ	হাবি
19	মিরাজ মিয়া	বরপাড়া, কৃষি	01782803423	মিরাজ
20				

Name of Field Coordinator Md. Saidur Rahman

15. Khaliajuri FCD Polder- 2

Form F(i): FGD Participant's List

Khaliajuri FCD polder-2

List of Participants

Focused Group _____ Date & Time 24/12/15 3:00

Location খালিয়াজুরি সদর, খালিয়াজুরি-৩, জেলা: খালিয়াজুরি, ঢাকা

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	মো: আবুল কালাম খালিয়াজুরি, চাষী	খালিয়াজুরি, চাষী	01718603235	আবুল কালাম
2	মুহাম্মদ আবদুল খালিয়াজুরি, চাষী	খালিয়াজুরি, চাষী	01911125381	মুহাম্মদ আবদুল
3	কাজল মন্ডল হা খালিয়াজুরি, চাষী	খালিয়াজুরি, চাষী	01748022321	কাজল
4	আবদুল মিয়া খালিয়াজুরি, চাষী	খালিয়াজুরি, চাষী	01737067884	আবদুল
5	আবুল কালাম খালিয়াজুরি, চাষী	খালিয়াজুরি, চাষী	01733994855	আবুল কালাম
6	মো: আবুল কালাম খালিয়াজুরি, চাষী	খালিয়াজুরি, চাষী	01733641952	আবুল কালাম
7	আবদুল কালাম খালিয়াজুরি, চাষী	খালিয়াজুরি, চাষী	01740978723	আবদুল কালাম
8	মিলন চন্দ্র খালিয়াজুরি, চাষী	খালিয়াজুরি, চাষী	01744102348	মিলন
9	নীলমণি চন্দ্র খালিয়াজুরি, চাষী	খালিয়াজুরি, চাষী	01716413164	নীলমণি
10	আবুল কালাম খালিয়াজুরি, চাষী	খালিয়াজুরি, চাষী	01716235036	আবুল কালাম
11	মিলন চন্দ্র খালিয়াজুরি, চাষী	খালিয়াজুরি, চাষী	01719601388	মিলন চন্দ্র
12	আবুল কালাম খালিয়াজুরি, চাষী	খালিয়াজুরি, চাষী	নাই	আবুল কালাম
13	মিলন চন্দ্র খালিয়াজুরি, চাষী	খালিয়াজুরি, চাষী	নাই	মিলন চন্দ্র
14	আবুল কালাম খালিয়াজুরি, চাষী	খালিয়াজুরি, চাষী	01789094782	আবুল কালাম
15	আবুল কালাম খালিয়াজুরি, চাষী	খালিয়াজুরি, চাষী	নাই	আবুল কালাম
16	আবুল কালাম খালিয়াজুরি, চাষী	খালিয়াজুরি, চাষী	নাই	আবুল কালাম
17	মিলন চন্দ্র খালিয়াজুরি, চাষী	খালিয়াজুরি, চাষী	নাই	মিলন চন্দ্র
18	আবুল কালাম খালিয়াজুরি, চাষী	খালিয়াজুরি, চাষী	01724012497	আবুল কালাম
19	আবুল কালাম খালিয়াজুরি, চাষী	খালিয়াজুরি, চাষী	01742716215	আবুল কালাম
20	আবুল কালাম খালিয়াজুরি, চাষী	খালিয়াজুরি, চাষী	01722481935	আবুল কালাম

Name of Field Coordinator Md. Saidur Rahman

16.Khaliajuri FCD Polder -4

Khaliajuri FCD polder-4.
Form F(i): FGD Participant's List

List of Participants

Focused Group _____ Date & Time 26/12/15 12:00
Location জগন্নাথপুর, বড়, সি-২৩, মেদিনীপুর উসমানিয়া - খালিয়াজুরী - ক্রীড়া-নোয়ালা

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	শ্রী: মোজিবুর রহমান	জগন্নাথপুর, UP-সহায়	01790426396	
2	শ্রী: মোজিবুর রহমান	" , UP-সহায়	01752229111	
3	শ্রী: ব্রজেন কলিতা	" , ব্যবসা	01718320516	শ্রী: ব্রজেন কলিতা
4	শ্রী: ব্রজেন কলিতা	" , UP-সহায়	01716563732	
5	শ্রী: মোজিবুর রহমান	জগন্নাথপুর, ব্যবসা	01727345580	
6	শ্রী: জয়নান আলম	" , UP-সহায়	01721724090	
7	শ্রী: জয়নান আলম	" , কৃষি	01718584943	
8	শ্রী: মোজিবুর রহমান	" , কৃষি	01735813199	শ্রী: মোজিবুর রহমান
9	শ্রী: মোজিবুর রহমান	" , ব্যবসা	01710999827	
10	শ্রী: মোজিবুর রহমান	" , কৃষি	নাই	শ্রী: মোজিবুর রহমান
11	শ্রী: মোজিবুর রহমান	জগন্নাথপুর, কৃষি	নাই	শ্রী: মোজিবুর রহমান
12	শ্রী: মোজিবুর রহমান	" , কৃষি	নাই	শ্রী: মোজিবুর রহমান
13	শ্রী: মোজিবুর রহমান	" , কৃষি	01714935329	শ্রী: মোজিবুর রহমান
14	শ্রী: মোজিবুর রহমান	" , কৃষি	নাই	শ্রী: মোজিবুর রহমান
15	শ্রী: মোজিবুর রহমান	" , ব্যবসা	01717712618	শ্রী: মোজিবুর রহমান
16	শ্রী: মোজিবুর রহমান	" , কৃষি	নাই	শ্রী: মোজিবুর রহমান
17	শ্রী: মোজিবুর রহমান	" , কৃষি	01778514199	শ্রী: মোজিবুর রহমান
18	শ্রী: মোজিবুর রহমান	জগন্নাথপুর, ব্যবসা	01712053348	শ্রী: মোজিবুর রহমান
19	শ্রী: মোজিবুর রহমান	" , ব্যবসা	01731973615	শ্রী: মোজিবুর রহমান
20	শ্রী: মোজিবুর রহমান	" , কৃষি	নাই	-

Name of Field Coordinator Md. Saidur Rahman

Khaliajuri FCD polder-4

Form F(i): FGD Participant's List

List of Participants

Focused Group

Date & Time 26/12/15 12:00

Location কালিয়াজুরি, কক্সবাজার-১ উপজেলা - খালিয়াজুরি হাওর - (১০ নং ওয়ার্ড)

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	মো: মোকাম্মিল মিয়া	কক্সবাজার, কক্সবাজার	01733195851	- (মোকাম্মিল)
2	মো: মাহমুদ মিয়া	" , কক্সবাজার	01725786340	- (মো: মাহমুদ)
3	মো: মাহমুদ মিয়া	" , কক্সবাজার	নাই	মো: মাহমুদ মিয়া
4	মো: মাহমুদ মিয়া	" , কক্সবাজার	01772357022	মো: মাহমুদ মিয়া
5	মো: মাহমুদ মিয়া	" , কক্সবাজার	নাই	-
6	মো: হোসেন মিয়া	কক্সবাজার, কক্সবাজার	নাই	মো: হোসেন মিয়া
7	মো: মোকাম্মিল মিয়া	" , কক্সবাজার	01739207635	মো: মোকাম্মিল মিয়া
8	মো: মোকাম্মিল মিয়া	" , কক্সবাজার	01878062215	মো: মোকাম্মিল মিয়া
9	মো: মোকাম্মিল মিয়া	" , কক্সবাজার	নাই	-
10	মো: মোকাম্মিল মিয়া	কক্সবাজার, কক্সবাজার	01737068218	মো: মোকাম্মিল মিয়া
11	মো: মোকাম্মিল মিয়া	" , কক্সবাজার	01735698858	মো: মোকাম্মিল মিয়া
12	মো: মোকাম্মিল মিয়া	" , কক্সবাজার	03952524446	মো: মোকাম্মিল মিয়া
13	মো: মোকাম্মিল মিয়া	কক্সবাজার, কক্সবাজার	নাই	মো: মোকাম্মিল মিয়া
14	মো: মোকাম্মিল মিয়া	" , কক্সবাজার	নাই	মো: মোকাম্মিল মিয়া
15	মো: মোকাম্মিল মিয়া	" , কক্সবাজার	নাই	মো: মোকাম্মিল মিয়া
16	মো: মোকাম্মিল মিয়া	" , কক্সবাজার	নাই	-
17	মো: মোকাম্মিল মিয়া	" , কক্সবাজার	নাই	মো: মোকাম্মিল মিয়া
18	মো: মোকাম্মিল মিয়া	" , কক্সবাজার	নাই	-
19	মো: মোকাম্মিল মিয়া	" , কক্সবাজার	নাই	মো: মোকাম্মিল মিয়া
20	মো: মোকাম্মিল মিয়া	কক্সবাজার, কক্সবাজার	নাই	-

Name of Field Coordinator Md. Saidur Rahman

Khaliarjun HCD polder-4.

Form F(i): FGD Participant's List

List of Participants

Focused Group

Date & Time 26/12/15 12:00

Location জগন্নাথপুর, ইউ.পি.-১৯১ (খালিয়ার) বরগুনা-খালিয়াজুরী থানা-কুমিল্লা

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	সাবনা	জগন্নাথপুর, গ্রামিনী	৯৮৬	-
2	সাদিনা	" , দিনমজুরী	৯৮৬	সাদিনা
3	সোফিয়া	" , "	৯৮৬	সোফিয়া
4	উজ্জ্বলা	" , "	৯৮৬	উজ্জ্বলা
5	সামসু	" , গ্রামিনী	৯৮৬	সামসু
6	সাবনা	জগন্নাথপুর, -	৯৮৬	সাবনা
7	আলকাজান	" , গ্রামিনী	৯৮৬	আলকাজান
8	সুফিয়া	" , "	৯৮৬	সুফিয়া
9	কিরনমালা	" , গ্রামিনী	৯৮৬	কিরনমালা
10	হাতিমালা	" , "	৯৮৬	হাতিমালা
11	বতিমালা	" , গ্রামিনী	৯৮৬	বতি
12	আলুমতি	" , "	৯৮৬	-
13	সুফিয়া	" , "	৯৮৬	-
14	উজ্জ্বলা	" , গ্রামিনী	৯৮৬	-
15	সাদিনা	জগন্নাথপুর, "	৯৮৬	-
16	সাদিনা	" , "	৯৮৬	সাদিনা
17	সাদিনা	" , গ্রামিনী	৯৮৬	সাদিনা
18	সাদিনা	" , দিনমজুরী	৯৮৬	সাদিনা
19	সাদিনা	" , দিনমজুরী	৯৮৬	সাদিনা
20	সাদিনা	" , গ্রামিনী	৯৮৬	-

Name of Field Coordinator Mt. Saidur Rahman

17. Singer Beel Sub-Project

Form F(i): FGD Participant's List

Singer Beel Subproject

List of Participants

Focused Group _____ Date & Time 28/12/15 12:20

Location খোন্দোনা, UP-৫৯৯ চিহ্নম উদ্যান-১৪২৫৮ ফোন-৬৬৬০৮৮

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	শ্রী: সানিফায়াস রত্ন	খোন্দোনা কৃষি	01746682449	সিহান
2	আমিরুল ইসলাম	"	নাহ	আমিরুল ইসলাম
3	আব্দুর রহমান	সামান্দিয়াবাড়ি, কৃষি	01738243775	সিহান
4	শ্রী: সত্যেন্দ্র মিহা	খোন্দোনা, UP-২৮২	01728333940	সত্যেন্দ্র
5	শ্রী: আলিম	সামান্দিয়াবাড়ি, কৃষি	01771518260	-
6	জামায়াতুল	সামান্দিয়াবাড়ি, কৃষি	-	জামায়াতুল
7	বাহাদুর	সামান্দিয়াবাড়ি, কৃষি	-	-
8	সহানা আক্তার	" , কৃষি	-	সহানা
9	সুব্রহ্মা	" , "	-	-
10	আলমগীর আক্তার	চাষা, দিন মজুর	নাহ	আলমগীর
11	আমর	" "	নাহ	-
12	মাহেজু আক্তার	চাষা, "	নাহ	-
13	আমিরুল	" "	নাহ	আমিরুল
14	রুজ্জাহ	চিহ্নম, দিন মজুর	নাহ	-
15	আব্দুল	" "	নাহ	আব্দুল
16	সুভদ্রা	সামান্দিয়াবাড়ি, "	01722323895	-
17	সুভদ্রা	" "	নাহ	সুভদ্রা
18	সুভদ্রা	খোন্দোনা, চাষা	নাহ	সুভদ্রা
19	শ্রী: শাহিদা মিহা	" , কৃষি	01763898817	শ্রী: শাহিদা মিহা
20	শ্রী: নূরুল হক	সামান্দিয়াবাড়ি, কৃষি	01759012763	শ্রী: নূরুল হক

Name of Field Coordinator Md. Saidur Rahman

Form F(i): FGD Participant's List

Singer Beel Subproject

List of Participants

Focused Group

Location

উপকোণা UP-৫নং চিহ্ন

Date & Time

26/02/20 22:20

উপকোণা-সংস্কৃতি (কোম-৬৬ কোম)

SI No.	Name	Para & Occupation	Mobile No.	Signature
1	কাজী-আব্দুল	সংস্কৃতি, কৃষি	01716055637	কাজী-আব্দুল
2	মো: আবদুল হক	" , কৃষি	01734263588	আবদুল হক
3	মো: হেলাল মিয়া	" , কৃষি	নাই	হেলাল
4	সাজিদ হক	জিলালা, কৃষি	নাই	-
5	মো: রফিকুল ইসলাম	" , কৃষি	01719227107	রফিক
6	মো: মাহবুব মিয়া	" , কৃষি	নাই	-
7	মো: নজরুল ইসলাম	সংস্কৃতি, কৃষি	01740898393	নজরুল ইসলাম
8	আব্দুল হক	জিলালা, কৃষি	01747290106	হক
9	মো: হেলাল মিয়া	কৃষি, কৃষি	01797462322	হেলাল মিয়া
10	মো: রফিকুল ইসলাম	কৃষি, UP-৫নং	01723050089	রফিকুল ইসলাম
11	আবদুল হক	সংস্কৃতি, কৃষি	-	আবদুল হক
12	মো: রফিকুল ইসলাম	"	01733966788	রফিকুল ইসলাম
13	মো: আবদুল হক	" , কৃষি	নাই	আবদুল হক
14	সাজিদ	" , কৃষি	নাই	সাজিদ
15	মো: হেলাল মিয়া	সংস্কৃতি, কৃষি	নাই	-
16	মো: মাহবুব মিয়া	সংস্কৃতি, কৃষি	01730603119	মাহবুব মিয়া
17	মো: হেলাল মিয়া	জিলালা, কৃষি	01725652193	হেলাল মিয়া
18	মো: আবদুল হক	সংস্কৃতি, কৃষি	নাই	আবদুল হক
19	মো: আবদুল হক	জিলালা, কৃষি	নাই	আবদুল হক
20				

Name of Field Coordinator

Md. Saidur Rahman

18. Dharmapasha Rui Beel Subproject

Dharmapasha Rui Beel project
Form F(i): FGD Participant's List

List of Participants

Focused Group Date & Time 27/22/2022 22: 80
Location পাইকুপাতি UP-৩নং পাইকুপাতি ডোমার-ধর্মপাশা ডোমার-সুন্দারগঞ্জ

SI No.	Name	Para & Occupation	Mobile No.	Signature
1	কমর হোসেনের বড়মান	পাইকুপাতি, UP-৩নং পাইকুপাতি	01711967609	
2	মো:আবুলকায়ম হোসেন	" কৃষি	01727896825	
3	মো:আবুলকায়ম হা	" কৃষক	01727897331	
4	মো:আবুলকায়ম(হা)মো	বোয়ালখোলা, চাঁদপুর	01745594597	
5	মো: ফিরোজ	কামালপুর, কৃষি	না	-
6	মো: টিটন মিয়া	" , কৃষি	01789091356	
7	মো: নাজিমুদ্দিন	পাইকুপাতি, কৃষি	না	
8	মো: আবুল মিয়া	" , কৃষক	01731309533	
9	মিঃ মিয়া	পাইকুপাতি, কৃষক	01786423451	-
10	আবুল মিয়া	পাইকুপাতি, কৃষক	01751328472	
11	আবুল হোসেন	পাইকুপাতি, কৃষক	না	-
12	আবুল মিয়া	পাইকুপাতি, কৃষি	না	-
13	মোঃ মাহমুদ	সুন্দারগঞ্জ, কৃষক	01714338777	
14	হাবিব	পাইকুপাতি, কৃষি	না	
15	মো: মাহমুদ	পাইকুপাতি, কৃষি	না	-
16	মো: মাহমুদ	পাইকুপাতি, কৃষি	না	
17	মো: মাহমুদ	পাইকুপাতি, কৃষি	না	
18	আবুল হোসেন	পাইকুপাতি, কৃষি	"	-
19	আবুল হোসেন	পাইকুপাতি, কৃষি	না	
20	আবুল	" , কৃষি	না	-

Name of Field Coordinator Md. Saidur Rahman

19. Dampara Water Management Scheme

Dampara Water Management Scheme
Form F(i): FGD Participant's List

List of Participants

Focused Group _____ Date & Time **31/12/15 10:20**
Location **সোমালি, উপ-গ্রাম বারগাড়া, সোমালি-পূর্ববঙ্গ (সম-সোমালি)**

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	মো. সোমালি	সোমালি-পূর্ববঙ্গ	০১৭১০-১৬৬৬৭০	
2	মো. সোমালি	সোমালি, পূর্ব	০১৭৪৭৬৫০৪৫৮	
3	মো. সোমালি	সোমালি, উপ-গ্রাম	০১৭৩৭৬৪৬৩০৩৫	
4	মো. সোমালি	সোমালি, উপ-গ্রাম	০১৭৩১৪৬৮১১০	
5	মো. সোমালি	সোমালি, পূর্ব	০১৭২৭৩২৭৯৮৩	
6	মো. সোমালি	সোমালি, পূর্ব	০১৭৪৩৭৪০০৪১	
7	মো. সোমালি	সোমালি, পূর্ব	০১৭২৫৪৩৪০৪৪	
8	মো. সোমালি	সোমালি, উপ-গ্রাম	০১৭৪৭৭৫২০৫৫	
9	মো. সোমালি	সোমালি, উপ-গ্রাম	০১৭৭৭০৩০২৭৭	
10	মো. সোমালি	সোমালি, উপ-গ্রাম	০১৭১৩৫৭৮০৭৩	
11	মো. সোমালি	সোমালি, পূর্ব	০১৭৪৩৭৪৫৮২০	
12	মো. সোমালি	সোমালি, পূর্ব	০১৭১৪৭১২১২৭	
13	মো. সোমালি	সোমালি, পূর্ব	০১৭৩৭২৫৭০০৫	
14	মো. সোমালি	সোমালি, পূর্ব	০১৭৭৮৩১৭৭৭৪	
15	মো. সোমালি	সোমালি, পূর্ব		
16	মো. সোমালি	সোমালি, পূর্ব	০১৭১৭৭৮৩৭৩২	
17	মো. সোমালি	সোমালি, উপ-গ্রাম	০১৭২৪৭৩১৭২৭	
18	মো. সোমালি	সোমালি, পূর্ব		
19	মো. সোমালি	সোমালি, পূর্ব	০১৭৩৬৭৫২৭১	
20	মো. সোমালি	সোমালি, পূর্ব	০১৭৪৩০৭৩১৫৬	

Name of Field Coordinator **Md. Saidur Rahman**

Form F(i): FGD Participant's List

List of Participants

Focused Group

Date & Time

31/12/15 10:20

Location

আবদুল্লাহ, UP-৩০৩৫১৫৩৩ উপগ্রাম-২৪৪৮৮ গ্রাম- (আবদুল্লাহ)

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	আবদুল্লাহ আলী	আবদুল্লাহ, গ্রাম	৯২	-
2	আবদুল্লাহ রহমান	গ্রাম, গ্রাম	01922750664	আব: আবদুল্লাহ
3	আবদুল্লাহ রহমান	গ্রাম, গ্রাম	01734127919	আব: রহমান
4	আবদুল্লাহ	আবদুল্লাহ, গ্রাম	৯২	আব: আবদুল্লাহ
5	আবদুল্লাহ	আবদুল্লাহ, গ্রাম	৯২	আব: আবদুল্লাহ
6	আবদুল্লাহ	আবদুল্লাহ, UP-২৪৪৮৮	01719322510	আব: আবদুল্লাহ
7	আবদুল্লাহ	আবদুল্লাহ	01730-193261	আব: আবদুল্লাহ
8	আবদুল্লাহ	আবদুল্লাহ, গ্রাম	01712226164	আব: আবদুল্লাহ
9	আবদুল্লাহ	আবদুল্লাহ, UP-২৪৪৮৮	01710095703	আব: আবদুল্লাহ
10	আবদুল্লাহ	আবদুল্লাহ, গ্রাম	01980160026	আব: আবদুল্লাহ
11	আবদুল্লাহ	আবদুল্লাহ, গ্রাম	01740630822	আব: আবদুল্লাহ
12	আবদুল্লাহ	আবদুল্লাহ	01922807161	আব: আবদুল্লাহ
13	আবদুল্লাহ	আবদুল্লাহ, গ্রাম	01717508082	আব: আবদুল্লাহ
14	আবদুল্লাহ	আবদুল্লাহ	01740618232	আব: আবদুল্লাহ
15	আবদুল্লাহ	আবদুল্লাহ, গ্রাম	01731086095	আব: আবদুল্লাহ
16	আবদুল্লাহ	আবদুল্লাহ, গ্রাম	01727986259	আব: আবদুল্লাহ
17	আবদুল্লাহ	আবদুল্লাহ, গ্রাম	01860020337	আব: আবদুল্লাহ
18	আবদুল্লাহ	আবদুল্লাহ, গ্রাম	01980107870	আব: আবদুল্লাহ
19	আবদুল্লাহ	আবদুল্লাহ, UP-২৪৪৮৮	01723197322	আব: আবদুল্লাহ
20	আবদুল্লাহ	আবদুল্লাহ, গ্রাম	01920171547	আব: আবদুল্লাহ

Name of Field Coordinator

Md. Saidun Rahman

Dampara Water Management Scheme
Form F(i): FGD Participant's List

List of Participants

Focused Group

Date & Time

31/12/13 10:20

Location

আমরা, উপ-গ্রাম ওয়াশিং স্টেশন-২৪৪৫ গ্রাম-আমরা

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	আমর	আমর, গ্রাম	01911741849	আমর
2	আমর	আমর, গ্রাম	01743690232	আমর
3	আমর	আমর, গ্রাম	01737067910	আমর
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Name of Field Coordinator

Md. Saidur Rahman

20. Dhakua Haor Subproject

Form F(i): FGD Participant's List

Dhakua Haor project

List of Participants

Focused Group _____ Date & Time 06/02/2024 22:00

Location ডাখুয়া, ইউ.পি-৬২৩ মোহনপুর উপজেলার-সুন্দরগঞ্জ সদর জেলা-সুন্দরগঞ্জ

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	আবদুল হান্নান	মোহনপুর- কৃষক	০১৭১২-৬০৬০৯৫	আবদুল হান্নান
2	মাহমুদ আলী	মোহনপুর কৃষক	০১৭৬১৭৭৬৮০	মাহমুদ আলী
3	আবু গালাম মুন্স	মোহনপুর কৃষক	০১৭৪০৪৭৪১৩৭	আবু গালাম মুন্স
4	আবদুল হক	মোহনপুর কৃষক	০১৭২৭৬৫৪৬২৩	আবদুল হক
5	মাহমুদ মিয়া	মোহনপুর কৃষক	০১৭২	মাহমুদ মিয়া
6	আবু হুসেইন মোহাম্মদ	মোহনপুর UP-মোহনপুর	০১৭১৮২৪৫২৪১	আবু হুসেইন মোহাম্মদ
7	আবদুল মালিক	মোহনপুর UP-মোহনপুর	০১৭১৬-৬৮৭৪৬১	আবদুল মালিক
8	আবু হুসেইন মিয়া	মোহনপুর কৃষক	০১৭৬৭৬৭০০০	আবু হুসেইন মিয়া
9	আবু হুসেইন মিয়া	মোহনপুর কৃষক	০১৭৬৬২৪৭৭৫	আবু হুসেইন মিয়া
10	আবদুল মালিক	মোহনপুর কৃষক	০১৭১৭৪০০৭২	আবদুল মালিক
11	আবু হুসেইন মিয়া	মোহনপুর কৃষক	০১৭৪৭৪৪৭৬৫০	আবু হুসেইন মিয়া
12	আবদুল মালিক	মোহনপুর কৃষক	০১৭৪৭৫১০১৩০ ০১৭৪৭৪৭৬৫৫	আবদুল মালিক
13	আবদুল মালিক	মোহনপুর কৃষক	০১৭৪	আবদুল মালিক
14	আবদুল মালিক	মোহনপুর কৃষক	০১৭৪	আবদুল মালিক
15	আবদুল মালিক	মোহনপুর কৃষক	০১৭১৭-৭৪১৫	আবদুল মালিক
16	আবদুল মালিক	মোহনপুর কৃষক	০১৭২২০৬২৩১৬	আবদুল মালিক
17	আবদুল মালিক	মোহনপুর কৃষক	০১৭৪	আবদুল মালিক
18	আবদুল মালিক	মোহনপুর কৃষক	০১৭৪	আবদুল মালিক
19	আবদুল মালিক	মোহনপুর কৃষক	০১৭৪	আবদুল মালিক
20	আবদুল মালিক	মোহনপুর কৃষক	০১৭৪	আবদুল মালিক

Name of Field Coordinator Md. Saidur Rahman

Form F(i): FGD Participant's List

Dhakua Haor project

List of Participants

Focused Group

Date & Time

05/02/2016 ১১:৫০

Location

উপনগর ই.সি - (আবদুল হক) ডাকুয়া-সুন্দরগঞ্জ ২নং (আবদুল হক) সুন্দরগঞ্জ

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	আবদুল হক	উপনগর আবদুল হক	01740950957	আবদুল হক
2	আবদুল হক	আবদুল হক	নং	-
3	আবদুল হক	আবদুল হক	01912249983	আবদুল হক
4	আবদুল হক	আবদুল হক	নং	-
5	আবদুল হক	আবদুল হক	01752003260	আবদুল হক
6	আবদুল হক	আবদুল হক	নং	-
7	আবদুল হক	আবদুল হক	-	আবদুল হক
8	আবদুল হক	আবদুল হক	-	আবদুল হক
9	আবদুল হক	আবদুল হক	01738557801	Saidur
10	আবদুল হক	আবদুল হক	নং	আবদুল হক
11	আবদুল হক	আবদুল হক	01221906652	আবদুল হক
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Name of Field Coordinator

Md. Saidur Rahman

21. Jaliar Haor Project


Form F(i): FGD Participant's List

Jaliar Haor project

List of Participants

Focused Group _____ Date & Time 04/01/2016 3:10

Location মারুপা জোন (মহাশাওঁ ইউ.পি.-দক্ষিণ স্বরমাস উপজেলা-হাটহাট থানা-সুন্দরগঞ্জ

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	আব্দুল মছির	মারুপা জোন (মহাশাওঁ উপ-সুন্দরগঞ্জ	01712575411	
2	মুহম্মদ রহমান	মনির জাতি লোহাশাওঁ সমাজ সেবা	01730635535	আব্দুল মছির
3	আব্দুল মতিন	মারুপা জোন (মহাশাওঁ হাট	01731565622	মতিন
4	আব্দুল হাফিজ	মারুপা জোন (মহাশাওঁ হাট	01794757428	-
5	আব্দুল সামান	হাট	না	-
6	আবদুল আলী	মারুপা জোন (মহাশাওঁ হাট	01735178571	-
7	সুফুর আলী	হাট	01726689447	সুফুর আলী
8	আব্দুল করিম	হাট	না	-
9	মোহন আব্দুল আলী	হাট	না	-
10	লিফাফত আলী	হাট	01720205984	লিফাফত আলী
11	আব্দুল নিজাম উদ্দিন	হাট	01733935906	নিজাম
12	সুফুর আলী	মারুপা জোন (মহাশাওঁ হাট	01776515796	সুফুর আলী
13	বিমলজিয়ার	হাট	না	-
14	আবদুল রহমান	মনির জাতি লোহাশাওঁ হাট	01768331119	আবদুল রহমান
15	আব্দুল কামার	মারুপা জোন (মহাশাওঁ হাট	না	-
16	আফিকুল ইসলাম	হাট	01720908895	আফিকুল
17	ফাহিম	হাট	না	-
18	আলমাস আলী	হাট	01759933977	আলমাস
19	ফিরোজ আলী	হাট	01749739459	ফিরোজ
20	আফি মির	হাট	01719054501	আফি মির

Name of Field Coordinator Md. Saidur Rahman

Form F(i): FGD Participant's List

Jaliar Haor project

List of Participants

Focused Group

Date & Time

04/01/2016 3:10

Location

মাদারি কলম লোহা সার্ড, ইন্ডেসি-১ নং দক্ষিণ পুরানা, উম্মেদোলা-ছাতকা, জেলা-খুলনা

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	আবদুস আমীন	মাদারি কলম লোহা সার্ড হাতি	01726147631	আবদুস আমীন
2	আব্দুল জলিল	হাতি	017396943423	-
3	বাকির মিয়া	হাতি	নাই	-
4	আবদুস রহমান	হাতি	নাই	-
5	মুহাম্মদ ইমাম	হাতি	01729386454	মুহাম্মদ ইমাম
6	মিহাদু রহমান	মাদারি কলম লোহা সার্ড	নাই	মিহাদু রহমান
7	মুহাম্মদ আবদুল	মাদারি কলম লোহা সার্ড হাতি	নাই	বাকির
8	জমির জমির	হাতি	01720205984	জমির জমির
9	আবদু মিয়া	মাদারি কলম লোহা সার্ড হাতি	01722590345	আবদু মিয়া
10	বাকির রহমান	মাদারি কলম লোহা সার্ড হাতি	01799067993	বাকির
11	কামাল জমির	হাতি	নাই	-
12	মুহাম্মদ রহমান	হাতি	নাই	মুহাম্মদ
13	মুহাম্মদ রহমান	হাতি	নাই	মুহাম্মদ
14	মুহাম্মদ রহমান	হাতি	নাই	মুহাম্মদ
15	মুহাম্মদ রহমান	হাতি	01781025254	মুহাম্মদ রহমান
16	মুহাম্মদ রহমান	হাতি	01733935906	মুহাম্মদ রহমান
17	আবদুস	হাতি	নাই	-
18	আবদুস	হাতি	নাই	-
19	মি: আবদুল আজিজ	হাতি	01739884112	মি: আবদুল
20	ইলিয়াস রহমান	মাদারি কলম লোহা সার্ড হাতি	নাই	ইলিয়াস

Name of Field Coordinator

Md. Saidur Rahman

Form F(i): FGD Participant's List

Jaliam Haor project

List of Participants

Focused Group

Date & Time

04/01/2016 3:10

Location

আবুগাং হাওর (আবুগাং সড়ক, ইউ.সি-২৩৩ দক্ষিণ খুলনা, উপজেলা-হাওর, জেলা-খুলনা)

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	আবুগাং আবুগাং	আবুগাং হাওর (আবুগাং সড়ক)	01735251840	[Signature]
2	আবুগাং আবুগাং	আবুগাং হাওর (আবুগাং সড়ক)	01710442265	[Signature]
3	আবুগাং আবুগাং	আবুগাং হাওর (আবুগাং সড়ক)	01741519130	[Signature]
4	আবুগাং আবুগাং	আবুগাং হাওর (আবুগাং সড়ক)	01721286553	[Signature]
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Name of Field Coordinator Md. Saidur Rahman

22. Gungaijuri Haor Sub-Project

Form F(i): FGD Participant's List

Gungaijuri Haor Subproject

List of Participants

Focused Group _____ Date & Time 06/12/2016 2:45

Location মুহুরপুর, ইউ. সি-২৩, পানচাট, চন্দ্রনা-বাড়ন, জেলা-শরিয়াজ

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	শাহজাদা মো: আব্দুল আজিজ	মুহুরপুর UP- মদ্য	01722111481	
2	মো: আব্দুল আজিজ	হাট	01710933713	Mr. Anwar
3	আব্দুল মালিক	করসা	01797001461	মো: মালিক
4	মো: মোঃ আব্দুল আজিজ	চাঞ্চলী	01728550697	মো: আব্দুল আজিজ
5	মো: রুহুল আমিন	মধ্যকারি	৫ নং	-
6	শাহনব রশীদ	করসা	৫ নং	২ নং
7	রুহীদ মিয়া	মুহুরপুর মধ্যকারি	নং	-
8	আব্দুল আজিজ	হাট	নং	মো: মোঃ মালিক
9	মাকিম আলী	হাট	নং	৬ নং
10	মাকিম আলী	করসা	01709241920	মাকিম আলী
11	মো: জিতু মিয়া	করসা	01786629357	মো: জিতু মিয়া
12	মো: আলমগার	হাট	01753495368	আলমগার
13	জাবিদ আলী	হাট	নং	-
14	আব্দুল হামিদ	করসা	৫ নং	৩ নং
15	মাকিম আলী	করসা	নং	মাকিম আলী
16	আব্দুল মালিক	মুহুরপুর করসা	01711459481	আব্দুল মালিক
17	মাকিম আলী	করসা	01726380020	মাকিম
18	আব্দুল মালিক	করসা	01719222364	আব্দুল মালিক
19	আব্দুল মালিক	করসা	01789151978	আব্দুল মালিক
20	আব্দুল মালিক	হাট	নং	আব্দুল মালিক

Name of Field Coordinator Md. Saidur Rahman

Form F(i): FGD Participant's List

Gunaiguri Haor Subproject

List of Participants

Focused Group

Date & Time

06/12/2016 2:45

Location

মুন্সীগঞ্জ, হুগলি-৩নং গ্রামপাড়া, উদজনা-বাহুল, জেলা-রাজশাহী

SI No.	Name	Para & Occupation	Mobile No.	Signature
1	মুন্সিগঞ্জ	মুন্সিগঞ্জ	01742905506	মুন্সিগঞ্জ
2	হাওলা আলী	হাওলা আলী	নাই	-
3	আবুল হাওলা	হাওলা	01732266310	আবুল হাওলা
4	আলী আলী	হাওলা	নাই	আলী আলী
5	হাওলা আলী	হাওলা	01748684028	হাওলা
6	আবুল হাওলা	হাওলা	01788896676	আবুল হাওলা
7	ইব্রাহিম আলী	হাওলা	01751205977	ইব্রাহিম আলী
8	হাওলা আলী	হাওলা	01754885449	হাওলা আলী
9	আবুল হাওলা	হাওলা	01710712761	আবুল হাওলা
10	আবুল হাওলা	হাওলা	নাই	-
11	হাওলা আলী	হাওলা	01762802338	-
12	হাওলা আলী	হাওলা	01724563719	হাওলা আলী
13	হাওলা আলী	হাওলা	নাই	-
14	ইব্রাহিম আলী	হাওলা	01747911548	ইব্রাহিম আলী
15	সাব্বির আলী	হাওলা	01743530566	সাব্বির আলী
16	আবুল হাওলা	হাওলা	01741263645	আবুল হাওলা
17	আবুল হাওলা	হাওলা	01722113149	আবুল হাওলা
18	আবুল হাওলা	হাওলা	01732497377	আবুল হাওলা
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Name of Field Coordinator

Md. Saidur Rahman

23. Kair Dhala Ratna Sub-Project

Form F(i): FGD Participant's List

Kair Dhala Ratna Subproject

List of Participants

Focused Group _____ Date & Time 09/01/2016 3:10

Location কলমুখা, ইউ.সি-৩নং কলমুখা, উপজেলা-আড়াইগ্রাম, জেলা-হবিগঞ্জ

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	শ্রী: আবু কাউছার	কলমুখা, কৃষি	01623386051	শ্রী: আবু কাউছার
2	শ্রী: সাকিব মিঠা	ক, কৃষি	01741534229	সাকিব
3	সাহাব	ক, সূহিনী	নাই	সাহাব
4	লক্ষী রানী দাস	হুইলুখা, সূহিনী	নাই	লক্ষী রানী দাস
5	আলমগীর রাস্তা	কলমুখা, সূহিনী	নাই	-
6	সুমন মিঠা	কলমুখা, কৃষি	নাই	-
7	কাজলী রান	ক, সূহিনী	নাই	কাজলী
8	কাজলী রান	হুইলুখা, ক	নাই	কাজলী
9	আব্বাসী	ক " ক	নাই	-
10	সুমন রান	কলমুখা, ক	নাই	-
11	সুমন দাস	ক, সূহিনী	নাই	সুমন
12	সানিয়া	ক, সূহিনী	01704782432	সানিয়া
13	সাকিব	কলমুখা, সূহিনী	-	সাকিব
14	সাকিব রান	ক, " "	-	সাকিব
15	কাজলী দাস	কলমুখা, সূহিনী	-	কাজলী
16	সাহাব	ক, ক	-	সাহাব
17	সিরিষা	ক, ক	-	সিরিষা
18	মিল্লু মিঠা	ন, ন	-	মিল্লু
19	সানিয়া	ন, ন	-	-
20	বাবু	ন, ন	-	বাবু

Name of Field Coordinator Md. Saedur Rahman

Form F-1: FGD Participant's List

Kair Dhalra Ratna Subproject

List of Participants

Focused Group

Date & Time

09/01/2016 3:10

Location

জলসুখা, ইকু, সি-৩নং জলসুখা, উপজেলা-আড়িয়াগাতি, জেলা-হবিগঞ্জ

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	(মঃ) মোহাম্মদ হোসেন	স্বাম. (মোহাম্মদ হোসেন)	01722154735	মোহাম্মদ হোসেন
2	মা: লুৎফা রহমান	স্বাম. (লুৎফা রহমান)	01722807720	লুৎফা রহমান
3	মুজাহিদ মির্জা	স্বাম. (মুজাহিদ মির্জা)	01723575953	মুজাহিদ মির্জা
4	আবদুল হক (বকর)	জলসুখা, স্থানীয়	নাহ	আবদুল হক
5	মির্জা জেনাব	জলসুখা, দ	নাহ	জেনাব
6	স্বাম. মির্জা	জ, স্থানীয়	নাহ	মির্জা
7	স্বাম. মুজাহিদ	জলসুখা, স্বাম. মুজাহিদ	01729109663	মুজাহিদ
8	মির্জা আক্তার	স্বাম. (মির্জা আক্তার)	নাহ	মির্জা আক্তার
9	মা: সত্যজিৎ	স্বাম. (মা: সত্যজিৎ)	01729711263	সত্যজিৎ
10	মুজাহিদ	স্বাম. (মুজাহিদ)	নাহ	মুজাহিদ
11	স্বাম. মির্জা	স্বাম. (স্বাম. মির্জা)	নাহ	-
12	স্বাম. (বকর)	স্বাম. (স্বাম. (বকর))	নাহ	-
13	স্বাম. (বকর)	স্বাম. (স্বাম. (বকর))	নাহ	-
14	স্বাম. (বকর)	স্বাম. (স্বাম. (বকর))	নাহ	স্বাম. (বকর)
15	স্বাম. মির্জা	স্বাম. (স্বাম. মির্জা)	নাহ	-
16	স্বাম. (বকর)	স্বাম. (স্বাম. (বকর))	নাহ	স্বাম. (বকর)
17	স্বাম. (বকর)	স্বাম. (স্বাম. (বকর))	নাহ	-
18	স্বাম. মির্জা	জ, স্থানীয়	নাহ	স্বাম. মির্জা
19	স্বাম. (বকর)	স্বাম. (স্বাম. (বকর))	নাহ	-
20	স্বাম. (বকর)	জ, স্থানীয়	নাহ	-

Name of Field Coordinator

Md. Saidur Rahman

Form F(i): FGD Participant's List

Kaori Dhala Ratna Subproject

List of Participants

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Date & Time

09/01/2016 3:10

Location

কলমুখা, উপ-ডাল কলমুখা, কলমুখা-আড়াইদুলাই, বেল্লা-হকিগু

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	কিরন দাস	কলমুখা, হাতিয়া	-	-
2	মকসুম খিয়া	ক, দিনমুখা	নাট	-
3	হেমনত	ক, দিনমুখা	01	-
4	আলমতা বেগম	কলমুখা-হাতিয়া	01745204761	আলমতা
5	জিগীতিকা	কলমুখা-হাতিয়া	নাট	-
6	আলমতা বেগম	কলমুখা-হাতিয়া	নাট	০১০৮০৬
7	বনুমা বেগম	কলমুখা-হাতিয়া	নাট	-
8	জেনিফি	কলমুখা-হাতিয়া	নাট	-
9	আলমতা বেগম	কলমুখা-হাতিয়া	01703601753	আলমতা
10	দুলাল বেগম	ক	-	০৮০২০১
11	শ্রী (কমল) দাস	কলমুখা-হাতিয়া	-	-
12	শ্রী (কমল) দাস	ক দিনমুখা	-	-
13	ওকুনোদাস	কলমুখা-হাতিয়া	-	-
14	আঃ হাফিজ	কলমুখা-হাতিয়া	-	-
15	আলমতা বেগম	ক হাতিয়া	-	-
16	আলমতা বেগম	কলমুখা-হাতিয়া	-	-
17	নাঈমা বেগম	কলমুখা-হাতিয়া	-	-
18	রুপজা বেগম	কলমুখা-হাতিয়া	-	-
19	সত্যজিৎ	কলমুখা-হাতিয়া	-	-
20	কলমুখা দাস	কলমুখা-হাতিয়া	-	-

Name of Field Coordinator

Md. Saidur Rahman

Form F(i): FGD Participant's List

Kair Dhala Ratna Subproject

List of Participants

Focused Group

Date & Time 09/01/2016 3:10

Location

কলমুখা, উপ-ভাঙ্গা কলমুখা, ভৈরবপুর-ভাঙ্গা-কলমুখা, কলা-হাতিয়া

SI No.	Name	Para & Occupation	Mobile No.	Signature
1	আবুল কালাম	কলমুখা, কলমুখা	-	-
2	কাজী হোসেন	কলমুখা, কলমুখা	-	-
3	আবুল কালাম	কলমুখা, কলমুখা	01785746064	আবুল কালাম
4	নাসরাত	ক, ক	-	আবুল কালাম
5	আবুল হাশেম	কলমুখা, কলমুখা	01788883963	আবুল হাশেম
6	আবুল কালাম	ক, কলমুখা	-	-
7	আবুল কালাম	ক, কলমুখা	-	-
8	আবুল কালাম	ক, কলমুখা	-	-
9	আবুল কালাম	কলমুখা, কলমুখা	0174947328	আবুল কালাম
10	আবুল কালাম	ক	-	-
11	আবুল কালাম	ক	-	-
12	আবুল কালাম	ক	-	-
13	আবুল কালাম	ক	-	-
14	আবুল কালাম	ক	-	-
15	আবুল কালাম	ক	-	-
16	আবুল কালাম	ক, কলমুখা	-	-
17	আবুল কালাম	ক, কলমুখা	-	আবুল কালাম
18	আবুল কালাম	ক, কলমুখা	-	-
19	আবুল কালাম	ক, কলমুখা	-	আবুল কালাম
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Name of Field Coordinator

Md. Saidur Rahman

24.project-Sub Mokhar Haor

Form F(i): FGD Participant's List

Mokhar Haor project

List of Participants

Focused Group _____ Date & Time 10/01/2016 1:20

Location মকর, ইউ. সি-৬ নং কাঙ্গাঙ্গা, উপজেলা-সানিয়ারচর, জেলা-হবিগঞ্জ

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	আবু সাফিয়ার রহমান	মকর, UP-সহায়	01749135998	আবু সাফিয়ার
2	বল্লভ দাস	মকর, কৃষি	01779892372	বল্লভ দাস
3	আঃ মাহমুদ আলী	মকর, কৃষি	নাই	আঃ মাহমুদ আলী
4	আঃ মমিন মিয়া	মকর, কৃষি	01741368325	আঃ মমিন মিয়া
5	আঃ মনজুল হক	মকর, কৃষি	01794080449	আঃ মনজুল হক
6	আঃ বাল্লাল মিয়া	মকর, কৃষি	01764556112	আঃ বাল্লাল মিয়া
7	মঈনুদ্দিন	মকর, কৃষি	01728690914	মঈনুদ্দিন
8	নূরুজ্জামান	মকর, কৃষি	নাই	-
9	আঃ মাহমুদ আলী	বাগাইচা, কৃষি	-	-
10	মাহমুদ	মকর, দিনমজুর	01700686737	মাহমুদ
11	কামারান দাস	মকর, কৃষি	-	কামারান দাস
12	মিয়াবল্লভ	চাকরপুর, কৃষি	০৮ -	মিয়াবল্লভ
13	আঃ সুমন	চাকরপুর, কৃষি	01790608864	আঃ সুমন
14	আঃ হুসিন মিয়া	মকর, -	01764230222	আঃ হুসিন মিয়া
15	মকদুম মিয়া	মকর, কৃষি	-	মকদুম মিয়া
16	আঃ জিয়াউল মিয়া	মকর, কৃষি	-	-
17	মিনু দাস	মকর, কৃষি	01736416230	মিনু দাস
18	মমুন মিয়া	মকর, কৃষি	-	-
19	আঃ জুনুদ দাস মিয়া	মকর, কৃষি	01734150240	আঃ জুনুদ দাস মিয়া
20	আঃ জোহিউল আলম	মকর, কৃষি	01718603463	আঃ জোহিউল আলম

Name of Field Coordinator Md. Saidur Rahman

Form F(i): FGD Participant's List

Mokhar Haor project

List of Participants

Focused Group

Date & Time

10/01/2016 1:20

Location

মকর, ইউ.পি-৮ নং কাঙ্গাসাঙ্গা, উপাধিকার-মানিকগঞ্জ, জেলা-হবিগঞ্জ

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	নুরুউদ্দিন	মকর, কৃষি	-	নুরুউদ্দিন
2	অরবিন্দ দাস	মকর, কৃষি	-	অরবিন্দ
3	জোবিন্দ দাস	মকর, কৃষি	01753823219	জোবিন্দ দাস
4	জোবিন্দ দাস	মকর, কৃষি	-	-
5	সালিম মিয়া	মকর, কৃষি	-	সালিম মিয়া
6	মো:জাহাঙ্গীর আলম	মকর, কৃষি	-	জাহাঙ্গীর
7	মোহঃ আমিন (বসন্ত)	মকর, গ্রহিনী	01753347213	মোহঃ আমিন
8	সালিম হোসেন	মকর, গ্রহিনী	-	সালিম
9	সালিম হোসেন	মকর, গ্রহিনী	-	সালিম
10	সালিম হোসেন	মকর, গ্রহিনী	-	সালিম
11	সালিম হোসেন	মকর, গ্রহিনী	-	সালিম
12	মোহঃ জাহাঙ্গীর	মকর, গ্রহিনী	-	মোহঃ জাহাঙ্গীর
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Name of Field Coordinator

Md. Saidur Rahman

25. Aralia Khal Sub-Project

Form F(i): FGD Participant's List

Aralia Khal Subproject

List of Participants

Focused Group

Date & Time 11/01/2016 11:20

Location

আরালিয়ার খাল, উপ-কানাল, কামার-কানাল, আর-হাওরা

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	আঃ হাফিজ আলী	আরালিয়ার খাল, কামার	01752931075	আঃ হাফিজ আলী
2	আঃ হাফিজ আলী	আরালিয়ার খাল, কামার	01723865468	আঃ হাফিজ আলী
3	আঃ হাফিজ আলী	আরালিয়ার খাল, কামার	0175070852	আঃ হাফিজ আলী
4	আঃ হাফিজ আলী	আরালিয়ার খাল, কামার	01741521075	আঃ হাফিজ আলী
5	আঃ হাফিজ আলী	আরালিয়ার খাল, কামার	—	আঃ হাফিজ আলী
6	আঃ হাফিজ আলী	আরালিয়ার খাল, কামার	01711912959	আঃ হাফিজ আলী
7	আঃ হাফিজ আলী	আরালিয়ার খাল, কামার	—	—
8	আঃ হাফিজ আলী	আরালিয়ার খাল, কামার	—	—
9	আঃ হাফিজ আলী	আরালিয়ার খাল, কামার	01731525182	আঃ হাফিজ আলী
10	আঃ হাফিজ আলী	আরালিয়ার খাল, কামার	01726053378	আঃ হাফিজ আলী
11	আঃ হাফিজ আলী	আরালিয়ার খাল, কামার	—	আঃ হাফিজ আলী
12	আঃ হাফিজ আলী	আরালিয়ার খাল, কামার	01722836815	আঃ হাফিজ আলী
13	আঃ হাফিজ আলী	আরালিয়ার খাল, কামার	—	আঃ হাফিজ আলী
14	আঃ হাফিজ আলী	আরালিয়ার খাল, কামার	01726004819	আঃ হাফিজ আলী
15	আঃ হাফিজ আলী	আরালিয়ার খাল, কামার	01758158562	আঃ হাফিজ আলী
16	আঃ হাফিজ আলী	আরালিয়ার খাল, কামার	01734572123	আঃ হাফিজ আলী
17	আঃ হাফিজ আলী	আরালিয়ার খাল, কামার	—	—
18	আঃ হাফিজ আলী	আরালিয়ার খাল, কামার	—	—
19	আঃ হাফিজ আলী	আরালিয়ার খাল, কামার	01766362750	আঃ হাফিজ আলী
20	আঃ হাফিজ আলী	আরালিয়ার খাল, কামার	017	আঃ হাফিজ আলী

Name of Field Coordinator

Md. Saidur Rahman

Form F(i): FGD Participant's List

Aralia Khal Subproject

List of Participants

Focused Group

Date & Time 11/01/2016 11:20

Location

কালিয়ারাখা, ইউ.পি-৫২১ খালিয়া, উল্লেখ্য-আলিয়া, জেলা-রাজশাহী

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	ডাঃ.আবদুল আজিজ	কালিয়ারাখা চিকিৎসক	01711910674	আবদুল
2	আবদুল	কালিয়ারাখা কাজ	01746023460	আবদুল
3	আবদুল আজিজ	কালিয়ারাখা কাজ	01748245662	আবদুল
4	আঃ.আবদুল	কালিয়ারাখা কাজ	01720438248	আঃ.আবদুল
5	আবদুল আজিজ	কালিয়ারাখা কাজ	-	আবদুল আজিজ
6	আবদুল	কালিয়ারাখা কাজ	01735225896	আবদুল
7	আবদুল আজিজ	কালিয়ারাখা কাজ	01741378661	আবদুল আজিজ
8	আবদুল	কালিয়ারাখা কাজ	01748293540	আবদুল
9	আবদুল	কালিয়ারাখা কাজ	01718388515	আবদুল
10	আবদুল	কালিয়ারাখা কাজ	01715-774022	আবদুল
11	আবদুল	কালিয়ারাখা কাজ	01716072673	আবদুল
12	আবদুল	কালিয়ারাখা কাজ	01797220375	আবদুল
13	আবদুল	কালিয়ারাখা কাজ	01714878892	আবদুল
14	আবদুল	কালিয়ারাখা কাজ	01715525987	আবদুল
15	আবদুল	কালিয়ারাখা কাজ	01732457937	-
16	আবদুল	কালিয়ারাখা কাজ	-	-
17	আবদুল	কালিয়ারাখা কাজ	01786628818	-
18	আবদুল	কালিয়ারাখা কাজ	01778866205	আবদুল
19	আবদুল	কালিয়ারাখা কাজ	0172336895	আবদুল
20	আবদুল	কালিয়ারাখা কাজ	01711933326	আবদুল

Name of Field Coordinator Md. Saïdun Rahman

Form F(i): FGD Participant's List

Aralia Khal Subproject

List of Participants

Focused Group

Date & Time

11/01/2016 11:20

Location

আলিয়া খাল, হুট.পি-৬নং আলিয়া, উলখাল-আলিয়া, উলখাল-আলিয়া, উলখাল-আলিয়া।

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	আবুল হাশিম	হুট.পি-৬নং আলিয়া কৃষি, বন্যায়	—	আবুল হাশিম
2	আবুল হাশিম	আবুল হাশিম কৃষি	01723191297	—
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Name of Field Coordinator Md. Saidur Rahman

26. Bashira River Re-excavation Sub project

Form F(i): FGD Participant's List

Bashira River Re-excavation Subproject

List of Participants

Focused Group

Date & Time

12/01/2016 2:15

Location

বঙ্গলপুর, ইউ.পি- কাকরাইল, ডোলা- আড়াইদাঁড়া, লক্ষা- হুগাজি।

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	মহেন উদ্দিন	বঙ্গলপুর, কৃষি	01766757529	মহেন উদ্দিন
2	আঃ রহমান উদ্দিন	" , কৃষি	01729152405	আঃ রহমান
3	আবদুল মিল্ল	কৃ, কৃষি	-	আবদুল মিল্ল
4	আঃ রক সাহেব	কৃ, কৃষি	-	আঃ রক সাহেব
5	আঃ আমান মিল্ল	কৃ, কৃষি	01768650238	আঃ আমান
6	আবদুল মাকসুম	কৃ, গ্রাহিনী	-	আবদুল
7	মুজিব মামল	কৃ, গ্রাহিনী	-	মুজিব মামল
8	লাওলী	কৃ, গ্রাহিনী	-	লাওলী
9	ফিরোজ মাকসুম	কৃ, গ্রাহিনী	-	ফিরোজ
10	মুন্স মামল	কৃ, গ্রাহিনী	-	মুন্স মামল
11	মামল মিল্ল	বঙ্গলপুর, কৃষি	-	মামল মিল্ল
12	ফিরোজ	কৃ, গ্রাহিনী	-	ফিরোজ
13	আবদুল মামল	কৃ, গ্রাহিনী	-	আবদুল মামল
14	মুজিব মামল	কৃ, গ্রাহিনী	-	মুজিব মামল
15	মামল মামল	কৃ, গ্রাহিনী	-	মামল মামল
16	মামল মামল	কৃ, "	-	মামল মামল
17	মামল মামল	কৃ, "	-	মামল মামল
18	মামল মামল	কৃ, "	-	মামল মামল
19	আঃ জামিল উদ্দিন	বঙ্গলপুর, কৃষি	01724154367	আঃ জামিল
20	আবদুল মিল্ল	কৃ, কৃষি	01780336468	আবদুল মিল্ল

Name of Field Coordinator

Md. Saidur Rahman

Form F(i): FGD Participant's List

Bashina River Re-excavation Subproject

List of Participants

Focused Group

Date & Time

12/01/2016 2:15

Location

বুড়ুলখুর, ইউ.পি.-আলমদাছড়া উপজেলা-আবুদুদুদুদু, জেলা-মুন্সিগঞ্জ।

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	আলমদাছড়া	বুড়ুলখুর, গ্রামিনী	-	আলমদাছড়া
2	আবুদুদুদু	"	01785289838	আবুদুদুদু
3	আবুদুদুদু	ক, ক	-	আবুদুদুদু
4	হালিম	বুড়ুলখুর, ক	-	হালিম
5	আবুদুদুদু	ক, ক	-	আবুদুদুদু
6	আবুদুদুদু	বুড়ুলখুর, ক	-	আবুদুদুদু
7	আবুদুদুদু	বুড়ুলখুর, গ্রামিনী	-	আবুদুদুদু
8	আবুদুদুদু	ক, গ্রামিনী	-	-
9	আবুদুদুদু	ক, ক	01740070885	আবুদুদুদু
10	আবুদুদুদু	বুড়ুলখুর, ক	-	আবুদুদুদু
11	আবুদুদুদু	ক, গ্রামিনী	-	-
12	আবুদুদুদু	ক, ক	-	-
13	আবুদুদুদু	বুড়ুলখুর, গ্রামিনী	-	আবুদুদুদু
14	আবুদুদুদু	ক, ক	01722392279	আবুদুদুদু
15	আবুদুদুদু	বুড়ুলখুর, ক	-	আবুদুদুদু
16	আবুদুদুদু	বুড়ুলখুর, ক	-	আবুদুদুদু
17	আবুদুদুদু	ক, গ্রামিনী	-	আবুদুদুদু
18	আবুদুদুদু	বুড়ুলখুর, গ্রামিনী	-	আবুদুদুদু
19	আবুদুদুদু	ক, গ্রামিনী	-	আবুদুদুদু
20	আবুদুদুদু	ক, গ্রামিনী	-	আবুদুদুদু

Name of Field Coordinator

Md. Saidur Rahman

Form F(i): FGD Participant's List

Barhima River Re-excavation Subproject

List of Participants

Focused Group

Date & Time

12/01/2016 2:15

Location

বাহিমা নদী, ইউ.পি-আলমগীর, পোলাপা-আলমগীর, জেলা-হবিগঞ্জ।

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	মাহমুদ মিয়া	বাহিমা নদী, ইউ.পি	01733516188	মাহমুদ
2	মাহমুদ আলম	কি, ইউ.পি	01754305176	মাহমুদ/আলম
3	বাবিগ	কি, ইউ.পি	01734696773	বাবিগ
4	আলমগীর	কি, কি	-	আলম
5	আলম	কি, কি	-	-
6	আলমগীর	কি, কি	-	আলমগীর
7	মাহমুদ	কি, কি	01723854422	মাহমুদ
8	মাহমুদ আলম	বাহিমা নদী, কি	-	-
9	মাহমুদ	কি, কি	-	মাহমুদ
10	মাহমুদ	কি, কি	-	মাহমুদ
11	মাহমুদ	কি	-	মাহমুদ
12	মাহমুদ	কি	-	মাহমুদ
13	মাহমুদ	কি	-	-
14	মাহমুদ	কি	-	মাহমুদ
15	মাহমুদ	কি	-	মাহমুদ
16	মাহমুদ	কি	-	-
17	মাহমুদ	কি	-	-
18	মাহমুদ	কি	-	মাহমুদ
19	মাহমুদ	কি	-	-
20	মাহমুদ	কি	-	-

Name of Field Coordinator

Md. Saidur Rahman

27.Chandal Beel Sub-Project

Form F(i): FGD Participant's List

Chandal Beel Subproject

List of Participants

Focused Group _____ Date & Time 14/01/2016 2:30

Location সান্দিয়া কান্দি, UP-২৩১ সান্দিয়া কান্দি, উত্তরা-বঙ্গবন্ধু সড়ক, কান্দি, সান্দিয়া

SI No.	Name	Para & Occupation	Mobile No.	Signature
1	কান্দিয়া কান্দি	সান্দিয়া কান্দি UP-২৩১	01763062627	কান্দিয়া কান্দি
2	কান্দিয়া কান্দি	সান্দিয়া কান্দি	01766008881	কান্দিয়া কান্দি
3	কান্দিয়া কান্দি	সান্দিয়া কান্দি UP-২৩১	01813843281	KHEM
4	কান্দিয়া কান্দি	সান্দিয়া কান্দি	-	-
5	কান্দিয়া কান্দি	সান্দিয়া কান্দি	01861468622	কান্দিয়া কান্দি
6	কান্দিয়া কান্দি	সান্দিয়া কান্দি	-	কান্দিয়া কান্দি
7	কান্দিয়া কান্দি	সান্দিয়া কান্দি	01825281962	কান্দিয়া কান্দি
8	কান্দিয়া কান্দি	সান্দিয়া কান্দি	01740775082	কান্দিয়া কান্দি
9	কান্দিয়া কান্দি	সান্দিয়া কান্দি	01749199432	কান্দিয়া কান্দি
10	কান্দিয়া কান্দি	সান্দিয়া কান্দি	01723917039	Kameul Khan
11	কান্দিয়া কান্দি	সান্দিয়া কান্দি	01787300945	AJGARALI
12	কান্দিয়া কান্দি	সান্দিয়া কান্দি	01990488440	কান্দিয়া কান্দি
13	কান্দিয়া কান্দি	সান্দিয়া কান্দি	-	কান্দিয়া কান্দি
14	কান্দিয়া কান্দি	সান্দিয়া কান্দি	-	কান্দিয়া কান্দি
15	কান্দিয়া কান্দি	সান্দিয়া কান্দি	01832934980	কান্দিয়া কান্দি
16	কান্দিয়া কান্দি	সান্দিয়া কান্দি	01866643523	কান্দিয়া কান্দি
17	কান্দিয়া কান্দি	সান্দিয়া কান্দি	01763981338	কান্দিয়া কান্দি
18	কান্দিয়া কান্দি	সান্দিয়া কান্দি	-	কান্দিয়া কান্দি
19	কান্দিয়া কান্দি	সান্দিয়া কান্দি	01779556079	কান্দিয়া কান্দি
20	কান্দিয়া কান্দি	সান্দিয়া কান্দি	01710954683	কান্দিয়া কান্দি

Name of Field Coordinator Md. Saidur Rahman.

Form F(i): FGD Participant's List

Chandal Beel Subproject

List of Participants

Focused Group

Date & Time

14/01/2016 2:30

Location

সাহাবদিয়ালাহি, UP-২য় সাহাবদিয়ালাহি, উলুবাড়ী-সাহাবদিয়ালাহি, কোম-ব্রাহ্মণবাড়িয়া

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	সানি মিয়া	সাহাবদিয়ালাহি কৃষক	01721744278	সানি মিয়া
2	আব্দুল হামিদ	কৃষক	01846670600	আব্দুল হামিদ
3	মাহিদুল ইসলাম	কৃষক	01725299256	মাহিদুল ইসলাম
4	আঃ হুসাইন	কৃষক	-	-
5	জিহাদ	কৃষক	-	জিহাদ
6	আঃ কবির	সাহাবদিয়ালাহি কৃষক	-	-
7	হুমায়ুন কবির	কৃষক	01817564255	হুমায়ুন কবির
8	চান মিয়া	কৃষক	-	চান মিয়া
9	নাসির হামিদ	কৃষক	01785532975	নাসির হামিদ
10	ইউসুফ মিয়া	কৃষক	-	-
11	আলোয়ারাশান	কৃষক	01712181002	আলোয়ারাশান
12	আঃ মিজু মিয়া	কৃষক	01776166649	আঃ মিজু মিয়া
13	আব্দুল হামিদ	কৃষক	01710-330280	আব্দুল হামিদ
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Name of Field Coordinator

Md. Saidur Rahman.

28.Satdona Beel Scheme

Form F(i): FGD Participant's List

Satdona Beel Scheme

List of Participants

Focused Group _____ Date & Time 16/01/2016 12:30

Location বিড়ছা, ইউ.পি-হালিমারহা, উল্লাহা-বাড়ী রাস্তা, বাকু-ব্রাহ্মণবাড়িয়া।

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	মো: শাহজাম আলম	মিস্ত্রী, ডেপার্টমেন্ট	01761860921	শাহজাম
2	হুসেইন চন্দ দাস	মিস্ত্রী, ড্রিল	01720045811	হুসেইন চন্দ দাস
3	নূরুল চন্দ দাস	মিস্ত্রী, "	0175650077	নূরুল চন্দ দাস
4	মুন্সির চন্দ দাস	" , "	017441020649	মুন্সির
5	জনিয়াতুল	" , হুসি	-	জনি
6	শাওকাত	" , হুসি	-	-
7	শেখ দাস	" , ড্রিল	01725148701	শেখ দাস
8	বাবরিন	" , ড্রিল	-	-
9	মির্জা দাস	" , "	-	-
10	মুন্সির দাস	" , হুসি	-	-
11	শেখা	" , "	-	শেখা
12	বাহাদুর চন্দ দাস	" , ড্রিল	-	-
13	শাহজাম চন্দ দাস	" , ড্রিল	01724283511	Shahjahan chander
14	বাবরিন আলি	" , হুসি	-	বাবরিন
15	বাহাদুর আলি	" , "	-	-
16	বাহাদুর চন্দ দাস	" , ড্রিল	01731608089	বাহাদুর চন্দ দাস
17	মাসুম	" , হুসি	-	-
18	মিস্ত্রী দাস	" , ড্রিল	-	-
19	বাহাদুর আলি দাস	" , হুসি	-	-
20	মিস্ত্রী আলি দাস	" , "	-	-

Name of Field Coordinator Md. Ferdous Rahman

Form F(i): FGD Participant's List

✓ Satona Peel Scheme

List of Participants

Focused Group

Date & Time 16/01/2016 12:30

Location

মির্জাপুর, উপ-ইলিয়াহাট, উল্লাহাবাদ-নাজিরাবাদ, জেলা-সাতক্ষীরা

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	আবদুল হাম	মির্জাপুর, মজুরদারী	01818428589	লেখা
2	আবদুল হাম	ক, মজুরদারী	-	লেখা
3	আবদুল হাম	ক, মজুরদারী	01825866624	লেখা
4	আবদুল হাম	মির্জাপুর, মজুরদারী	-	লেখা
5	আবদুল হাম	ক, মজুরদারী	-	-
6	আবদুল হাম	ক, মজুরদারী	-	-
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Name of Field Coordinator Md. Saifur Rahman

List of Participants

Date & Time

Location အနောက်, ၈၀၀၀၀, ၁၀၀၀၀, ၁၀၀၀၀, ၁၀၀၀၀, ၁၀၀၀၀

Sl No.	Name	Para & Occupation	Mobile No.	Signature
1	ભાઈ: મારના	આઈ. ટેલિ. ઇન્જિ.	01989229536	મારના
2	ભા: આજ્ઞાબાઈ	આઈ. ટેલિ. ઇન્જિ.	01922476683	-
3	શ્રી: આ: ઉર્મિલા	આઈ. ટેલિ. ઇન્જિ.	01724095998	ઉર્મિલા
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Name of Field Coordinator

Table E.2: List of Other Stakeholders Consulted

SL. No.	Name	Occupation/ Institution	Address & Contact No.
1	Md. Aktruzzaman	Government Service, Department of Fisheries (DOF)	District Fisheries Officer, Kishoreganj Phone/Cell: 01716-372771
2	Md. Tofael Ahmad	Government Service, DOF	Sr. Upazila Fisheries Officer, Kishoreganj Sadar/ Pakundia, Kishoreganj, Phone/Cell: 01912410528
3	Md. Sanmun Hasan	Government Service, DOF	Sr. Upazila Fisheries Officer, Austogram, Kishoreganj , Phone/Cell: 01676324495
4	Md. Taher Uddin	Government Service, DOF	Assistant Fisheries Officer, Austogram, Kishoreganj , Phone/Cell: 01716901491
5	Md. Emrul Hossain	Government Service, DOF	Sr. Upazila Fisheries Officer, Hossenpur, Kishoreganj , Phone/Cell: 01727653808
6	Md. Nazrul Islam	Government Service, DOF	Sr. Upazila Fisheries Officer, Karimganj, Kishoreganj , Phone/Cell: 01918726656
7	Md. Motaleb Hossain	Government Service, DOF	Sr. Upazila Fisheries Officer, Mitamoin/Nikli, Kishoreganj , Phone/Cell: 01716991216
8	Md. Abdul Hay	Government Service, DOF	Sr. Upazila Fisheries Officer, Bajitpur, Kishoreganj , Phone/Cell: 01912680623
9	Pronob Kumar	Government Service, DOF	Sr. Upazila Fisheries Officer, Kuliarchar, Kishoreganj , Phone/Cell: 01711062577
10	Jahangir Alam	Government Service, DOF	Sr. Upazila Fisheries Officer, Katiadi, Kishoreganj , Phone/Cell: 01911198333
11	Md. Habib Farhad	Government Service, DOF	Sr. Upazila Fisheries Officer, Tarail/ Itna, Kishoreganj , Phone/Cell: 01722114391
12	Md. Atikuzzaman	Government Service, LGED	DPC, Kishoreganj , Phone/Cell: 01915950839
13	Md. Delwar Hossain	Government Service, BWDB	Executive Engineer, Kishoreganj , Phone/Cell: 0174321132
14	Md. Aktaruzzaman Farhad	Government Service, BWDB	SDE, Kishoreganj , Phone/Cell: 01756777792
15	Anamul Haque	Government Service, DOF	District Fisheries Officer, Netrokona, Phone/Cell: 01716-132613
16	Delowar Hossain (In charge)	Government Service, DOF	Sr. Upazila Fisheries Officer, Madan, Netrokona, Phone/Cell: 01811007466
17	Delower Hossain	Government Service, DOF	Assistant Fisheries Officer, Madan, Netrokona, Phone/Cell: 01711-335345
18	Farjana Hossain	Government Service, DOF	Upazila Fisheries Officer, Purba Dhala, Netrokona, Phone/Cell: 01717-334739
19	Sariful Haque	Government Service, DOF	Sr. Upazila Fisheries Officer, Netrokona Sadar, Phone/Cell: 01734310808
20	Debasis Roy	Government Service, DOF	Sr. Upazila Fisheries Officer, Barhatta, Netrokona, Phone/Cell: 01716263371
21	Jahangir Hossain	Government Service, DOF	Assistant Fisheries Officer, Barhatta, Netrokona, Phone/Cell: 01915-099716
22	Tanvir Ahammed	Government Service, DOF	Upazila Fisheries Officer, Kalijuri, Netrokona, Phone/Cell: 01717-334739
23	Mojibur Rahaman	Government Service, DOF	Assistant Fisheries Officer, Kalijuri, Netrokona, Phone/Cell: 01624863730
24	Ashraful Alam	Government Service, DOF	Sr. Upazila Fisheries Officer, Dharmapasha, Sunamganj, Phone/Cell: 01715-303526
25	Mr. Mojibur Rahman Chayan	Government Service, DOF	Assistant Fisheries Officer, Dharmapasha, Sunamganj,, Phone/Cell: 01720043030

SL. No.	Name	Occupation/ Institution	Address & Contact No.
26	Md. Selim Jahangir	Government Service, DOF	Upazila Fisheries Officer, Atpara, Netrokona, Phone/Cell: 01915099716
27	Delip Kumar Shaha	Government Service, DOF	Sr. Upazila Fisheries Officer, Mohonganj, Netrokona, Cell: 01716263371
28	Zohir Uddin	Government Service, LGED	DPC, Netrokona, Phone/Cell: 01711003261
29	Mohi Uddin Ahmed	Government Service, BWDB	SDE, Netrokona, Phone/Cell: 01751708279
30	Mr. Tanjimul Islam	Government Service, DOF	Sr. Upazila Fisheries Officer, Dharmapasha, Sunamganj, Phone/Cell: 01751708279
31	Mr. Juglul Haider	Government Service, DAE	Upazila Agriculture Officer, Chhatak, Sunamganj, Phone/Cell: 01728-266616
32	Mr. Gias Uddin	Government Service, BWDB	SDFO, Sunamganj, Phone/Cell: 01960-325751
33	Babul Mia	Government Service, DOF	Assistant Fisheries Officer, South Sunamganj, Phone/Cell: 01729-697893
34	Sima Rani Biswas	Government Service, DOF	Sr. Upazila Fisheries Officer, Sunamganj Sadar, Sunamganj, Phone/Cell: 01711248737
35	Mr. Kamrul Islam	Government Service, DOF	Upazila Fisheries Officer, Jamalganj, Sunamganj, Phone/Cell: 01918733422
36	Mr. Shafiqur Rahman	CNRS	Manager, Sadar Upazila, Sunamganj, Phone/Cell: 01718-244313
37	Mr. Seraj Mia	Government Service, LGED	Program Officer, Sadar Upazila, Sunamganj, Phone/Cell: 01727-139184
38	Mr. Mehidi Hasan	Government Service, LGED	Field Officer, Sadar Upazila, Sunamganj, Phone/Cell: 01757-606394
39	Mr. Mizanur Rahman	World Vision	Manager, Sadar Upazila, Sunamganj, Phone/Cell: 01711-145633
40		Government Service, BWDB	Executive Engineer, Habiganj, Phone/Cell: 01751708279
41	Shek Md. Abu Zakir Shekandar	Government Service, LGED	Executive Engineer, Habiganj, Phone/Cell: 01712-443413
42	Mr. Ashraf Uddin Ahmed	Government Service, DOF	District Fisheries Officer, Habiganj, Phone/Cell: 01740-234634
43	Mr. Sayed Ali	Government Service, FD	Divisional Forest Officer, Habiganj, Phone/Cell: 01761-494731
44	Borhan Uddin (In charge)	Government Service, DOF	Sr. Upazila Fisheries Officer, Lakhai/ Habiganj Sadar, Phone/Cell: 01710-848173
45	Nor-a- Alam Siddique	Government Service, DOF	Assistant Fisheries Officer, Azmiriganj, Habiganj, Phone/Cell: 01937356160
46	Md. Alam	Government Service, DOF	Sr. Upazila Fisheries Officer, Bahubal, Habiganj, Phone/Cell: 01682-541966
47	Mostafa Iqbal Azad	Government Service, DAE	Upazila Agriculture Officer, Baniachang, Habiganj, Phone/Cell: 01716-787338
48	Bhudev Ray	Government Service, LGED	DPC, Baniachang, Habiganj, Phone/Cell: 01715-106120
49	Md. Aminul Haque	Government Service, BWDB	Executive Engineer, Brahmanbaria, Phone/Cell: 01712-146192
50	Ibrahim Khalil	Government Service, BWDB	Assistant Engineer, Brahmanbaria, Phone/Cell: 01711-260264
51	Nurul Islam	Government Service, DOF	District Fisheries Officer, Brahmanbaria, Phone/Cell: 01710-834814

Annex F: No Objection Certificates(NOC) from DCs

1. NOC from DC Kishoregonj

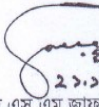
গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
জেলা প্রশাসকের কার্যালয়
(ভূমি অধিগ্রহণ শাখা)
কিশোরগঞ্জ
www.kishoregonj.gov.bd

স্মারক নং-৩১.৪১.৪৮০০.০০৮.০২.০২০.১৩-**(বিধি)-৬৮৫** তারিখ: ২১/১০/১৫ খ্রি.

"অনাপত্তি সনদপত্র"

এই মর্মে প্রত্যায়ন করা যাচ্ছে যে, বাংলাদেশ পানি উন্নয়ন বোর্ড কর্তৃক কিশোরগঞ্জ জেলার বিভিন্ন উপজেলায় জাপান আন্তর্জাতিক সহযোগী সংস্থা (JICA) এর অর্থায়নে বাস্তবায়নাধীন "হাওড় এলাকায় বন্যা ব্যবস্থাপনা ও জীবনবাহার মান উন্নয়ন প্রকল্প (বাপাউবো অংশ)" শীর্ষক প্রকল্পের আওতায় পরামর্শক প্রতিষ্ঠান কর্তৃক অনুমোদিত রেগুলেটর নির্মাণ/পুনর্বাসন, খাল খনন/পুনঃ খনন, বন্যা নিয়ন্ত্রন বাঁধ নির্মাণ/পুনরাকৃতিকরন ও ডুবন্তবাঁধ ইত্যাদি অবকাঠামো বাস্তবায়নকল্পে উক্ত প্রকল্পের অনুকূলে "অনাপত্তি সনদপত্র" প্রদান করা হলো।

নির্বাহী প্রকৌশলী
কিশোরগঞ্জ পানি উন্নয়ন বিভাগ
বাপাউবো, কিশোরগঞ্জ।


২১.১০.১৫
(জি এস এম জাফরউল্লাহ)
জেলা প্রশাসক
কিশোরগঞ্জ।
ফোন : ০৯৪১-৬১৭৫৫ (অঃ)
ফ্যাক্স : ০৯৪১-৬১৭২২
ইমেইল : dckishoregonj@mopa.gov.bd

অনুলিপি :
১। প্রধান প্রকৌশলী, কেন্দ্রীয় অঞ্চল, বাপাউবো, ঢাকা।
২। তত্ত্বাবধায়ক প্রকৌশলী, ময়মনসিংহ পওর সার্কেল, বাপাউবো, ময়মনসিংহ।
৩। উপজেলা নির্বাহী অফিসার (সকল)।

2. NOC from -DC Habiganj

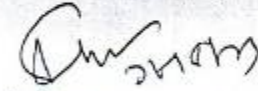
গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
জেলা প্রশাসকের কার্যালয়, হবিগঞ্জ
(সাধারণ শাখা)

স্মারক নং-০৫.৪৬.৩৬০০.০০৯.০১.০০৫.২০১৫- ৩৮৪

তারিখ: ১২/৫/২০১৬খ্রিঃ

“অনাপত্তি সনদপত্র”

এই মর্মে প্রত্যয়ন করা যাচ্ছে যে, জাপান আন্তর্জাতিক সহযোগী সংস্থা (জাইকা) ও গণপ্রজাতন্ত্রী বাংলাদেশ সরকারের যৌথ অর্থায়নে বাংলাদেশ পানি উন্নয়ন বোর্ড কর্তৃক হবিগঞ্জ জেলার হবিগঞ্জ সদর, বানিয়াচং, আজমিরীগঞ্জ ও বাহুবল উপজেলায় “হাওর এলাকায় বন্যা ব্যবস্থাপনা ও জীবন যাত্রার মান উন্নয়ন প্রকল্প (বাপাউবো অংশ)” শীর্ষক প্রকল্পভুক্ত (১) গুইংগাজুরী হাওর উপ-প্রকল্প (২) কৈয়ার ঢালা-রত্না উপ-প্রকল্প (৩) এড়ালিয়া খাল উপ-প্রকল্প (৪) বশিরা নদী পুনঃ খনন উপ-প্রকল্প (৫) মকার হাওর প্রকল্প সমূহের আওতায় রেগুলেটর নির্মাণ/পুনর্বাসন, খাল খনন/পুনঃখনন, বন্যা/আগাম বন্যা নিয়ন্ত্রণকল্পে বাঁধ ও ডুবন্ত বাঁধ নির্মাণ/পুনরাকৃতিকরণ ইত্যাদি কার্যক্রম সম্পাদনে পরিবেশ অধিদপ্তরের পরিবেশগত ছাড়পত্র প্রাপ্তির লক্ষ্যে উক্ত প্রকল্প সমূহের অনুকূলে অনাপত্তি সনদপত্র প্রদান করা হলো।



(সাবিনা আলম)

জেলা প্রশাসক

হবিগঞ্জ

ফোন-০৮৩১-৬২১০০

ফ্যাক্স-০৮৩১-৬১২০৫

নির্বাহী প্রকৌশলী
হবিগঞ্জ পওর বিভাগ
বাপাউবো, হবিগঞ্জ

অনুলিপি জ্ঞাতার্থে ও কার্যার্থে :

০১। উপজেলা নির্বাহী অফিসার, হবিগঞ্জ সদর/ বানিয়াচং/ আজমিরীগঞ্জ/ বাহুবল, হবিগঞ্জ।

3. NOC from -DC Netrokona

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
জেলা প্রশাসকের কার্যালয়, নেত্রকোণা
রাজস্ব শাখা
(www.netrokona.gov.bd)
স্মারক নং-৩১.৩০.৭২০০.০০৮.৩২.২৫১.১৫-৩৮৮৬
তারিখঃ ২৩ ফেব্রুয়ারি, ২০১৬
অনাপত্তি সনদপত্র

এই মর্মে প্রত্যয়ন করা যাচ্ছে যে, জাপান আন্তর্জাতিক সহযোগী সংস্থা (JICA) এর অর্থায়নে বাংলাদেশ পানি উন্নয়ন বোর্ড, নেত্রকোণা কর্তৃক নেত্রকোণা জেলায় বাস্তবায়নায়ী "হাওর এলাকায় বন্যা ব্যবস্থাপনা ও জীবনযাত্রার মান উন্নয়ন প্রকল্প (বাপাউরো অংশ)" শীর্ষক প্রকল্পভুক্ত নেত্রকোণা জেলার হাওরসমূহে নিম্নবর্ণিত ০৭টি উপ-প্রকল্পের আওতায় রেগুলেটর নির্মাণ/মেরামত, নতুন খাল খনন/পুনঃখনন/ ডুবন্ত বীধ নির্মাণ ও বন্যানিয়ন্ত্রণ বীধ মেরামত ইত্যাদি কার্যক্রম সম্পাদনের জন্য প্রকল্পের অনুকূলে "অনাপত্তি সনদপত্র" প্রদান করা হলো।

প্রকল্পসমূহঃ

০১। দামপাড়া পানি ব্যবস্থাপনা ক্রীম।
০২। কংশ রিভার ক্রীম।
০৩। সিংগার বিল উপ-প্রকল্প।
০৪। খালিয়াজুরী এফসিডি প্রকল্প পোস্তার-২।
০৫। খালিয়াজুরী এফসিডি প্রকল্প-৪।
০৬। গনেশ হাওর প্রকল্প।
০৭। ধর্মপাশা রুই বিল প্রকল্প।

নির্বাহী প্রকৌশলী
নেত্রকোণা পওর বিভাগ
বাপাউরো, নেত্রকোণা।

অনুলিপি জ্ঞাতার্থে ও কার্যার্থেঃ
প্রকল্প পরিচালক, বাংলাদেশ পানি উন্নয়ন বোর্ড, প্রকল্প ব্যবস্থাপনা দপ্তর, হাওর এলাকায় বন্যাব্যবস্থাপনা ও জীবনযাত্রার মান উন্নয়ন প্রকল্প ওয়ারদা ভবন (৩য় তলা) মতিঝিল বা/এ, ঢাকা-১০০০।

জেলা প্রশাসক
নেত্রকোণা
ফোনঃ ০৯৫১-৬১৫১১
E-mail:dcnetrokona@mopa.gov.bd

4. NOC from -DC Sunamganj

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
জেলা প্রশাসকের কার্যালয়
সুনামগঞ্জ
(www.sunamganj.gov.bd)

স্মারক নং-০৫.৬০.৯০০০.০১৫.২৩.০০২.১৫- ২০২১(৪) তারিখ : ১৫ নভেম্বর, ২০১৫ খ্রি:

অনাপত্তি সনদপত্র

এ মর্মে প্রত্যয়ন করা যাচ্ছে যে, বাংলাদেশ পানি উন্নয়ন বোর্ড কর্তৃক সুনামগঞ্জ জেলার সুনামগঞ্জ সদর, দক্ষিণ সুনামগঞ্জ, জামালগঞ্জ ও ধর্মপাশা উপজেলায় বাস্তবায়িত জাপানী আন্তর্জাতিক সহযোগীতা সংস্থা (JICA) এর অর্থায়নে বাস্তবায়নাধীন “হাওর এলাকায় বন্যা ব্যবস্থাপনা ও জীবনযাত্রার মান উন্নয়ন প্রকল্প (বাপাউবো অংশ)” শীর্ষক প্রকল্পভূক্ত নিম্নবর্ণিত হাওর উপপ্রকল্পের আওতায় রেগুলেটর নির্মাণ, খাল পুন: খনন, বীধ নির্মাণ/পুনরাকৃতিকরন ইত্যাদি কার্যক্রম সম্পাদনে উক্ত প্রকল্পের অনুকূলে “অনাপত্তি সনদপত্র” প্রদান করা হলো।

ক্রমিক নং	হাওরের নাম	উপজেলা
১।	ধর্মপাশা বুই বিল প্রকল্প	ধর্মপাশা
২।	ডাকুয়ার হাওর	সুনামগঞ্জ সদর, দক্ষিণ সুনামগঞ্জ ও জামালগঞ্জ

নির্বাহী প্রকৌশলী
সুনামগঞ্জ পওর বিভাগ
বাপাউবো, সুনামগঞ্জ।

অনুলিপি :

১। প্রধান প্রকৌশলী, উত্তর-পূর্বাঞ্চল, বাপাউবো, সিলেট।
২। তত্ত্বাবধায়ক প্রকৌশলী, সিলেট পওর সার্কেল, বাপাউবো, সিলেট।
৩। উপজেলা নির্বাহী অফিসার, সুনামগঞ্জ সদর, দক্ষিণ সুনামগঞ্জ, জামালগঞ্জ ও ধর্মপাশা।

(শেখ রফিকুল ইসলাম)
জেলা প্রশাসক
সুনামগঞ্জ
☎ ০৮৭১-৬২০০০
E-mail: dcsunamganj@mopa.gov.bd

5. NOC from -DC Bhrahmanbaria

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
জেলা প্রশাসকের কার্যালয়, ব্রাহ্মণবাড়িয়া
(এস.এ শাখা)
www.brahmanbaria.gov.bd

৩১.৪২.১২০০.১২.৩২-৩.১০১.১৫-

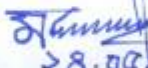
৬৬২

তারিখ: ১১ জ্যৈষ্ঠ ১৪২৩
১৫ মে ২০১৬

বিষয় : বাঞ্ছারামপুর উপজেলার সাতদোনা বিল স্কিম ও চন্দল বিল ফিসারী উপ-প্রকল্প ২(দুই)টির জৌত কার্যাবলী
বাস্তবায়নকল্পে “অনাপত্তি ছাড়পত্র” প্রদান।

নূত্র : বাংলাদেশ পানি উন্নয়নবোর্ড, ব্রাহ্মণবাড়িয়া পানি উন্নয়ন বিভাগ এর ১৭ ফেব্রুয়ারি ২০১৬ তারিখের
নিঃপ্রঃ/বিবা/এইচ-১/১১৭ নং পত্র ও ২৮ এপ্রিল ২০১৬ তারিখ অনুষ্ঠিত জেলা জলমহাল ব্যবস্থাপনা ও
বন্দোবস্ত কমিটির সভার কার্যবিবরণীর সিদ্ধান্ত।

উপর্যুক্ত বিষয়ে বাংলাদেশ পানি উন্নয়নবোর্ড, ব্রাহ্মণবাড়িয়া পানি উন্নয়ন বিভাগ এর ১৭ ফেব্রুয়ারি ২০১৬
তারিখের নিঃপ্রঃ/বিবা/এইচ- ১/১১৭ নং পত্র ও ২৮ এপ্রিল ২০১৬ তারিখ অনুষ্ঠিত জেলা জলমহাল ব্যবস্থাপনা ও
বন্দোবস্ত কমিটির সভার কার্যবিবরণীর সিদ্ধান্তের প্রেক্ষিতে জাপান আন্তর্জাতিক সহযোগী সংস্থা (জাইকা) এর অর্থায়নে
বাস্তবায়নাধীন হাওড় এলাকায় বন্যা ব্যবস্থাপনা ও জীবনযাত্রার মান উন্নয়ন প্রকল্প শীর্ষক প্রকল্পের আওতায় বাঞ্ছারামপুর
উপজেলার সাতদোনা বিল এবং চন্দল বিল ফিসারী দুটির পানি কাঠামো মেরামত, বাধ মেরামত, খাল খনন/ পুনঃ খনন
ইত্যাদি কাজ বাস্তবায়নকল্পে “অনাপত্তি ছাড়পত্র” প্রদান করা হলো।


২৪.০৫.১৬

ড. মুহাম্মদ মোশাররফ হোসেন

জেলা প্রশাসক

ব্রাহ্মণবাড়িয়া।

ফোনঃ ০৮৫১-৫৭৭১২

email-dcbrahmanbaria@mopa.gov.bd

নির্বাহী প্রকৌশলী
ব্রাহ্মণবাড়িয়া পানি উন্নয়ন বিভাগ
পাউবো, ব্রাহ্মণবাড়িয়া।

**Annex G: Information Disclosure Meetings-Kishoreganj, Habiganj,
Netrokona and Sunamganj**

Annex G

Information discloser meetings and findings

The information disclosure meetings were held in four districts out of five excluding Brahmonbaria. On 6 June, 2016 at Kishoreganj, 15 June at Habiganj, 21 June, at Netrokona and 12 July at Sunamganj. All the meetings were presided by the respective Deputy Commissioner. The meetings were participated by Zila Parishad Chairman, Upazila Chairman, UNOs, ADCs, Police Super, representatives from DAE, Fishery Department, DoE, BWDB, LGED, Media persons, local elites.

Some of the participants opted for zoning of fishery and agriculture, banning of fishing of brood fishes, deepening of haors for easy drainage and deepening of beels for conserving fish species and for their sanctuaries, about the number of subprojects and their costs etc. All of the participants welcomed the implementation of the haor subprojects informed to them district wise.

1. Information disclosure meeting at Kishoreganj on 06 June, 2016

The meeting was organized by Project Management Office (PMO) with the Consultants (Nippon Koei, Co. Ltd, BETS, and CNRS), IWM and DevConsultants Ltd on June 6, 2016.

The meeting was arranged at the Conference room, Deputy Commissioner, Kishoreganj.



Disclosure meeting going on at Kishoreganj

Table G.1: List of Participants of Information Disclosure Meeting, Kishoreganj

Information Disclosure Meeting
on
Environmental Aspects
For "Haor Flood Management and Livelihood Improvement Project"-BWDB Part
Bangladesh Water Development Board (BWDB)
Attendance Sheet

Venue : Conference Room, Deputy Commissioner, Kishoreganj Date: 06 June 2016

	Name of Participant	Designation	Organization	Address with Email	Mobile No.	Signature
1	Md. Shafiqul Islam	Executive Engineer	BWDB, Kishoreganj	BWDB, campus Kishoreganj XEN Kishoreganj e-yakoulen	01412-611961	
2	Md. Abdus Salam	O&M Specialist Jr of Nippon Koei Co Ltd, BETS & CNRS	BETS	office address: House-7, Road No.137 Gulshan-1 Dhaka	01819810002	
3	মোঃ মোস্তাফিজ	ফার্ম ম্যানেজার ফার্মিং (গন ওয়া)	ফার্মিং (গন ওয়া)	ফার্মিং -	0292266-0866	
4	MD. MONTRUL ISLAM	Assistant Engg. LGED	LGED	Office of the XEN LGED leemonir@gmail.com.	01819664543	
5	Md. Mustafiz Khatun Amin	Farm manager Kishoreganj	Department of Fishery	District fishery office	01712-937222	
6	DR. Md. Kabir Hossain	Environmental Specialist	BETS	Gulshan-1 H-7, R-137, Dhaka	01715-274771	
7	MD. TAJUL ISLAM P.H.D	Env & Ecologist	DEV. con Ltd	Uttara, Dhaka	01732-451470	
8	Mohammad Anwarul Karim	Sub-Divisional Engg. BWDB, Kishoreganj	BWDB	setaful610@gmail.com	01756-777792	
9	Md. Zahurul Islam	SDE, BWDB Kishoreganj	BWDB	Zahurul.re@gmail.com	01915772416	
10	মোঃ সেতুল ইসলাম	LAO, নরসিংদী সেতুল ইসলাম	সেতুল ইসলাম	setafulislame@gmail	01732-451470	

Information Disclosure Meeting
on
Environmental Aspects
For "Haor Flood Management and Livelihood Improvement Project"-BWDB Part
Bangladesh Water Development Board (BWDB)
Attendance Sheet

Venue : Conference Room, Deputy Commissioner, Kishoreganj

Date: 06 June 2016

	Name of Participant	Designation	Organization	Address with Email	Mobile No.	Signature
11	Md. Azimuddin Biswas	DC	DC, Kishoreganj DC Office, Kishoreganj	dc.kishoreganj@mpa.gov.bd	01713-457357	
12	MD. ZILLUR-RAHMAN	ADMINISTRATOR	ZILA-PHARISHAD	KISHORE GONJ	0176018678	
13	Tarafder Md. AKther Jamil	ADC (Gen)	DC Office	Krishna_chyrra@yahoo.com	01670-195196	
14	Md Mahbub Hasan Shahin	ADC (Reg)	DC Office	mahbub.shahin@gmail.com	01718814106	
15	Md. Sohel Masud	Director/FMO	IWM	msm@iwm.gov.bd	0184493008	
16	Md. Afaul Haq	Team leader/ Coordinator Environment Impact Assessment	Person	ataulhaq15@yahoo.com	01817676059	
17	Md. Shohag Hossain	Assistant Commissioner	DC Office, Kishoreganj	Shohaghossain@yahoo.com	01816-574056	
18	Dr. Md. Zakidul Islam	Deputy Chief Officer, BWDB-Dmk	BWDB	mzakidulbndb@gmail.com	01712-150259	
19	Md. M. Helal Masud	Co-ordinator	HFMOLIP BWDB	a.masud2@gmail.com	01712696181	
20	Dr. Md. Habibul Rahman	Deputy Civil Engineer	Civil Engineer Office	Kishoreganj drhabib63@gmail.com	01711346367	

Information Disclosure Meeting
on
Environmental Aspects
For "Haor Flood Management and Livelihood Improvement Project"-BWDB Part
Bangladesh Water Development Board (BWDB)

Attendance Sheet

Venue : Conference Room, Deputy Commissioner, Kishoreganj

Date: 06 June 2016

	Name of Participant	Designation	Organization	Address with Email	Mobile No.	Signature
21	Md. Shafiqul Islam	DD, DAE,	DAE Khamarbari, Kishoreganj	Khamarbari, Kishoreganj shafiqulbdtrg@gmail.com	0171-707733	[Signature]
22	Sharif Ahmed Sadi	Principal Purna Mahila College,	PORIBESH RAKSHA MANCH (POROM)	sharifisadi1962@gmail.com	01711-156011	[Signature]
23	Shahidul Islam Bhuyan	Lec. Mathia E.U. Fazil malbarsha	Member of (POROM)		01912349526	[Signature]
24	Saiful Malek Chowdhury	Secretary Kishoregonj Press Club	Kishoregonj Press Club	Saiful Malek 32 @mail.com	01711661271	[Signature]
25	Shafiqul Islam	Junior Engineer	iwrm	engrshafiq48@gmail.com	01918090707	[Signature]
26	A.T.U Farhad Chowdhury Revenue Deputy Collector	RDC	DC office	farhad17197@gmail.com	01716563250	[Signature]
27	Momena Akter	NDC	De office Kishoregonj	lipi.du12@gmail.com	01716010115	[Signature]
28	Mohammed Abu Naser Beg	UNO	UNO, Sadar	Kishoregonj	-	[Signature]
29	Abu Taher Syed	Asst. Comm Kishoregonj	D.C. Office	Kishoregonj	0174707466	[Signature]
30						

2. Information Disclosure Meeting held at Habiganj on 15 June, 2016

Information Disclosure Meeting on Environmental Aspects on Haor Flood Management and Livelihood Improvement Project-BWDB part was arranged at the conference room of DC, Habiganj on 21 June, 2016.



Disclosure Meeting going on at Habiganj

Table G.2: List of Participants of Information Disclosure Meeting, Haniganj

Information Disclosure Meeting
on
Environmental Aspects
For "Haor Flood Management and Livelihood Improvement Project"-BWDB Part
Bangladesh Water Development Board (BWDB)
Attendance Sheet

Venue : Conference Room, Deputy Commissioner, Habiganj Date: 15 June 2016

	Name of Participant	Designation	Organization	Address with Email	Mobile No.	Signature
1	DR. MD. QUAMRUL ISLAM	Deputy Civil Surgeon	Civil Surgeon office	dr.quamrui@gmail.com	01715-253559	
2	Md. Asaduzzaman	Sub-Assistant Engineer	BWDB, Habiganj	Salimbwdb@gmail.com	01718661534	
3	Md. Al Mamun Uz Rashid Bhuiyan	SAE/S.O	BWDB, Habiganj	mamunwdb@gmail.com	01711-933079	
4	SOFIKUL ISLAM BABUL	SAE/S.O	BWDB, HABIGANJ	sofikulislam79@yahoo.com	01914-120934	
5	Kastiech. Nath	H.A. D.e. office	D.C. office	-	01716717787	
6	M. L Shaikat	SDE, BWDB, Habiganj	BWDB Habiganj	shaikat_dut38@yahoo.com	01735-448452	
7	MD. ALAMGIR KHAN	Dist. Correspondent- BTU	BTU Habiganj	alamgir290278@gmail.com	01712677192	
8	Siraj ud-doula Khan	Dist. Information officer	Dist. Information office	diobob@gmail.com	01717059392	
9	MD. Ashtajul Haque Chatterjee	UNO Habiganj Senior	UNO office Habiganj Senior	unohabiganj@gmail.com	01730331143	
10	Md. Abdul Mannan	SAE BWDB Habiganj	BWDB Habiganj	engr.mannan90@gmail.com	017-27002727	

Information Disclosure Meeting
on
Environmental Aspects
For "Haor Flood Management and Livelihood Improvement Project"-BWDB Part
Bangladesh Water Development Board (BWDB)
Attendance Sheet

Venue : Conference Room, Deputy Commissioner, Habiganj

Date: 15 June 2016





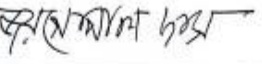


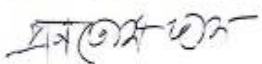




	Name of Participant	Designation	Organization	Address with Email	Mobile No.	Signature
11	Md. Mamunur Rashid	work. Assst.	BWDB, Habiganj	xen.bwdb.habiganj@gmail.com	01726 560775	Rashid
12	Mohammed parul	Sub-Assistd Engineer	BWDB, Habiganj	parul6d22@yahoo.com parul6d22@gmail.com	01714 288571	Parul 15.6.16
13	Md. Shaban Nisaf	Editor	PROTIDINER GANI	HABIGANJ. protidinerbani@gmail.com	01711 782208	Shaban
14	M. Kairabad Khan	UAO, Habiganj	DAE	Habiganj quairabad14@gmail.com	01934369067	Kairabad
15	Saiful Islam	UNO, Bahubal	UNO OFFICE BAHUBAL.	milontica@gmail.com	01711-058099	Saiful 15.6.16
16	Dr. Md. Kabil Hossain	Env. Expert	BWDB, Consultant	drmkhdu@gmail.com	01715-774701	Dr. Kabil 15.6.16
17	Md. Ataul Hossain	Tea Luv Env. Man	Consultant	ataulhossain5@gmail.com	0181767067	Ataul
18	Md. Feroz Bhuiyan	Dist. BRAC Representative	BRAC	dbz.habiganj@brac.net	01750948186	Feroz
19	Md. Rashedul Kabir Bhuiyan	Wildlife & Biosphere Conservation Officer	Bangladesh Forest Dept.	mr.kabir.rashedul@gmail.com	01682020072	Rashedul 15.6.16
20	Sabyasachi Choudhury	Executive Engr. BWDB Habiganj	BWDB	xen.bwdb.habiganj@gmail.com	01711 059377	Sabyasachi

Information Disclosure Meeting
on
Environmental Aspects
For "Haor Flood Management and Livelihood Improvement Project"-BWDB Part
Bangladesh Water Development Board (BWDB)

Attendance Sheet

Venue : Conference Room, Deputy Commissioner, Habiganj

Date: 15 June 2016


	Name of Participant	Designation	Organization	Address with Email	Mobile No.	Signature
21	Mohammad Abdur Rouf	DDLr.	DC Office	rouf.nikkom@yahoo.com	01720403937	
22	MD. AL HELAL MASUD	Co-ordinator HFMDLIP.	HFMDLIP	a.masud2@gmail.com	01712-696181	
23	Ashraf Uddin Ahmed	District Fisheries Officer	Department of Fisheries	ashrafm.ed@yahoo.com	01740294634	
24	MANSUR UDDIN AHMED KIBAL	DISTRICT CORRESPONDENT DAILY ITTEFAQ	—	RAJNAGAR P/O HABIGANJ	01711-473817	
25		সহকারী সচিব	BWDB	Habiganj	01755907558	
26	SHUVENDU DAS	work Assistant	BWDB	Habiganj	01740023588	
27		সহকারী সচিব	BWDB	Habiganj	01701823633	
28	Nikhil Choudhury	work Assistant	BWDB	Habiganj	01722-163311	
29	Ripon Acharyjee	work Assistant	BWDB	Habiganj	01751-097007	
30	Sagar chandra sarker	work Assistant	BWDB	Habiganj	01773764040	

Information Disclosure Meeting
on
Environmental Aspects
For "Haor Flood Management and Livelihood Improvement Project"-BWDB Part
Bangladesh Water Development Board (BWDB)

Attendance Sheet

Venue : Conference Room, Deputy Commissioner, Habiganj

Date: 15 June 2016

	Name of Participant	Designation	Organization	Address with Email	Mobile No.	Signature
31	Sabina Alam	Deputy Commissioner	Habiganj	dehabiganj@mopa.gov.bd	01715109939	 15.6.16
32	Dr. TAJUL ISLAM	Consultant	Dev consultancy Ltd.	digitaltajuldr@gmail.com	01732-451470	TJUL 15.6.16
33	MD. SAFIUL ALAM	ADC(G)	HABIGANJ	safiulalam.uno@gmail.com	01711905047	 15.6.16
34	Muhammad Rukon Uddin	APC(A)	Habiganj			 15.6.16
35	Amjad Hossain Chowdhury	IS/ASALT	BWDB		01718004582	 15.6.16
36	Md. Sultan Mahmud Khan	B.M.	Dev Consultants Ltd.	R#16, H#69 Block-A, Bazar	01711321699	 15.6.16
37	Morgana Akter	Junior Sociologist		morgiakter@gmail.com	01719397359	 15.6.16
38	Farloza Nazmin			tarzia@gmail.com	0171960685	 15.6.16
39						
40						

3. Information Disclosure Meeting held at Netrokona on 21 June, 2016

Information Disclosure Meeting on Environmental Aspects on “Haor Flood Management and Livelihood Improvement Project-BWDB part” was arranged at the conference room of DC, Netrokona on 21 June, 2016.



Disclosure meeting going on at Netrokona

নেত্রকোনা জেলার ০৬ (ছয়) টি হাওর এলাকার বন্যা ব্যবস্থাপনা ও জীবন যাত্রার মান উন্নয়ন

বাংলাদেশ পানি উন্নয়ন বোর্ড কর্তৃক বন্যা নিয়ন্ত্রণের বাঁধ নির্মাণ বাংলাদেশ পরিবেশ সংরক্ষণ আইন, ১৯৯৫ ও পরিবেশ সংরক্ষণ বিধিমালা, ১৯৯৭ অনুযায়ী লাল শ্রেণীভুক্ত প্রতিষ্ঠান। এ ধরনের প্রকল্প গ্রহণের পূর্বেই প্রকল্প বাস্তবায়ন কর্তৃপক্ষ কর্তৃক প্রকল্প এলাকার পরিবেশগত প্রভাব নিরূপণ (Environment Impact Assessment-EIA) করা প্রয়োজন। ইআইএ তৈরির সময় প্রকল্প এলাকার জনসাধারণের মতামত নেওয়া প্রয়োজন। যারা প্রকল্প এলাকার সুবিধা ভোগী এবং প্রকল্প এলাকার জনসাধারণের সাথে আলোচনা ও মতামতের ভিত্তিতে ইআইএ তৈরি করতে হবে। ফলে প্রকল্প এলাকার জনসাধারণের সাথে প্রকল্প বাস্তবায়নকারী কর্তৃপক্ষের মধ্যে বিবেধ সৃষ্টি হওয়ার সম্ভাবনা থাকবে না। প্রকল্প বাস্তবায়ন কর্তৃপক্ষ কর্তৃক ইআইএ তৈরির পর তা পরিবেশ অধিদপ্তর হতে অনুমোদনক্রমে পরিবেশগত ছাড়পত্র গ্রহণের পর প্রকল্প এলাকার কার্যক্রম শুরু করতে হবে।

হাওর এলাকার ইআইএ তৈরি করার সময় নিম্নলিখিত বিষয় বিবেচনা করা যেতে পারেঃ-

১. হাওর এলাকায় এমন কোন কার্যক্রম করা যাবে না যাতে হাওরের জীববৈচিত্র্য নষ্ট হয়।
২. হাওর এলাকার বিভিন্ন বিলের সাথে সংযোগ খাল সমূহের সংযোগ বিচ্ছিন্ন করা যাবে না।
৩. হাওরের মাঝে রাস্তা তৈরি করা হলে তার উচ্চতা যথাসম্ভব নিচু করতে হবে যাতে বর্ষাকালে রাস্তার উপর দিয়ে পানি চলাচল করতে পারে ফলে মাছের চলাচলে সুবিধা হবে।
৪. শুষ্ক মৌসুমে সেচ দিয়ে হাওর এলাকা হতে মাছ ধরা যাবে না। তাতে মাছের ডিম ও মা মাছের সংরক্ষণ হবে।
৫. শুষ্ক মৌসুমে হাওরের উপর নির্ভরশীল জনসাধারণের জন্য বিকল্প জীবিকায়নের ব্যবস্থা করতে হবে।
৬. হাওর এলাকা হতে অতিরিক্ত মাছ ও উদ্ভিদ আহরণ করা যাবে না।
৭. বন বিভাগের সাথে আলোচনা করে জলজ সহনশীল যেমন হিজল ও অন্যান্য গাছ হাওর এলাকা লাগানো যেতে পারে।
৮. হাওর এলাকা হতে অতিথি পাখিসহ দেশীয় কোন পাখি ধরা যাবে না।



(মুজিবুর রহমান)
পরিচালক
পানি উন্নয়ন বোর্ড
মরমনলিহা কোচা কংগ্রেস, মরমনলিহা

Table G.3: List of Participants of Information Disclosure Meeting, Netrokona

Information Disclosure Meeting
on
Environmental Aspects
For "Haor Flood Management and Livelihood Improvement Project"-BWDB Part
Bangladesh Water Development Board (BWDB)
Attendance Sheet

Venue : Conference Room, Deputy Commissioner, Netrokona Date: 21 June 2016

	Name of Participant	Designation	Organization	Address with Email	Mobile No.	Signature
1	Bilash Chandra Pal	Deputy Director	ZAE	www.dcdas.netrokona@gmail.com	01716-798809	
2	Khuski Mohan Sarkar	Executive Engr. BWDB, Netrokona	BWDB	xen.netrokona@gmail.com	01711-224819	
3	DR. MD. AFTAB JHOSAIN	District Livestock Officer (DLO)	DLS	afstahjhosain68@yahoo.com	01711-230811	
4	Md. Ataul Haq	Team Leader EIA Team Haor Improvement Project	BWDB	ataulhaq15@yahoo.com	01817-676069	
5	Dr. Md. Tajul Islam	Consultant EIA Team	Dev Consulting Ltd.	dr.tajulislam@gmail.com	01732-451470	
6	Dr. NILOTHA POLTALUKDER	DC	Civil Subcom Office, Netrokona	Netrokona	01718016715	
7	Dr. Md. Kabil Hossain	Environmental Specialist	BWDB, BETS	Dr. Md. Kabil Hossain, House-7, Road-132, Gulshan-1, Dhaka	01716408420	
8	MOST MOSTARI KADERY	UNO	Sadar,	mostarikadery@gmail.com	01793762106	
9	Shimul Mitty	Correspondent	BTV	Netrokona	01714-111468	
10	Bhajan Das	Correspondent	NTV	netrokona	01718221766	

Information Disclosure Meeting
on
Environmental Aspects
For "Haor Flood Management and Livelihood Improvement Project"-BWDB Part
Bangladesh Water Development Board (BWDB)
Attendance Sheet

Venue : Conference Room, Deputy Commissioner, Netrokona

Date: 21 June 2016

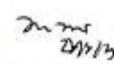



	Name of Participant	Designation	Organization	Address with Email	Mobile No.	Signature
11	Md. Anwar Hossain Akad	ADC (Revenue) Netrokona	Office of the Deputy Commissioner	akandanwar53@gmail.com	01716318311	
12	Pranoy Chakma	NDC, Netrokona	"	pranoychakma@yahoo.com	01793762140	
13	Al-Helal Masud.	Co-ordinator	HFM & LIP, BWDB.	a.masud2@gmail.com	01712-696181	
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15	Fajul Kabir	DOE	DOE	fajul33bpc@gmail.com	01912823583	
16	MD. SADIUR RAHMAN Zadid	Assistant Commissioner is Executive Magistrate	DC office Netrokona	zadid2@gmail.com	01718388522	
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18	A.T.M. MASUDUR RABBY	SAE/S.O	BWDB, Netrokona	Netrokona	01712006938	
19	MD. SHAHBUDDIN	SAE/S.O	BWDB, Netrokona	Netrokona	01715120051	
20	Md. Jahangir Alam Nizami	SDE/MDHanganj	BWDB, Netrokona	Jahangir_1229@yahoo.com	017711784348	

Information Disclosure Meeting
on
Environmental Aspects
For "Haor Flood Management and Livelihood Improvement Project"-BWDB Part
Bangladesh Water Development Board (BWDB)

Attendance Sheet

Venue : Conference Room, Deputy Commissioner, Netrokona

Date: 21 June 2016

	Name of Participant	Designation	Organization	Address with Email	Mobile No.	Signature
21	Dr. Md. Mushfiqur Rahman	Deputy Commissioner	DC office, Netrokona.	dc.netrokona@bwr.gov.bd	01799 782 101	
22	Mohi Khaled Ahmed	SDE	BWDB, Netrokona	Netrokona	01751-708279	
23	Md. Sultan Mahmud Khan	G.M.	Dev Consultants Ltd	smkhanprince@gmail.com	01711321699	
24	Morgana Akter	Junior Sociologist	"	morgtakter@gmail.com	01719997359	
25						
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4. Information Disclosure Meeting held at Sunamganj on 12 July, 2016

Information Disclosure Meeting on Environmental Aspects on “Haor Flood Management and Livelihood Improvement Project-BWDB part” was arranged at the conference room of DC, Sunamganj on 12 July 2016.

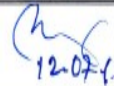






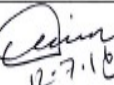
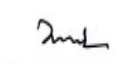
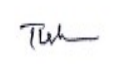


Disclosure meeting going on at Sunamganj

Table G.4: List of Participants of Information Disclosure Meeting, Sunamganj

Information Disclosure Meeting
on
Environmental Aspects
For "Haor Flood Management and Livelihood Improvement Project"-BWDB Part
Bangladesh Water Development Board (BWDB)
Attendance Sheet

Venue : Conference Room, Deputy Commissioner, Sunamganj Date: 12 July 2016

	Name of Participant	Designation	Organization	Address with Email	Mobile No.	Signature
1	SK Rafique Islam	oe	DC office Sunamganj	Sunamganj		 12-07-16
2	Md. Luthfur Rahman	ADC Rev.	DC office	rahmanmd3@gmail.com	01733815428	 12-7-16
3	Kizem M. Farabi	WFO, Sadar	Sadar	acfarabi@gmail.com	01849821475	 12-7-16
4	Md. Afsar Uddin	EE	BWDB	Xen. Sunamganj@gmail.com	01711-326919	
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6	Khandaker Ali Reza	SAE/S-0	BWDB	BWDB, Sunamganj De.	01712-701883	
7	Sajib Paul	SAE/SO	BWDB	BWDB, Sunamganj Paul.Sajib@jpho.com	01710-812210	
8	Dipak Ranjan Das	SDE, BWDB	BWDB	dipak-ranjan 12@yahoo.com	01717-696616	 12-7-16
9	Md. Ataul Haq	Lead. EIA Study Team	BWDB	ataulhaq15@yahoo.com	0181763606	
10	Dr. Md. Tajul Islam	Environmentally Ecologist	Dev con	digitaltjmd@gmail.com	01732-451470	

Information Disclosure Meeting

on

Environmental Aspects

For "Haor Flood Management and Livelihood Improvement Project"-BWDB Part

Bangladesh Water Development Board (BWDB)

Attendance Sheet

Venue : Conference Room, Deputy Commissioner, Sunamganj

Date: 12 July 2016

	Name of Participant	Designation	Organization	Address with Email	Mobile No.	Signature
11	Dr. Md. Kabil Hossain	Environmental Social Specialist	Hain consultant HFM LIP	Gulshan-1, Dhaka drmkh.du@gmail.com	01715-574701	
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13	Md. Anwarul Amin	Executive Engineer RHD, Sunamganj	RHD	eesun@rhd.gov.bd	01730782666	 12.07.2016
14	Md. Abu Jaber Siddique	Executive Engineer PWD, Sunamganj	PWD	ee.sun@pwd.gov.bd	01717017364	 12.7.16
15	Md. Habiburullah	Add SP Sunamganj	Bangladesh Police	jewel27460spolice@gmail.com	01713374413	 12.07.16
16	Md. Javedul Haque	Deputy Director Deptt. & Ag. Exn. (DAE)	DAE	haquejavedul@dae.gov.bd	01681460909	 12.7.2016
17	Md. Maizibur Rahman	DPC- HFM LIP LGED- Sunamganj	LGED	mmralsc13@gmail.com	01712946140	
18	SULTAN AHMED	District Fisheries Officer DFO	DOF	dfo.sunamganj@fisheries.gov.bd	01716305774	
19	Olur & Chhab B	UPAZILA CHAIRMAN	UCC	UPC.CHHAB@gmail.com	01732182644	
20	Balaram Raj FR	Range Officer Sunamganj	Forest	Forest-Range Officer Sunamganj	01766-908902	

Information Disclosure Meeting

on

Environmental Aspects


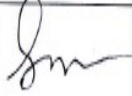
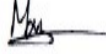
For "Haor Flood Management and Livelihood Improvement Project"-BWDB Part

Bangladesh Water Development Board (BWDB)

Attendance Sheet

Venue : Conference Room, Deputy Commissioner, Sunamganj

Date: 12 July 2016

	Name of Participant	Designation	Organization	Address with Email	Mobile No.	Signature
21	PRASANTA KUMAR BISWAS NDC		DC OFFICE	prasanta.biswas4@gmail.com	01716-449650	
22	Md. Sultan Mahmud Khan	G.m. I	Dev Consultants Ltd.	#16.H-69. Block - A Barani	01711321699	
23	Morgena Akter	Junior Sociologist	"1	morgakten@gmail.com	01719397359	
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Annex H: National Environmental Quality Standards of Bangladesh

Annex H

National Environmental Quality Standards of Bangladesh

At present there are environmental standards in operation in Bangladesh, promulgated under the ECR of 1997. There are standards prescribed for varying water sources; ambient air; noise; odour; industrial effluent and emission discharges; and vehicular emissions, etc. The standards, commonly known as Environmental Quality Standards (EQS), are legally binding. The Bangladesh standards for ambient air, noise, odour, sewage, industrial effluent and emission are furnished here in (Tables H.1 to H.7).

Table H.1: National Standard for Inland Surface Water

Best Practice based classification	pH	BOD (mg/l)	Dissolved Oxygen (mg/l)	Total Coliform Number/100
a. Source of drinking water for supply only after disinfecting	6.5-8.5	2 or less	6 or above	50 or less
b. Water usable for recreational activity	6.5-8.5	3 or less	5 or more	200 or less
c. Source of drinking water for supply after conventional treatment	6.5-8.5	6 or less	6 or more	5000 or less
d. Water usable by fisheries	6.5-8.5	6 or less	5 or more	---
e. Water usable by various process and cooling industries	6.5-8.5	10 or less	5 or more	5000 or less
f. Water usable for irrigation	6.5-8.5	10 or less	5 or more	1000 or less

(BOD = biological oxygen demand, mg/l = milligram per litre),

Notes: (1). In water used for phisiculture, maximum limit of presence of ammonia as Nitrogen is 1.2 mg/l.

(2). Electrical conductivity for irrigation water – 2250 μ mhos/cm (at a temperature of 25°C); Sodium less than 26%; boron less than 0.2%.

Source: Department of Environment (DOE)

Table H.2: National Standard for Drinking Water

Parameter	Unit	Standards	Parameter	Unit	Standards
1. Aluminum	mg/L	0.2	26. Hardness (as CaCO ₃)	mg/L	200 – 500
2. Ammonia (NH ₃)	mg/L	0.5	27. Iron	mg/L	0.3 – 1.0
3. Arsenic	mg/L	0.05	28. Kjeldahl Nitrogen (total)	mg/L	1
4. Barium	mg/L	0.01	29. Lead	mg/L	0.05
5. Benzene	mg/L	0.01	30. Magnesium	mg/L	30 – 35
6. BOD ₅ 20°C	mg/L	0.2	31. Manganese	mg/L	0.1
7. Boron	mg/L	1.0	32. Mercury	mg/L	0.001
8. Cadmium	mg/L	0.005	31. Manganese	mg/L	0.1
9. Calcium	mg/L	75	32. Mercury	mg/L	0.001
10. Chloride	mg/L	150 – 600*	33. Nickel	mg/L	0.1
11. Chlorinated alkanes			34. Nitrate	mg/L	10
carbontetrachloride	mg/L	0.01	35. Nitrite	mg/L	<1
1.1 dichloroethylene	mg/L	0.001	36. Odor	mg/L	Odorless
1.2 dichloroethylene	mg/L	0.03	37. Oil and grease	mg/L	0.01
tetrachloroethylene		0.03	38. pH	--	6.5 – 8.5
trichloroethylene		0.09	39. Phenolic compounds	mg/L	0.002
12. Chlorinated phenols			40. Phosphate	mg/L	6
pentachlorophenol	mg/L	0.03	41. Phosphorus	mg/L	0
2.4.6 trichlorophenol	mg/L	0.03	42. Potassium	mg/L	12
13. Chlorine (residual)	mg/L	0.2	43. Radioactive materials (gross alpha activity)	Bq/L	0.01
14. Chloroform	mg/L	0.09	44. Radioactive materials (gross beta activity)	Bq/L	0.1
15. Chromium (hexavalent)	mg/L	0.05	45. Selenium	mg/L	0.01
16. Chromium (total)	mg/L	0.05	46. Silver	mg/L	0.02
17. COD	mg/L	4	47. Sodium	mg/L	200
18. Coliform (fecal)	n/100ml	0	48. Suspended particulate matters	mg/L	10
19. Coliform (total)	n/100 ml	0	49. Sulfide	mg/L	0

Parameter	Unit	Standards	Parameter	Unit	Standards
20. Color	Hazen unit	15	50. Sulfate	mg/L	400
21. Copper	mg/L	1	51. Total dissolved solids	mg/L	1000
22. Cyanide	Mg/L	0.1	52. Temperature	°C	20-30
23. Detergents	mg/L	0.2	53. Tin	mg/L	2
24. DO	mg/L	6	54. Turbidity	JTU	10
25. Fluoride	mg/L	1	55. Zinc	mg/L	5

BOD = biological oxygen demand, mg/l = milligram per litre, ml = millilitre

Notes: In coastal area 1000. Reference: Bangladesh Gazette, Addendum, August 28, 1997.

Table H.3: Bangladesh Standards for Ambient Air Quality

Sl. No.	Area	Suspended Particulate Matters (SPM)	Sulfur Dioxide (SO ₂)	Carbon Monoxide (CO)	Oxides of Nitrogen (NO _x)
Ka	Industrial and mixed	500	120	5000	100
Kha	Commercial and mixed	400	100	5000	100
Ga	Residential and rural	200	80	2000	80
Gha	Sensitive	100	30	1000	30

Source: Department of Environment (DOE)

Notes:

- (1) Sensitive area includes national monuments, health resorts, hospitals, archaeological sites, educational institutions and other government designated areas (if any).
- (2) Any industrial unit located not in a designated industrial area will not discharge such pollutants, which may contribute to exceed the ambient air quality above in the surrounding areas of category 'Ga' and 'Gha'.
- (3) Suspended particulate matters mean airborne particles of diameter of 10 micron or less.

Source: Department of Environment (DOE). Schedule-2, Rule 12, Environment Conservation Rules of 1997 (Page 3123, Bangladesh Gazette, 28 August 1997).

Table H.4: Bangladesh Standards for Noise

Sl. No.	Area Category	Standards Values (all values in dBA)	
		Day	Night
Ka	Silent zone	45	30
Kha	Residential area	50	40
Ga	Mixed area (basically residential and together used for commercial and industrial purposes)	60	50
Gha	Commercial area	70	60
Umma	Industrial area	75	70

Notes:

1. Daytime is reckoned as the time between 6 a.m. to 9 p.m.
2. Night time is reckoned as the time between 9 p.m. to 6 a.m.
3. Silent zones are areas up to a radius of 100 meter around hospitals, educational institutions or special establishments declared or to be declared as such by the Government. Use of vehicular horn, other signals and loudspeakers is prohibited in silent zones.

Source: Department of Environment (DOE). Schedule 4, Rule-12, Environment Conservation Rules, 1997. (Page 3127, Bangladesh Gazette, 28 August 1997)

Table H.5: Bangladesh Standards for Odour

Parameters	Unit	Values
Acetaldehyde	PPM	0.5-5
Ammonia	PPM	1-5
Hydrogen Sulfide	PPM	0.02-0.2
Methyl Disulfide	PPM	0.009-0.1
Methyl Mercaptan	PPM	0.02-0.2
Methyl Sulfide	PPM	0.01-0.2
Styrene	PPM	0.4-2.0
Trimethylamine	PPM	0.005-0.07

Notes:

- (1). Regulatory standards at emission/discharge outlets (apply to those outlets which are higher than 5 meters): $Q = 0.108 \times H e^2$ cm, Where Q – gas emission rate (Nm³/hour), He – effective height of the outlet (m), cm – above mentioned standard (ppm)
- (2). Where there is a range given for a parameter, the lower value will be used for warning and the higher value for initiation of legal procedure or punitive measures.

Source: Department of Environment (DOE). Schedule –8, Rule-12, Environment Conservation Rules, 1997. (Page 3130, Bangladesh Gazette, 28 August 1997).

Table H.6: Bangladesh Standards for Sewage Discharge

Parameters	Unit	Values
BOD	mg/l	40
Nitrate	mg/l	250
Phosphate	mg/l	35
Suspended Solids (SS)	mg/l	100
Temperature	°C	30
Coliforms	number/100ml	1000

mg/l = milligram per litre

Notes: (1). These standards are applicable for discharge into surface and inland water bodies.

(2). Chlorination is to be done before final discharge.

Source: Department of Environment (DOE). Schedule-9, Rule-13, Environment Conservation Rules, 1997 (Page-3131 of Bangladesh Gazette of 28 August 1997)

Table H.7: Bangladesh Standards for Industrial and Project Effluent

Sl. No.	Parameters	Unit	Discharge To		
			Inland Surface Water	Public Sewer to Secondary Treatment Plant	Irrigable Land
1	Ammonical nitrogen (as elementary N)	mg/l	50	75	75
2	Ammonia (as free ammonia)	mg/l	5	5	15
3	Arsenic (as As)	mg/l	0.2	0.05	0.2
4	BOD5 at 20°C	mg/l	50	250	100
5	Boron	mg/l	2	2	2
6	Cadmium (as Cd)	mg/l	0.05	0.5	0.5
7	Chloride	mg/l	600	600	600
8	Chromium (as total Cr)	mg/l	0.5	1.0	1.0
9	COD	mg/l	200	400	400
10	Chromium (as hexavalent Cr)	mg/l	0.1	1.0	1.0
11	Copper (as Cu)	mg/l	0.5	3.0	3.0
12	Dissolved oxygen (DO)	mg/l	4.5-8	4.5-8	4.5-8
13	Electro-conductivity (EC)	µsiemens/cm	1200	1200	1200
14	Total dissolved solids	mg/l	2100	2100	2100
15	Flouride (as F)	mg/l	2	15	10
16	Sulfide (as S)	mg/l	1	2	2
17	Iron (as Fe)	mg/l	2	2	2
18	Total kjeldahl nitrogen (as N)	mg/l	100	100	100
19	Lead (as Pb)	mg/l	0.1	1	0.1
20	Manganese (as Mn)	mg/l	5	5	5
21	Mercury (as Hg)	mg/l	0.01	0.01	0.01
22	Nickel (as Ni)	mg/l	1.0	2.0	1.0
23	Nitrate (as elementary N)	mg/l	10.0	Not yet set	10
24	Oil and grease	mg/l	10	20	10
25	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	1.0	5	1
26	Dissolved phosphorus (as P)	mg/l	8	8	15
27	Radioactive substance	(to be specified by Bangladesh Atomic Energy Commission)			
28	PH		6-9	6-9	6-9
29	Selenium (as Se)	mg/l	0.05	0.05	0.05
30	Zinc (as Zn)	Mg/l	5	10	10
31	Total dissolved solids	Mg/l	2100	2100	2100
32	Temperature	°C (summer) °C (winter)	40 45	40 45	40 45
33	Suspended solids	Mg/l	150	500	200
34	Cyanide	Mg/l	0.1	2.0	0.2

Notes:

These standards will be applicable for all industries other than those which are specified under 'industrial sector specific standards'.

These standards will have to be compiled from the moment of trial production in case of industries and from the moment of the very beginning in case of projects.

These standards will have to be met at any point of time and any sampling. In case of need for ambient environment condition, these standards may be made stringent. Inland surface water will include drains, ponds, tanks, water bodies, ditches, canals, rivers, streams and estuaries. Public sewer means leading to full-fledged joint treatment facility comprising primary and secondary treatment. Land for irrigation means organized irrigation of selected crops on adequate land determined on the basis of quantum and characteristics of waste water. If any discharge is made into public sewer or on land which does not meet the respective definitions in notes 5 and 6 above, then the inland surface water standards will apply.

Source: Department of Environment. Schedule -10, Rule-13, Environment Conservation Rules, 1997 (Page 3132 – 3134 of Bangladesh Gazette of 28 August 1997) (translation from original Bengali).

Annex I: Environmental Monitoring Checklist/formats

Annex I:

Environmental Monitoring Check List/ Format

Environmental Monitoring will be done on regular basis to observe the compliance status of EMP implementation. Environmental monitoring results will be presented on semi-annual and annual basis based on the Monitoring Check List following the Reporting Format written below.

a. Reporting Format

An environmental monitoring report may include the following elements:

1. Executive Summary

2. Project background

- i. Background/context of the monitoring report (project background, physical progress of project activities, scope of monitoring report, reporting period, monitoring requirements including frequency of submission as agreed upon in EMP);
- ii. Changes in project scope (if any) and adjusted environmental safeguard measures, if applicable;

3. Environmental Monitoring

- i. Qualitative and quantitative monitoring data (e.g. pollution data of water, air, soil, noise, etc. biodiversity, health& safety data, etc.);
- ii. Monitoring parameters/indicators (e.g. for water, DO, pH, BOD, COD, etc.; for air PM, Sox, Nox, etc.) and methods based on the monitoring plan/program previously agreed upon with EMP;
- iii. Monitoring results compared against previously established benchmarks/baseline and compliance status (e.g., national environmental emission and ambient standards; timeliness and adequacy of environmental mitigation measures; budget for implementing EMP, timeliness and adequacy of capacity building, etc.);

Project activity	Potential Impacts	Proposed mitigation measures as per EMP	Actual Implementation	Recommended action (if any)	Compliance status

- iv. Information about actual institutional arrangement for implementing the environmental monitoring program/plan provided or adjusted, as may be required;

4. Results of environmental monitoring and compliance measures

- i. Monitoring results compared against the objectives of environment safeguards or desired outcomes documented (e.g. environmental impacts avoided or minimized, climate risks addressed, adaptation/mitigation measure adopted, etc.);
- ii. If noncompliance or any major gaps identified, include a corrective action plan;
- iii. Records on disclosure of monitoring information;

Actual Observation of Monitoring Results

Monitoring parameter	Method of monitoring	Location	Frequency of monitoring	Monitoring Results	National Standard	Remarks
Water - DO - PH - BOD						

5. Recommendation and Conclusion

- i. Identification of key issues on affected ecosystems, or complaints from affected people, or recommendations for improvement;
- ii. Monitoring adjustment measures recommended based on monitoring experience/trends and stakeholders response;
- iii. Proposed items of focus for the next report and due date.

b. Environmental Management Checklist

Site Location	
Contractor's Representative	
Project Description/ Phase of Activity	
Name of the Auditor	

Date of Visit	Commencement Time	Completion Time

Purpose: The purpose of this checklist is to provide the Superintendent/ Engineer with a means of monitoring the contractor's Environmental Management Plans and actions on site to mitigate the risks of environmental impacts brought about by construction activities

Prior to Granting Possession of Site	
Does the contractor have an Environmental Protection Agreement/ Authorization?	
Has the contractor provided his site specific Environmental Management Plan?	
Does the contractor have a Waste Management Plan?	
Is a waterways works licence in place?	
Does the have sufficient environmental monitoring and recording chachlists and who is responsible for undertaking this work	
Are there restricted hours of work?	
Is the site within a waterway/ floodplain?	
Environmental Monitoring Requirements	
Discharge of waters (Turbidity, pH, others)	
Dust?	
Noise?	
Groundwater?	
Others-	

Site Inspection During Construction	
Have monitoring records been witnessed?	
Are there any non-compliances?	
Are Emergency Contract details available?	
Is the stablished entrance to site preventing tracking of dirt to external roads?	
Are environmental control measures in place and maintained? (Silt stop fence, diversion drains, hay bales, sediment basins, etc.)	
Have sediment basins been emptied/ de-watered in accordance with licence conditions?	
Are soil stockpiles suitably maintained?	
Are clean waters diverted from the disturbedsite?	
Are diverted stormwater channels protected to prevent scouring and erosion?	
Are all firls and contaminated materials appropriately stored in a covered and bunded area?	
Is equipment fitted with suitable silencers/ spark arrestors?	

Are suitable water carts available for dust suppression?	
Are loaded trucks arriving/ leaving site covered?	
Is litter on site being managed?	

QA and Records	
Have environmental monitoring records been sighted and are they considered sufficient?	
Is there an environmental accident/ incident register?	
Are there suitable records with regards to the disposal of spoil from site?	
Are there suitable records with regards to the acceptance of soil to the site	

Post Construction	
Are all exposed areas properly stabilised?	
Have all environmental control measures been removed?	
Have all records been sighted and do they comply with licence conditions?	
Has the site left clean, uncontaminated, free of stockpiles, litter and waste?	

Sample Environmental Process Monitoring Form during Construction Stage

a) Monitoring period	Form	<u>Date</u>	<u>Month</u>	<u>Year</u>
	To	Date	Month	Year

Sl. No.	Items	Check Point	Evaluation or Mitigation status Y: Good/Yes N: Poor/No	Remark and Signature by Checker
1	Grievance handling during the construction	Have any grievance raised by Project affected People / Residence nearby?	<input type="checkbox"/> Y/ <input type="checkbox"/> N	Contents of grievance should be reported at the time of periodical project report
		If yes; Have the problems been solved?	<input type="checkbox"/> Y/ <input type="checkbox"/> N	Countermeasure for the problem
2	Adequate project implementation following legislation / instruction of DoE and contents in approved EMP, EMoP	Have adequate monitoring plan prepared based on instruction of DoE and contents in approved EMP, EMoP after the EIA process?	<input type="checkbox"/> Y/ <input type="checkbox"/> N	Submission of Approved monitoring plan (may include; waste management)

Sample Environmental process Monitoring Form Post Construction Stage

a) Monitoring period	Form	<u>Date</u>	<u>Month</u>	<u>Year</u>
	To	<u>Date</u>	<u>Month</u>	<u>Year</u>

Sl. No.	Items	Check Point	Evaluation or Mitigation status Y: Good/Yes N: Poor/No	Remark and Signature by Checker
1	Grievance handling during the construction	Have any grievance raised by Project affected People / Residence nearby?	<input type="checkbox"/> Y/ <input type="checkbox"/> N	Contents of grievance should be reported at the time of periodical project report
		If yes; Have the problems been solved?	<input type="checkbox"/> Y/ <input type="checkbox"/> N	Countermeasure for the problem

Sample Checklist for environmental monitoring summary in New Sub-projects by BWDB

No.	Name of the subproject	Identified negative impacts	countermeasures taken against negative impacts	Problems faced during countermeasures	How the problems were solved? (If any)
N-1	Boro Haor subproject (Nikli)				
N-2	Naogaon Haor subproject				
N-3	Jaliar Haor project				
N-4	Dharmapasha Rui Beel Project				
N-5	Chandpur Haor Subproject				
N-6	Sunair Haor Subproject				
N-7	Badla Haor Subproject				
N-8	Nunnir Haor Subproject				
N-9	Dakhsiner Haor Subproject				
N-10	Chatal Haor Subproject				

N-11	Ganesh Haor Subproject				
N-12	Dhakua Haor Subproject				
N-13	Mokhar Haor Subproject				
N-14	Noapara Haor Subproject				

Note: This list is presented as an example to summarize monitoring situation and the content should be modified with the project progress.

Sample Checklist for environmental monitoring summary in Rehabilitation Sub-projects by BWDB

No.	Name of the project	Identified negative impacts	Counter measures taken against negative impacts	Problems faced during countermeasures
R-1	Dampara Water Management Scheme			
R-2	Kangsa River Scheme			
R-3	Singer Beel Subproject			
R-4	Baraikhali khal Subproject			
R-5	Alalia-Bahadia Subproject			
R-6	Modhkhola Bairagirchar sub-project			
R-7	Ganakkhali Subproject			
R-8	Kairdholia Ratna Subproject			
R-9	Bashira River Re-Excavation Subproject			
R-10	Aralia Khal Subproject			
R-11	Chandal Beel Subproject			
R-12	Satdona Beel Scheme			
R-13	Ghuingajuri FCD Sub-Project			
R-14	Khaliajuri FCD Polder # 02			
R-15	Khaliajuri FCD Polder # 04			

Note: This list is presented as an example to summarize monitoring situation and the content should be modified with the project progress.