

**BANGLADESH WATER DEVELOPMENT BOARD  
LOCAL GOVERNMENT ENGINEERING DEPARTMENT**

**PREPARATORY SURVEY  
ON  
UPPER MEGHNA RIVER BASIN WATERSHED  
MANAGEMENT IMPROVEMENT PROJECT  
IN  
THE PEOPLE'S REPUBLIC OF BANGLADESH**

**FINAL REPORT  
VOLUME-II APPENDIXES**

**FEBRUARY 2014**

**JAPAN INTERNATIONAL COOPERATION AGENCY**

**NIPPON KOEI CO., LTD.**

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# **FINAL REPORT**

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**Volume-I : Main Report**

**Volume-II : Appendixes**

### **Exchange Rate**

**US\$ 1.00 = BDT 77.8 = JPY 99.7  
as of October 2013**

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VOLUME-II APPENDIXES**

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**Appendix 2.1 Questionnaire Sheet of Household Survey****Household Survey**No. **Part A Socio-economic Conditions**

Name of Haor ( )

Name of the enumerator		Date of the interview
Name of the field supervisor		Checked by the supervisor <input type="checkbox"/> yes <input type="checkbox"/> No
Upazila:	Union	Gram (Village):

Name of the respondent	Age	Sex
Name of the household head	Age	Sex
Number of Family Members		

**A.1 Household Profile**

Names of Family Members	Sex	Age	Education Level	Occupation

**A.2 Household Characteristics**

Descriptions	Please TICK or indicate			
Ownership of house				
Ownership of housing yard				
Type of house	Pacca	Semi-pacca	Kacha.	
Power source (electricity)	Yes	No	If No, specify ( )	
Drinking water source (rainy season)	SW	DTW	River	Other( )
Drinking water source (dry season)	SW	DTW	River	Other( )
Domestic water source	SW	DTW	River	Other( )
Quality of drinking water	Good	Bad	If Bad*, specify( )	
Sanitary (toilet)	Septic	Pit	Others ( )	
Fuel (for Cooking)	Wood/Crop Residue	Kerosene	Dung	Other( )

Remarks: \* If water is BAD, specify salty, muddy, etc.



### A.3 Household Assets

	Items	No.
1.	Motorcycle	
2.	Bicycle	
3.	Boat	
4.	Ox-cart	

	Items	No.
5.	Radio	
6.	TV	
7.	Other( )	
8..	Other( )	

### A.4 Household Income & Expenditure

How do you classify yourself (in terms of main source of income)?

1. Farmer	2. Fisher	3. Farm Labour	4. Others ( )
-----------	-----------	----------------	---------------

(1) Income from agriculture & fishery (for 2012) by season

Please put 1, 2, 3 - - - in order of importance/amount of earnings

	Income Sources	Dry Season		Rainy Season	
		Order	Amount (Tk/season)	Order	Amount (Tk/season)
1.	Paddy cultivation				
2.	Other crops cultivation				
3.	Inland fishing				
4.	Fish culture				
5.	Poultry farming				
6	Dairy farming				
7.	Others ( )				
8.					
9.					

(2) Household income from NON-FARM sources (for 2012) by season

Please put 1, 2, 3 - - - in order of importance/amount of earnings

	Descriptions	Dry Season		Rainy Season	
		Order	Amount (Tk/season)	Order	Amount (Tk/season)
1.	Salary (working in government, etc.)				
2	Wages from casual work				
3.	Business/trade				
4.	Cottage industry				
5	Farm labour				
6.	Casual labour				
7.	Remittances				
8	Others (specify below)				
9					

(3) Household expenditure (for 2012)  
(Please provide average monthly or annually).

	Descriptions	Monthly (tk)	Annually (tk)
1.	Food		
2.	Farming Expenses (crop & livestock)		
3.	Farming Expenses (fishery)		
4.	Utilities (water, electricity, etc.)		
5.	Fuel for cooking, etc.		
6.	Clothing		
7.	Health care & medical		
8.	Education		
9.	Travel & communication		
10.	Social functions including entertainment		
11.	Repayment of loans / debts		
12.	Savings		
	Others (specify)		

(4) When your income is not sufficient for living expenses and farm expenses and when you suffered from flooding, how do you make the shortage (balance)  
(Please TICK where applicable).

	Description	When	
		Income Is Insufficient	Suffered from Flood
1.	Pawn jewellery		
2.	Borrow from relatives / friends		
3.	Borrow (or take credit) from village shops/money lenders		
4.	Sell property		
5.	Others (specify)		

## Part B Crop Production & Livestock

### B.1 Holding Size & Farming Asset

(1) Holding size & ownership of farm land

	Lowland Field				Upland Field
Irrigation/Rainfed	Irrigated				
Tenure Status 1/					
Area (acre)					

1/: own, rented, tenant, sharecropped, etc.

(2) Irrigation/water charge per season: ( ) tk/season)

(3) Holding size of animal & poultry at present

Buffalo	Goat	Sheep	Chicken	Duck	

(4) Farming asset (farm machinery, equipment, tools etc.)

	Descriptions	No.		Descriptions	
1.	Power tiller		9.	Low lift pump	
2.	Power thresher		10.	STW(shallow tube well)	
3.	Pedal thresher		11.	Double lift pump	
4.	Bullock cart		12.	Rice mill	
5.	Draught animal (buffalos)		13.	Parboil equipment	
6.	Plough		14.	Grain storage container	
7.	Land leveller (ladder)		15.	Others (specify)	
8.	Pedal pump				

## B.2 Cropped Area & Production of Major Crops in 2012/2013

1.	Crop/Variety (HYV/local)	bolo/HYV			
2.	Season	Rabi			
3.	Cropped area (acre)				
4.	Yield (kg/acre)				
5.	Production (kg)				
6.	Marketed volume (kg)				
7.	Selling price per kg (tk/kg)				

1.	Crop/Variety (HYV/local)				
2.	Season				
3.	Cropped area (acre)				
4.	Yield (kg/acre)				
5.	Production (kg)				
6.	Marketed volume (kg)				
7.	Selling price per kg (tk/kg)				

## B.3 Cropped Area & Production of Other Crops in 2012/2013

	Descriptions	Kharif 1	Kharif 2	Rabi	Year Round
1.	Production (kg)				
2.	Selling price per kg (tk/kg)				

**B.4 Livestock Production & Sale in 2012/2013**

Descriptions	Monthly	Annual	Descriptions	Monthly	Annual
Egg Prod. (chicken) (kg)			Sale Sheep (head)	-	
Egg prods. (duck) (kg)			Sale Buffalo (head)	-	
Sale of Chicken (bird)			Sale Cattle (head)	-	
Sale of Duck (bird)			Cow Milk Prod. (lit.)		
Sale of Goat (head)	-		Goat/Sheep Milk Prod. (lit.)		

**Part C Fisheries****C.1 General**

(1) What type of fisheries activities are you involved? (Please tick where applicable)

1.	Open water fishing	
2.	Pond fish culture (fish farming)	
3.	Both open water fishing & pond fish culture (fish farming)	
4.	Others (specify): (e.g.) Integrated fish culture with poultry	
5.	Years of experience in fish culture	years
6.	Do you keep record of fish farming (season or by cycle)?	1. Yes      2. No

(2) What are your productive assets (Please select and list others) for fisheries?

Descriptions	No.	Descriptions	No.	Descriptions	No.
Ponds		Refrigerator		Fishing net	
Boats		Feed mixer		Generator	
Pump					

**C.2 Fish Farming (Fish Culture),**

(1) Number of ponds, area and ownership

	Descriptions	No.	Area	Ownership	
1.	Nursery ponds			Own	Rented
2.	Rearing ponds			Own	Rented
	Total – Fish Farm Area				

(2) Source of water supply and charges (if any)

Descriptions	Yes or No	Water Charges (tk/month)	Descriptions	Yes or No	Water Charges (tk/month)
River			Irrigation canals		
Open water bodies			Others (specify)		

(3) Type of aquaculture system or practice

	Descriptions	Season-1	Season-2	All Year Around
1.	Extensive			
2.	Semi-intensive			
3.	Intensive			
4.	Mono-culture			
5.	Poly-culture			
6.	Poultry-fish culture			
7.	Rice-fish culture			

(4) Type of fish species cultured, stocking density (pieces/sq. meter) and production (kg/cycle or kg/year), selling prices & survival rate

Name of Species	No of cycles/year	Stocking density (pcs./sq m2)	Production per cycle (kg/cycle)	Annual Production (kg/year)	Selling Price (tk/kg)	Survival Rate/Cycle (%)
Catla						
Rohu						
Mirigal						
Silver carp						
Bighead						
Common carps						
Tilapia						
Prawn						
Others						

(5) Source of fry and fingerlings and buying price (tk/piece)

	Name of Species	Govt. Hatchery	Private Hatchery	Other source
1.	Catla	tk/pcs.	tk/pcs	tk/pcs
2.	Rohu	tk/pcs	tk/pcs	tk/pcs
3.	Mirigal	tk/pcs	tk/pcs	tk/pcs
4.	Silver carp	tk/pcs	tk/pcs	tk/pcs
5	Bighead	tk/pcs	tk/pcs	tk/pcs
6.	Common carps	tk/pcs	tk/pcs	tk/pcs
7.	Tilapia species	tk/pcs	tk/pcs	tk/pcs
8.	Freshwater prawn	tk/pcs	tk/pcs	tk/pcs
9.	Others (specify)	tk/pcs	tk/pcs	tk/pcs

**C.3 Open Water Fishing (Inland Capture Fishing)**

(1) What are the fishing seasons? (Indicate from what month to month).

a. Season	from	to	b. Season	from	to
-----------	------	----	-----------	------	----

(2) Where do you conduct your fishing operations?

a. River	b. Bheels/Ox-bow lakes	c. Floodplain	d. Others (specify)
----------	------------------------	---------------	---------------------

(3) Purpose of fishing: 1. For elf consumption 2. For sale 3. For both

(4) How much do you pay for capture fishing per season: ( tk/kg)

(5) Frequency of fishing? \_\_\_\_\_ times per week

(6) Productive assets for capture fishing (open water fishing)

	Descriptions	No.	Descriptions	No.
1.	Boats with engine		Cast nets	
	Boats without engine		Push nets	
3.	Gill nets		Hook & lines	
4.	Seine nets		Other (specify)	
5.	Lift nets			

(7) Average fish catch volume (kg) (Provide an estimate of catch per trip or month)

	Fish Category	Kg/trip	Kg/month	Kg/season
1.	Big carps			
2.	Small carps			
3.	Cat fish			
4.	Snake head			
5.	Small varieties			
6.	Others (specify)			

**Part D Marketing, Agricultural Support Services, Organizations****D.1 Marketing of Products**

(1) Prevailing marketing channel of crops, please Tick where applicable.

	Market Channel	Commodity		
		Paddy		
1.	To a collector (who visits the farm)			
2.	To a wholesaler in the village			
3.	To a wholesaler in nearby town or village			
4.	To a retailer in the village			
5.	To Farmers Organization (Cooperative)			
6.	Others (specify) _____			

(2) Prevailing marketing channel of fish & livestock products -1, please Tick where applicable.

	Market Channel	Fish	Egg	Chicken/ Duck	Animal
1.	To a collector (who visits the farm)				
2	To a wholesaler in the village				
3	To a wholesaler in nearby town or village				
4	To a retailer in the village				
5	To Farmers Organization (Cooperative)				
6	Others (specify) _____				

## D. 2 Extension Services

(1) What kind of extension services of government, NGOs and donors you are currently provided with? Please tell us in detail.

Crop sub-sector	
Fishery sub-sector	
Livestock sub-sector	

(2) Are you satisfied with such support services? If not satisfied, please tell us reasons for.

Crop sub-sector	
Fishery sub-sector	
Livestock sub-sector	

(3) Frequency of visits of extension personnel, please put  on relevant frequency

Extension Personnel	Frequency of Visits
Agriculture (DAE)	1. once/2 weeks, 2. once/3-4weeks, 3. Once/1-3months, 4. Seldom - no
	1. once/2 weeks, 2. once/3-4weeks, 3. Once/1-3months, 4. Seldom - no
	1. once/2 weeks, 2. once/3-4weeks, 3. Once/1-3months, 4. Seldom - no
	1. once/2 weeks, 2. once/3-4weeks, 3. Once/1-3months, 4. Seldom - no
	1. once/2 weeks, 2. once/3-4weeks, 3. Once/1-3months, 4. Seldom - no

### D.3 Farm Inputs Supply

Where & how do you procure farm inputs for farming, fishery & livestock

Commodity	Where & how do you procure
Seed	
Fertilizer	
Agro-chemicals	
Livestock feed	
Chicks/ducling	
Fish fingerling/fry	
Fishing gear	

**D.4 Accessibility to Farm Credit:** 1. Easy, 2. Difficult, 3. No access

### D.5 Farmers/Rural Organizations

(1) Your Membership in Farmers Organizations 1/; Activities & Obligations

Farmers Organization	Major Activities	Obligations

1/: KSS, WA, etc.



## Part E Development Activities/Projects

**E.1 Are you participating in Agriculture & Other Development Interventions/Activities (crop/fishery/livestock & others) implemented by Government, NGOs & Donors ?**

Activities/Projects & Agency	Major Activities

**E.2 Are you going to positively participate and fulfil obligations in development interventions envisaged under the present Project ?**

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## Part F Problems/Constraints, Needs & Future Aspirations

**F.1 Problems/Constraints**

What are the specific **Problems / Constraints** that you face in crop, fishery & livestock production?

(1) Crop sub-sector

Problems/Constraints	Your Suggestion to Improve

(2) Fishery sub-sector

Problems/Constraints	Your Suggestion to Improve

## (3) Livestock sub-sector

Problems/Constraints	Your Suggestion to Improve

## (4) Other sectors

Problems/Constraints	Your Suggestion to Improve

**F.2 Immediate Needs**

What are your Immediate Needs to Improve Crop, Fishery & Livestock Production and Income?

## (1) Crop sub-sector

--

## (2) Fishery sub-sector

--

## (3) Livestock sub-sector

--

(4) Other sectors

--

### F.3 Future Aspirations

Please tell us about your Future Aspirations for crop, fishery & livestock production & other sectors.

(1) Crop sub-sector

--

(2) Fishery sub-sector

--

(3) Livestock sub-sector

--

(4) Other sectors

--

## Part G Losses Caused by Floods

Please inform us lossess of production & assets you suffered from **Flash Flood**

	Losses of Production			Losses of Assets (tk)	Maximum Flash Flood Depth in Your Lowland Field (m)
	Production was xx% of normal years				
Year	Boro Rice	Other Crops	Fish Prod.		
2004					
2010					

**Appendix 2.2 Findings from the Household Survey, July/2013****Part A Socio-economic Conditions****Table A.1: Target Projects & Upazilas for Household Survey**

District	Upazila	Related Project/Haor	Project Area (ha)	Project Type	Sample Numbers
Sunamganj	1. Dharmapasha	Dharmapasha Rui Beel	18,972	New project	71
Kishoreganj	2. Nikli	Boro Haor (Nikli)	9,147	New project	35
	3. Mithamaine	Charigram Project	7,829	New project	35
	4. Austagram	Boro Haor (Austagram)	11,013	New project	37
Netrokona	5. Purbadhala	Kangsa River Scheme	11,337	Rehabilitation	37
Habiganj	6. Ajmiriganj	Kairdhala Ratna	11,900	Rehabilitation	70
Brahmanbaria	7. Bancharampur	Satdona Beel Scheme	5,030	Rehabilitation	35
Netrokona	8. Khaliajuri	Dhanu River	-	River dredging	35
Total					355

**Table A.2: District-wise No. of Households Sampled and No. of Household Members**

District	Sample Numbers	No. of household members from the sampled HHs			Average No. of Household Member
		Male	Female	Total	
Sunamganj	71	216	207	423	5.96
Habiganj	70	206	224	430	6.14
Netrokona	72	220	218	438	6.08
Kishoreganj	107	337	280	617	5.77
Brahmanbaria	35	98	94	192	5.49
Total	355	1,077 (51.29%)	1,023 (48.71%)	2,100	5.92

**Table A.3: Distribution of the Respondents and the Head of the Households by their respective Age**

Age (Years)	Respondents		HH Heads	
	Number	Share (Column %)	Number	Share (Column %)
20 - 30	25	7.04%	15	4.23%
30 - 40	79	22.25%	72	20.28%
40 - 50	110	30.99%	111	31.27%
50 - 60	91	25.63%	93	26.20%
60 - 70	39	10.99%	48	13.52%
70 - 80	9	2.54%	14	3.94%
80 - 90	2	0.56%	2	0.56%
<b>Total</b>	<b>355</b>			

Note: All the respondents were Male and only one household sampled is headed by a Female

**Table A.4: Age Distribution of Household Members**

Age (Years)	Sex				All	
	Male		Female			
	Number	Share (Row %)	Number	Share (Row %)	Number	Share (Column %)
0 - 10	239	48.28%	256	51.72%	495	23.57%
10 - 20	258	50.79%	250	49.21%	508	24.19%
20 - 30	164	48.96%	171	51.04%	335	15.95%
30 - 40	116	49.36%	119	50.64%	235	11.19%
40 - 50	118	54.13%	100	45.87%	218	10.38%
50 - 60	97	60.25%	64	39.75%	161	7.67%
60 - 70	56	65.12%	30	34.88%	86	4.10%
70 - 80	18	43.90%	23	56.10%	41	1.95%
80 - 90	7	70.00%	3	30.00%	10	0.48%
90 - 100	4	36.36%	7	63.64%	11	0.52%
<b>Total</b>	<b>1077</b>	<b>51.29%</b>	<b>1023</b>	<b>48.71%</b>	<b>2100</b>	<b>100.00%</b>

**Table A.5: Education Level of Household Members**

Education Level	Sex				All	
	Male		Female			
	Number	Share (Column %)	Number	Share (Column %)	Number	Share (Column %)
Illiterate	274	44.26%	243	43.32%	517	<b>43.81%</b>
Class 1 - 4	59	9.53%	61	10.87%	120	10.17%
Class 5 - 9	219	35.38%	205	36.54%	424	35.93%
Secondary School Certificate	37	5.98%	25	4.46%	62	5.25%
High School Certificate	7	1.13%	3	0.53%	10	0.85%
BA/BCom/BSc	18	2.91%	21	3.74%	39	3.31%
Masters or higher	5	0.81%	3	0.53%	8	0.68%
<b>Total</b>	<b>619</b>	<b>100.00%</b>	<b>561</b>	<b>100.00%</b>	<b>1,180</b>	<b>100.00%</b>

Note: Household member aged 18 years or above is counted.

**Table A.6: Employment Sector of Household Members**

Occupation	Sex				All	
	Male		Female			
	Number	Share (Column %)	Number	Share (Column %)	Number	Share (Column %)
Farmer	484	78.19%	4	0.71%	488	41.36%
Business	23	3.72%	3	0.53%	26	2.20%
Service	20	3.23%	3	0.53%	23	1.95%
Day labor	12	1.94%	1	0.18%	13	1.10%
Fisherman	5	0.81%	0	0.00%	5	0.42%
Boatman	3	0.48%	0	0.00%	3	0.25%
Driver	3	0.48%	0	0.00%	3	0.25%
Unemployed	9	1.45%	15	2.67%	24	2.03%
Housewife	0	0.00%	447	79.68%	447	37.88%
Dependent, Retired	37	5.98%	57	10.16%	94	7.97%
Student	22	3.55%	27	4.81%	49	4.15%
Disable	1	0.16%	4	0.71%	5	0.42%
<b>Total</b>	<b>619</b>	<b>100.00%</b>	<b>561</b>	<b>100.00%</b>	<b>1,180</b>	<b>100.00%</b>

Note: Household member aged 18 years or above is counted

**Table A.7: Land Holding Condition of Household**

(Unit: 1 acre = 0.404686 hectare = 4046.86 square meter)

District	No. of Sampled HHs by Land Holding Size (in Acre)						Total Farm Holdings	Average Land Holding Size (Acre)	Operational Farms	
	0.05 - 0.49	0.50 - 0.99	1.00 - 1.49	1.50 - 2.49	2.50 - 7.49	7.50+			Number	Average Size (Acre)
(Land Holding Categories)	Small				Medium	Large				
	Marginal									
Sunamganj	2	4	13	40	12		71	1.70	71	2.13
Habiganj	6	18	16	29		1	70	1.46	70	2.23
Netrokona	13	18	6	13	15	4	69	2.18	71	2.52
Kishoreganj	1	20	35	41	10		107	1.42	107	1.76
Brahmanbaria	4	4	10	11	2		31	1.27	35	1.40
<b>Total</b>	<b>26</b>	<b>64</b>	<b>80</b>	<b>134</b>	<b>39</b>	<b>5</b>	<b>348</b>	<b>1.62</b>	<b>354</b>	<b>2.04</b>
<b>Share (%)</b>	<b>7.47%</b>	<b>18.39%</b>	<b>22.99%</b>	<b>38.51%</b>	<b>11.21%</b>	<b>1.44%</b>				

Note: 6 HHs are there who don't own any cultivable land but are farming on rented/sharecropped lands

**Table A.8: Living Condition of Surveyed Household**

Services									
1	Ownership of house	Own		100%		Rent		0%	
2	Average Size of housing yard	355m <sup>2</sup> (8.78 decimal = 0.0878 acre)							
3	Type of house	Pacca	0.56%	Semi-pacca	15.49%	Kacha	83.94%		
4	Power source (electricity)	Connected		42.82%		Not Connected		57.18%	
5	Water source								
	Drinking: Rainy season	SW	75.49%	DTW	23.66%	River	0.85%	Other	0.00%
	Deinking: Dry season	SW	75.21%	DTW	23.66%	River	1.13%	Other	0.00%
	Domestic Use	SW	56.34%	DTW	11.55%	River	18.31%	Other	13.80%
6	Quality of drinking water	Good		85.35%		Bad		14.65%	
7	Sanitary (toilet)	Septic	11.83%	Pit Latrine	72.11%	Open	11.27%	Hanging	4.79%
8	Fuel (for Cooking)	Wood/Crop Residue	82.82%	Kerosene	1.13%	Dung	16.06%	Other	0.00%

Note:

- Types of houses- **Pacca:** robust house made of brick and concrete  
**Semi-pacca:** normal house made of brick, timber and corrugated iron roof  
**Kacha:** fragile house made of organic materials (bamboo, straw)
- Types of water sources- **SW:** Shallow Well, **DTW:** Deep Tube Well

**Table A.9: Percentage of Households having some selected Assets/Durables**

Assets	Households owning the assets	
	Number	%
Motorcycle	11	3.10%
Bicycle	55	15.49%
Boat	75	21.13%
Ox-cart	12	3.38%
Radio	15	4.23%
TV	74	20.85%

**Table A.10: Average Annual Income and Consumption Expenditure of Households Surveyed**

(Unit: TK/year)

District	No. of Household Member	No. of Earner	Sample numbers	Average Income			Average Expenditure
				Total	Dry Season	Rainy Season	
Sunamganj	5.96	1.62	71	135,533	107,226	28,306	143,559
Habiganj	6.14	1.66	70	205,465	119,055	86,410	191,636
Netrokona	6.07	1.53	72	163,787	81,808	81,979	169,014
Kishoreganj	5.77	1.85	107	149,291	101,487	47,804	140,736
Brahmanbaria	5.49	2.03	35	170,664	115,908	54,756	179,699
<b>Total</b>	<b>5.91</b>	<b>1.72</b>	<b>355</b>	<b>162,663</b>	<b>103,529</b>	<b>59,134</b>	<b>160,914</b>

**Table A.11: Summary of Average Household Income per Season**

(Unit: TK/year)

	Average Income (TK)			Share (%)		
	Total	Dry Season	Rainy Season	Total	Dry Season	Rainy Season
Agriculture and Fishery Income	104,200	72,130	32,069	<b>64.1%</b>	44.3%	19.7%
Other Income (305 out of 355 HHs)	58,463	31,399	27,064	35.9%	19.3%	16.6%
<b>Total</b>	<b>162,663</b>	<b>103,529</b>	<b>59,134</b>	<b>100.0%</b>	<b>63.6%</b>	<b>36.4%</b>

**Table A.12: Internal Migration of HH Members for Income Earning Activities by Month**

Months	HHs with at least one member going/staying outside the District	
	No. of HHs	%
January	8	2.25
February	19	5.35
March	24	6.76
April	12	3.38
May	16	4.51
June	21	5.92
July	24	6.76
August	27	7.61
September	19	5.35
October	10	2.82
November	6	1.69
December	9	2.54
<b>At least once in a year</b>	<b>62</b>	<b>17.46</b>

Note: The information in this regard was collected by the enumerators and was put in the survey questionnaire as a side-note; because the survey questionnaire provided to the enumerators didn't include any question regarding this issue.

Table A.13: Average Income per Income Source and Season

(Unit: TK/year)

	Total Income	Share	Dry Season				Rainy Season			
			Total Income	Share	Count	Average	Total Income	Share	Count	Average
<b>Agruculture and Fishery Income</b>										
Paddy cultivation	24,969,233	43.2%	20,299,073	35.2%	336	60,414	4,670,160	8.1%	126	37,065
Other crops cultivation	1,186,280	2.1%	1,011,820	1.8%	57	17,751	174,460	0.3%	11	15,860
Inland fishing	4,466,200	7.7%	561,500	1.0%	35	16,043	3,904,700	6.8%	129	30,269
Fish culture	763,670	1.3%	458,400	0.8%	19	24,126	305,270	0.5%	15	20,351
Poultry farming	3,212,944	5.6%	1,741,364	3.0%	103	16,906	1,471,580	2.5%	82	17,946
Dairy farming	2,348,922	4.1%	1,497,930	2.6%	104	14,403	850,992	1.5%	64	13,297
Others	43,600	0.1%	36,200	0.1%	2	18,100	7,400	0.0%	2	3,700
<b>Subtotal</b>	<b>36,990,849</b>	<b>64.1%</b>	<b>25,606,287</b>	<b>44.3%</b>	<b>355</b>	<b>72,130</b>	<b>11,384,562</b>	<b>19.7%</b>	<b>355</b>	<b>32,069</b>
<b>Other Income</b>										
Salary (working in government, etc.)	2,241,200	3.9%	981,600	1.7%	30	32,720	1,259,600	2.2%	30	41,987
Business/trade	6,907,620	12.0%	3,732,650	6.5%	106	35,214	3,174,970	5.5%	95	33,421
Cottage industry	0	0.0%		0.0%	0			0.0%	0	
Farm labour	532,500	0.9%	230,500	0.4%	19	12,132	302,000	0.5%	18	16,778
Casual labour	3,728,400	6.5%	2,345,000	4.1%	111	21,126	1,383,400	2.4%	73	18,951
Remittances	2,176,000	3.8%	1,157,000	2.0%	25	46,280	1,019,000	1.8%	18	56,611
Others	5,168,800	9.0%	2,699,900	4.7%	102	26,470	2,468,900	4.3%	75	32,919
<b>Subtotal</b>	<b>20,754,520</b>	<b>35.9%</b>	<b>11,146,650</b>	<b>19.3%</b>	<b>355</b>	<b>31,399</b>	<b>9,607,870</b>	<b>16.6%</b>	<b>355</b>	<b>27,064</b>
<b>Total</b>	<b>57,745,369</b>	<b>100%</b>	<b>36,752,937</b>		<b>355</b>	<b>103,529</b>	<b>20,992,432</b>		<b>355</b>	<b>59,134</b>



**Table A.14: Income Shortage/Insufficiency faced by the Sampled HHs by Month**

Months	HHs facing income shortage	
	No. of HHs	%
January	7	1.97
February	152	42.82
March	244	68.73
April	131	36.90
May	31	8.73
June	8	2.25
July	11	3.10
August	25	7.04
September	80	22.54
October	56	15.77
November	17	4.79
December	7	1.97
<b>At least once in a year</b>	<b>305</b>	<b>85.92</b>

**Table A.15: Solution for Emergency Cash Needs**

Countermeasure	Income Is Insufficient		Suffered from Flood	
	Number of Sample	Share (%)	Number of Sample	Share (%)
Borrow from relatives/friends	175	49.30%	143	40.28%
Borrow (or take credit) from village shops/money lenders	173	48.73%	195	54.93%
Sell property	28	7.89%	47	13.24%
Pawn jewelry	6	1.69%	23	6.48%
Others	23	6.48%	24	6.76%

**Table A.16: Average Expenditure per Items**

(Unit: TK/year)

Items	Total Expenditure	Share of Total Expenditure	Average Expenditure per HH
1 Food	23,460,250	41.11%	66,085
2 Farming Expenses (crop & livestock)	12,976,205	22.74%	36,553
3 Farming Expenses (fishery)	1,362,790	2.39%	3,839
4 Utilities (water, electricity, etc.)	966,584	1.69%	2,723
5 Fuel for cooking, etc.	1,949,740	3.42%	5,492
6 Clothing	2,706,116	4.74%	7,623
7 Health care & medical	1,571,660	2.75%	4,427
8 Education	2,149,900	3.77%	6,056
9 Travel & communication	1,986,762	3.48%	5,597
10 Social functions including entertainment	1,539,302	2.70%	4,336
11 Repayment of loans / debts	3,155,040	5.53%	8,887
12 Savings	3,243,610	5.68%	9,137
13 Others	0	0.00%	0
<b>Total</b>	<b>57,067,959</b>		<b>160,755</b>

**Table A.17: Average Annual Income per Main Income Source Category**

(Unit: TK/year)

Main Source of Income	No. of Household Member	No. of Earner	Sample Number	Average Income (TK)			Average Expenditure (TK)
				Total	Dry Season	Rainy Season	
Farmer	5.91	1.73	323	163,148	106,405	56,744	161,892
Fisher	6.00	1.66	29	162,507	78,629	83,878	156,008
Farm Labour	5.33	1.33	3	111,933	34,667	77,267	103,053
<b>Total</b>	<b>5.91</b>	<b>1.72</b>	<b>355</b>	<b>162,663</b>	<b>103,529</b>	<b>59,134</b>	<b>160,914</b>

Note: Surveyed households are categorized automatically into farmer, fisher or farm labour by their main source of income

## Part B Crop Production & Livestock

**Table A.18: Average Size and Distribution of Agricultural Land under the Surveyed Households by Tenure Status and Irrigation Method**

(Unit: 1 Decimal = 40.4686 square meter)

Tenure	Number of Samples	Total Area (Acre)	Irrigated				Rainfed			
			Number of Samples	Total Area (Acre)	%	Average area (Acre)	Number of Samples	Total Area (Acre)	%	Average area (Acre)
Own	348	56,465	348	562.0	77.7%	1.62	2	263	0.4%	1.32
Rented	50	5,792	50	57.9	8.0%	1.16	0	0	0.0%	-
Tenant	67	7,973	66	79.4	11.0%	1.20	1	30	0.0%	0.30
Sharecropped	20	2,144	20	21.4	3.0%	1.07	0	0	0.0%	-
Total	354	72,374	354	720.8	99.6%	2.04	3	293	0.4%	0.98

**Table A.19: Number of Livestock and Farming Assets Owned by the Surveyed Households**

Description		No. of Household having any	Total Number Owned by the Households	Average No. per Household
Holding size of animal & poultry	Buffalo	193	519	2.69
	Goat	40	111	2.78
	Sheep	7	16	2.29
	Chicken	172	5,474	31.83
	Duck	121	8,350	69.01
Farming asset	Power tiller	10	10	1.00
	Power thresher	15	21	1.40
	Pedal thresher	5	5	1.00
	Bullock cart	14	15	1.07
	Draught animal (buffalos)	8	9	1.13
	Plough	150	169	1.13
	Land leveler (ladder)	220	241	1.10
	Pedal pump	17	19	1.12
	Low lift pump	7	8	1.14
	STW(shallow tube well)	48	57	1.19
	Double lift pump	7	8	1.14
	Rice mill	8	10	1.25
	Parboil equipment	203	357	1.76
Grain storage container	209	319	1.53	
Others (specify)	78	179	2.29	

**Table A.20: Per Household Area Under Cultivation, Yield/Decimal, Production/Season, Marketed Value and Selling Price of Crops**

Average...	Paddy			Other Major Crops		
	Rabi	Kharif1	Kharif2	Rabi	Kharif1	Kharif2
Cropped Area (decimal)	187.97	155.00	150.94	32.02	52.39	31.63
Yeild (kg/dec)	23.27	11.96	16.49	22.41	32.39	34.63
Production (kg)	3,904.43	1,770.75	2,462.08	742.22	379.56	1,107.88
Marketed Value (kg)	22.19	13.50	43.45	68.87	19.39	26.13
Selling Price (Tk/kg)	15.15	13.00	15.81	53.41	19.76	26.50
Number of respondent (N)	353	56	53	54	18	8

**Table A.21: Livestock Production and Sales Activities of the Surveyed Households**

Descriptions	No. of Surveyed Households engaged in livestock production and sale	Average quantity Produced/Sold	
		Monthly	Yearly
Egg Prod. (chicken) (kg)	81	48.54	410.01
Egg prods. (duck) (kg)	79	177.15	1,409.54
Sale of Chicken (bird)	66	63.86	1,003.44
Sale of Duck (bird)	70	37.18	446.31
Sale of Goat (head)	7	1.00	3.14
Sale Sheep (head)	1	1.00	1.00
Sale Buffalo (head)	12	1.00	1.33
Sale Cattle (head)	32	1.13	1.34
Cow Milk Prod. (lit.)	88	41.78	445.09
Goat/Sheep Milk Prod. (lit.)	1	60.00	360.00

## Part C Fisheries

**Table A.22: Surveyed Households Involved in Fishing or Fish Farming Activities**

Fishing Activities	Number	%
Open water fishing	150	42.25%
Pond fish culture (fish farming)	14	3.94%
Both open water fishing & pond fish culture (fish farming)	5	1.41%
Total Sample	355	

**Table A.23: Productive Assets for Fisheries, Owned by the Households involved in Fish Farming**

Productive assets for fisheries	No. owned by the HH involved in fish farming	
	Total	Average
Ponds	23	1.21
Boats	18	0.95
Pump	6	0.32
Refrigerator	5	0.26
Feed mixer	24	1.26
Fishing net	43	2.26
Generator	4	0.21

**Table A.24: No. of Ponds and Average Size of the Ponds used by the Surveyed Households for Fish Farming**

(Unit: 1 acre = 0.404686 hectare = 4046.86 square meter)

Descriptions	No. of sampled HHs engaged in fish farming	Average No. of ponds per fish farming households	Average area (acre) of the ponds	Ownership	
				Own	Rented
Nursery ponds	10	1.20	.34	12	0
Rearing ponds	14	1.07	1.20	11	4
<b>All</b>	<b>19</b>	<b>1.42</b>	<b>1.06</b>	<b>23</b>	<b>4</b>

**Table A.25: Sources of Water Used for Fish Farming**

Sources of water	Households using the source		Average charges (Tk/month) paid by the HHs
	No.	%	
River	6	31.58%	2,483
Irrigation canals	2	10.53%	625
<b>Total</b>	<b>8</b>	<b>42.11%</b>	<b>2,019</b>

**Table A.26: Aquaculture Systems Practiced by the Surveyed Fish Farming Households**

Aquaculture systems/Practices	No. of HHs practicing the aquaculture system		
	Season-1	Season-2	All Year Around
Extensive	1		2
Semi-intensive	1	1	4
Intensive	1		
Mono-culture			
Poly-culture	9	8	12
Poultry-fish culture			
Rice-fish culture			

**Table A.27: Information on the Main Species of Fishes Cultured by the Surveyed Households**

Name of Species	Average					
	No. of cycles/year	Stocking density (pcs./sq. m)	Production per cycle (kg/cycle)	Annual Production (kg/year)	Selling Price (Tk/kg)	Survival Rate/Cycle (%)
Catla	1.40	260	160	256	142	78.21
Rohu	1.33	799	268	535	134	76.39
Mirigal	1.41	565	194	362	119	66.47
Silver carp	1.71	1,282	578	1,119	95	62.19
Bighead	2.09	1,856	1,726	2,383	89	71.50
Common carps	1.22	204	112	168	103	77.22
Tilapia	1.50	228	65	69	101	78.13
Prawn	2.00	1,000	1,000	2,000	100	50.00
Others	1.63	855	196	1,301	129	56.88

**Table A.28: Source of Fry and Fingerlings and Average Buying Price***(Unit: Tk/piece)*

Name of Species	Average buying price		
	Govt. Hatchery	Private Hatchery	Other source
Catla		8.33	3.50
Rohi		2.25	3.07
Mirigal		2.50	2.15
Silver carp	3.00	3.50	2.27
Bighead		1.00	4.00
Common carps		2.67	1.50
Tilapia		1.50	4.33
Prawn			2.00
Others			4.50

**Table A.29: Surveyed Households Involved in Any Sort of Open Water Fishing**

		Number of Sample	%
Where do you conduct your fishing operations?	River	53	26.77%
	Bheels/Ox-bow lakes	134	67.68%
	Floodplain	1	0.51%
	Others	10	5.05%
Purpose of fishing	Self-consumption	88	44.44%
	Sale	16	8.08%
	Both	94	47.47%
Total no. of HHs involved in open water fishing		198	

**Table A.30: No. of Months the Households do Open Water Fishing**

No. of months	Number of Sample	%	97.98
1 month	9	4.55	
2 months	3	1.52	
3 months	22	11.11	
4 months	41	20.71	
5 months	37	18.69	
6 months	43	21.72	
7 months	22	11.11	
8 months	5	2.53	
9 months	3	1.52	
10 months	3	1.52	
11 months	6	3.03	
12 months	4	2.02	
Total	198	100.00	
<i>Avg. no. of months per HHs involved in open water fishing</i>		<i>5.32 months (n=198)</i>	

**Table A.31: Number of Productive Assets for Open Water Fishing, Owned by the Surveyed Households**

Productive assets for open water fishing	No. owned by the households involved in open water fishing	
	Total	Average/HH
Boats with engine	22	0.11
Boats without engine	38	0.19
Gill nets	17	0.09
Seine nets	31	0.16
Lift nets	9	0.05
Cast nets	88	0.44
Push nets	114	0.58
Hook & lines	24	0.12
Other (specify)	431	2.18

**Table A.32: Average fish catch volume**

Name of Species	Kg/Trip	Kg/Month	Kg/Season
Big carps	0.23	1.97	9.56
Small carps	0.98	4.90	16.24
Cat fish	0.04	0.37	1.25
Snake head	0.23	3.47	17.93
Small varieties	4.29	43.40	148.32
Others	1.21	19.87	70.88
<b>Total</b>	<b>6.97</b>	<b>73.98</b>	<b>264.19</b>

## Part D Marketing, Agricultural Support Services, Organizations

**Table A.33: Prevailing Marketing Channel of Paddy & Other Crops**

Market Channel	Paddy		Other Crops	
	No.	%	No.	%
Collector (come to farm)	88	18	3	4
Wholesaler in Village	225	46	23	34
Wholesaler in Nearby Town or Village	113	23	26	38
Retailer in Village	61	12	16	24
Cooperatives	2	0.4	0	0
Total Responses*	489	100	68	100
No answer (not marketed)	25		307	

Note: \* Multiple responses allowed

**Table A.34: Prevailing Marketing Channel of Fish and Livestock Products**

Market Channel	Prevailing marketing channel of fish & livestock products							
	Fish		Egg		Chicken/Duck		Animal	
	Number	%	Number	%	Number	%	Number	%
Collectors (who visits the farm)	12	10.34%	7	10.00%	9	11.39%	4	5.48%
Wholesaler in the village	42	36.21%	27	38.57%	37	46.84%	14	19.18%
Wholesaler in nearby town or village	34	29.31%	10	14.29%	19	24.05%	31	42.47%
Retailer in the village	59	50.86%	48	68.57%	40	50.63%	30	41.10%
<b>Total No. of HHs selling fish &amp; livestock products</b>	<b>116</b>	<b>32.68%</b>	<b>70</b>	<b>19.72%</b>	<b>79</b>	<b>22.25%</b>	<b>73</b>	<b>20.56%</b>

**Table A.35: Extension Services Provided**

Item		Service Provider									No Services Provided	No Answer	Total
		DAE/UAO						NGO	Chemical Dealer	Others			
		UAO	DAE (Project)	UAO (Not Sufficient)	UAO & NGO	UAO (Visit with No Advice)	Sub-total						
No. of Respondents	(No.)	77	2	6	3	8	96	8	6	4	226	15	355
	(%)	22	1	2	1	2	27	2	2	1	64	4	100

**Table A.36: Satisfied with Extension Services Provided**

Item		Not Satisfied				Satisfied with Services	Others	No Answer	Total
		No Services Provided	Not Satisfied	Training or Technical Advices to be Provided*	Sub-total				
No. of Respondents	(No.)	115	63	63	241	23	3	88	355
	(%)	32	18	18	68	6	1	25	100

Note: \*Respondent suggested training & technology transfer requirements assumed to be not satisfied

**Table A.37: Frequency of Visits of Extension Personnel**

Extension Personnel	No response/NA		Once/2 weeks		Once/3-4weeks		Once/1-3months		Seldom - No Visit	
	Count	%	Count	%	Count	%	Count	%	Count	%
UAO Staff	29	8%	2	1%	23	6%	53	15%	248	70%
UFO Staff	173	49%	3	1%	11	3%	11	3%	157	44%
DLO Staff	222	63%			2	1%	4	1%	127	36%
NGO	263	74%			3	1%	13	4%	76	21%

Note: Proportion to total respondents 355

UAO - Upazila Agriculture Office; UFO - Upazila Fishery Office; DLO - District Livestock Office

**Table A.38: Farm Inputs Supply - Seeds (Where do you procure seeds?)**

Item		Local Supplier			BADC/DAE	Self-multiplied Seed	Others	No Answer	Total
		Local Market/Dealer	Upazila Market/Dealer	Sub-total					
No. of Respondents	(No.)	283	5	288	34	3	3	3	355
	(%)	80	1	81	10	1	1	1	100

**Table A.39: Farm Inputs Supply - Fertilizer (Where do you procure fertilizer?)**

Item		Local Supplier			BADC/DAE	No Answer	Total
		Local Market/Dealer	Upazila/Town Dealer	Sub-total			
No. of Respondents	(No.)	233	56	289	63	3	355
	(%)	66	16	81	18	1	100

**Table A.40: Farm Inputs Supply - Agrochemicals (Where do you procure agrochemicals?)**

Item		Local Supplier			BADC/DAE	Chemical Shop	No Answer	Total
		Local Market/Dealer	Upazila/Town Dealer	Sub-total				
No. of Respondents	(No.)	280	34	314	21	17	3	355
	(%)	79	10	88	6	5	1	100

**Table A.41: Accessibility to Farm Credit**

Item		Easy	Difficult	No Access	No Answer	Total
No. of Respondents	(No.)	47	233	75	0	355
	(%)	13	66	21	0	100

**Table A.42: Involvement in Farmers Organizations and NGOs**

Organization/Agency	Major Activities	Obligations	Problems Reported	No. of Respondents	
				No.	% *
ASA (NGO)	Micro credit & saving	Monthly installment of loan	High interest rate	10	3
Bangladesh Krishi Bank	Agriculture loan			13	4
BRAC	Agriculture loan			4	1
Grameen Bank	Micro credit & saving			15	4
ICM/IPM Club	Integrated crop/pest management (FFS)		No training room	7	2
PAPI (NGO)	Micro credit, saving & training			6	2
Others				11	3
No answer				289	81

Note: \*Proportion to total sample farmers 355

## Part E Development Activities/Projects

**Table A.43: Participation in Agriculture Development Intervention**

Organization/Agency	Major Activities	No. of Respondents	
		No.	%*
DAE	Training (compost making/IPM/ICM)	13	4
ASA (NGO)	Micro credit & saving	4	1
Grameen Bank	Micro credit & saving	4	1
PAPI (NGO)	Micro credit, saving & training	6	2
Akti Bari Akti Khamar	Personnel & social development	5	1
Others		14	4
No answer		338	95

Note: \*Proportion to total sample farmers 355

## Part F Problems/Constraints, Needs & Future Aspirations

Regarding the result of Question from F.1 to F3, please see the result in the Chapter 5.1.14 (2) "Findings of Household Survey" for Agriculture, and Chapter 6.2.1. (4) "Findings of Household Survey" for Fisheries.

## Part G Losses Caused by Floods

**Table A.44: Economic Loss of the Product and Asset by Flash Flood**

Year	Loss of Production in % (Average per affected HH)						Loss of Asset		
	Boro Rice		Other Crops		Fish Production		No. of samples	Total (TK)	Average (TK)
	No. of samples	Avg. loss of production	No. of samples	Avg. loss of production	No. of samples	Avg. loss of production			
2004	<b>284</b>	<b>75%</b>	57	79%	13	79%	<b>133</b>	<b>3,118,000</b>	<b>23,444</b>
2008	62	66%	1	90%			1	2,500	2,500
2010	<b>210</b>	<b>53%</b>	37	52%	9	31%	<b>71</b>	<b>995,000</b>	<b>14,014</b>
2013	84	39%	1	50%	1	23%	46	1,099,000	23,891



## *Appendixes 4.1 to 4.9*

**APPENDIX 4.1 Existing Rural Road****Existing Rural Road by Upazila (1/2)**

District	Upazila	Total Length (km)	Pavement Percentage
Netrokona	Atpara	314.16	19.1%
	Bharhatta	535.71	9.6%
	Durgapur	456.75	16.3%
	Kalmakanda	715.56	8.0%
	Kendua	615.66	13.2%
	Khaliajuri	337.68	4.4%
	Madan	358.11	21.3%
	Mohanganj	280.65	23.0%
	Netrokona-S	703.70	11.0%
	Purbadhala	726.20	8.5%
	Total/Average	5,044.18	12.3%
Kishoreganj	Austagram	308.85	2.7%
	Bajitpur	357.44	26.3%
	Bhairab	168.99	36.9%
	Hossinpur	411.56	17.3%
	Itna	319.09	3.8%
	Karimganj	581.95	10.7%
	Katiadi	474.92	25.8%
	Kishoreganj-s	522.42	21.8%
	Kuliarchar	210.36	35.1%
	Mithamoin	287.85	5.3%
	Nikhli	216.71	13.6%
	Pakundia	456.71	19.9%
	Tarail	324.24	20.8%
	Total/Average	4,641.09	17.7%
Sunamganj	Biswamvarpur	238.72	30.7%
	Chatak	563.79	31.5%
	Dakhin Sunamganj	235.87	23.1%
	Derai	425.05	20.2%
	Dharmapasha	404.48	12.8%
	Doarabazar	343.69	28.7%
	Jogannathpur	404.28	31.0%
	Jamalganj	246.37	21.3%
	Sulla	228.37	10.1%
	Sunamganj-s	329.13	27.4%
	Taherpur	283.56	18.9%
	Total/Average	3,703.31	23.9%

**Existing Rural Road by Upazila (2/2)**

District	Upazila	Total Length (km)	Pavement Percentage (%)
Habiganj	Azimirganj	177.08	6.8%
	Bahubal	589.43	15.2%
	Baiachong	528.39	11.8%
	Chunarghat	676.98	25.2%
	Habiganj-S	388.70	40.9%
	Lakhai	166.97	17.5%
	Nabiganj	720.19	24.9%
	Madhabpur	560.26	24.6%
	Total/Average	3,808.00	22.1%
Sylhet	Balaganj	684.36	30.9%
	Beanibazar	513.01	29.1%
	Biswanath	504.34	38.0%
	Companyganj	295.56	20.7%
	Dakshin Surma	409.47	46.8%
	Fenchuganj	173.81	39.1%
	Golapganj	545.45	46.6%
	Gowainghat	582.88	17.2%
	Jaintiapur	264.28	19.3%
	Kanaighat	770.72	15.6%
	Sylhet-s	601.02	33.5%
	Zakiganj	510.30	21.2%
	Total/Average	5,855.20	29.2%
Maulvibazar	Barlekha	651.48	29.3%
	Juri	461.21	12.4%
	Kamalganj	562.50	23.0%
	Kulaura	1,003.12	20.3%
	Maulvibazar-s	716.13	46.5%
	Rajnagar	448.11	37.4%
	Sreemangal	563.68	25.5%
	Total/Average	4,406.23	27.8%
Brahmanbaria	Akhaura	246.44	54.0%
	Ashuganj	221.70	23.4%
	Brahmanbaria -S	717.29	39.0%
	Bancharampur	350.74	37.4%
	BijoyNagar	-	-
	Kasba	455.10	55.0%
	Nabinagar	629.76	18.6%
	Nasirnagar	415.89	17.0%
	Sarail	367.03	12.9%
	Total/Average	3,403.95	31.8%

Source : LGRD Website

## Existing Rural Road in the Study Area by Road Class (1/2)

District	Upazila	Upazila Road		Union Road		Village Road	
		Length (km)	Pvement	Length (km)	Pvement	Length (km)	Pvement
Netrokona	Atpara	81.00	59.4%	45.81	16.9%	187.35	2.1%
	Bharhatta	54.32	61.2%	63.58	17.6%	417.81	1.7%
	Durgapur	65.14	72.7%	73.79	27.6%	317.82	2.2%
	Kalmakanda	71.24	41.2%	126.17	20.0%	518.15	0.5%
	Kendua	60.54	83.3%	130.16	15.5%	424.96	2.5%
	Khaliajuri	42.95	24.1%	103.95	2.6%	190.78	0.9%
	Madan	61.76	64.5%	52.13	34.8%	244.22	7.6%
	Mohanganj	54.98	73.9%	49.04	21.5%	176.63	7.6%
	Netrokona-S	61.46	66.3%	96.97	17.9%	545.27	3.5%
	Purbadhala	67.29	40.9%	117.77	19.6%	541.14	2.0%
	Total/Average	620.68	59.2%	859.37	18.2%	3,564.13	2.7%
Kishoreganj	Austagram	36.07	0.0%	63.61	12.9%	209.17	0.0%
	Bajitpur	66.11	72.1%	80.91	32.8%	210.42	9.4%
	Bhairab	21.90	100.0%	38.36	58.2%	108.73	16.6%
	Hossinpur	36.37	94.2%	51.00	45.5%	324.19	4.2%
	Itna	98.12	12.4%	52.33	0.0%	168.64	0.0%
	Karinganj	56.84	62.2%	91.43	10.1%	433.68	4.0%
	Katiadi	43.51	100.0%	75.47	61.4%	355.94	9.2%
	Kishoreganj-s	52.14	70.5%	60.42	55.4%	409.86	10.7%
	Kuliarchar	29.20	100.0%	31.85	38.6%	149.31	21.6%
	Mithamoin	36.86	40.1%	38.55	1.2%	212.44	0.0%
	Nikhli	55.55	51.6%	17.74	3.8%	143.42	0.1%
	Pakundia	37.31	100.0%	77.92	37.6%	341.48	7.2%
	Tarail	31.04	85.3%	57.24	42.2%	235.96	7.1%
	Total/Average	601.02	61.2%	736.83	32.1%	3,303.24	6.6%
Sunamganj	Biswamvarpur	43.22	52.8%	46.29	62.3%	149.21	14.6%
	Chatak	124.25	79.0%	110.62	42.8%	328.92	9.8%
	Dakhin Sunamganj	44.31	41.6%	33.20	40.5%	158.36	14.3%
	Derai	63.06	63.0%	141.46	23.2%	220.53	6.0%
	Dhamapasha	110.33	29.6%	88.74	13.4%	205.41	3.6%
	Doarabazar	47.64	97.5%	81.20	52.5%	214.85	4.5%
	Jogannathpur	70.38	89.5%	112.50	35.2%	221.40	10.3%
	Jamalganj	46.23	50.1%	51.09	26.3%	149.05	10.7%
	Sulla	56.30	24.2%	34.80	19.1%	137.27	2.0%
	Sunamganj-s	58.96	68.5%	57.00	39.5%	213.17	12.8%
	Taherpur	68.65	51.6%	57.38	19.9%	157.53	4.3%
	Total/Average	733.33	59.1%	814.28	33.2%	2,155.70	8.5%

Existing Rural Road in the Study Area by Road Class (2/2)

District	Upazila	Upazila Road		Union Road		Village Road	
		Length (km)	Pvment	Length (km)	Pvment	Length (km)	Pvment
Habiganj	Azimirganj	45.78	9.2%	28.90	7.0%	102.40	5.6%
	Bahubal	25.00	100.0%	65.16	57.7%	499.27	5.4%
	Baiaichong	158.93	25.1%	97.95	14.5%	271.51	3.0%
	Chunarghat	98.53	68.7%	50.89	51.0%	527.56	14.6%
	Habiganj-S	44.02	86.4%	56.63	67.3%	288.05	28.8%
	Lakhai	42.66	36.6%	37.45	9.9%	86.86	11.4%
	Nabiganj	92.19	88.8%	118.16	41.3%	509.84	9.6%
	Madhabpur	87.63	83.9%	83.36	30.7%	389.27	9.9%
	Total/Average	594.74	58.1%	538.50	36.4%	2,674.76	11.1%
Sylhet	Balaganj	87.26	77.9%	127.21	61.6%	469.89	13.8%
	Beanibazar	65.26	72.8%	30.45	63.4%	417.30	19.8%
	Biswanath	93.98	96.3%	75.70	68.8%	334.66	14.7%
	Companyganj	36.41	66.0%	61.32	22.2%	197.83	11.9%
	Dakshin Surma	31.25	100.0%	51.18	91.2%	327.04	34.7%
	Fenchuganj	28.69	67.5%	16.50	85.2%	128.62	26.9%
	Golapganj	109.95	72.0%	94.93	66.5%	340.57	32.9%
	Gowainghat	77.43	72.0%	55.24	42.4%	450.21	4.7%
	Jaintiapur	16.56	100.0%	47.75	43.4%	199.97	6.8%
	Kanaighat	113.45	65.4%	58.96	32.1%	598.31	4.5%
	Sylhet-s	39.46	79.1%	69.48	70.3%	492.08	24.7%
	Zakiganj	63.16	78.8%	109.97	23.4%	337.17	9.6%
	Total/Average	762.86	77.0%	798.69	53.2%	4,293.65	16.2%
Maulvibazar	Barlekha	87.66	88.7%	131.25	46.3%	432.57	12.1%
	Juri	23.21	95.7%	60.96	27.0%	377.04	4.9%
	Kamalganj	88.39	85.0%	71.85	32.7%	402.26	7.6%
	Kulaura	43.98	91.2%	162.59	51.6%	796.55	9.9%
	Maulvibazar-s	129.48	97.7%	66.31	62.2%	520.34	31.7%
	Rajnagar	88.89	87.3%	72.41	65.3%	286.81	14.9%
	Sreemangal	77.15	91.3%	95.81	44.6%	390.72	7.9%
	Total/Average	538.76	90.9%	661.18	47.8%	3,206.29	13.1%
Brahmanbaria	Akhaura	24.46	78.4%	44.41	61.4%	177.57	48.8%
	Ashuganj	28.48	74.1%	13.87	90.1%	179.35	10.2%
	Brahmanbaria -S	85.07	76.5%	154.37	60.0%	477.85	25.5%
	Bancharampur	76.09	75.5%	67.16	58.6%	207.49	16.6%
	BijoyNagar						
	Kasba	67.17	84.5%	77.06	91.6%	310.87	39.6%
	Nabinagar	91.47	57.2%	82.97	29.6%	455.32	8.9%
	Nasinagar	88.33	60.8%	49.47	29.3%	278.09	0.9%
	Sarail	28.53	51.8%	40.12	43.8%	298.38	5.0%
	Total/Average	489.60	69.5%	529.43	56.5%	2,384.92	18.5%

Source : LGRD Website

**APPENDIX 4.2 Existing Market Facility****List of Market by Upazila in the Study Area**

(Unit : Number)

Division/District	Upazila	Growth Center	Rural Market(Hat)	Total
<b>Sylhet</b>				
1. Sunamganj	1. Chhatak	5	41	46
	2. Doarabazar	4	23	27
	3. Shalla	3	7	10
	4. South Sunamganji	3	10	13
	5. Bishwamvarpur	3	26	29
	6. Dharmapasha	5	20	25
	7. Jamal Ganji	4	13	17
	8. Tahirpur	4	15	19
	9. Derai	5	17	22
	10. Jagannathpur	5	29	34
	11. Sunamganji Sadar	3	15	18
		Total	44	216
2. Sylhet	1. Gowainghat	5	42	47
	2. Sylhet Sadar	4	56	60
	3. Biswanath	4	36	40
	4. Golapganj	5	38	43
	5. Kanaighat	5	26	31
	6. South Shurma	3	28	31
	7. Beanibazar	5	40	45
	8. Fenchuganj	2	17	19
	9. Jaintapur	4	6	10
	10. Zakigannj	6	21	27
	11. Balaganj	5	69	74
	12. Companigannj	4	19	23
		Total	52	398
3. Habiganj	1. Habiganj Sadar	4	22	26
	2. Bahubal	4	17	21
	3. Lakhai	3	14	17
	4. Nabiganj	4	58	62
	5. Ajmiriganj	3	3	6
	6. Chunarughat	5	25	30
	7. Baniachong	5	20	25
	8. Madhabpur	5	18	23
		Total	33	177
4. Moulvibazar	1. Kulaura	4	36	40
	2. Sreemangal	5	26	31
	3. Kamal Ganj	6	20	26
	4. Rajnagar	4	28	32
	5. Juri	2	15	17
	6. Baralekha	6	29	35
	7. Moulvibazar Sadar	5	43	48
		Total	32	197

Source : LGED District Office

(Unit : Number)				
Division/District	Upazila	Growth Center	Rural Market(Hat)	Total
<b>Dhaka</b>				
5. Kishoreganj	1. Pakundia	4	23	27
	2. Bajitpur	4	25	29
	3. Itna	4	18	22
	4. Kishoreganj Sadar	4	51	55
	5. Nikli	4	15	19
	6. Austagram	3	9	12
	7. Hossainpur	3	24	27
	8. Katiadi	4	34	38
	9. Mithamaine	4	9	13
	10. Tarail	3	22	25
	11. Bhairab	3	26	29
	12. Karimganj	4	40	44
	13. Kuliarchar	3	12	15
	Total		47	308
6. Netrokona	1. Mohanganj	4	27	31
	2. Kalma Kanda	5	35	40
	3. Purbadhala	4	46	50
	4. Atpara	4	20	24
	5. Durgapur	4	28	32
	6. Madan	4	27	31
	7. Khaliajuri	4	13	17
	8. Barhatta	4	27	31
	9. Netrokona Sadar	5	60	65
	10. Kendua	5	45	50
Total		43	328	371
<b>Chittagong</b>				
7. Brahmanbaria	1. Kasba	4	42	46
	2. Ashuganj	3	19	22
	3. Sarail	3	21	24
	4. Bancharampur	4	33	37
	5. Bijoynagar	3	33	36
	6. Brahmanbaria Sadar	1	56	57
	7. Nasirnagar	5	30	35
	8. Akhaura	2	18	20
	9. Nabinagar	7	44	51
Total		32	296	328

Source : LGED District Office

**APPENDIX 4.3 Interview Sheet****Interview (part 1)****(1) Habiganj District****Interview Sheet**

No.1

**Part A General**

Name of the enumerator :	Date of the interview
Md. Hafizur Rahman Khan	26/06/2013

Name of the Place : Executive Engineer's Office, LGED, Habiganj.

Name of the respondent : Mr. Rabiul Islam, Executive Engineer, LGED

**Part B Target Area**Seven Districts ; Netrokona, Kishoreganj, Sunamganj, Habiganj, Sylhet, Maulvibazar, Brahmanbaria**Part C Target Facility**

1. Rural Road, 2. Market Facility, 3. Boat Landing Facility and 4. Irrigation Facility

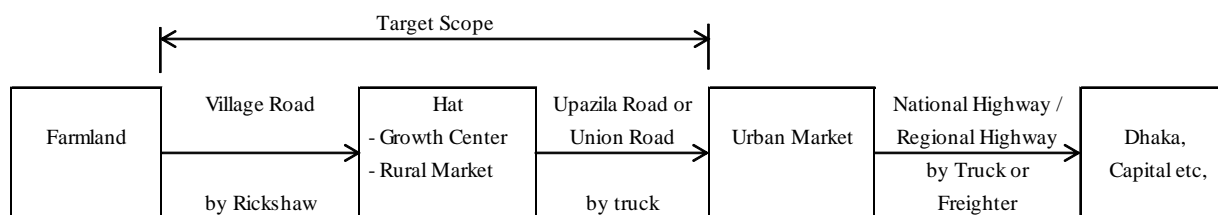
**Part D Interview****D.1 Importance for Distribution of Agricultural & Fishery Products and Household Goods.**

facility	Importance	Reason
Rural Road	<input checked="" type="checkbox"/> Very High, <input type="checkbox"/> High, <input type="checkbox"/> Middle, <input type="checkbox"/> Low	Rural Road carries out a very important part for distribution and Marketing. Good roads have always reduced transportation cost and creates new jobs.
Market Facility	<input checked="" type="checkbox"/> Very High, <input type="checkbox"/> High, <input type="checkbox"/> Middle, <input type="checkbox"/> Low	Developed Market facility carries out important role for economic development of the villagers. They can sale produced commodities and buy their essential commodities in all weather.
Boat Landing Facility	<input checked="" type="checkbox"/> Very High, <input type="checkbox"/> High, <input type="checkbox"/> Middle, <input type="checkbox"/> Low	Hoar area is water logged for more than 7months of the year, during the period only boats become their transport means. Good landing facilities reduce risk of loading and unloading.
Irrigation Facility	<input checked="" type="checkbox"/> Very High, <input type="checkbox"/> High, <input type="checkbox"/> Middle, <input type="checkbox"/> Low	Irrigation is required for cultivation when there no water/ rainfall. In Haor areas when water recedes, they cultivate their fields. If irrigation facilities are provided more land, it will be under cultivation and will get good yield.

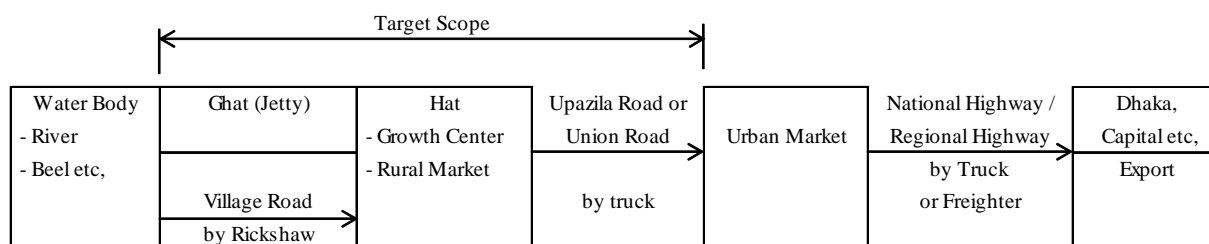


## D.2 Existing Distribution (Mainly)

### Rice



### Fishes



## D.3 Existing and Problem

facility	Existing and Problem
Rural Road	UZR (Upazila Road) is the most important, UNR (Union Road) is less important than UZR and UVR (Village Road) are less important. UZR are 60% Paved, UNR are 40% Paved and UVR are 10% are paved. The most important problems are with unpaved 40% UZR.
Market Facility	Growth Center Market (GCM) is the most important. Rural Markets are less important than GCM. There are 33nos. of GCM. 26 nos. are developed. 21% (7 nos.) of GCM are undeveloped. There are total 177 nos. Rural Markets. Only 3 nos. are developed. The most important problems are with undeveloped 21% GCM.
Boat Landing Facility	Boat Landing Facility also carries outs an important role in the village life in Haor areas. During monsoon season boats are transport means of the village people in Haor area.
Irrigation Facility (Low Lift Pump)	Number of irrigation facility at present is uneconomic. Most of farmers irrigate their lands by pumping water from nearby ditches/channels/rivers. Sometimes ditches and channels gets dried up during dry season then the farmers can't safe their crops.

**(2) Netrokona District****Interview Sheet**

No. 2

**Part A General**

Name of the enumerator : Md. Hafizur Rahman Khan	Date of the interview 04/07/2013
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Name of the Place : Netrokona, LGED

(Over Telephone)

Name of the respondent : Md, Kamrul Hasan, Executive Engineer, LGED.

**Part B Target Area**Seven Districts ; Netrokona, Kishoreganj, Sunamganj, Habiganj, Sylhet, Maulvibazar, Brahmanbaria**Part C Target Facility**

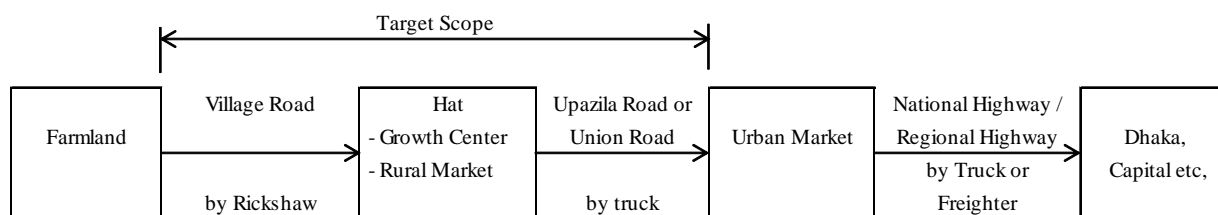
1. Rural Road, 2. Market Facility, 3. Boat Landing Facility and 4. Irrigation Facility

**Part D Interview****D.1 Importance for Distribution of Agricultural & Fishery Products and Household Goods.**

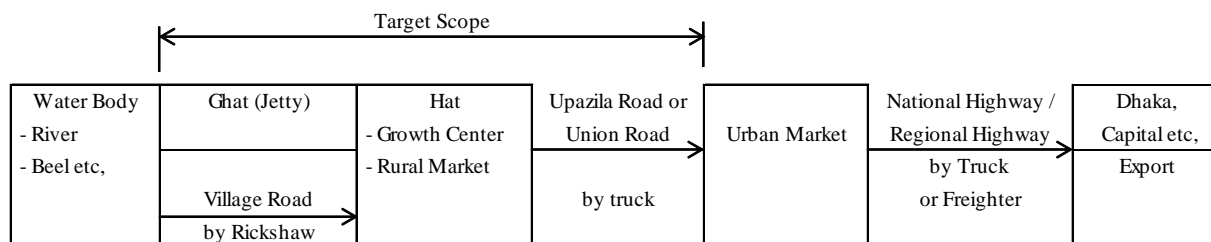
facility	Importance	Reason ( <u>Example</u> )
Rural Roads	<input checked="" type="checkbox"/> Very High, <input type="checkbox"/> High, <input type="checkbox"/> Middle, <input type="checkbox"/> Low	Rural Road carries out a very important part for distribution and Marketing. Good roads have always reduced transportation cost and create new jobs.
Market Facility	<input checked="" type="checkbox"/> Very High, <input type="checkbox"/> High, <input type="checkbox"/> Middle, <input type="checkbox"/> Low	Developed Market facility carries out important role for economic development of the villagers. They can sale produced commodities and buy their essential commodities in all weather.
Boat Landing Facility	<input checked="" type="checkbox"/> Very High, <input type="checkbox"/> High, <input type="checkbox"/> Middle, <input type="checkbox"/> Low	Hoar area is water logged for more than 7months of the year, during the period only boats become their transport means. Good landing facilities reduce risk of loading and unloading.
Irrigation Facility (low Lift Pump)	<input checked="" type="checkbox"/> Very High, <input type="checkbox"/> High, <input type="checkbox"/> Middle, <input type="checkbox"/> Low	Irrigation is required for cultivation when there no water/ rainfall. In Haor areas when water recedes, they cultivate their fields. If irrigation facilities are provided more land, it will be under cultivation and will get good yield.

### D.2 Existing Distribution (Mainly)

#### Rice



#### Fishes



### D.3 Existing and Problem

facility	Existing and Problem ( <u>Example</u> )
Rural Road	UZR (Upazila Road) is the most important, UNR (Union Road) is less important than UZR and UVR (Village Road) are less important. UZR are 59.% Paved, UNR are 18.% Paved and UVR are 2.7% are paved. The most important problems are with unpaved 41% UZR.
Market Facility	Growth Center Market (GCM) is the most important. Rural Markets are less important than GCM. There are 43nos. of GCM. 30 nos. are developed. 40% (13 nos.) of GCM are undeveloped. There are total 328 nos. Rural Markets. Only 37 nos. are developed. The most important problems are with undeveloped 40% GCM.
Boat Landing Facility	Boat Landing Facility also carries out an important role in the village life in Haor areas. During monsoon season boats are transport means of the village people in Haor area.
Irrigation Facility (Low Lift Pump, Shallow Tubewell)	Number of irrigation facility at present is uneconomic. Most of farmers irrigate their lands by pumping water from nearby ditches/channels/streams. Sometimes ditches and channels gets dried up during dry season then the farmers can't save their crops.

**(3) Sunamhanj District**

## Interview Sheet

No. 3

## Part A General

Name of the enumerator : Md. Hafizur Rahman Khan	Date of the interview 04/07/2013
---	-------------------------------------

Name of the Place : Sunamganj, LGED  
(Over Telephone)

Name of the respondent : Md, Iqbal Ahmmed , Executive Engineer, LGED.

## Part B Target Area

Seven Districts ; Netrokona, Kishoreganj, (Sunamhganj) Habiganj, Sylhet, Maulvibazar, Brahmanbaria

## Part C Target Facility

1. Rural Road, 2. Market Facility, 3. Boat Landing Facility and 4. Irrigation Facility

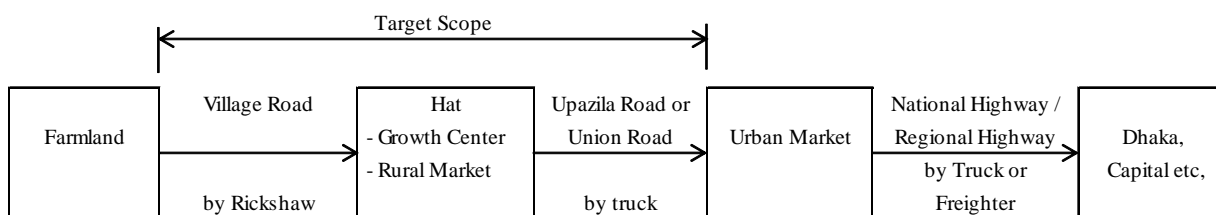
## Part D Interview

## D.1 Importance for Distribution of Agricultural &amp; Fishery Products and Household Goods.

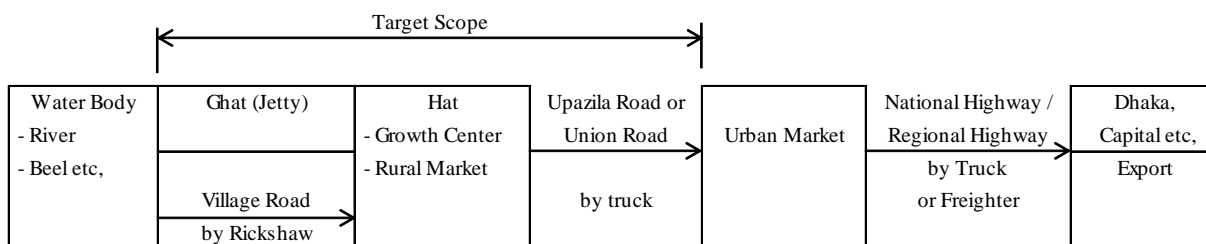
facility	Importance	Reason ( <u>Example</u> )
Rural Roads	<input checked="" type="checkbox"/> Very High, <input type="checkbox"/> High, <input type="checkbox"/> Middle, <input type="checkbox"/> Low	Rural Road carries out a very important part for distribution and Marketing. Good roads have always reduced transportation cost and create new jobs.
Market Facility	<input checked="" type="checkbox"/> Very High, <input type="checkbox"/> High, <input type="checkbox"/> Middle, <input type="checkbox"/> Low	Developed Market facility carries out important role for economic development of the villagers. They can sale produced commodities and buy their essential commodities in all weather.
Boat Landing Facility	<input checked="" type="checkbox"/> Very High, <input type="checkbox"/> High, <input type="checkbox"/> Middle, <input type="checkbox"/> Low	Hoar area is water logged for more than 7months of the year, during the period only boats become their transport means. Good landing facilities reduce risk of loading and unloading.
Irrigation Facility (Low Lift Pump)	<input checked="" type="checkbox"/> Very High, <input type="checkbox"/> High, <input type="checkbox"/> Middle, <input type="checkbox"/> Low	Irrigation is required for cultivation when there no water/ rainfall. Part of district is Haor areas and other Part is high area. If irrigation facilities are provided more land, it will be under cultivation and will get good yield.

## D.2 Existing Distribution (Mainly)

### Rice



### Fishes



## D.3 Existing and Problem

facility	Existing and Problem (Example)
Rural Road	UZR (Upazila Road) is the most important, UNR (Union Road) is less important than UZR and UVR (Village Road) are less important. UZR are 59% Paved, UNR are 33% Paved and UVR are 8.5% are paved. The most important problems are with unpaved 41% UZR.
Market Facility	Growth Center Market (GCM) is the most important. Rural Markets are less important than GCM. There are 44nos. There are total 216 nos. Rural Markets. The most important problems are with undeveloped GCM.
Boat Landing Facility	Boat Landing Facility also carries out an important role in the village life in Haor areas. During monsoon season boats are transport means of the village people in Haor area.
Irrigation Facility (Low Lift Pump, Shallow Tubewell)	Number of irrigation facility at present is uneconomic. Most of farmers irrigate their lands by pumping water from nearby ditches/channels/streams. Sometimes ditches and channels gets dried up during dry season then the farmers can't save their crops.

**(4) Kishoreganj District**

## Interview Sheet

No. 4

## Part A General

Name of the enumerator : Md. Hafizur Rahman Khan	Date of the interview 04/07/2013
---	-------------------------------------

Name of the Place : Kishoreganj, LGED  
(Over Telephone)

Name of the respondent : Md, Amirul Islam , Senior Assistant Engineer, LGED.

## Part B Target Area

Seven Districts ; Netrokona, Kishoreganj, Sunamganj, Habiganj, Sylhet, Maulvibazar, Brahmanbaria

## Part C Target Facility

1. Rural Road, 2. Market Facility, 3. Boat Landing Facility and 4. Irrigation Facility

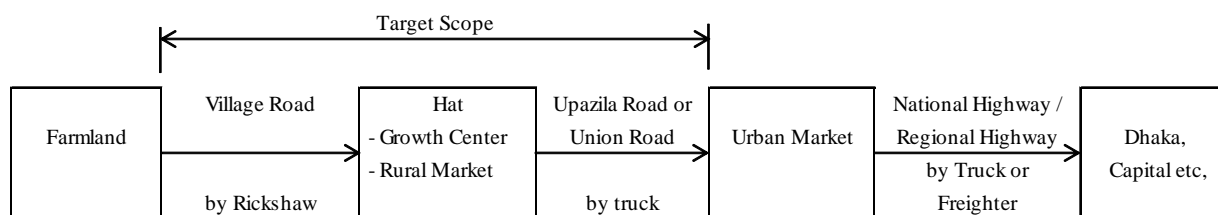
## Part D Interview

## D.1 Importance for Distribution of Agricultural &amp; Fishery Products and Household Goods.

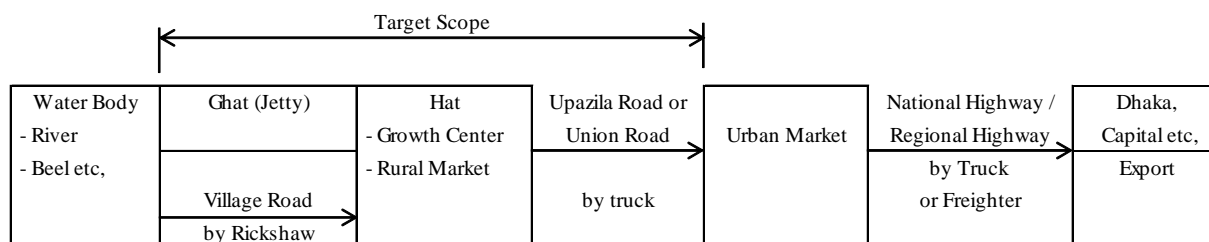
facility	Importance	Reason ( <u>Example</u> )
Rural Roads	<input checked="" type="checkbox"/> Very High, <input type="checkbox"/> High, <input type="checkbox"/> Middle, <input type="checkbox"/> Low	Rural Road carries out a very important part for distribution and Marketing. Good roads have always reduced transportation cost and create new jobs.
Market Facility	<input checked="" type="checkbox"/> Very High, <input type="checkbox"/> High, <input type="checkbox"/> Middle, <input type="checkbox"/> Low	Developed Market facility carries out important role for economic development of the villagers. They can sale produced commodities and buy their essential commodities in all weather.
Boat Landing Facility	<input checked="" type="checkbox"/> Very High, <input type="checkbox"/> High, <input type="checkbox"/> Middle, <input type="checkbox"/> Low	Hoar area is water logged for more than 7months of the year, during the period only boats become their transport means. Good landing facilities reduce risk of loading and unloading.
Irrigation Facility (Low Lift Pump)	<input checked="" type="checkbox"/> Very High, <input type="checkbox"/> High, <input type="checkbox"/> Middle, <input type="checkbox"/> Low	Irrigation is required for cultivation when there no water/ rainfall. Part of district is Haor areas and other Part is high area. If irrigation facilities are provided more land, it will be under cultivation and will get good yield.

## D.2 Existing Distribution (Mainly)

### Rice



### Fishes



## D.3 Existing and Problem

facility	Existing and Problem ( <u>Example</u> )
Rural Road	UZR (Upazila Road) is the most important, UNR (Union Road) is less important than UZR and UVR (Village Road) are less important. UZR are 61% Paved, UNR are 32% Paved and UVR are 6.6% are paved. The most important problems are with unpaved 39% UZR.
Market Facility	Growth Center Market (GCM) is the most important. Rural Markets are less important than GCM. There are 47nos. of GCM. There are total 328 nos. Rural Markets. The most important problems are with undeveloped GCM.
Boat Landing Facility	Boat Landing Facility also carries out an important role in the village life in Haor areas. During monsoon season boats are transport means of the village people in Haor area.
Irrigation Facility (Low Lift Pump, Shallow Tubewell)	Number of irrigation facility at present is uneconomic. Most of farmers irrigate their lands by pumping water from nearby ditches/channels/rivers. Sometimes ditches and channels gets dried up during dry season then the farmers can't safe their crops.

**Interview (part 2)**

(1) Objective: To collect issues of ghats (boat landing facility)

(2) Target persons:

Survey Team interviewed with the following LGED district Engineers about ghats on November.

No.	District	Name/Position
1	Habiganj	Md, Rabiul Islam, Executive Engineer
2	Netrokona	Md, Kamrul Hasan, Executive Engineer
3	Sunamganj	Md, Iqbal Ahmmed , Executive Engineer
4	Kishoreganj	Md, Amirul Islam , Senior Assistant Engineer

(3) Interview

No.	Question	Habiganj	Netrokona	Sunamganj	Kishoreganj
1-1	Is there shortage of ghats in the district?	Yes	Yes	Yes	Yes
1-2	Number of existing ghats in the district (approximately).	4	20	13	35
1-3	Number of required ghats in the district (approximately).	20	50	66	28
2-1	Is there deterioration of ghats in the district?	No	Yes	Yes	Yes
2-2	Proportion of deteriorated ghats in the district (approximately).	0%	75%	25%	50%
3-1	Existing main type of ghats in the district.	Step and Slope	Step and Slope	Step and Slope	Step and Slope
3-2	Existing material of ghats in the district.	Concrete & Earth	Concrete	Concrete & Earth	Concrete
3-3	Required main type of ghats in the district.	Step and Slope	Step and Slope	Step and Slope	Step and Slope
3-4	Required material of ghats in the district.	Concrete	Concrete	Concrete	Concrete



## APPENDIX 4.4 Field Survey

### Photos

**Subject : Upazila Road (UZR)**

Place : Baniachan Upazila in Habiganj

Date : June 27 2013



UZR

(Baniachang to Borobazar, L=1.75km, LGED)



UZR

(Baniachang to Borobazar, L=1.75km, LGED)

Upazila roads play important roles in distributing food etc. as one of major rural roads.

**Subject : Village Road**

Place : Baniachang Upazila in Habiganj

Date : June 27 2013



Adarshbazar-Takbazkhani Village Road \*  
(LGED)



Adarshbazar-Takbazkhani Village Road \*  
(LGED)

\*Undeveloped Village roads provide low trafficability and therefore transportation is inefficient.

**Subject : Village Road**

Place : Baniachan Upazila in Habiganj

Date : June 27 2013



Village Road (Rantna Rural Market –Muredpur Union Parishad Office, LGED)

Village Road (Rantna Rural Market –Muredpur Union Parishad Office, LGED)

Houses are built just close by a Village road passing through a residential area.

**Subject : Growth Center (GCM)**

Place : Baniachan Upazila in Habiganj

Date : June 27 2013



Borobazar Growth Center (LGED)\*

Borobazar Growth Center (LGED)\*

There are many shops, which play an important role in economic development.

**Subject : Rural Market**



Sutang Rural Market (LGED)

Sutang Rural Market (LGED)

Sheds and toilets are developed in a lot of hat areas.



**Subject : Boat Landing Facility**

**No.05**

Place : Baniachan Upazila in Habiganj



Kalardoba Boat Landing Facility (Zila Boad)\*  
Ghats are mainly Concrete Step type.



Kalardoba Boat Landing Facility (Zila Boad)\*

**Subject : Boat Landing Facility**

**No.06**

Place : habiganj-s Upazila in Habiganj



Sutang Bajar Ghat (LGED)\*

In many case, ghats are constructed together with hats.



Sutang Bajar Ghat (LGED)\*

## APPENDIX 4.5 Subproject List

## Initial list of candidate subproject (rural road, Kishoreganj) (1/2)

RURAL ROAD SCREENING  
DISTRICT : KISHOREGANJ

Sl.	Road Code	Road Name	Name of Upazila	Name of Union	Plan Road Type	Total Length (km)	Screening							Selection	Haor Project No.
							No.1	No.2	No.3	No.4	No.5	No.6	No.7		
1-1	348793002	Tarakandi bazar-Char Faradi UP Rd.	Pakundia	Jangalia Union,Char Faradi Union	VRB	5.79	0	0	0	0	0	0	X	X	
1-2	348793003	Hossendi UP-Motkhola GC Via Alamdi	Pakundia	Hosendi,Buradia,Agarosindur Up	VRB	8.30	0	0	0	0	0	0	0	0	R5
1-3	348793006	Hossendi UP-Ashtia old bazer Rd via Mongalbaria and Thutarja	Pakundia	Hosendi ,Pakundia,Sukhia Up	VRB	11.93	0	0	0	0	0	0	0	0	R5
1-4	348793007	Pakundia UP-Mosua hat via Salundi	Pakundia	Pakundia,Hosendi,Burdia,Paruabhang,	VRB	9.97	0	0	0	0	0	0	0	0	R5
1-5	348063001	Ujanchar bazar-Halimpur UP Rd	Bajitpur	Pirjipur Union,Halimpur Union.	VRB	7.06	0	0	0	0	0	0	0	0	N8
1-6	308063004	Gajirchar UP Office-Baliadi UP Office Via Akhra.	Bajitpur	Gazir Char Union,Baliadi Union	VRB	5.62	0	X						X	
1-7	308063007	Sararchar-Bangla Bazar Road.	Bajitpur	Sarar Char Union	VRB	5.15	0	X						X	
1-8	348333041	Mowra-Chandrapur hat Rd.	Itna	Chowganga Union	VRB	3.00	0	0	0	0	0	0	0	0	N7
1-9	348333004	Itna-Kakanichew Road	Itna	Itna,Joyssiddi Union	VRB	13.37	0	0	0	0	0	0	0	0	N9
1-10	348333007	Badla UP-Barshikura Hat Road	Itna	Badla Union	VRB	3.00	0	0	0	0	0	0	0	0	N7
1-11	348493009	Danapanuli UP-Jafia bazar	Sadar	Danapanuli	VRB	2.61	0	0	0	0	0	0	0	0	N1
1-12	348494017	Tilaknathpur-Dakshio Gobindapur Rd	Sadar	Korsha Karail	VRA	2.54	0	X						X	
1-13	348494044	Kishoreganj Textile to Kishoreganj-Chouddasata Rd	Sadar	Josodal'	VRA	2.60	0	X						X	
1-14	348494048	Chouddasata UP to Brindighor Rd.	Sadar	Chawddasata	VRA	2.42	0	X						X	
1-15	348494052	Baracopa-Thadapara Bazar Road	Sadar	Rashidabad	VRA	4.66	0	0	0	0	0	0	0	0	R4
1-16	348494056	Joybangla Bazar to Barokhalpar Rd	Sadar	Chawddasata.	VRA	2.30	0	X						X	
1-17	348495216	Kishoreganj -Karimganj Road - Yakubganj Bazar, Shubandi road.	Sadar	Boulai	VRB	1.50	0	X						X	
1-18	348764005	Jaratata UP office-Chetra Road	Nikli	Jaratata Union	VRA	2.00	0	0	0	0	0	0	0	0	N1
1-19	348765009	Guroi UP office-Chapirchar Rd	Nikli	Guroe Union	VRB	0.64	0	0	0	0	0	0	0	0	N8
1-20	348765037	Shetraakra-Boran beel Rd.	Nikli		VRB	1.50	0	X						X	
1-21	348022002	Austagram-Mitamoin Road	Austagram	Austagram,Kastul Union	VRB	10.20	0	0	0	0	0	0	0	0	N6
1-22	348023004	Austagram-Badha ghat-Kalina UP office road.	Austagram	Kastul,Purba Austagram,Kalma UP	VRB	9.53	0	0	0	0	0	0	0	0	N6
1-23	348023005	Austagram-Mohishertilla-Gagra UP office Rd	Austagram	Austagram Union	VRB	11.37	0	0	0	0	0	0	0	0	N6
1-24	348023008	Austagram U P-Austagram GC road	Austagram	Adampur Union	VRB	0.80	0	0	0	0	0	0	X	X	
1-25	348273005	Gobindapur Chowrasta bazar-Gobindapur UP H/Q Road	Hossainpur	Gobindapur Union	VRB	2.08	0	0	0	0	0	0	X	X	R4
1-26	348273007	Char Pundi bazar-Pundi UP H/Q Road	Hossainpur	Pundi Union	VRB	4.43	0	0	0	0	0	0	0	0	R4
1-27	348273009	Adu Master bazar-Shahedal UP H/Q Road	Hossainpur	Pundi Union,Sahedal Union	VRB	3.00	0	0	0	0	0	0	0	0	R4
1-28	348273010	Gobindapur UP H/Q-Janata bazar Road	Hossainpur	Gobindapur Union	VRB	4.00	0	0	0	0	0	0	0	0	R4
1-29	348274038	Gangahatia bazar-Janata bazarvia Abdul Aziz H/S road	Hossainpur	Gobindapur Union	VRA	4.87	0	0	0	0	0	0	0	0	R4
1-30	348274039	Birpaiksha Zia Road to Kalchupra Road Via Shahabuddin Membe	Hossainpur	Sahedal Union	VRA	4.00	0	X						X	
1-31	348453005	Mumurdia UP H/Q-Boalia bazar Rd.	Katiadi	Mumurdia Union	VRB	2.61	0	X						X	
1-32	348453007	Achmita UP H/Q-Pong Masua bazar Rd.	Katiadi	Achmita Masua Up	VRB	2.10	0	0	0	0	0	0	0	0	R6
1-33	348453009	Banagram UP H/Q-Madhyapara bazar Rd.	Katiadi	Banagram Union	VRB	5.40	0	X						X	
1-34	348592002	Mithamoin Sadar-Karimganj Boardar Balikhola Road	Mithamoin	Mithamoin,Gopdeghi Up	VRB	10.00	0	0	0	0	0	0	0	0	N2
1-35	348593001	Mithamoin Noya hati-Dhaki UP Office Rd.	Mithamoin	Mithamoin,Dhaki Up	VRB	9.59	0	0	0	0	0	0	0	0	N2



Initial list of candidate subproject (rural road, Kishoreganj) (2/2)

**RURAL ROAD SCREENING**  
**DISTRICT : KISHOREGANJ**

SL	Road Code	Road Name	Name of Upazila	Name of Union	Plan Road Type	Total Length (km)	Screening							Selection	Haor Project No.
							No.1	No.2	No.3	No.4	No.5	No.6	No.7		
1-36	348594001	Singua Ferry ghat-Bagadia Bazar Rd.	Mithamoon	Gopedighi Union	VRA	3.00	0	0	0	0	0	0	0	0	N2
1-37	348923004	Taana H.Q-Dhamiha Bazar	Tarail	Danaha	VRA	3.54	0	0	0	0	0	0	0	0	N7
1-38	348923006	Talzinga UP-Sunamgoj Bazar	Tarail	Talganga Union	VRA	3.60	0	X						X	
1-39	348923010	Jawer UP-Dhamiha UP via Echapashar	Tarail	Jawer	VRA	3.31	0	0	0	0	0	0	0	0	N6
1-40	348113003	Shumulkandi UP H.Q-Ananda Bazar Rd	Bhairab	Shumulkandi ,Aganagar Union	VRA	4.70	0	X						X	
1-41	348113004	Sreenagar UP office to Gochamata Bazar up to Darchandiber	Bhairab	Sreenagar ,Shumulkandi Union	VRA	5.51	0	X						X	
1-42	348113011	Panauilarchar R&H to Chanchera bazar via Shibpur UP office & V	Bhairab	Shibpur Union	VRA	3.00	0	X						X	
1-43	348114008	Bashgari Circular rd(via west para and east para)	Bhairab	Gazaria Union	VRA	4.50	0	X						X	
1-44	348422008	Niamatpur-Gundhar GC Road via Fazlkhali Bazar	Karimganj	Niamatpur ,Baragharia ,Gundhar Union	RRP	12.90	0	0	0	0	0	0	0	0	N9
1-45	348423009	Karimganj UP H/Q-Beltali Bazar Road via Sataradaria	Karimganj	Karimganj Pourashava,Kadir Jungle	VRA	7.55	0	X						X	
1-46	348423016	Baragharia UP H/Q-Gabitali Bazar Road	Karimganj	Baragharia Union	VRA	3.50	0	X						X	
1-47	348543002	Chhaysuti UP Office[R&H]-Palita Bazar via Madhibdi, Pailanpur R	Kuliarchar	Chhaysuti Union,Kuliarchar Pourashava	VRA	4.97	0	0	0	0	0	0	0	0	R7
1-48	348543006	Dumakanda Bazar-Ramdi UP Office Rd.	Kuliarchar	Salua Union,Ramdi Union	VRA	5.38	0	0	0	0	0	0	0	0	R9

## Initial list of candidate subproject (rural road, Netrokona)

RURAL ROAD SCREENING  
DISTRICT : NETROKONA

SL NO.	Road Code	Road Name	Name of Upazila	Name of Union	Plan Road Type	Total Length (km)	Screening							Section	Haor Project No.
							No.1	No.2	No.3	No.4	No.5	No.6	No.7		
2-1			Mohanganj				-	-	-	-	-	-	-	-	
2-2			Kalma Kanda				-	-	-	-	-	-	-	-	
2-3	372833002	Purbadhala (Kalduar)-Ghagra UP (Kapashia) road via Ghagra bazar	Purbadhala	Ghagra	UNR	3.36	0	0	0	0	0	0	0	0	R1
2-4	372833012	Ghagra UP (Kapashia)-Jaria Bazar road via Katwari	Purbadhala	Ghagra	UNR	6.00	0	0	0	0	0	0	0	0	R1
2-5	372835052	Jaria Purbopara-Jaria Switch Gate via RPSchool Rd.	Purbadhala	Jaria	VRB	3.00	0	0	0	0	0	0	0	0	R2
2-6	372834065	Kalihor R&H-Dampara via Chander Bazar	Purbadhala	Hogla	VRA	3.00	0	0	0	0	0	0	0	0	R1
2-7	372835039	Shahala-Hatkhal Bazar	Purbadhala	Hogla	VRB	3.20	0	0	0	0	0	0	0	0	R1
2-8	372045016	Gopalsram-Madukal	Atpara	Sukari	VRB	1.50	0	0	0	0	0	0	0	0	N11
2-9	372045034	Ukrakhal Road	Atpara	Sukari	VRB	1.75	0	0	0	0	0	0	0	0	N11
2-10	372045036	Duaz bazar road	Atpara	Duaz	VRB	1.50	0	0	0	0	0	0	0	0	N11
2-11	372045037	Sukari Badirakola	Atpara	Sukari	VRB	2.00	0	0	0	0	0	0	0	0	N11
2-12	372045066	Chargati GPS road	Atpara	Duaz	VRB	2.00	0	0	0	0	0	0	0	0	N11
2-13	372045068	Sunajur bazar	Atpara	Duaz	VRB	2.00	0	0	0	0	0	X	X	X	
2-14			Durgapur				-	-	-	-	-	-	-	-	
2-15			Madan				-	-	-	-	-	-	-	-	
2-16	372383009	Upazila HQ - Gazipur UP office rd.	Khailajuri	Khailajuri& Gazipur	UNR	8.50	0	0	0	0	0	0	0	0	R15
2-17	372383010	Gazipur UP office-Panchhat bazar rd.	Khailajuri	Gazipur	UNR	13.14	0	0	0	0	0	0	0	0	R15
2-18	372383011	Khailajuri UP office - Panchhat bazar rd.	Khailajuri	Khailajuri	UNR	10.00	0	0	0	0	0	0	0	0	R15
2-19	372384012	Hayatpur-Chanpur via Khusalpur	Khailajuri	Nogar	VRA	5.00	0	0	0	0	0	0	0	0	R15
2-20	372092007	Amtala-Samaj GC Road (Barhatta Portion)	Barhatta	Sahata & Barhatta	UZR	6.24	0	0	0	0	0	0	0	0	N5
2-21	372092009	Atitpur Bazar (R&H)-Chandrapur Bazar via Huzrabari, Dariapur,	Barhatta	Barhatta	UZR	4.47	0	0	0	0	0	0	0	0	N5
2-22	372092003	Barhatta Ferryghat-Monash Bazar.	Barhatta	Asma	UZR	2.50	0	0	0	0	0	0	X	X	
2-23	372093006	Barhatta UP-Tomal Tala Bazar Road	Barhatta	Barhatta	UNR	0.63	0	0	0	0	0	0	X	X	
2-24	372093002	Barhatta UP-Gajir Bazar (Jitan) Rd.	Barhatta	Barhatta	UNR	2.80	0	0	0	0	0	0	X	X	
2-25	372093004	Barhatta Ferryghat (UP)-Horiatola bazar.	Barhatta	Asma	UNR	6.47	0	0	0	0	0	0	0	0	N5
2-26	372093007	Fakirer Bazar-Sidly Bazar Rd via Roypur UP	Barhatta	Roypur	UNR	3.01	0	X						X	
2-27	372093010	Barhatta UP office -Chandrapur Bazar rd. via Gumuria Madrasha,	Barhatta	Asma	UNR	4.95	0	0	0	0	0	0	X	X	
2-28	372094015	Rambhadrapur FRB-Naihati Bazar Rd	Barhatta	Boushi, Asma &	VRA	4.39	0	0	0	0	0	0	0	0	N5
2-29			Netrokona Sadar				-	-	-	-	-	-	-	-	
2-30	372473004	Asujia UP office - Singergoan Clab Ghar Bazar	Kendua	Asujia	UNR	0.58	0	X				X	X	X	
2-31	372473011	Asujia UP office - Gopalpur Bazar via Amlitola and Sarapara Bazar.	Kendua	Asujia	UNR	7.68	0	X				X	X	X	
2-32	372475010	Muzafarpur Pacca road (Gogda Bazar) - Sunai Beel.	Kendua	Mozafarpur	VR-B	1.20	0	0	0	0	0	0	0	0	N6
2-33	372475053	Batta - Kachari road	Kendua	Chirang	VR-B	0.65	0	0	0	0	0	0	0	0	N6



Initial list of candidate subproject (rural road, Sunamganj) (1/5)

**RURAL ROAD SCREENING  
DISTRICT :SUNAMGANJ**

SL No	Road Code	Road Name	Name of Upazila	Name of Union	Plan Road Type	Total Length (km)	Screening							Selection	Haor Project No.	
							No.1	No.2	No.3	No.4	No.5	No.6	No.7			
3-1			Chhatak				-	-							-	
3-2	690333001	Doarabazar-Laxmipur via Boglabazar-	Doarabazar	Surma, Boglabazar,	UZR	4.15	0	X							X	
3-3	690333004	Matgoan-West Banglabazar-Arukhai-	Doarabazar	Laxmipur	UZR	4.30	0	X							X	
3-4	690333005	Banglabazar-Norsingpurbazar	Doarabazar	Banglabazar, Norsingpur	UZR	5.20	0	X							X	
3-5	690333006	Banglabazar-Haquenagarbazar-Boglabazar	Doarabazar	Banglabazar, Boglabazar	UZR	6.20	0	X							X	
3-6	690334011	Boglabazar-Bhangapara	Doarabazar	Boglabazar, Laxmipur	VRA	2.85	0	X							X	
3-7	690334022	Shreepurbazar-Polirchar	Doarabazar	Pandargaoan	VRA	3.00	0	X							X	
3-8	690334024	Doarabazar-West Machimpur	Doarabazar	Doarabazar	VRA	1.00	0	X							X	
3-9	690334025	Sharifpur-Bhujna road	Doarabazar	Surma	VRA	3.00	0	X							X	
3-10	690334028	Baraiuri-Jahangirgoan	Doarabazar	Banglabazar	VRA	1.70	0	X							X	
3-11	690334029	Paikpara-Bagmara road	Doarabazar	Banglabazar	VRA	1.77	0	X							X	
3-12	690335005	Boglabazar-Baganbari via Kristanpara	Doarabazar	Boglabazar	VRB	2.28	0	X							X	
3-13	690335006	Mollapara-Bahargoan	Doarabazar	Boglabazar	VRB	1.00	0	X							X	
3-14	690335008	Kalaura school-kalaura Madrasa	Doarabazar	Banglabazar	VRB	1.00	0	X							X	
3-15	690335016	Chatak-Ambari via Badegoreshpur	Doarabazar	Dohalia	VRB	2.15	0	X							X	
3-16	690335048	Edukona village road	Doarabazar	Boglabazar	VRB	1.00	0	X							X	
3-17	690335050	Bokterpur bundth-Bokterpur school	Doarabazar	Laxmipur	VRB	1.00	0	X							X	
3-18	690335058	Sonachura village road	Doarabazar	Boglabazar	VRB	1.00	0	X							X	
3-19	690335059	Chatak sunamganj road-Beri school	Doarabazar	Dohalia	VRB	0.50	0	X							X	
3-20	690335061	Chatak sunamganj road-Niamatpur village	Doarabazar	Dohalia	VRB	1.50	0	X							X	
3-21	690862002	Sulla thana HQ-Rahutola Road	Shalla	Bahara/Atgoan	UZR	17.00	0	0	X						X	
3-22	690862004	Sulla thana H/Q-Paharpur GC(Azmirigonj)	Shalla	Bahara	UZR	6.40	0	X							X	
3-23	690863004	Shashkhai Bazar To Protappur bazar Road	Shalla	Hobibpur/ Bahara	UZR	5.00	0	X							X	
3-24	690864032	Rowa To Abda via Kamargaon Road	Shalla	Sulla	VRA	4.00	0	X							X	
3-25	690864030	Aktapara Launchghat- Saudarsree Lanchghat	Shalla	Hobibpur	VRA	4.95	0	X							X	
3-26			South Sunamganji				-								-	
3-27	690182004	Biswamvarpur GC-Niamatpur Rd.	Biswamvarpur	Fatepur	UZR	0.00	0	X							X	
3-28	690182005	Mongalkata.(Kapna) - Chinakandi-	Biswamvarpur	Solukabad	UZR	0.03	0	X							X	
3-29	690183004	Dakhin Badaghat UP office - Bashantapur	Biswamvarpur	Dakhin Badaghat	UZR	0.45	0	X							X	
3-30	690183009	Muktikhola RHD - Biswamvarpur HQ (Krishn	Biswamvarpur	Polash	UZR	0.02	0	X							X	
3-31	690184002	Dhanpur - Bachurbari - Mothurkandi Rd.	Biswamvarpur	Dhanpur	VRA	0.00	0	X							X	
3-32	690184017	Jagannathpur - Bashantapur Rd.	Biswamvarpur	Dakhin Badaghat	VRA	0.02	0	X							X	
3-33	690184028	Padmanagar - Rajghat Dhanpur	Biswamvarpur	Polash	VRA	0.02	0	X							X	
3-34	690184052	Vadertak bridge - Jinarpur bazar via Rampur	Biswamvarpur	Solukabad	VRA	0.03	0	X							X	
3-35	690184054	RHD Post Office - Mollipur kasmer Jungle	Biswamvarpur	Polash	VRA	0.01	0	X							X	
3-36	690184055	Ranabidha(RHD) - Rangpur Karchar Haor	Biswamvarpur	Polash	VRA	0.01	0	X							X	
3-37	690184057	Choyhara - telikona- Kurihatia Rd.	Biswamvarpur	Polash	VRA	0.00	0	X							X	
3-38	690184059	Masimpur - Sonatola Rd.	Biswamvarpur	Dhanpur	VRA	0.00	0	X							X	
3-39	690184064	Notunpara - Dashghar Prry. School via	Biswamvarpur	Polash	VRA	0.00	0	X							X	
3-40	690185010	Polash RHD - Polashgawn Rd.	Biswamvarpur	Polash	VRB	0.00	0	X							X	
3-41	690185017	Padmanagar - Mollipur	Biswamvarpur	Polash	VRB	0.00	0	X							X	
3-42	690185018	Sureshnagar - Dudpur- Chinakandi rd.	Biswamvarpur	Dhanpur	VRB	0.00	0	X							X	
3-43	690183003	Karenter Bazar - Dhanpur UP Office Rd.	Biswamvarpur	Polash	UZR	0.00	0	X							X	



## Initial list of candidate subproject (rural road, Sunamganj) (2/5)

RURAL ROAD SCREENING  
DISTRICT :SUNAMGANJ

SL No	Road Code	Road Name	Name of Upazila	Name of Union	Plan Road Type	Total Length (km)	Screening							Selection	Haor Project No.
							No.1	No.2	No.3	No.4	No.5	No.6	No.7		
3-44	690182001	Biswamverpur - Polash - Chinakandi Rd.	Biswamvarpur	polash& Dhanpur	UZR	0.00	0	X						X	
3-45	690184053	Jinerpur Bazar - Rampur Trolerghat via jalil	Biswamvarpur	Solukabad	VRA	0.00	0	X						X	
3-46	690185024	Muktikhola Sluice gate - Khorcharhaor	Biswamvarpur	Polash	VRB	0.04	0	X						X	
3-47	690322007	Joysree-Moddhanogor Via Ramdiga Road.	Dharmapasha	Joysree, Chamardani,	UZR	17.46	0	0	0	0	0	0	0	0	N4
3-48	690322008	Bangshikonda GC - Bishorpasha bazar via	Dharmapasha	Dakshin Bongshikunda	UZR	6.00	0	X						X	
3-49	690322009	Bangshikonda GC - Tahirpu UZ Via	Dharmapasha	Dakshin Bongshikunda	UZR	5.00	0	X						X	
3-50	690323005	Modhayanagar bazar-Golha Rd.	Dharmapasha	Moddhanogor	UNR	8.00	0	0	0	0	0	0	0	0	N4
3-51	690323007	Shararkona-Ramdigha Rd.	Dharmapasha	Chamardani	UNR	6.00	0	0	0	0	0	0	X	X	
3-52	690323009	Kandapara-Dewla via Noyagoan Rd.	Dharmapasha	Dharmapasha	UNR	4.00	0	0	0	0	0	0	X	X	
3-53	690323010	Joysree-Durgapur Road.	Dharmapasha	Joysree	UNR	6.44	0	0	0	0	0	0	0	0	N4
3-54	690323012	Dharmopasha-Lonkapatharia Road.	Dharmapasha	Dharmapasha	UNR	3.50	0	0	0	0	0	0	X	X	
3-55	690323013	Dharmapasha-Singpur Road.	Dharmapasha	Selborash Union	UNR	3.27	0	0	0	0	0	0	X	X	
3-56	690323016	Satur bazar - Bonshikunda GC via Rongchi	Dharmapasha	Dakshin Bongshikunda	UNR	5.00	0	X						X	
3-57	690324006	DC road-razapur via balijuri Road	Dharmapasha	Paykurati Union	VRA	3.00	0	0	0	0	0	0	X	X	
3-58	690324007	Paykurati - Barikandi Via Chakiacapur Road.	Dharmapasha	Paykurati Union	VRA	3.70	0	0	0	0	0	0	X	X	
3-59	690324015	Gastola Bazar - Siram Bazar(Barhatta) Via	Dharmapasha	Paykurati Union	VRA	3.54	0	0	0	0	0	0	X	X	
3-60	690324016	Bongshikunda Uttar UP Office - Volagonj	Dharmapasha	Bongshikunda Uttar	VRA	2.00	0	X						X	
3-61	690325012	Mashimpur-Laudugnai Road.	Dharmapasha	Chamardani	VRB	3.50	0	0	0	0	0	0	X	X	
3-62	690325016	Pathkura-Alampur Road.	Dharmapasha	Bongshikunda Dhakin	VRB	4.50	0	X						X	
3-63	690325018	Moheshkhala-Golabnagor Road.	Dharmapasha	Bonshikunda Uttar Union	VRB	4.00	0	X						X	
3-64	690325032	Satur bazar-Dolashia	Dharmapasha	Bonshikunda Dakhin	VRB	3.00	0	X						X	
3-65	690325043	Chandalipara-Dopaghat Road	Dharmapasha	Bonshikunda Dhakin	VRB	3.00	0	X						X	
3-66	690325044	Rajapur-Dowlotpur Road	Dharmapasha	Sukhair Razapur Dhakin	VRB	2.00	0	X						X	
3-67	690325048	Gorukhli Bridge-Noyhati Bazar Via Borihati	Dharmapasha	Paykurati Union	VRB	3.00	0	0	0	0	0	0	X	X	
3-68	690503008	Kukrabashi RHD-Naya Baranka Kheyaghat	Jamalganj	Sachna Bazar	UNR	0.10	0	0	0	0	0	0	0	0	N12
3-69	690502002	Noagan - Bhimkhli	Jamalganj	Bhimkhali	UZR		0	X							
3-70	690502004	Sachna Bazar - Beheli GC - Taherpur	Jamalganj	Sachna Bazar, Beheli	UZR	0.15	0	0	0	0	0	0	0	0	N12
3-71	690503004	Selimganj hat - Fenarbak UP Office -	Jamalganj	Jamalganj Sadar Fenabak	UNR	0.03	0	X							
3-72	690503003	Jamalganj UP Office - Chandpur Bazar Road	Jamalganj	Jamalganj Sadar	UNR	0.02	0	X							
3-73	690503006	Jamalganj UP Office (Sachnahat) - Kamipur H	Jamalganj	Jamalganj Sadar	UNR		0	X							
3-74	690503007	Sachna Ge - Sunamganj RHD Road (Sachna	Jamalganj	Sachna Bazar	UNR		X								
3-75	690504002	Teranagar - Binajura	Jamalganj	Fenarbak	VRA	0.02	0	X							
3-76	690504005	Kaminipur - Maminpur - Insanpur	Jamalganj	Jamalganj Sadar	VRA	0.02	0	X							
3-77	690504008	Rahimapur Sachna Beheli GC Road -	Jamalganj	Beheli, Sachna	VRA	0.02	0	X							
3-78	690505002	Durlabpur - Rokti River - Shermastapur RSF	Jamalganj	Sachna	VRA	0.01	0	0	0	0	0	0	X		
3-79	690505037	Sukdebpur - Radanagar Road	Jamalganj	Sachna	VRB	0.04	0	0	0	0	0	0	0	0	N12
3-80	690505040	Rupabali Village Road	Jamalganj	Sachna	VRB	0.01	0	0	X						
3-81	690505018	Upzila complex - Helipad - Kamlabaz Road	Jamalganj	jamalganj Sadar	VRB		0	X							
3-82	690505004	Laximpur - Hotamara	Jamalganj	Fenarbak	VRB	0.03	0	X							
3-83	690505001	Lambabak - Harikandi Road	Jamalganj	Beheli	VRB	0.06	0	X							
3-84	690505007	Gucchagram - Badipur	Jamalganj	Beheli	VRB	0.04	0	X							
3-85	690505035	Harikandi - Asanpur Road	Jamalganj	Beheli	VRB	0.02	0	X							
3-86	690505024	Fakul Mahmudpur - Atgaon madrasa Road	Jamalganj	Bhimkhali	VRB		0	X							



Initial list of candidate subproject (rural road, Sunamganj) (3/5)

**RURAL ROAD SCREENING  
DISTRICT :SUNAMGANJ**

SL No	Road Code	Road Name	Name of Upazila	Name of Union	Plan Road Type	Total Length (km)	Screening							Selection	Hasr Project No		
							No.1	No.2	No.3	No.4	No.5	No.6	No.7				
3-87			Tahirpur				-	-									
3-88	690292002	Derai Bazar-Sulla via Sukurnagar Road	Derai	Sarmongal	URR	1.75	0	X									
3-89	690292004	Derai Bazar-Dhol-Marculi Road	Derai	Kulanje	URR	1.84	0	0	0	0	0	0	0	0			R8
3-90	690293001	Patharia-BanglaBazar	Derai	Rafinagar	URR	0.50	0	X									
3-91	690293002	Vaitpara-Gochia	Derai	Rajanagar	URR	2.00	0	X									
3-92	690293003	Banglabazar-Alipur	Derai	Rafinagar	URR	4.00	0	X									
3-93	690293004	Rajanagar-Bangla Bazar	Derai	Rafinagar	URR	3.00	0	X									
3-94	690293005	Chandpur-Rajaniganj via Sakitpur	Derai	Karimpur	URR	2.00	0	X									
3-95	690293008	Badolpur RHD-Shyamarchar via Gochia, Raj	Derai	Rajanagar	URR	3.00	0	X									
3-96	690293010	Derai Bazar-Kaliarkapon Bazar, Chandipur	Derai	Karimpur	URR	1.40	0	X									
3-97	690293013	Rajaniganj-Kaliarkapon via Rotanganj, Jagdo	Derai	Jagdol	URR	4.00	0	X									
3-98	690294001	Rafinagar-Hasnabad	Derai	Rafinagar	VRA	1.00	0	X									
3-99	690294012	Tarapasa-Tongor	Derai	Kulanje	VRA	2.00	0	0	0	0	0	0	0	0			R8
3-100	690294015	Ditpur-Hossainpur via Pakidohor	Derai	Jagdol	VRA	1.50	0	X									
3-101	690294017	Boalia Bazar-Bhaitgaon	Derai	Kulanje	VRA	2.00	0	0	0	0	0	0	0	0			R8
3-102	690294018	Nagergaon Ferryghat-Nasribazar	Derai	Kulanje	VRA	2.00	0	0	0	0	0	0	0	0			R8
3-103	690294019	Akilha Bazar-Nagergaon via Kulanje	Derai	Kulanje	VRA	2.00	0	0	0	0	0	0	0	0			R8
3-104	690294020	Akilha Bazar-Nasri Bazar	Derai	Kulanje	VRA	1.25	0	0	0	0	0	0	0	0			R8
3-105	690473001	Kalkalia-Telikuna road	Jagannathpur	Kalkalia	URR	2.18	0	X									
3-106	690473002	Jagannathpur swajansree via chilaura road	Jagannathpur	Chitaura	URR	4.14	0	X									
3-107	690473004	Keshabpur-Arafia-Lama Rasulgongj	Jagannathpur	Patli	URR	5.18	0	X									
3-108	690473007	Enayetganj-Hariatkandi via Gopalgonj road	Jagannathpur	Ranigonj	URR	8.00	0	X									
3-109	690473008	Syedpur-Teghoria-Sanatanpur rd	Jagannathpur	Syedpur	URR	3.00	0	X									
3-110	690473009	Kewnabri-Lama Tukerbazar road	Jagannathpur	Mirpur	URR	3.50	0	X									
3-111	690473010	Ranigonj-Polykuna via Swajansree	Jagannathpur	Ranigonj	URR	7.00	0	X									
3-112	690473011	Ranigonj-Polykuna via Bagmoyna	Jagannathpur	Ranigonj	URR	4.35	0	X									
3-113	690473013	Pivergoan-Shaharpara road	Jagannathpur	Syedpur	URR	5.20	0	X									
3-114	690473016	Shubganj-Ranigonj road	Jagannathpur	Ranigonj	URR	25.00	0	X									
3-115	690473017	Aserkandi U.P-Kalnirchar Bazar rd	Jagannathpur	Aserkandi	URR	8.75	0	X									
3-116	690474024	Zila Prishad Lohari road	Jagannathpur	Mirpur	VRA	0.81	0	X									
3-117	690474013	Zila Prishad rod Borkapon Madrassa	Jagannathpur	Mirpur	VRA	3.00	0	X									
3-118	690475097	Kasurkandi Primary School to	Jagannathpur	Mirpur	VRB	1.00	0	X									
3-119	670473016	Ranigonj Rowail via Alampur	Jagannathpur	Ranigonj	URR	2.50	0	X									
3-120	690475098	Chilaura Pondita Point to Betauka Pri School	Jagannathpur	Chilaura	VRB	7.00	0	X									
3-121	690475055	Adura-Dharanipur to Kocharokandi road via	Jagannathpur	Mirpur	VRB	2.25	0	X									
3-122	690475099	Katia Madrassa to Aletali Jame Mosque side	Jagannathpur	Patilgaon	VRB	1.00	0	X									
3-123	690892009	R&H (Rabarbari)-Baishber-Joynagar GC	SUNAMGANJ-SADAR	Laxmansree/ Mohanpur	URR	8.30	0	0	0	0	0	0	0	0			N12
3-124	690892010	Bitgonj GC-Dabar at RHID Road via Lalpur	SUNAMGANJ-SADAR	Mollapara/ Purbapagla	URR	10.00	0	X									
3-125	690892006	Mongalkata-Narayanatala-Kapana-	SUNAMGANJ-SADAR	Jahangir nagar	URR	10.20	0	X									
3-126	690893001	R&H road Janigaon-Joynagar Bazar Road	SUNAMGANJ-SADAR	Laxmansree/ Mohanpur	URR	7.70	0	0	0	0	0	0	0	0			N12
3-127	690893007	Ibrahimpur-Dalura Shahid minar via syedpur	SUNAMGANJ-SADAR	Surma/ Jahangirnagar	URR	8.00	0	X									
3-128	690893017	Mullapara UPC - Abdullapur via Santigonj	SUNAMGANJ-SADAR	Mollapara	URR	4.10	0	X									
3-129	690893016	Haluar Ghat-Ibrahimpur (Surma UPC) -via	SUNAMGANJ-SADAR	Surma	URR	3.00	0	X									



## Initial list of candidate subproject (rural road, Sunamganj) (4/5)

RURAL ROAD SCREENING  
DISTRICT :SUNAMGANJ

Sl. No	Road Code	Road Name	Name of Upazila	Name of Union	Plan Road Type	Total Length (km)	Screening							Selection	Hear Project No.
							No.1	No.2	No.3	No.4	No.5	No.6	No.7		
3-130	690893012	Islamganj-Joynagar (Gourarag/Mohanpur)	SUNAMGANJ-SADAR	Gourarag/Mohanpur	VRA	6.00	0	X						X	
3-131	690894022	RHD(Haluargoan)-Islampur (Laxmansree)	SUNAMGANJ-SADAR	Laxmansree	VRA	2.20	0	0	0	0	0	0	0	0	N12
3-132	690894005	Tokerghat-Bahadurpur Rd.(Laxmansree)	SUNAMGANJ-SADAR	Laxmansree	VRA	3.60	0	0	0	0	0	0	0	0	N12
3-133	690894044	Bromottar-Jogairgoan via Tokerbazar	SUNAMGANJ-SADAR	Gourarag	VRA	11.00	0	X						X	
3-134	690894071	Shakaily-Sreemoty Bazar-Soapur-Aralia-	SUNAMGANJ-SADAR	Mohanpur	VRA	4.50	0	X						X	
3-135	690894073	Bahaderpur RHD to Nurulla Village	SUNAMGANJ-SADAR	Laxmansree/ Mohanpur	VRA	4.00	0	0	0	0	0	0	0	0	N12
3-136	690894077	Katair-Joynagar GCCR at Hossain nagar to	SUNAMGANJ-SADAR	Mohanpur	VRA	2.00	0	X						X	
3-137	690894076	Sunantonj-Biswamberpur rd to-Bahadurpur	SUNAMGANJ-SADAR	Gourarag	VRA	2.00	0	X						X	
3-138	690894057	Bindabon Nagar-Sararpar Via Rangpur Bazar	SUNAMGANJ-SADAR	Rangerehar	VRA	3.50	0	X						X	
3-139	690894032	Lalarchar-Uchargoan via Sreenathpur.	SUNAMGANJ-SADAR	Mollapara	VRA	5.00	0	X						X	
3-140	690894006	Ahmmadabad-Icharchar-Islamganj	SUNAMGANJ-SADAR	Gourarag	VRA	10.00	0	X						X	
3-141	690895092	Jalalpur-Dakher hawore road.	SUNAMGANJ-SADAR	Laxmansree	VRB	2.86	0	0	0	0	0	0	0	0	N12
3-142	690895111	Katair joynagar GC road (Noagaon)-	SUNAMGANJ-SADAR	Katair	VRB	3.00	0	0	0	0	0	0	0	0	N12
3-143	690895101	Muslimpur -Khyargoan road via Balakanda	SUNAMGANJ-SADAR	Surma	VRB	1.50	0	X						X	
3-144	690895105	Deragaon village to Maizbari road	SUNAMGANJ-SADAR	Afhab nagar	VRB	1.00	0	X						X	
3-145	690895096	Jharjonia GPS-Kairgoan Road	SUNAMGANJ-SADAR	Jahangirnagar	VRB	1.00	0	X						X	
3-146	690895017	Dolura Shahid minor to Kyargoan Bazar &	SUNAMGANJ-SADAR	Jahangir nagar	VRB	3.50	0	X						X	
3-147	690895019	Sunamgonj-Mangalkata rd to Haluarghat Via	SUNAMGANJ-SADAR	Surma	VRB	5.00	0	X						X	
3-148	690895107	Bongaon bazar to Kandi samad nagar	SUNAMGANJ-SADAR	Rangerehar	VRB	3.00	0	X						X	
3-149	690895103	Bindabon nagor -Rangpur jame mosque.	SUNAMGANJ-SADAR	Rangerehar	VRB	3.00	0	X						X	
3-150	690895036	Syedpur-Ibrahimpur rd to Akhaynagar-	SUNAMGANJ-SADAR	Surma	VRB	2.50	0	X						X	
3-151	690895028	Maizbari Purbapara to Goder goan.	SUNAMGANJ-SADAR	Afhab nagar	VRB	2.50	0	X						X	
3-152	690895038	Katair-Joynagar Road to Narkula	SUNAMGANJ-SADAR	Katair	VRB	3.00	0	0	0	0	0	0	0	0	N12
3-153	690895070	RHD, Ahsampara Bridge-Jogimpur road.	SUNAMGANJ-SADAR	Katair	VRB	0.50	0	0	0	0	0	0	0	0	N12
3-154	690895039	Katair Joynagar Road to Noagaon	SUNAMGANJ-SADAR	Katair	VRB	1.50	0	0	0	0	0	0	0	0	N12
3-155	690932005	Bombomi - Banglabazar Road.	Dakhin Sunamganj	Dargapasa	VRB	3.20	0	X						X	
3-156	690932008	Sovara - Banglabazar Road.	Dakhin Sunamganj	Dargapasa	VRB		0	X						X	
3-157	690932010	Bitigonj GC-Dabar at RHD Road via- Lalpur C	Dakhin Sunamganj	Purbapagla	VRB	3.70	0	X						X	
3-158	690932011	Santiganj bazar (UZ HQ.)-Rajamganj bazar P	Dakhin Sunamganj	lash,Patharia&Paschim Bi	VRB	15.13	0	0	0	0	0	0	0	0	N12
3-159	690933002	Pagla - Birgaon Road	Dakhin Sunamganj	Paschim paglaPurba Birgao	VRB		0	X						X	
3-160	690933003	Dargapasa Hospital Road	Dakhin Sunamganj	Dargapasa	VRB		0	X						X	
3-161	690933008	Shimilbak UP office - Muktakhai - Joynagar v	Dakhin Sunamganj	Shimilbak	VRB	4.20	0	0	0	0	0	0	0	0	N12
3-162	690934007	Damadurtupi - Ghoradumbur Road.	Dakhin Sunamganj	Purbapagla	VRA		0	X						X	
3-163	690934012	Pagla - Birgaon - Dhakshinbond via Hospital	Dakhin Sunamganj	Paschim	VRA		0	X						X	
3-164	690934018	Tila Paschumpara - Rajamganj Road	Dakhin Sunamganj	Paschim-Birgaon	VRA		0	X						X	
3-165	690934020	Jagannathpur Road-Sichni South Road.	Dakhin Sunamganj	Dargapasha	VRA		0	X						X	
3-166	690934021	Ganiganj RHD-Jibdara Road	Dakhin Sunamganj	Patharia	VRA	4.70	0	0	0	0	0	0	0	0	N12
3-167	690934026	Dabor Fisheries - Sichni S. Rahman Road.	Dakhin Sunamganj	Dargapasha	VRA		0	X						X	
3-168	690934030	Derai RHD - Sreenathpur via Jahampur -Madr	Dakhin Sunamganj	Patharia	VRA	3.50	0	0	0	0	0	0	0	0	N12
3-169	690934039	Jagannathpur Road-Mirpara Road.	Dakhin Sunamganj	Dargapasha	VRA		0	X						X	
3-170	690934040	Pagla-Dabar via Innath nagar Road.	Dakhin Sunamganj	Paschim Pagla	VRA		0	X						X	
3-171	690934042	Pagla-Birgaon road at Birgaon P/School-Wap	Dakhin Sunamganj	Purbopagla	VRA		0	X						X	
3-172	690934045	R&H road - Chandpur Piprakandi Road.	Dakhin Sunamganj	PaschimPagla	VRA		0	X						X	

Initial list of candidate subproject (rural road, Sunamganj) (5/5)

**RURAL ROAD SCREENING  
DISTRICT :SUNAMGANJ**

SL No	Road Code	Road Name	Name of Upazila	Name of Union	Plan Road Type	Total Length (km)	Screening							Selection	Haor Project No.
							No.1	No.2	No.3	No.4	No.5	No.6	No.7		
3-173	690934046	Santiganj bazar-Astama Road.	Dakhin Sunamganj.	Joykalash	VRA		0	X						X	
3-174	690934048	Ashammura Pry. School-Puran -Kandigoan Rd	Dakhin Sunamganj.	Patharia	VRA	3.81	0	0	0	0	0	0	0	0	N12
3-175	690934050	Dharampur-Sholaf Road.	Dakhin Sunamganj.	Purbo Birgaon	VRA		0	X						X	
3-176	690934086	Kandagaon LGED UZR Road to Nowakhali -	Dakhin Sunamganj.	Shimulbak	VRA	4.00	0	0	0	0	0	0	0	0	N12
3-177	690934089	Birgaon Bazar - Kawajuri via Umed- Nagar R	Dakhin Sunamganj.	Purbobigaon	VRA		0	X						X	



## Initial list of candidate subproject (rural road, Habiganj) (1/4)

RURAL ROAD SELECTION  
DISTRICT : HABIGANJ

SL	Road Code	Road Name	Name of Upazila	Name of Union	Plan Road Type	Total Length	Screening							Selection	Haor Project
							No.1	No.2	No.3	No.4	No.5	No.6	No.7		
4-1	636444003	Lakhai R&H road to Motalib	Sadar	Richi	VRA	3.57	0	X						X	
4-2	636442008	Lakhai R&H-Rajiura via Hurgaon	Sadar	Richi	UZR	6.00	0	X						X	
4-3	636444043	Titukhai-Chandpur via mirzapur	Sadar	Richi	VRA	1.46	0	X						X	
4-4	636444035	Poil-Pachparia Rd.	Sadar	Poil	VRA	4.20	0	0	0	0	0	0	0	0	R13
4-5	636444063	Lukra Village - Jadobpur Via	Sadar	Lukra	VRB	6.00	0	X						X	
4-6	636444064	Boro Bohula Ino word Care Road -	Sadar	Gopiya	VRB	3.00	0	0	0	0	0	0	0	0	R13
4-7	636444065	Bohula 2no word Pirbari - Paschim	Sadar	Gopiya	VRB	3.00	0	0	0	0	0	0	0	0	R13
4-8	636053004	Satkapan UP Office (Chalitatala)-	Bahubal	Satkapan UP	UNR	4.50	0	0	0	0	0	0	0	0	R13
4-9	636053005	Snanghat UP Office-Bagdair bazar	Bahubal	Snanghat UP	UNR	5.80	0	0	0	0	0	0	0	0	R13
4-10	636054079	Guharua Pry. School - Panchparia	Bahubal	Bahubal S	VRA	5.00	0	0	0	0	0	0	0	0	R13
4-11	636055015	Khagaura Algahati-Noayahati via	Bahubal	Snanghat UP	VRB	1.50	0	0	0	0	0	0	0	0	R13
4-12	636054010	Khagaura Bagdair Road	Bahubal	Snanghat UP	VRA	5.80	0	0	0	0	0	0	0	0	R13
4-13	636054012	Amrita-Barchar Road	Bahubal	Snanghat UP	VRA	3.20	0	0	0	0	0	0	0	0	R13
4-14	636055017	Fotehpur-Shampur Road	Bahubal	Satkapan UP	VRB	1.40	0	0	0	0	0	0	0	0	R13
4-15	636055058	Shuaiyabazar-Ruyail	Bahubal	Satkapan UP	VRB	6.00	0	0	0	0	0	0	0	0	R13
4-16	636055044	Raisong Rd-Barkadabad	Bahubal	Snanghat UP	VRB	3.00	0	0	0	0	0	0	0	0	R13
4-17	636054080	Digambar bazar-Noawai Road	Bahubal	Putijuri,Shangh	VRA	1.50	0	0	0	0	0	0	0	0	R13
4-18	636682002	Lokra-Modna Bazar Road.	Lakhai	Bulla	UZR	4.96	0	X						X	
4-19	636682004	Badikara RHD-Fandauk bazar	Lakhai	Bamoi,	UZR	4.35	0	X						X	
4-20	636682005	Lakhai upazila HQ-Madna bazar	Lakhai	Bamoi, Bulla	UZR	6.11	0	X						X	
4-21	636682003	Bolla Bazar-Varponni to Sozatpur	Lakhai	Bulla	UZR	7.20	0	X						X	
4-22	636683006	RHD-Madna Bazar Via Noagoan	Lakhai	Bamoi, Bulla	UNR	5.38	0	X						X	
4-23	636683001	Bulla UP office-Moriuak Fandauk	Lakhai	Karab	UNR	7.35	0	0						X	
4-24	636683005	Lakhai bazar-Shibpur bazar	Lakhai	Lakhai	UNR	4.35	0	X						X	
4-25	636685016	Rarisail RHD-Sutang river	Lakhai	Karab	VRB	1.50	0	X						X	
4-26	636685023	Karab Primay School-Sutang River	Lakhai	Karab	VRB	2.00	0	X						X	
4-27	636685046	Lakhai GCCR Bottala Bazar -	Lakhai	1 No.Lakhai,	VRB	3.00	0	X						X	
4-28	636685013	Marugach-Noagon Road.	Lakhai	Bamoi	VRA	3.15	0	X						X	
4-29	636685011	Jailkhana road-Sutang river.	Lakhai	Bamoi	VRA	2.60	0	X						X	
4-30	636684002	Rarishal-Balashri River Road.	Lakhai	Karab	VRA	1.69	0	X						X	
4-31	636772011	Syedpur-Gurarai bazar road.	Nabigonj	5 No.	UZR	3.47	0	X						X	
4-32	636772012	Syedpur Police fari-Purkul Summit	Nabigonj		UZR		0	X						X	
4-33	636773003	Rasulgonj-Raisgonj Paniumda	Nabigonj		UNR	8.86	0	X						X	
4-34	636773018	Vanudev-Kalabapur road	Nabigonj		UNR	1.78	0	X						X	



Initial list of candidate subproject (rural road, Habiganj) (2/4)

**RURAL ROAD SELECTION  
DISTRICT : HABIGANJ**

SL	Road Code	Road Name	Name of Upazila	Name of Union	Plan Road Type	Total Length	Screening							Selection	Haor Project
							No.1	No.2	No.3	No.4	No.5	No.6	No.7		
4-35	636773013	Aushkandi-Nilam bazar-Karimpur	Nabigonj		VRB	0.00	0	X						X	
4-36	636773006	Sakua Bazar-Sherpur-Halimpur	Nabigonj		VRB	0.00	0	X						X	
4-37	636773008	Immam Bari-Burinow road.	Nabigonj		VRB	1.83	0	X						X	
4-38	636773004	Nabigonj Bazar-Ratanpur via	Nabigonj		VRB		0	X						X	
4-39	636773007	Nabigonj College-Pangari-	Nabigonj		VRB	5.32	0	X						X	
4-40	636774024	Gururai bazar-Mukimpur road.	Nabigonj		VR-A		0	X						X	
4-41	636775110	Inathgonj -Kadirgonj road to h/o	Nabigonj		VR-A		0	X						X	
4-42	636774058	Guholdoba High School-	Nabigonj		VRB		0	X						X	
4-43	636774016	Inathgonj bazar inathgonj	Nabigonj	3 no . Inathgonj			0	X						X	
4-44	636774087	Dhaka-Sylhet National high way to	Nabigonj	11 Goznaipur	VR-A		0	X						X	
4-45	636775068	Muktahar brdge-Shakua bazar road	Nabigonj	7 No. Kargaon	VR-A	2.50	0	0	0	0	0	0	0	0	N13
4-46	636022002	Azmirigonj - Kakailsew Road.	Azmiriganj	Azmiriganj&Ka	VRB	1.85	0	0	0	0	0	0	X	X	
4-47	636022003	Azmirigonj - Paharpur road.	Azmiriganj	Azmiriganj&Ba	VRB	14.06	0	0	0	0	0	0	0	0	R8
4-48	636023001	Pashchimbag - Azmirigonj Road.	Azmiriganj	Shibpasa	VRB	8.45	0	0	0	0	0	0	0	0	R8
4-49	636022005	Paharpur - Baniachong Via	Azmiriganj	Badolpur	VRB	7.02	0	0	0	0	0	0	0	0	R13
4-50	636023003	Jolsuka Bazar - Ajmirigonj Via	Azmiriganj	Jalsukha	VRB	5.50	0	0	0	0	0	0	X	X	
4-51	636025023	Kakilsow GCCR - Rosulpur.	Azmiriganj	Kakailsew	VRB	2.10	0	0	0	0	0	0	0	0	R9
4-52	636025027	Kakilsow Bazar - Rahala Rd.	Azmiriganj	Kakailsew	VRB	2.25	0	0	0	0	0	0	0	0	R9
4-53	636025035	Solori - Shibpasha.	Azmiriganj	Kakailsew &	VRB	8.50	0	0	0	0	0	0	0	0	R8
4-54	636025034	Anandopur Ghat - Anadopur	Azmiriganj	Kakailsew	VRB	1.80	0	0	0	0	0	0	0	0	R9
4-55	636024002	Pirojpur Lanchghat-Jalsuka bazar	Azmiriganj	BadolPur	VRB	2.00	0	0	0	0	0	0	0	0	R8
4-56	636025006	Bong rd + Paddy land Rd	Azmiriganj	Shibpasa	VRB	5.10	0	0	0	0	0	0	0	0	R8
4-57	636025008	Pituarkandi Ghat - Shalla	Azmiriganj	BadolPur	VRB	3.65	0	0	0	0	0	0	0	0	R8
4-58	636025026	Kamulpur Ghat - Kamulpur Pry	Azmiriganj	Kakailsew	VRB	2.75	0	0	0	0	0	0	0	0	R9
4-59	636025012	G C C Road - Ronia Road.	Azmiriganj	Azmiriganj	VRB	2.10	0	0	0	0	0	0	0	0	R8
4-60	636025002	R&H Road - Morolbari Road.	Azmiriganj	Azmiriganj	VRB	0.54	0	0	0	0	0	0	0	0	R8
4-61	636265045	Basullah bazar-Balumara road	Chunarughat	Gazipur	VRB	1.00	0	X						X	
4-62	636265121	Balla BDR Camp to Tekarghat	Chunarughat	Gazipur	VRB	1.00	0	X						X	
4-63	636263004	Gazipur UP Office (Assampara	Chunarughat	Gazipur	VRB	2.00	0	X						X	
4-64	636265032	Asampara road-Kirtai Mazar	Chunarughat	Ahmadabad	VRB	1.50	0	X						X	
4-65	636265006	Razar Bazar - Gonganagar Village	Chunarughat	Ahmadabad	VRB	1.00	0	X						X	
4-66	636265004	Gonosympur - Vela Beel Road.	Chunarughat	Ahmadabad	VRB	1.00	0	X						X	
4-67	636265085	Deorgach Mahashay H/O to	Chunarughat	Deorgach	VRB	1.50	0	X						X	
4-68	636265086	Deorgach Akra bari to Laxmipur	Chunarughat	Deorgach	VRB	1.50	0	X						X	



## Initial list of candidate subproject (rural road, Habiganj) (3/4)

RURAL ROAD SELECTION  
DISTRICT : HABIGANJ

SL	Road Code	Road Name	Name of Upazila	Name of Union	Plan Road Type	Total Length	Screening							Selection	Haor Project
							No.1	No.2	No.3	No.4	No.5	No.6	No.7		
4-69	636264045	Laxmipur Mosque-Moynabad via	Chunarughat	Deorgach	VRA	1.00	0	X						X	
4-70	636265093	Paikpara chairman bazar to Begom	Chunarughat	Paikpara	VRB	1.00	0	X						X	
4-71	636265092	Kalam Chairman bazar to Shail	Chunarughat	Paikpara	VRB	1.00	0	X						X	
4-72	636264028	Sakir Mohammad bazar - Panchais	Chunarughat	Shankhola	VRA	2.00	0	X						X	
4-73	636264048	Sadekpur Corner Sakir Mohammad	Chunarughat	Shankhola	VRA	1.00	0	X						X	
4-74	636264062	Sakir Mohammad bazar-	Chunarughat	Shankhola	VRA	2.00	0	X						X	
4-75	636264021	RHD-Ramsree - Durgapur bazar	Chunarughat	Chunarughat	VRA	1.00	0	X						X	
4-76	636265104	Chunarughat R & H Boro -	Chunarughat	Chunarughat	VRB	1.50	0	X						X	
4-77	636264036	Chunarughat RHD (Sign. board) -	Chunarughat	Chunarughat	VRA	1.00	0	X						X	
4-78	636264008	Ware House Ubahata-Sakir	Chunarughat	Ubahata	VRA	1.50	0	0	0	0	0	0	0	0	R13
4-79	636265044	Ulukani govt.Pry. School - Assian	Chunarughat	Ubahata	VRB	1.00	0	0	0	0	0	0	0	0	R13
4-80	636264002	Chan Bhanga - Sreebari Road.	Chunarughat	Shatiajuri	VRA	1.50	0	X						X	
4-81	636264018	Sundarpur GCCR (Fatushah	Chunarughat	Shatiajuri	VRA	1.00	0	X						X	
4-82	636264025	RHD (Sreekuta) -Khowai	Chunarughat	Shatiajuri	VRA	1.25	0	X						X	
4-83	636264024	Ranigaon -Sindurkhan road.	Chunarughat	Ranigaon	VRA	2.75	0	X						X	
4-84	636264043	Ranigaon-Kamaichorra Road via	Chunarughat	Ranigaon	VRA	1.00	0	X						X	
4-85	636265026	Pakuria Pry. School-Gajiganj	Chunarughat	Ranigaon	VRB	1.50	0	X						X	
4-86	636264052	Mirashi Kamar Dokan-Nasimabad	Chunarughat	Ranigaon	VRA	1.00	0	X						X	
4-87	636265082	Volajjom bazar to Rema TG-	Chunarughat	Mirashi	VRB	2.00	0	X						X	
4-88	636265128	Abda Chalia Bottala - Purajar Via	Chunarughat	Mirashi	VRB	1.50	0	X						X	
4-89	636264053	Pakuria Battala -Kalenga Rd via	Chunarughat	Mirashi	VRA	2.00	0	X						X	
4-90	636264009	Durgapur Bazar - Sreerampur	Chunarughat	Ubahata	VRA	1.00	0	0	0	0	0	0	0	0	R13
4-91	636264022	RHD ( Kamai Chorra) - Parkul	Chunarughat	Ranigaon	VRA	2.00	0	X						X	
4-92	636265020	Deulgaon-Ushai Nogor Road.	Chunarughat	Shatiajuri	VRB	1.00	0	X						X	
4-93	636265027	Shirajnagar-Hanaguri Road.	Chunarughat	Shatiajuri	VRB	0.35	0	X						X	
4-94	636265058	Chayshree-Arrongbeel Road	Chunarughat	Ahmadabad	VRB	1.00	0	X						X	
4-95	636265078	Mahashay bazar to H / O Gulgoan	Chunarughat	Shatiajuri	VRB	0.65	0	X						X	
4-96	636265114	Nalmuk bazar to South kakaus via	Chunarughat	Mirashi,Gazipu	VRB	1.50	0	X						X	
4-97	636265116	Jalil pur Eidgha to H/o Bojendra	Chunarughat	Mirashi	VRB	1.00	0	X						X	
4-98	636265056	Chunarughat Assampara-Bangaon	Chunarughat	Ahmadabad	VRB	1.00	0	X						X	
4-99	636112003	Baniachang Gc-Markuli Road.	Baniachang	Baniachong	UZR	22.65	0	X						X	
4-100	636112007	Kadir Gonj Gc-Paharpur Gc Via	Baniachang	Doulatpur	UZR	5.00	0	0	0	0	0	0	0	0	R8
4-101	636112008	Baniachong Gc-Pahar pur Gc Road	Baniachang	Baniachong	UZR	3.62	0	X						X	
4-102	636113009	Kagapasha Bazar-Kagapasha Up	Baniachang	Kagapasha	UNR	3.00	0	0	0	0	0	0	X	X	



Initial list of candidate subproject (rural road, Habiganj) (4/4)

**RURAL ROAD SELECTION**  
**DISTRICT : HABIGANJ**

SL	Road Code	Road Name	Name of Upazila	Name of Union	Plan Road Type	Total Length	Screening							Selection	Haor Project
							No.1	No.2	No.3	No.4	No.5	No.6	No.7		
4-103	636113013	Subidpur Up office-Aowar Mohal	Baniachang	Pukra	UNR	7.40	O	O	O	O	O	O	O	O	R13
4-104	636113014	Ratna Bazar-Murad pur Up Office	Baniachang	Subidpur,	UNR	3.00	O	O	O	O	O	O	X	X	
4-105	636113017	Bithangal Gc-Hobigonj - Sujathpur	Baniachang	Monduri,	UNR	3.00	O	O	O	O	O	O	O	O	R10
4-106	636114013	Habigonj-Baniyachong RHD to	Baniachang	Subidpur,	VRA	1.00	O	O	O	O	O	O	O	O	R13
4-107	636114019	Shibgonj Bazar to halderpur	Baniachang	Bariari	VRA	3.00	O	O	O	O	O	O	O	O	N13
4-108	636114030	Sandalpur High School to	Baniachang	Kagaura	VRA	2.43	O	X						X	
4-109	636114049	Pukra Up office -Kandipura village	Baniachang	Pukra	VRA	3.13	O	O	O	O	O	O	O	O	R13
4-110	636114052	BaroBazar- Nottun Bazar G/S	Baniachang	Baniachong	VRA	1.50	O	X						X	
4-111	636115049	AdorshaBazar- Sholataka	Baniachang	Baniachong	VRB	3.00	O	X						X	
4-112	636713002	Montala-Kashim nagar Rail	Madhabpur	Bahara	UNR	4.17	O	X						X	
4-113	636712010	Andiura R&H-Bulla-Chatian bazar	Madhabpur	Bulla	UZR	6.06	O	X						X	
4-114	636713009	Chatian GC-Shahpur Bazar road	Madhabpur	Chatiain	UNR	4.41	O	X						X	
4-115	636713001	Noypara bazar Kharki-Bulla Bazar	Madhabpur	Noyapara	UNR	4.71	O	X						X	
4-116	636713004	Andiura R&H-Shahajanpur UP	Madhabpur	Andiura	UNR	3.59	O	X						X	
4-117	636713011	Adaair GC-Dhankura-Patuli-Bulla	Madhabpur	Bulla	UNR	2.50	O	X						X	
4-118	636714063	Noapara-Dashpara road	Madhabpur	Chatiain	VRA	2.50	O	X						X	
4-119	636714009	Barag-Bulla road	Madhabpur	Bulla	VRA	1.95	O	X						X	
4-120	636715088	Sakuchail Eidgaon - Poddarbari	Madhabpur	Chatiain	VRB	2.50	O	O	X					X	

## Initial list of candidate subproject (rural road, Brahmanbaria) (1/3)

RURAL ROAD SCREENING  
DISTRICT: BRAHMANBARIA

SL	Road code	Road Name	Name of upazila	Name of union	Plan Road Type	Total Length (km)	Screening							Selection	Haor Project No.
							No.1	No.2	No.3	No.4	No.5	No.6	No.7		
5-1	412632004	Tinlacpir R&H to	Kasba	Binauti	UZR		0	X						X	
5-2	412632005	Kharera R&H to Shimrail	Kasba	Kharera	UZR		0	X						X	
5-3	412633005	Mulagram UP Office	Kasba	Mulagram	UPOR		0	X						X	
5-4		-	Ashuganj	Sadar	VR		0	X						X	
5-5			Ashuganj	Sadar	VR		0	X						X	
5-6			Ashuganj	Sadar	VR		0	X						X	
5-7			Ashuganj	Sadar	VR		0	X						X	
5-8			Ashuganj	Araisidha	VR		0	X						X	
5-9			Ashuganj	Araisidha	VR		0	X						X	
5-10			Ashuganj	Durgapur			0	X						X	
5-11			Ashuganj	Sharifpur			0	X						X	
5-12			Ashuganj	Sharifpur			0	X						X	
5-13			Ashuganj	Lalpur			0	X						X	
5-14			Ashuganj	Lalpur			0	X						X	
5-15			Ashuganj	Lalpur			0	X						X	
5-16			Ashuganj	Lalpur			0	X						X	
5-17			Ashuganj	Lalpur			0	X						X	
5-18			Ashuganj	Lalpur			0	X						X	
5-19			Ashuganj	Lalpur			0	X						X	
5-20			Ashuganj	Talshohor			0	X						X	
5-21			Ashuganj	Talshohor			0	X						X	
5-22			Ashuganj	Tarua			0	X						X	
5-23			Ashuganj	Tarua			0	X						X	
5-24			Ashuganj	Tarua			0	X						X	
5-25			Ashuganj	Charchartala			0	X						X	
5-26			Ashuganj	Charchartala			0	X						X	
5-27			Ashuganj	Charchartala			0	X						X	
5-28	412942002	Aruail-Chatalpar GC	Sarail	Aruail	OZR	1.82	0	X						X	
5-29	419243001	Sarail-Panishwar Bazar	Sarail	Sarail, Panishwar	UPOR	6.11	0	X						X	
5-30	419244001	Rasulpur-Azabpur Road	Sarail	Chunta	VRA	3.80	0	X						X	
5-31	412944007	Aruail-Dhamaura Road	Sarail	Aruail	VRA	4.80	0	X						X	
5-32	412944008	Panishwar-Nayahati Road	Sarail	Panishwar, Chunta	VRA	4.26	0	X						X	
5-33	412944021	Kalikaccha-Bishutara	Sarail	Kalikaccha	VRA	2.50	0	X						X	
5-34	412945027	Joydharkandi-Telekandi	Sarail	Pakshimul	VRB	3.40	0	X						X	



Initial list of candidate subproject (rural road, Brahmanbaria) (2/3)

**RURAL ROAD SCREENING  
DISTRICT: BRAHMANBARIA**

SL	Road code	Road Name	Name of upazila	Name of union	Plan Road Type	Total Length (km)	Screening							Selection	Haor Project No.
							No.1	No.2	No.3	No.4	No.5	No.6	No.7		
5-35	412945030	Rajapur-Ranidia	Sarail	Aruil	VRB	3.45	O	X						X	
5-36	412945032	Dubajail-Dhamaura Road	Sarail	Aruil	VRB	3.00	O	X						X	
5-37	412945085	Pakshimul-Telikandi	Sarail	Pakshimul	VRB	2.50	O	X						X	
5-38	412945086	Bhuishar-Joydharkandi	Sarail	Pakshimul	VRB	5.25	O	X						X	
5-39	412945087	Paramanandapur-	Sarail	Pakshimul	VRB	2.37	O	X						X	
5-40	412945098	Dewra-Charuhati Road	Sarail	Shahajadapur	VRB	1.50	O	O	O	O	O	O	O	O	R13
5-41	412945145	Shahajadapur-Dhauria	Sarail	Shahajadapur	VRB	3.00	O	O	O	O	O	O	O	O	R13
5-42	412945155	Rajapur-Dubajail Road	Sarail	Aruil		3.00	O	X						X	
5-43	41204	Charshibpur K.N Kinder	Bancharampur		VRB		X							X	
5-44	41204	Charshibpur K.N Kinder	Bancharampur		VRB		X							X	
5-45	41204	Charshibpur bazar -	Bancharampur				X							X	
5-46	41204	Charshibpur Abul Hasem	Bancharampur				X							X	
5-47	41204	Dosdona Nimtoli main	Bancharampur				X							X	
5-48	412043002	Dariarchar bazar -	Bancharampur				X							X	
5-49	412044054	Daradaulat-Kalainagar	Bancharampur				X							X	
5-50	412044005	Farazkandi-Kanainagar	Bancharampur				X							X	
5-51	412045001	Monshinagar-Haripur Rd	Bancharampur				X							X	
5-52			Brahmanbaria Sadar				-	-	-	-	-	-	-	-	
5-53	412903002	Goalnagar UP Office-	Nasirnagar	Goalnagar	VRB		O	X						X	
5-54	412903004	Guniak UP Office-	Nasirnagar	Guniak	VRB		O	X						X	
5-55	412903007	Buriswar UP Office-	Nasirnagar	Buriswar	VRB		O	X						X	
5-56	412903008	Nasirnagar Upazila H/Q-	Nasirnagar	Nasirnagar	VRB		O	X						X	
5-57	412903009	Fundaik GC-Fundaik	Nasirnagar	Fundaik	VRB		O	X						X	
5-58	412904004	Chatolpar-Ratanpur Road	Nasirnagar	Chatalpar	VRA		O	X						X	
5-59	412904006	Dhormondal plain rd-	Nasirnagar	Dharmondal	VRA	3.00	O	X						X	
5-60	412904007	Chotipara-Jethagran Rd.	Nasirnagar	Gokarna	VRA		O	X						X	
5-61	412904008	Brahmanshasan-	Nasirnagar	Gokarna	VRA		O	X						X	
5-62	412904012	Ichapura-Buriswar bazar	Nasirnagar	Buriswar	VRA		O	X						X	
5-63	412904028	Dighar Primary School	Nasirnagar	Gokarna	VRA		O	X						X	
5-64	412904104	Bhitoe GPS-Chatalpar	Nasirnagar	Bhalakut	VRA		O	X						X	
5-65	412022001	Akhaura Bara	Akhaura		VRB	5.94	O	X						X	
5-66	412023002	Mogra UP	Akhaura		VRB	2.58	O	X						X	
5-67	412023005	Moniondh UP	Akhaura		VRB	3.58	O	X						X	
5-68	412023007	Vatamatha Bazar	Akhaura		VRB	5.23	O	X						X	



## Initial list of candidate subproject (rural road, Brahmanbaria) (3/3)

RURAL ROAD SCREENING  
DISTRICT: BRAHMANBARIA

SL	Road code	Road Name	Name of upazila	Name of union	Plan Road Type	Total Length (km)	Screening							Selection	Haor Project No.
							No.1	No.2	No.3	No.4	No.5	No.6	No.7		
5-69	412023009	Moniondha UP-Tonkey -	Akhaura		UNR	2.40	O	X						X	
5-70	412024016	road.			VR-A	4.9	O	X						X	
5-71	412024021	Itna road			VR-A	1.7	O	X						X	
5-72	412024024	nilakhad road.			VR-A	1.82	O	X						X	
5-73	412024035	Dharmanagor,Gagutia			VR-A	2.5	O	X						X	
5-74	412025053	Krishnonagar road			VR-B	3.8	O	X						X	
5-75	412025022	-Nayadii road			VR-B	1.6	O	X						X	
5-76	412025078	Mirpur road.			VR-B	1.2	O	X						X	
5-77	412852003	Bottali R&H-Bitghar GC	Nabinagar	Laur fatepur &	UZR	4.88	O	X						X	
5-78	412852006	Bitghar Hat to B.Barua	Nabinagar	Bitghar,Shibpur,	UZR	4.60	O	X						X	
5-79	412852011	Jibangonj bazar R&H to	Nabinagar	Ratanpur	UZR	7.85	O	X						X	
5-80	412852005	Jinodpur R&H-Shahapur	Nabinagar	Jinodpur,Satmur	UZR	5.45	O	X						X	
5-81	412853004	Sreerampur UP (R&H)-	Nabinagar	Seerampur,Samo	UNR	3.60	O	X						X	
5-82	412853005	Kaitala U.P office to	Nabinagar		UNR	7.72	X							X	
5-83	412853008	Shibpur Bazar (R&H)-	Nabinagar		UNR	2.25	X							X	
5-84	412853010	Baishmuza bazar-Birgaon	Nabinagar		UNR	1.85	X							X	
5-85	412854004	Fetehpur(Baseruk)-	Nabinagar		VRA	3.45	X							X	
5-86	412854038	Bidyakut monipur-	Nabinagar		VRA	5.20	X							X	
5-87	412854040	Moheshpur- Bitghar-	Nabinagar		VRA	2.03	X							X	
5-88	412854043	Symogram post office-	Nabinagar		VRA	2.47	X							X	
5-89	412854047	Mahalla Launch ghat-	Nabinagar		VRA	3.44	X							X	
5-90	412854053	Bangura Bazar-Satmura	Nabinagar		VRA	5.74	X							X	
5-91	412855002	Durgarampur-Kishorpur	Nabinagar		VRB	5.58	X							X	

### Initial list of candidate subproject (hat, Kishoreganj)

**HAT SCREENING**

**DISTRICT: KISHOREGANJ**

Sl No.	Upazila name		Union name	Hat name	Type	Screening*		Selection	Haor project
						No.1	No.2		
1-1	1	Pakundia	Agarosindur	Bahahadia	RM	O	O	O	R5
1-2		"	Patuavanga	Caladia	RM	X		X	
1-3	2	Bajitpur	Sararchar	Sararchar market	GC	X		X	
1-4	3	Itna	Joysiddhi	Mudirgaon	RM	O	O	O	N9
1-5		"	Chawganga	Chandrap	RM	X		X	
1-6		"	Mriga	Janatagonj	RM	X		X	
1-7		"	Joysiddhi	Wora bazar	RM	X		X	
1-8		"	Badla	Thaneshwar	RM	X		X	
1-9	4	Sadar	Danapatuli	Kaliar Kanda Bazar	RM	O	O	O	N1
1-10	5	Nikli				-		-	
1-11	6	Austagram	Austagram Sadar	Austagram	GC	X		X	
1-12		"	Dewghar	Savianagar	GC	X		X	
1-13		"	Adampur	Adampur Lawra bazar	GC	X		X	
1-14		"	Khayerpur Abdullapur	Kadamchal bazar	RM	X		X	
1-15		"	Khayerpur Abdullapur	Bajuka bazar	RM	X		X	
1-16		"	Purba Austagram	Akhra bazar	RM	X		X	
1-17		"	Kalma	mohontala bazar	RM	X		X	
1-18		"	Kalma	Sapanto bazar	RM	X		X	
1-19	7	Hossainpur	Jinari	Hazipur Kacari bazar	RM	X		X	
1-20		"	Pundi	Pundi bazar	RM	O	O	O	R4
1-21		"	"	Adu master bazar	RM	O	O	O	R4
1-22		"	"	Nimeukhali bazar	RM	O	O	O	R4
1-23		"	Sidla	Pitalganj bazar	RM	X		X	
1-24		"	Aribaria	Jamail natun bazar	RM	X		X	
1-25		"	Shahedal	Shahedal Notun bazar	RM	X		X	
1-26	8	Katiadi	Katiadi Porashava	Katiadi Hat	GC	X		X	
1-27		"	Saharam Dhuldia	Dhuldia Hat	GC	O	O	O	N1
1-28		"	Mumurdia	Magura bazar	RM	X		X	
1-29		"	Banagram	Banagram Puran bazar	RM	X		X	
1-30	9	Mithamoin	Katkhal	Katkhal	GC	X		X	
1-31		"	Kewarjor	Telikhali	GC	X		X	
1-32		"	Gopdighi	Bogadia	RM	O	O	O	N2
1-33		"	Dhaki	gobindapur	RM	X		X	
1-34		"	Ghagra	Maliunda	RM	X		X	
1-35		"	Dhaki	Mahmudpur	RM	X		X	
1-36	10	Tarail	Digdair	Baiser Bazar	RM	X		X	
1-37	11	Bhairab	Gozaria	Gozaria bazar	GC	X		X	
1-38		"	Shimulkandi	Shimulkandi	GC	X		X	
1-39		"	Shimulkandi	Rajnagar	RM	X		X	
1-40	12	Karimganj	Niamatpur	Niamatpur	GC	X		X	
1-41		"	Joyka	Shadakhali	RM	O	O	O	N1
1-42		"	Baroghoria	Chatal	RM	X		X	
1-43		"	Gundhar	Sudhi	RM	X		X	
1-44	13	Kuliarchar		Nil	-	-	-	-	

### Initial list of candidate subproject (hat, Netrokona)

**HAT SCREENING**

**DISTRICT : NETROKONA**

SL No.	Upazila Name		Union Name	Hat Name	Type	Screening		Selection	Haor Project No.
						No.1	No.2		
2-1	1	Mohanganj				-		-	
2-2	2	Kalma Kanda				-		-	
2-3	3	Purbadhala	Jaria	Jaria Bazar	RM	O	X	X	
2-4		Purbadhala	Dhalamulgaon	Jamdhala Bazar	RM	X		X	
2-5		Purbadhala	Hogla	Patra Bazar	RM	O	O	O	R1
2-6		Purbadhala	Ghagra	Ghagra Bazar	RM	O	O	O	R1
2-7	4	Atpara				-		-	
2-8	5	Durgapur				-		-	
2-9	6	Madan				-		-	
2-10	7	Khaliajuri	CHAKUA	Lipsa Bazar	GC	O	X	X	
2-11		Khaliajuri	KHAILAJURI	khaliajuri Bazar	GC	O	X	X	
2-12		Khaliajuri	GAZIPUR	Panchhat Bazar	RM	O	X	X	
2-13		Khaliajuri	MENDIPUR	Satgoan Bazar	RM	O	O	O	R15
2-14	8	Barhatta	SINGDHA	Chandrapur GC	GC	O	X	X	
2-15	9	Netrokona Sadar				-		-	
2-16	10	Kendua	Bolaishimul	Amritola	RM	X		X	
2-17		Kendua	Mozafarpur	Dogda bazar	RM	O	O	O	N6
2-18		Kendua	Chirang			X		X	

## Initial list of candidate subproject (hat, Sunamganj)

## HAT SCREENING

## DISTRICT :SUNAMGANJ

SL No	Name of Upazila		Name of Union	Hat Name	Type	Screening		Selection	Haor Project No.
						No.1	No.2		
3-1	1	Chhatak				-		-	
3-2	2	Doarabazar	Norsingpur	Baliurabazar	RM	X		X	
3-3	2	Doarabazar	Dohalia	Dohaliabazar	RM	X		X	
3-4	2	Doarabazar	Surma	Mohobbotpurbazar	RM	X		X	
3-5	2	Doarabazar	Laxmipur	Liakotganjbazar	RM	X		X	
	3	Sulla	Bahara	Ghungiar gaon	GC	X		X	
	3	Sulla	Bahara	Protappur Bazar	RM	X		X	
	3	Sulla	Atgaon	Rahutola Bazar	RM	X		X	
	3	Sulla	Hobibpur	Darain Bazar	RM	X		X	
	3	Sulla	Sulla	Satpara Bazar	RM	X		X	
3-7	4	South Sunamganji				-		-	
3-8	5	Bishwamvarpur				-		-	
	6	Dharmapasha	Bongshikunda Uttar	Moheskholo	RM	X		X	
	6	Dharmapasha	Bongshikunda Uttar	Volagonj	RM	X		X	
	6	Dharmapasha	Joysree	Joysree	GC	X		X	
	6	Dharmapasha	Selborash	Badshagonj	RM	O	O	O	N4
	6	Dharmapasha	Bongshikunda Uttar	Bonshikunda	GC	X		X	
	6	Dharmapasha	Madhyanager	Moddhanaga	GC	X		X	
	6	Dharmapasha	Daskhin Sukhair	Golokpur	GC	X		X	
3-10	7	Jamal Ganji				-		-	
	8	Tahirpur	TAHIRPUR	Tahirpur	GC	X		X	
	8	Tahirpur	Sreepur(N)	Baliaghata	RM	X		X	
	8	Tahirpur	Sreepur(S)	Lamagaon	RM	X		X	
	8	Tahirpur	Badghat	Lawrergor Bazar	RM	X		X	
	8	Tahirpur	Sreepur(N)	Bagli Bazar	RM	X		X	
	8	Tahirpur	Sreepur (N)	SreepurBazar	RM	X		X	
	8	Tahirpur	Badaghat	Badaghat Bazar	RM	X		X	
	8	Tahirpur	DakhinBardal	Kowkandi Bazar	RM	X		X	
	8	Tahirpur	Sreepur (S)	Solemanpur Bazar	RM	X		X	
3-12	9	Derai	Kulanje	Boalia Bazar	GCM	X		X	
3-13	9	Derai	Jagdol	Hossainpur	RM	X		X	
3-14	9	Derai	Vatipara	Shahjalal Bazar	RM	X		X	
3-15	9	Derai	Charnarchar	Loularchar	RM	X		X	
3-16	9	Derai	Tarol	Dhol Bazar	RM	X		X	
3-17	9	Derai	Rafinagar	Noagaon Bazar	RM	X		X	
3-18	9	Derai	Jagdol	Jagdol Bazar	RM	X		X	
	10	Jagannathpur	Patli	Rasulgongj Market	GC	X		X	
	10	Jagannathpur	Chilaura	Chilaura Market	GC	X		X	
	10	Jagannathpur	Mirpur	Kewnbari Market	RM	X		X	
	10	Jagannathpur	Chilaura	Goprapur Market	RM	X		X	
	10	Jagannathpur	Ranigonj	Ranigonj Market	RM	X		X	
	10	Jagannathpur	Jagannathpur	Keshbpur Hat	RM	X		X	
	10	Jagannathpur	Patli	Lama Rasulgongj Hat	RM	X		X	
	10	Jagannathpur	Jagannathpur	Bhaberbazar Hat	RM	X		X	
3-20	11	Sunamganji Sadar	Mohanpur	Joynagar	GCM	O	O	O	N12
3-21		Sunamganji Sadar	Jahangir nagar	MongaiKata	GCM	X		X	
3-22		Sunamganji Sadar	Jahangir nagar	Narayan tala	RM	X		X	
3-23		Sunamganji Sadar	Ranger Char	Bongaon	RM	X		X	
3-24		Sunamganji Sadar	Surma	Balakanda	RM	X		X	
3-25		Sunamganji Sadar	Mollapara	Ichagari	RM	X		X	
3-26		Sunamganji Sadar	Mohanpur	Boishber	RM	X		X	
3-27	12	Dakhin Sunamganj.	Dorgapasa	Banglabazar GC	GC	X		X	
3-28		Dakhin Sunamganj.	Purba Birgaon.	Birgaon Bazar.	RM	X		X	

**Initial list of candidate subproject (hat, Habiganj)**

**HAT SCREENING**

**DISTRICT : HABIGANJ**

SL No.		Upazila Name	Union Name	Hat Name	Type	Screening		Selection	Hapr Project No.
						No.1	No.2		
4-1	1	HABIGANJ-S	LUKRA	Bakitak Bazar	RM	X		X	
4-2		HABIGANJ-S	Richi	Chalk Bazar	RM	X		X	
4-3		HABIGANJ-S	Poil	Poil Natun Bazar	RM	O	O	O	R13
4-4		HABIGANJ-S	Tegharia	Haorer Tek Gudara Bazar	RM	X		X	
4-5	2	Bahubal	Putijuri up	Digoambar	RM	O	O	O	R13
4-6		Bahubal	Vadeshor	Roshid pur	RM	X		X	
4-7		Bahubal	Satkapon up	Shoaia Bazer	RM	O	O	O	R13
4-8	3	Lakhai				-		-	
4-9	4	Nabiganj				-		-	
4-10	5	AZMIRIGANJ	Badolpur	Paharpur	GC	O	O	O	R8
4-11		AZMIRIGANJ	Kakailsew	Nischintopur	RM	O	O	O	R9
4-12	6	Chunarughat	Ahmadabad	Amorote	GC	X		X	
4-13		Chunarughat	Ahmadabad	Razar Bazar	RM	X		X	
4-14		Chunarughat	Shankhola	Shankhola	RM	X		X	
4-15		Chunarughat	Shatiajury	Sundapur	RM	X		X	
4-16		Chunarughat	Gazipur	Jrulia	RM	X		X	
4-17	7	Baniachong	Pukra	Aowar Mohal Bazar	RM	O	O	O	R13
4-18		Baniachong	Pukra	Aliganj Bazar	RM	X		X	
4-19		Baniachong	Sujatpur	Sujatpur Bazar	GC	O	O	O	R10
4-20		Baniachong	Muradpur	Muradpur Bazar	RM	O	O	O	R9
4-21	8	Madhabpur				-		-	

## Initial list of candidate subproject (hat, Brahmanbaria) (1/2)

## HAT SCREENING

1/2

District : BRAHMANBARIA

SL	Upazila Name		Union Name	Hat Name	Type	Screening		Selection	Haor Project No.
						No.1	No.2		
5-1	1	Kasba	Mulagram	Moydagonj bazar	GC	X		X	
5-2	1	Kasba	Kaimpur	Mondhabag bazar	RM	X		X	
5-3	2	Ashuganj	Sadar	Chakbazar market	GC	X		X	
5-4	2	Ashuganj	Durgapur	Bahadurpur Bazar	RM	X		X	
5-5	2	Ashuganj	Araisidha	Bazar Chartala	RM	X		X	
5-6	2	Ashuganj	Tarua	Tarua bazar	RM	X		X	
5-7	2	Ashuganj	Sharifpur	Kholapara bazar	RM	X		X	
5-8	2	Ashuganj	Talshahar	Moishair bazar	RM	X		X	
5-9	3	Sarail	Panishwar	Bertala Bazar	RM	X		X	
5-10	3	Sarail	Panishwar	T- Ghar Chak Bazar	RM	X		X	
5-11	3	Sarail	Panishwar	Bitghar Bazar	RM	X		X	
5-12	3	Sarail	Panishwar	Panishwar Bazar	RM	X		X	
5-13	3	Sarail	Shahajadapur	Dewra Bazar	RM	X		X	
5-14	3	Sarail	Shahajadapur	Molaish Bazar	RM	X		X	
5-15	3	Sarail	Shahajadapur	Shahajadapur Bazar	GC	X		X	
5-16	3	Sarail	Aruail	Rajapur Chak Notun Bazar	RM	X		X	
5-17	3	Sarail	Aruail	Rajapur Chak Puraton Bazar	RM	X		X	
5-18	3	Sarail	Aruail	Aruail Bazar	GC	X		X	
5-19	3	Sarail	Aruail	Dubajail Bazar	RM	X		X	
5-20	3	Sarail	Chunta	Ajabpur Bazar	RM	X		X	
5-21	3	Sarail	Chunta	Chunta Bazar	RM	X		X	
5-22	3	Sarail	Chunta	Rashulpur bazar	RM	X		X	
5-23	3	Sarail	Noagaon	Bariura Bazar	RM	X		X	
5-24	3	Sarail	Noagaon	Akhitara Bazar	RM	X		X	
5-25	3	Sarail	Noagaon	Katanisher Bazar	RM	X		X	
5-26	3	Sarail	Noagaon	Budda Bazar	RM	X		X	
5-27	3	Sarail	Pakshimul	Joydarkandi Sonamura ghat	RM	X		X	
5-28	3	Sarail	Pakshimul	Pakshimul Bazar	RM	X		X	
5-29	3	Sarail	Pakshimul	Bhuishar Bazar	RM	X		X	
5-30	3	Sarail	Kalikaccha	Kalikacha Bazar	RM	X		X	
5-31	3	Sarail	Sarail	Sarail Morning Bazar	RM	X		X	
5-32	3	Sarail	Sarail	Sarail Bazar	GC	X		X	
5-33	3	Sarail	Sarail	Sarail Cattle Market	RM	X		X	
5-34	3	Sarail	Shahabajpur	Shahabajpur Bazar	RM	X		X	
5-35	3	Sarail	Shahabajpur	Moulovi Bazar	RM	X		X	
5-36	3	Sarail	Shahabajpur	Modhu Bazar	RM	X		X	
5-37	4	Bancharampur	Shahabajpur	Shibpur	-	-		-	
5-38	4	Bancharampur	Shahabajpur	Baherchar bazar	-	-		-	
5-39	4	Bancharampur	Shahabajpur	Ulukandi (Manikpur) bazar	-	-		-	
5-40	4	Bancharampur	Shahabajpur	Mowlagonj bazar	-	-		-	
5-41	4	Bancharampur	Shahabajpur	Sonarampur bazar	-	-		-	
5-42	5	Brahmanbaria Sadar	Majlishpur	Bakail bazar	RM	X		X	
5-43	5	Brahmanbaria Sadar	Basudeb	Ghatara bazar	RM	X		X	
5-44	5	Brahmanbaria Sadar	Machhihata	Chandpur bazar	RM	X		X	
5-45	5	Brahmanbaria Sadar	Machhihata	Chinair bazar	RM	X		X	
5-46	5	Brahmanbaria Sadar	Machhihata	Radhika bazar	RM	X		X	
5-47	5	Brahmanbaria Sadar	Bodhal	Bodhal bazar	RM	X		X	
5-48	6	Nasirnagar	Nasirnagar	Kulikunda Bazar	RM	X		X	
5-49	6	Nasirnagar	Nasirnagar	Nasirnagar Bazar	GC	X		X	
5-50	6	Nasirnagar	Fundaik	Fundaik Bazar	GC	X		X	
5-51	6	Nasirnagar	Gokarna	Chaurkuri Bazar	GC	X		X	
5-52	6	Nasirnagar	Guniak	Gutna Bazar	RM	X		X	
5-53	6	Nasirnagar	Purbabagh	Purbabagh Bazar	RM	X		X	
5-54	6	Nasirnagar	Dharmondal	Dharmondal Bazar	RM	X		X	
5-55	6	Nasirnagar	Chatalpar	Chatalpar Bazar	GC	X		X	
5-56	6	Nasirnagar	Guniak	Chitna Bazar	RM	X		X	
5-57	7	Akhaura	Mogra	Mogra(GC)	GC	X		X	
5-58	8	Nabinagar	Biddakut	Merkuta GC	-	-		-	
5-59	8	Nabinagar	Salimgong	Salimgong	-	-		-	
5-60	8	Nabinagar	Ratanpur	Ratanpur	-	-		-	
5-61	8	Nabinagar	Borikaadi	Sreeghar GC	-	-		-	
5-62	8	Nabinagar	Birgaon	Baismouza	-	-		-	
5-63	8	Nabinagar	Ratanpur	Shahapur GC	-	-		-	
5-64	8	Nabinagar	Samogram	Maniknagar	-	-		-	
5-65	8	Nabinagar	Bitghar	Bitghar GC	-	-		-	
5-66	8	Nabinagar	Shibpur	Shibpur	-	-		-	

### Initial list of candidate subproject (hat, Brahmanbaria) (2/2)

HAT SCREENING

2/2

District : BRAHMANBARIA

SL	Upazila Name	Union Name	Hat Name	Type	Screening		Selection	Haor Project No.
					No.1	No.2		
5-67	8	Nabinagar	Natghar	Kurighar			-	
5-68	9	Bijoyanagar	Chandura UP	Amtoli bazar	RM	X	X	
5-69	9	Bijoyanagar	Chandura UP	Rampur bazar	RM	X	X	
5-70	9	Bijoyanagar	Singerbeel UP	Merashanibazar	RM	X	X	
5-71	9	Bijoyanagar	Singerbeel UP	Sreepur bazar	RM	X	X	
5-72	9	Bijoyanagar	Potton UP	Noagaonbazar	RM	X	X	
5-73	9	Bijoyanagar	Potton UP	Lakximurabazar	RM	X	X	
5-74	9	Bijoyanagar	Ichapura UP	Ariol bazar	RM	X	X	
5-75	9	Bijoyanagar	Ichapura UP	Mirjapur bazar	RM	X	X	
5-76	9	Bijoyanagar	Ichaptra UP	Kalirbazar	RM	X	X	
5-77	9	Bijoyanagar	Campagnagar UP	Millon bazar	RM	X	X	
5-78	9	Bijoyanagar	Paharpur UP	Paharpur bazar	RM	X	X	
5-79	9	Bijoyanagar	Paharpur UP	Kadomtoli bazar	RM	X	X	
5-80	9	Bijoyanagar	Paharpur UP	Mukandapur bazar	RM	X	X	
5-81	9	Bijoyanagar	Paharpur UP	Gezir bazar	RM	X	X	
5-82	9	Bijoyanagar	Bishnoper UP	Bishnoper Chakbazar	RM	X	X	
5-83	9	Bijoyanagar	Bishnoper UP	Runway bazar	RM	X	X	
5-84	9	Bijoyanagar	Bishnoper UP	Kalachora bazar	RM	X	X	
5-85	9	Bijoyanagar	Bishnoper UP	Chotopur bazar	RM	X	X	
5-86	9	Bijoyanagar	Bishnoper UP	Bishnoper bazar	RM	X	X	
5-87	9	Bijoyanagar	Bhudhanti UP	Islampur bazar	RM	X	X	
5-88	9	Bijoyanagar	Bhndhanti UP	Satborga bazar	RM	X	X	
5-89	9	Bijoyanagar	Horospur UP	Paikpara bazar	RM	X	X	
5-90	9	Bijoyanagar	Horospur UP	Bulla bazar	RM	X	X	
5-91	9	Bijoyanagar	Horospur UP	Dewan bazar	RM	X	X	

### Initial list of candidate subproject (ghat, Kishoreganj)

GHAT SCREENING

DISTRICT: KISHOREGANJ

Sl No.	Upazila name	Union name	Village/Market	Ghat name	Name of river/Canal	Screening		Selection	Haor project No.
						No.1	No.2		
1-1	1	Pakundia						-	
1-2	2	Bajitpur	Dighirpar	Purbapatuly	Dighirpar	X		X	
1-3	3	Itna	Badla	Bashikura	Bashikura bazar	Dhanu	O	O	N7
1-4			Joysiddhi	Joysiddhi	Joysiddhi bazar	Bautai	O	O	R9
1-5			Itna	Itna purba gram	Itna purba gram	Dono	X	X	
1-6			Itna	Itna Naton bazar	Itna Naton bazar	Dono	X	X	
1-7			Badla	Borach kura bazar	Borach kura bazar	Mogra	X	X	
1-8			Raji	Raituti	Raji bazar	Mogra	X	X	
1-9	4	Sadar	Danapatuli	Kaliarkanda	Kaliarkanda Bazar Ghat	Singhua	O	O	N1
1-10			Majkaphen	Sunamganj	Kalaitati Ghat	Dhalwasary	X	X	
1-11	5	Nikli						-	
1-12	6	Austagram	Adampur	Adampur	Adampur GC	Dhalesshari river	X	X	
1-13			Bangalpara	Bangalpara	Bangalpara Bazar	Dhalesshari river	X	X	
1-14			Dewghar	Savianagar	Savianagar GC	Dhalesshari river	X	X	
1-15			Austagram	Austagram	Austagram GC	Dhalesshari river	X	X	
1-16			Khayerpur	Abdullapur Bazar	Abdullapur Bazar	Kalni river	X	X	
1-17	7	Hossainpur	Shahedal	Village	Ashutia Notun bazar Ghat	Noroshonda River	X	X	
1-18			Pumdi	Village	Char Pumdi bazar Ghat	Noroshonda River	O	O	R4
1-19				Village	Rampur bazar Ghat	Noroshonda River	O	O	R4
1-20	8	Katiadi						-	
1-21	9	Mithamoin	Gopdighi	Bogdia	Bogdia	Ghora Vanga	O	O	O
1-22			Mithamoin	Mithamoin	Thanaghat	Ghorautra	X	X	
1-23			Kewarjor	Kazirkhola	Kazirkhola	Meghna	X	X	
1-24			Katkhal	Char Katkhal	Char Katkhal	Meghna	O	O	R9
1-25			Dhaki	Gobindapur	Gobindapur	Bowlai	X	X	
1-26			Ghagra	Maliunda	Maliunda	Haturia	X	X	
1-27			Gopdighi	Olua	Olua	Ghorautra	O	O	N2
1-28	10	Tarail						-	
1-29	11	Bhairab	Aganagar	Iundia	Lundia Ghat	Shitalpati	X	X	
1-30			Sadekpur	Sadekpur	Kacharighat	Kalinadi	O	O	R7
1-31	12	Karinganj	Bagoghoria	Jahirabad	Jahirabad Ghat	Noroshonda River	X	X	
1-32			Joyka	Panahar bazar	Panahar bazar Ghat	Noroshonda River	O	O	N1
1-33			Gundhar	shudi bazar	shudi bazar Ghat	Noroshonda River	O	O	N1
1-34			Guzadia	Guzadia bazar	Guzadia bazar Ghat	Noroshonda River	X	X	
1-35			Sutarpara	Chamta Bondor	Chamta Bondor Ghat	Nagsinni River	X	X	
1-36			Niamatpur	dholairkanda	Kolimar Ghat	Noroshonda River	X	X	
1-37	13	Kuliachar						-	

## Initial list of candidate subproject (ghat,Netrokona)

## GHAT SCREENING

DISTRICT : NETROKONA

Sl. No.		Upalaza Name	Uion Name	Village/Market	Ghat Name	Screening*		Selection	Haor Project No.
						No.1	No.2		
2-1	1	Mohanganj				-		-	
2-2	2	Kalma Kanda				-		-	
2-3	3	Purbadhala	Jaria	Jaria Bazar	Jaria Ghat	O	X	X	
2-4		Purbadhala	Hogla	Patra Bazar	Patra Ghat	O	O	O	R1
2-5		Purbadhala	Ghagra	Ghagra Bazar	Ghagra Ghat	O	O	O	R1
2-6		Purbadhala	Hogla	Moheshpotti Village	Moheshpotti Ghat	O	O	O	R1
2-7	4	Atpara				-		-	
2-8	5	Durgapur				-		-	
2-9	6	Madan				-		-	
2-10	7	Khaliajuri	KHALIAJURI	Market	Khaliajuri Ghat	O	X	X	
2-11		Khaliajuri	CHAKUA	Market	Lipsa Ghat	O	X	X	
2-12		Khaliajuri	GAZIPUR	Market	Panchhat Ghat	X		X	
2-13	8	BARHATTA	Sahata	Sahata village	Sahata Ghat	X		X	
2-14		BARHATTA	Roypur	Fakiret Bazar GC	Fakiret Bazar Ghat	X		X	
2-15	9	Netrokona Sadar				-		-	
2-16	10	Kendua	Bolaishimul	-	-	X		X	
2-17		Kendua	Mozafarpur	-	-	X		X	
2-18		Kendua	Chirang	-	-	X		X	



Initial list of candidate subproject (ghat, Sunamganj)

**GHAT SCREENING  
DISTRICT :SUNAMGANJ**

SL No	Name of Upazila		Union Name	Village/Market	Ghat Name	Screening		Selection	Haor Project No.
						No.1	No.2		
3-1	1	Chhatak				-	-	-	
3-2	2	Doarabazar	Doarabazar	Market	Doarabazar Gc	X		X	
3-3	2	Doarabazar	Dohalia	Market	Dohaliabazar	X		X	
3-4	2	Doarabazar	Mannargaon	Market	Ambaribazar	X		X	
3-5	3	Shalla				-		-	
3-6	3	Sulla	Hobibpur	B Market	Anandapur Ghat	X		X	
3-7	3	Sulla	Atgoan	B Market	Nizgoan Bazar Ghat	X		X	
3-8	3	Sulla	Bahara	B Market	Ghungiargaon Ghat	X		X	
3-9	3	Sulla	Atgoan	B Market	Rahutola Bazar Ghat	O	O	O	R14
3-10	3	Sulla	Sulla	B Market	Satpara Bazar Ghat	X		X	
3-11	4	South Sunamganji				-		-	
3-12	5	BISWAMVERPUR	Solukabad	Jinerpur bazar	Jinerpur	X		X	
3-13	5	BISWAMVERPUR	Dhanpur	Chaterkona	Brammonpura	X		X	
3-14	5	BISWAMVERPUR	Polash	Muktikhola	Muktikhola	X		X	
3-15	6	Dharnapasha	Bongshikunda Uttar	Market	Moheshkhola	X			
3-16	6	Dharnapasha	Madhyanagar	Market	Madhyanagar	X		X	
3-17	6	Dharnapasha	Sukhair Rajapur Daskhin	Market	Rajapur	X			
3-18	6	Dharnapasha	Bongshikunda Daskhin	Market	Chapaiti	X			
3-19	6	Dharnapasha	Dharnapasha	Market	Mohedipur	X		X	
3-20	6	Dharnapasha	Sukhair Rajapur Daskhin	Market	Doulotpur	X			
3-21	7	Jamalganj	Sachna Bazar	Sachna Bazar	Sachna Gc	X		X	
3-22	7	Jamalganj	Bimkhali	Noagoan	Noagoan Bazar	X			
3-23	7	Jamalganj	Fenarbak	Gozaria	Gozaria Bazar	X			
3-24	7	Jamalganj	Fenarbak	Allipur	Allipur Bazar	X			
3-25	7	Jamalganj	Beheli	Pondp	Pondp Bazar	X			
3-26	7	Jamalganj	Jamalganj Sadar	Shongbadpur	Shongbadpur	X			
3-27	8	Tahirpur	Tahirpur	Maket	Tahirpur bazar	X			
3-28	8	Tahirpur	Dakhin Bardal	Market	Kawkandi Bazar	X			
3-29	8	Tahirpur	Baligui	Maket	Balijuri	X			
3-30	8	Tahirpur	Sreepur (N)	Maket	Kalagaon Bazar	X			
3-31	8	Tahirpur	Badaghat	Maket	Shohala	X			
3-32	8	Tahirpur	Badaghat	Maket	Pathanpara	X			
3-33	8	Tahirpur	Sreepur (S)	Maket	Lanagaon Bazar	X			
3-34	8	Tahirpur	Sreepur (S)	Maket	Solemanpur	X			
3-35	8	Tahirpur	Tahirpur	Village	Shonir Houre	X			
3-36	8	Tahirpur	Bdaghat	Village	Binnakhli	X			
3-37	9	Derai	Kulanje	Boalia Bazar	Boalia	O	O	O	R8
3-38	9	Derai	Kulanje	Akilsha Bazar	Akilsha	X		X	
3-39	9	Derai	Rafinagar	Bangla Bazar	Bangla Bazar	X		X	
3-40	9	Derai	Jagdol	Hossainpur	Hossainpur	X		X	
3-41	9	Derai	Jagdol	Nogdipur	Nogdipur	X		X	
3-42	10	Jagannathpur				-		-	
3-43	10	Jagannathpur	Jagannathpur	Jagannathpur	Jagannathpur Bazar	X		X	
3-44	10	Jagannathpur	Ranigonj	Ranigonj Market	Ranigonj Ghat	X		X	
3-45	10	Jagannathpur	Bhaverbazar	Market	Bhaber bazar Ghat	X		X	
3-46	11	SUNAMGANJ-	Mohanpur	Joynagar Market	Joynagar Ghat	O	O	O	N12
3-47	11	SUNAMGANJ-	Lakshmanshree	Madanpur	Ahsanmara	X		X	
3-48	11	SUNAMGANJ-	Mohanpur	Boisber	Boisber Bazar	X		X	
3-49	11	SUNAMGANJ-	Mohanpur	Mohanpur	Mohanpur Troller	X		X	
3-50	11	SUNAMGANJ-	Mohanpur	Morarbond	Mohanpur Troller	X		X	
3-51	11	SUNAMGANJ-	Mohanpur	Poinda	Poinda Troller	X		X	
3-52	11	SUNAMGANJ-	Goararang	Berajali Bazar	Islamgonj Troller	X		X	
3-53	12	Dakhin Sunamganj	Paschim Pagla	Market	Paglabazar GC	X		X	
3-54	12	Dakhin Sunamganj	Dorgapasa	Market	Banglabazar GC	X		X	
3-55	12	Dakhin Sunamganj	Patharia	Market	Pathariabazar GC	O	O	O	N12
3-56	12	Dakhin Sunamganj	Patharia	Market	Birgaonbazar	O	O	O	N12

## Initial list of candidate subproject (ghat, Habiganj)

GHAT SCREENING  
DISTRICT : HABIGANJ

Sl. No.	Upalaza Name	Union Name	Village/Market	Ghat Name	Screening		Selection	Hap Project No.	
					No.1				
1	2	3	4	5	-		-		
4-1	1	HABIGANJ-S	LUKRA	Bainkitak Bazar	Bainkitak Bazar Ghat	X		X	
4-2		HABIGANJ-S	POIL	Purbo Poil Bazar	Purbo Poil Bazar Ghat	O	O	O	R13
4-3		HABIGANJ-S	POIL	Poil Natun Bazar	Poil Natun Bazar Ghat	O	O	O	R13
4-4	2	Bahubal				-		-	
4-5	3	Lakhai				-		-	
4-6	4	Nabiganj				-		-	
4-7	5	AZMIRIGANJ				-		-	
4-8	6	Chunarughat				-		-	
4-9	7	Baniachonj	Subidpur	Ratna	Ratna Bazar	X		X	
4-10		Baniachonj	N/E Baniachong	Adrsha Bazar	Adrsha Bazar	X		X	
4-11		Baniachonj	Sujatpur	Sujatpur	Sujath pur Bazar	O	O	O	R10
4-12		Baniachonj	Pailarkandi	Kumri	Kumri Bazar	X		X	
4-13	8	Madhabpur				-		-	

**Initial list of candidate subproject (ghat,Brahmanbaria)**

**GHAT SCREENING**

**DISTRICT : BRAHMANBARIA**

Sl. No.		Upaliza Name	Union Name	Ghat Name	Screening		Selection	Haor Project No.
					No.1	No.2		
5-1	1	Kasba			-		-	
5-2	2	Ashuganj	Durgapur	Mohammadpur latifkhali Paschim par meghna river	X		X	
5-3	2	Ashuganj	Durgapur	Bahadurpur meghna river ghat	X		X	
5-4	2	Ashuganj	Durgapur	Khariala Ballchara ghat	X		X	
5-5	2	Ashuganj	Lalpur	Lalpur bazar ghat	X		X	
5-6	2	Ashuganj	Sharifpur	Pagla river Ghat	X		X	
5-7	2	Ashuganj	Charchartaia	Ashuganj Vairab majhir ghat	X		X	
5-8	3	Sarail	Pakshimul	Joydhorkandi Purbopara Ghat	X		X	
5-9	3	Sarail	Pakshimul	Joydhorkandi Kazi Mosque Ghat	X		X	
5-10	3	Sarail	Pakshimul	Joydhorkandi Nazir mia Ghat	X		X	
5-11	3	Sarail	Pakshimul	Joydhorkandi Hospital Ghat	X		X	
5-12	3	Sarail	Pakshimul	Joydhorkandi Karimpur Mosque Ghat	X		X	
5-13	3	Sarail	Pakshimul	Joydhorkandi Karimpur Moulavi Mosque Ghat	X		X	
5-14	3	Sarail	Pakshimul	Joydhorkandi Madurpara road Ghat	X		X	
5-15	3	Sarail	Pakshimul	Bhuishar Bazar Ghat	X		X	
5-16	3	Sarail	Panishwar	Panishwar Bazar Ghat	X		X	
5-17	3	Sarail	Panishwar	Solabari in front of Godibari	X		X	
5-18	3	Sarail	Panishwar	Bitghar Bazar Ghat	X		X	
5-19	3	Sarail	Panishwar	Panishwar Notun Bazar Ghat	X		X	
5-20	3	Sarail	Panishwar	Kumarpara West side	X		X	
5-21	3	Sarail	Panishwar	Bitghar Nouka Ghat	X		X	
5-22	3	Sarail	Aruail	Aruail Bazar Ghat	X		X	
5-23	3	Sarail	Aruail	Dr. Mozid House	X		X	
5-24	3	Sarail	Aruail	Dubajail Aziz House	X		X	
5-25	3	Sarail	Aruail	Kakoria	X		X	
5-26	3	Sarail	Aruail	Ranidia GPS	X		X	
5-27	3	Sarail	Aruail	Rajapur RINGPS	X		X	
5-28	3	Sarail	Noagaon	Budda Ghat	X		X	
5-29	3	Sarail	Chunta	Azabpur Bazar Ghat	X		X	
5-30	3	Sarail	Kalikacha	Dharunti Ghat	X		X	
5-31	3	Sarail	Shahajadapur	Shahajadapur Chak Bazar North Ghat	X		X	
5-32	3	Sarail	Shahajadapur	Shahajadapur Kadir mia Ghat	X		X	
5-33	3	Sarail	Shahajadapur	Molaish South GPS Ghat	X		X	
5-34	3	Sarail	Shahajadapur	Dewra Hafiz Ghat	X		X	
5-35	3	Sarail	Shahajadapur	Boishamura South of N.H.W Ghat	X		X	
5-36	3	Sarail	Shahajadapur	Rajabaria Kandi Ghat	X		X	
5-37	3	Sarail	Shahajadapur	Boishamura Ghat	X		X	
5-38	4	Bancharampur			-		-	
5-39	5	Brahmanbaria Sadar			-		-	
5-40	6	NASIRNAGAR	Hariapur	Harinber Bazar Ghat	X		X	
5-41	6	NASIRNAGAR	Nasirgar	Nasirgar Dakbangla Ghat	X		X	
5-42	7	Akhaura			-		-	
5-43	8	Nabinagar	Nabinagar East	Monubabu	X		X	
5-44	8	Nabinagar	Krishnanagar	Montala	X		X	
5-45	8	Nabinagar	Krishnanagar	Durgarampur	X		X	
5-46	8	Nabinagar	Salingong	Lunch ghat	X		X	
5-47	8	Nabinagar	Bitghar	Mohespur	X		X	
5-48	8	Nabinagar	Birgaon	Baismouza	X		X	
5-49	8	Nabinagar	Nabinagar East	Moholla	X		X	
5-50	8	Nabinagar	Borikandi	Lunch ghat	X		X	
5-51	8	Nabinagar	Samogram	Lunch ghat	X		X	
5-52	8	Nabinagar	Shibpur	Kanikara	X		X	
5-53	9	Bijoy nagar	Potton	Laximurabazar Bazar Ghat	X		X	
5-54	9	Bijoy nagar	Potton	Shimna Ghat	X		X	
5-55	9	Bijoy nagar	Champaknagar	Nurpurhat Ghat	X		X	
5-56	9	Bijoy nagar	Charislampur	Muhammadpur Ghat	X		X	
5-57	9	Bijoy nagar	Singerbeel	Singerbeelbazar Ghat	X		X	
5-58	9	Bijoy nagar	Ichapura UP	Kalirbazar Ghat	X		X	
5-59	9	Bijoy nagar	Chandura UP	Chandurahazar ghat	X		X	
5-60	9	Bijoy nagar	Budhati UP	Saiborgabazar ghat	X		X	

## Final list of candidate subproject (rural road) (1/3)

## RURAL ROAD RANKING

Ranking	No	District	Upazila	Road Code	Road Name	Existing										Plan			
						Beneficiary	Crest Width (m)	Surface Type (km)				Length (km)			Road Class	Bridg (m)	Culvert (m)	Haor Project No	
								Earthen	Flexible	Gric	Rigid	Submergible	Non-submergible	Total					
1	4-103	Habiganj	Baniachang	636113013	Subidpur Up office-Aowar Mohal Bazar Via. Kabirpur, Niamal	350,000	2.30	8.20	0.00	0.00	0.00	0.00	7.40	7.40	VRB	30	20	R13	
2	4-7	Habiganj	Sadar	636444065	Bohula 2no word Pirbari - Paschim Haor Road	120,000	2.00	3.00	0.00	0.00	0.00	0.00	3.00	3.00	VRB	0	10	R13	
3	1-44	Kishoreganj	Karimganj	348422008	Niamalpur-Gandhar GC Road via Fazilkhali Bazar	50,000	7.32	10.60	2.30	0.00	0.00	0.00	12.90	12.90	VRB	0	0	N6	
4	2-4	Netrokona	Purbadhala	372833012	Ghagra UP (Kaposhia)-Jaria Bazar road via Katwari	50,000	3.20	6.00	0.00	0.00	0.00	0.00	6.00	6.00	VRB	0	0	R1	
5	3-123	Sunamganj	SUNAMG	690892009	R&H (Rabarbari)-Bashber-Joynagar GC	50,000	3.00	6.20	0.00	0.00	2.10	8.30	0.00	8.30	VRB	0	30	N12	
6	4-100	Habiganj	Baniachang	636112007	Kadir Gonj Ge-Paharpur Ge Via Karcha	50,000	3.00	6.50	0.00	0.00	0.00	0.00	5.00	5.00	VRB	50	20	R8	
7	4-105	Habiganj	Baniachang	636113017	Bitliangal Ge-Hobigonj - Sujahpur Road Via Mondun Up	50,000	2.11	11.00	0.00	0.00	0.00	1.50	1.50	3.00	VRB	100	30	R10	
8	4-55	Habiganj	Azamriganj	636024002	Pirojpur Lanchghat-Jalsuka bazar Rd.	46,200	3.00	2.40	0.00	0.00	0.00	2.00	0.00	2.00	VRB	0	10	R8	
9	2-19	Netrokona	Khalajuri	372384012	Hayatpur-Champur via Khushapur	45,000	3.00	5.00	2.88	0.00	0.00	0.00	5.00	5.00	VRB	0	0	R15	
10	3-158	Sunamganj	dhin Sunamg	690932011	Santiganj bazar (UZ HQ)-Rajamganj bazar( Patharia GC) via D	45,000	5.50	8.57	3.71	2.50	0.35	15.13	0.00	15.13	VRB	190	50	N12	
11	1-21	Kishoreganj	Fakandia	348022002	Austagram-Mithamon Road	40,200	5.50	9.84	0.00	0.00	0.36	10.20	0.00	10.20	VRB	0	0	N6	
12	1-3	Kishoreganj	Fakandia	348793006	Hossendi UP-Asbaha old bazar Rd via Mengalbaria and Thutara	40,000	3.60	8.53	3.10	0.30	0.00	0.00	11.94	11.94	VRB	0	0	R5	
13	1-4	Kishoreganj	Pakandia	348793007	Pakandia UP-Mosam hat via Salaadi	40,000	2.90	9.02	0.05	0.00	0.00	0.00	9.97	9.97	VRB	0	0	R5	
14	1-9	Kishoreganj	Itna	348332004	Itna-Kakalichew Road	40,000	4.48	9.07	0.00	0.00	4.50	13.37	0.00	13.37	VRB	0	0	N9	
15	1-15	Kishoreganj	Sadar	348494052	Baratoga-Thadapara Bazar Road	40,000	3.00	4.66	0.00	0.00	0.00	2.33	2.33	4.66	VRB	0	0	R4	
16	1-18	Kishoreganj	Nikli	348764005	Jaratatala UP office-Chera Road	40,000	2.44	2.00	0.00	0.00	0.00	0.00	2.00	2.00	VRB	0	0	N1	
17	1-29	Kishoreganj	Hossainpur	348274038	Gangahata bazar-Janata bazar via Abdul Amez H/S road	40,000	3.00	2.95	1.92	0.00	0.00	0.00	4.87	4.87	VRB	0	0	R4	
18	1-35	Kishoreganj	Mithamon	348593001	Mithamon Noya hat-Dhaki UP Office Rd.	40,000	3.60	9.12	0.00	0.00	0.48	9.59	0.00	9.59	VRB	0	4	N2	
19	1-26	Kishoreganj	Hossainpur	348273007	Char Pundi bazar-Pundi UP HQ Road	38,000	4.00	2.82	1.63	0.00	0.00	0.00	4.45	4.45	VRB	0	0	R4	
20	4-54	Habiganj	Azamriganj	636025034	Anandopur Ghat - Anandopur Village	36,000	2.50	1.80	0.00	0.00	1.00	1.80	0.00	1.80	VRB	60	10	R9	
21	1-22	Kishoreganj	Austagram	348023004	Austagram-Badha ghat-Kalma UP office road	35,000	3.66	9.33	0.00	0.00	0.00	9.33	0.00	9.33	VRB	0	0	N6	
22	1-28	Kishoreganj	Hossainpur	348273010	Gobindapur UP H/Q-Janata bazar Road	35,000	4.80	1.88	2.12	0.00	0.00	0.00	4.00	4.00	VRB	0	0	R4	
23	1-48	Kishoreganj	Kularchar	348543005	Dumrakanda Bazar-Ramdi UP Office Rd.	35,000	4.88	4.38	1.00	0.00	0.00	0.00	5.38	5.38	VRB	0	0	R9	
24	3-126	Sunamganj	SUNAMG	690893001	R&H road Janigan-Joynagar Bazar Road	35,000	2.50	4.12	1.00	0.58	2.00	3.85	3.85	7.70	VRB	0	10	N12	
25	4-47	Habiganj	Azamriganj	636022003	Azamriganj - Paharpur road	35,000	7.32	16.06	0.00	0.00	0.00	0.00	14.06	14.06	VRB	0	0	R8	
26	1-23	Kishoreganj	Austagram	348023005	Austagram-Mohasentilla-Gagra UP office Rd	34,000	2.68	7.80	0.00	0.00	3.57	11.37	0.00	11.37	VRB	0	0	N6	
27	4-49	Habiganj	Azamriganj	636022005	Paharpur - Baniachong Via Jhustuk.	31,200	2.50	9.02	0.00	0.00	0.00	7.02	0.00	7.02	VRB	0	70	R13	
28	1-5	Kishoreganj	Bajirpur	348063001	Ujanchar bazar-Halimpur UP Rd	30,000	2.75	2.86	4.20	0.00	0.00	0.00	7.06	7.06	VRB	0	0	N8	
29	1-8	Kishoreganj	Itna	348335041	Mowra-Chandrapur hat Rd.	30,000	3.66	1.95	0.00	0.00	1.05	3.00	0.00	3.00	VRB	0	0	N7	
30	1-34	Kishoreganj	Mithamon	348592002	Mithamon Sadar-Karimganj Boardar Baikhola Road	30,000	5.00	6.51	0.00	1.22	2.27	10.00	0.00	10.00	VRB	0	0	N2	
31	1-36	Kishoreganj	Mithamon	348594001	Singua Ferry ghat-Bagadia Bazar Rd	30,000	3.30	3.00	0.00	0.00	0.00	3.00	0.00	3.00	VRB	0	0	N2	
32	1-37	Kishoreganj	Tarail	348923004	Phani H Q-Dhamaha Bazar	30,000	3.00	3.54	0.00	0.00	0.00	0.00	3.54	3.54	VRB	0	0	N7	
33	3-89	Sunamganj	Derai	690292004	Derai Bazar-Dhol-Marculi Road	30,000	3.70	1.84	0.00	0.00	19.41	0.92	0.92	1.84	VRB	0	10	R8	
34	4-8	Habiganj	Bahubal	636053004	Satkapan UP Office (Chalitatala)-Bakterpur via Shoasia bazar	30,000	4.00	4.50	8.17	0.00	0.00	0.00	4.50	4.50	VRB	0	0	R13	
35	4-109	Habiganj	Baniachang	636114049	Phakra Lip office -Kandipura village Riad Via Darowa, Sathgram	30,000	2.50	3.13	0.00	0.00	0.00	0.00	3.13	3.13	VRB	0	10	R13	
36	1-10	Kishoreganj	Itna	348333007	Bodia UP-Banshikura Hat Road	25,000	3.60	3.00	0.00	0.00	0.00	3.00	0.00	3.00	VRB	0	0	N7	
37	1-39	Kishoreganj	Tarail	348923010	Javer UP-Dhamaha UP via Echapanchar	25,000	3.10	3.31	0.00	0.00	0.00	3.31	0.00	3.31	VRB	0	0	N6	
38	1-47	Kishoreganj	Kularchar	348543002	Chhayani UP Office(R&H)-Palia Bazar via Madhoboli, Pailanpur R.	25,000	4.88	2.47	1.99	0.51	0.00	0.00	4.97	4.97	VRB	0	0	R7	
39	2-3	Netrokona	Purbadhala	372833002	Purbadhala (Kalduar)-Ghagra UP (Kaposhia) road via Ghagra	25,000	4.67	3.36	11.64	0.00	0.00	0.00	3.36	3.36	VRB	0	0	R1	
40	3-70	Sunamganj	Jamalganj	690502004	Sachna Bazar - Beheli GC - Taherpur	25,000	5.50	0.50	0.00	0.00	8.00	0.15	0.00	0.15	VRB	20	0	N12	



Final list of candidate subproject (rural road) (2/3)

RURAL ROAD RANKING

Ranking	No	District	Upazila	Road Code	Road Name	Beneficiary	Existing						Plan					
							Crest Width (m)	Surface Type (km)				Length (km)		Road Class	Bridge (m)	Culvert (m)	Haor Project (20)	
								Earthen	Flexible	Bric	Rigid	Submergible	Non-submergible					Total
41	4-53	Habiganj	Azmiriganj	636025035	Solori - Shivpasha.	25,000	2.50	8.50	0.00	0.00	0.00	8.50	0.00	8.50	VRB	0	20	R8
42	4-106	Habiganj	Baniachang	636114013	Habiganj-Baniachang RHD to Sonari Mill	25,000	2.00	2.00	0.00	0.00	0.00	0.00	1.00	1.00	VRB	30	20	R13
43	4-107	Habiganj	Baniachang	636114019	Shubganj Bazar to halderpur Chitori road	25,000	1.50	3.90	0.00	0.00	0.00	0.00	3.00	3.00	VRB	0	10	N13
44	4-58	Habiganj	Azmiriganj	636025026	Kamulpur Ghat - Kamulpur Pny School.	21,900	2.25	3.75	0.00	0.00	0.00	2.75	0.00	2.75	VRB	0	10	R9
45	3-47	Sunamganj	Dharmapasha	690322007	Joytree-Modhdanagar Via Ramdiga Road.	20,400	3.70	16.96	0.00	0.00	1.55	8.73	8.73	17.46	VRB	0	100	N4
46	1-2	Kishoreganj	Pakundia	348793005	Hossendi UP-Mekkhola GC Via Alandi	20,000	4.50	3.90	4.40	0.00	0.00	0.00	8.30	8.30	VRB	0	0	R5
47	1-19	Kishoreganj	Nikli	348765009	Guroi UP office-Chapirchar Rd	20,000	3.65	0.64	0.00	0.00	0.00	0.00	0.64	0.64	VRB	0	0	N8
48	1-25	Kishoreganj	Hossainpur	348273005	Gobindapur Chowrasta bazar-Gobindapur JIP HQ Road.	20,000	3.93	0.75	1.33	0.00	0.00	0.00	2.08	2.08	VRB	0	0	R4
49	1-27	Kishoreganj	Hossainpur	348273009	Ada Master bazar-Shahedai UP HQ Road	20,000	4.50	1.00	2.00	0.00	0.00	0.00	3.00	3.00	VRB	0	0	R4
50	1-32	Kishoreganj	Katadi	348453007	Achimta UP HQ -Pong Masai bazar Rd.	20,000	3.65	1.90	1.10	0.00	0.00	0.00	2.10	2.10	VRB	0	0	R6
51	2-6	Netrokona	Purbadhala	372834065	Kalifor R&H-Dampara via Chander Bazar	20,000	3.00	3.00	0.00	0.00	0.00	0.00	3.00	3.00	VRB	60	0	R1
52	2-7	Netrokona	Purbadhala	372835039	Shahala-Halkhala Bazar	20,000	2.75	3.20	0.00	0.00	0.00	0.00	3.20	3.20	VRB	0	0	R1
53	2-20	Netrokona	Barhata	372092007	Amjala-Samaj GC Road (Barhata Portion)	20,000	4.40	6.24	4.70	0.00	0.00	6.24	0.00	6.24	VRB	0	0	N5
54	3-132	Sunamganj	SUNAMG	690894005	Tokerghat-Bahadurpur Rd.(Laxmanstree)	20,000	2.00	2.60	1.00	0.00	0.00	3.60	0.00	3.60	VRB	0	10	N12
55	4-10	Habiganj	Bahubal	636054079	Guhara Pny. School - Panchparia Road Via Sluce gate Durga	20,000	3.75	5.00	0.00	0.00	0.00	0.00	5.00	5.00	VRB	0	20	R13
56	4-48	Habiganj	Azmiriganj	636023001	Pashchimbag - Azmiriganj Road.	19,200	2.50	7.25	1.20	0.00	0.00	4.23	4.22	8.45	VRB	0	50	R8
57	4-59	Habiganj	Azmiriganj	636025012	G C C Road - Ronia Road.	18,500	3.00	2.10	0.00	0.00	0.00	2.10	0.00	2.10	VRB	0	10	R8
58	4-57	Habiganj	Azmiriganj	636025008	Pituaikandi Ghat - Shalla Highschool.	17,600	3.50	3.65	0.00	0.00	0.00	3.65	0.00	3.65	VRB	0	10	R8
59	4-52	Habiganj	Azmiriganj	636025027	Kakilsow Bazar - Rahala Rd	16,500	2.80	2.25	0.00	0.00	0.00	2.25	0.00	2.25	VRB	0	10	R9
60	1-11	Kishoreganj	Sadar	348493009	Dinapauli UP-Jalia bazar	15,000	4.88	1.11	1.50	0.00	0.00	0.00	2.61	2.61	VRB	0	0	N1
61	2-11	Netrokona	Atpara	372045037	Sukari Badrakola	15,000	2.00	2.00	0.00	0.00	0.00	2.00	0.00	2.00	VRB	0	0	N11
62	3-102	Sunamganj	Derai	690294018	Nagergaon Ferryghat-Nasimbazar	15,000	2.50	4.50	0.00	0.00	2.50	2.00	0.00	3.00	VRB	0	0	R8
63	3-103	Sunamganj	Derai	690294019	Akilha Bazar-Nagergaon via Kulanje	15,000	3.00	2.31	0.00	0.00	5.10	2.00	0.00	2.00	VRB	0	40	R8
64	3-104	Sunamganj	Derai	690294020	Akilha Bazar-Nasni Bazar	15,000	2.50	2.25	0.00	0.00	2.00	0.00	1.25	1.25	VRB	20	20	R8
65	4-4	Habiganj	Sadar	636444035	Foil-Pachparia Rd.	15,000	3.50	4.20	1.70	0.60	0.00	0.00	4.20	4.20	VRB	0	0	R13
66	4-15	Habiganj	Bahubal	636055058	Shanyabazar-Ruyail	15,000	3.00	6.00	0.00	0.00	0.00	6.00	0.00	6.00	VRB	10	100	R13
67	4-56	Habiganj	Azmiriganj	636025006	Bong rd - Paddy land Rd	13,400	3.00	5.10	0.00	0.00	0.00	5.10	0.00	5.10	VRB	0	10	R8
68	2-28	Netrokona	Barhata	372094015	Rambhadrapur FRB-Naibati Bazar Rd	13,000	2.92	4.39	2.01	0.00	0.00	0.00	4.39	4.39	VRB	0	0	N5
69	3-166	Sunamganj	Shin Sunamg	690934021	Ganiganj RHD-Jibdara Road.	12,000	3.70	4.70	0.00	0.00	0.00	4.70	0.00	4.70	VRB	0	20	N12
70	4-12	Habiganj	Bahubal	636054010	Khagaura Bagdair Road	12,000	3.00	5.80	0.00	0.00	0.00	0.00	5.80	5.80	VRB	0	10	R13
71	4-51	Habiganj	Azmiriganj	636025023	Kakilsow GCCR - Rosulpur.	11,250	3.00	2.10	0.00	0.00	0.00	2.10	0.00	2.10	VRB	0	10	R9
72	3-50	Sunamganj	Dharmapasha	690323005	Modhayanagar bazar-Golha Rd	10,500	3.00	8.00	0.00	0.00	1.00	8.00	0.00	8.00	VRB	0	50	N4
73	2-5	Netrokona	Purbadhala	372835052	Jania Purbopara-Jania Switch Gate via RPSchool Rd.	10,000	2.50	3.00	0.00	0.00	0.00	3.00	0.00	3.00	VRB	0	0	R2
74	2-9	Netrokona	Atpara	372045034	Ukrakhal Road	10,000	2.00	1.75	0.00	0.00	0.00	1.75	0.00	1.75	VRB	0	0	N11
75	2-10	Netrokona	Atpara	372045036	Duaz bazar road	10,000	2.50	1.50	0.00	0.00	0.00	1.50	0.00	1.50	VRB	0	0	N11
76	2-16	Netrokona	Kheilajuri	372383009	Upazila HQ - Gazipur UP office rd.	10,000	5.00	6.60	1.90	0.00	0.00	4.25	4.25	8.50	VRB	450	20	R15
77	2-25	Netrokona	Barhata	372093004	Barhata Ferryghat (UP)-Horiatola bazar.	10,000	4.80	6.47	0.00	0.00	0.00	3.24	3.24	6.47	VRB	10	10	N5
78	3-79	Sunamganj	Jamalganj	690505037	Sukdebpur - Radanagar Road	10,000	3.70	1.00	0.00	0.00	0.00	0.00	0.04	0.04	VRB	20	10	N12
79	3-99	Sunamganj	Derai	690294012	Tarapsa-Tongor	10,000	3.00	2.25	0.00	0.00	1.00	2.00	0.00	2.00	VRB	0	20	R8
80	3-101	Sunamganj	Derai	690294017	Boalia Bazar-Bhairgaon	10,000	2.50	3.35	0.00	0.00	1.90	0.00	2.00	2.00	VRB	0	0	R8



## Final list of candidate subproject (rural road) (3/3)

## RURAL ROAD RANKING

Ranking	No	District	Upazila	Road Code	Road Name	Existing								Plan				
						Beneficiary	Crest Width (m)	Surface Type (km)				Length (km)			Road Class	Bridg (m)	Culvert (m)	Floor Project(30) No.
								Earthen	Flexible	Bric	Rigid	Submergible	non-submergible	Total				
81	3-131	Sunamganj	SUNAMG	690894022	RHD(Haluargoan)-Islampur.(Laxmansree)	10,000	2.00	2.20	0.00	0.00	0.00	2.20	0.00	2.20	VRA	0	0	N12
82	3-135	Sunamganj	SUNAMG	690894075	Bahaderpur RHD to Nurulla Village	10,000	2.00	3.75	0.00	0.00	0.25	4.00	0.00	4.00	VRA	0	0	N12
83	3-142	Sunamganj	SUNAMG	690895111	Katair Joynagar GC road (Noagaon)-Kandigoan village	10,000	2.00	3.00	0.00	0.00	0.00	3.00	0.00	3.00	VRB	0	0	N12
84	3-152	Sunamganj	SUNAMG	690895038	Katair-Joynagar Road to Narikila GPS.(Mohanpur)	10,000	1.50	2.00	0.00	0.00	0.00	0.00	2.00	2.00	VRB	0	0	N12
85	3-174	Sunamganj	chin Sunamg	690934048	Ashammura Pry. School-Puran -Kandigoan Road.	10,000	3.70	1.90	0.00	0.00	1.91	3.81	0.00	3.81	VRA	0	10	N12
86	4-6	Habiganj	Sadar	636444064	Boro Bohula 1no word Care Road - Mohtarpar Road	10,000	2.00	3.00	0.00	0.00	0.00	0.00	3.00	3.00	VRB	0	10	R13
87	4-9	Habiganj	Bahubal	636053005	Snanghat UP Office-Bagdar bazar	10,000	4.00	5.80	0.00	0.00	0.00	0.00	5.80	5.80	VRB	0	0	R15
88	4-11	Habiganj	Bahubal	636055015	Khagaura Alghati-Noayahati via Primary school	10,000	2.50	1.50	0.00	0.00	0.00	0.00	1.50	1.50	VRB	0	20	R13
89	4-13	Habiganj	Bahubal	636054012	Amrita-Burchar Road	10,000	3.00	3.20	0.00	0.00	0.00	0.00	3.20	3.20	VRA	0	10	R13
90	4-17	Habiganj	Bahubal	636054080	Digambar bazar-Noawa Road	10,000	2.50	1.50	0.00	0.00	0.00	0.00	1.50	1.50	VRA	0	10	R15
91	4-60	Habiganj	Azmirganj	636025002	R&H Road - Morolbari Road	9,500	3.00	0.54	0.00	0.00	0.00	0.00	0.54	0.54	VRB	0	10	R8
92	3-168	Sunamganj	chin Sunamg	690934050	Derai RHD - Sreenathpur via Jaharpur -Madrasa Road.	9,000	3.70	3.50	0.00	0.00	0.00	3.50	0.00	3.50	VRA	0	10	N12
93	4-16	Habiganj	Bahubal	636055044	Raisgong Rd-Barkadabad	9,000	3.00	3.00	0.00	0.00	0.00	0.00	3.00	3.00	VRB	0	10	R15
94	2-18	Netrokona	Khalajuri	372583011	Khalajuri UP office - Panchhat bazar rd	8,000	4.00	10.00	0.00	0.00	0.00	5.00	5.00	10.00	VRB	10	20	R15
95	3-176	Sunamganj	chin Sunamg	690934086	Kandagaon LGED UZR Road to Nowakhali - Bimkhal UZR v	8,000	3.70	2.10	1.90	0.00	0.00	0.00	4.00	4.00	VRA	40	20	N12
96	4-14	Habiganj	Bahubal	636055017	Fotehpur-Shampur Road	8,000	2.50	1.40	0.00	0.00	0.00	0.00	1.40	1.40	VRB	0	10	R15
97	2-8	Netrokona	Alpara	372045016	Gopalasram-Madukul	7,000	3.00	1.50	0.00	0.00	0.00	0.75	0.75	1.50	VRB	20	10	N11
98	2-17	Netrokona	Khalajuri	372583010	Gazipur UP office-Panchhat bazar rd.	7,000	5.00	13.14	0.00	0.00	0.00	6.57	6.57	13.14	VRB	40	10	R15
99	2-21	Netrokona	Barhatta	372092009	Aitpur Bazar (R&H)-Chandrapur Bazar via Huzrabari,	7,000	3.89	4.77	0.75	0.28	0.00	2.24	2.24	4.48	VRB	0	10	N5
100	4-90	Habiganj	Chunarugha	636264009	Durgapur Bazar - Sreerampur Road.	6,000	3.40	2.40	2.90	0.00	0.00	0.00	1.00	1.00	VRA	0	0	R13
101	2-12	Netrokona	Alpara	372045066	Chargali GPS road	5,000	2.00	2.00	0.00	0.00	0.00	1.00	1.00	2.00	VRB	20	10	N11
102	3-141	Sunamganj	SUNAMG	690895092	Jalajpur-Dakher hawore road.	5,000	2.00	2.86	0.00	0.00	0.00	2.86	0.00	2.86	VRB	0	0	N12
103	3-153	Sunamganj	SUNAMG	690895070	RHD, Ahsampara Bridge-Joginpur road	5,000	2.00	0.50	0.00	0.00	0.00	0.50	0.00	0.50	VRB	0	0	N12
104	3-154	Sunamganj	SUNAMG	690895039	Katair Joynagar Road to Noagaon GPS.(Mohanpur)	5,000	1.50	1.50	0.00	0.00	0.00	1.50	0.00	1.50	VRB	0	0	N12
105	4-78	Habiganj	Chunarugha	636264008	Ware House Ubahata-Sakir Mohammad Road.	5,000	3.44	4.00	0.00	0.00	0.00	0.00	1.50	1.50	VRA	0	10	R13
106	3-83	Sunamganj	Dharmapasha	690323010	Joysee-Durgapur Road.	4,600	3.00	6.44	0.00	0.00	0.00	6.44	0.00	6.44	VRB	30	20	N4
107	2-33	Netrokona	Kendua	372475053	Batta - Kachari road	3,200	3.00	0.65	0.00	0.00	0.00	0.00	0.65	0.65	VR-B	0	10	N6
108	2-32	Netrokona	Kendua	372475010	Muzafarpur Pacea road (Gogda Bazar) - Surial Beel.	3,000	3.00	1.20	0.00	0.00	0.00	0.00	1.20	1.20	VR-B	0	10	N6
109	3-68	Sunamganj	Jamalganj	690503008	Kukrabashi RHD-Naya Baranka Kheyaghat Road Via	3,000	3.70	5.00	0.00	0.00	0.00	0.10	0.00	0.10	VRB	20	10	N12
110	3-161	Sunamganj	chin Sunamg	690933008	Shimilbak UP office - Mukrakhar - Joynagar via Chandpur GPS	3,000	5.50	4.20	0.00	0.00	0.00	0.00	4.20	4.20	VRB	170	30	N12
111	4-70	Habiganj	Chunarugha	636265044	Ulukani govt.Pry. School - Assian Highway link road.	2,500	2.44	2.00	0.00	0.00	0.00	0.00	1.00	1.00	VRB	0	10	R13
112	5-40	Brahmanbata	Sarail	412945098	Dewra-Charuhati Road	0	2.00	1.50	0.00	0.00	0.00	1.50	0.00	1.50	VRB	0	0	R13
113	5-41	Brahmanbata	Sarail	412945145	Shahajadapur-Dhauria Road	0	2.50	3.00	0.00	0.00	0.00	0.00	3.00	3.00	VRB	0	0	R13
114	4-45	Habiganj	Nabiganj	636775068	Muktahar bridge-Shakua bazar road	0	2.50	1.50	1.00	0.00	0.00	0.00	2.50	2.50	VR-A	0	0	N13

### Final list of candidate subproject (hat)

#### HAT SELECTION

No.	List No.	District	Upazila	Union name	Hat name	Type	Haor project No.
1	1-1	Kishoreganj	Pakundia	Agarosindur	Bahahadia	RM	R5
2	1-4	Kishoreganj	Itna	Joysiddhi	Mudirgaon	RM	N9
3	1-9	Kishoreganj	Sadar	Danapatuli	Kaliar Kanda Bazar	RM	N1
4	1-20	Kishoreganj	Sadar	Pumdi	Pumdi bazar	RM	R4
5	1-21	Kishoreganj	Sadar	"	Adu master bazar	RM	R4
6	1-22	Kishoreganj	Sadar	"	Nimeukhali bazar	RM	R4
7	1-27	Kishoreganj	Sadar	Saharam Dhuldia	Dhuldia Hat	GC	N1
8	1-32	Kishoreganj	Sadar	Gopdighi	Bogadia	RM	N2
9	1-41	Kishoreganj	Sadar	Joyka	Shadakhali	RM	N1
10	2-5	Netrokona	Purbadhala	Hogla	Patra Bazar	RM	R1
11	2-6	Netrokona	Purbadhala	Chagra	Chagra Bazar	RM	R1
12	2-13	Netrokona	Khaliajuri	MENDIPUR	Satgoan Bazar	RM	R15
13	3-16	Sunamganj	Dharmapasha	Selborash	Badshagonj	RM	N4
14	3-45	Sunamganj	Sunamganji Sadar	Mohanpur	Joynagar	GC	N12
15	4-3	Habiganj	HABIGANJ-S	Poil	Poil Natun Bazar	RM	R13
16	4-5	Habiganj	Bahubal	Putijuri up	Digoambar	RM	R13
17	4-7	Habiganj	Bahubal	Satkapon up	Shoaia Bazer	RM	R13
18	4-10	Habiganj	AZMIRIGANJ	Badolpur	Paharpur	GC	R8
19	4-11	Habiganj	AZMIRIGANJ	Kakailsew	Nischintopur	RM	R9
20	4-17	Habiganj	Baniachong	Pukra	Aowar Mohal Bazar	RM	R13
21	4-19	Habiganj	Baniachong	Sujatpur	Sujatpur Bazar	GC	R10
22	4-20	Habiganj	Baniachong	Muradpur	Muradpur Bazar	RM	R9

Brahmanbaria : Not applicable

Total	GC (Growth center market)	Total	4	(nos)
		Kishoregnj	1	(nos)
		Netorkona	0	(nos)
		Sunamganj	1	(nos)
		Habiganj	2	(nos)
		Brahmanbaria	0	(nos)
		<b>Total</b>	<b>18</b>	<b>(nos)</b>
Total	RM (Rural market)	Total	18	(nos)
		Kishoregnj	8	(nos)
		Netorkona	3	(nos)
		Sunamganj	1	(nos)
		Habiganj	6	(nos)
		Brahmanbaria	0	(nos)

## Final list of candidate subproject (ghat)

## GHAT GHAT SELECTION

No.	List No.	District	Upazila	Ghat name	Type	Haor project No.
1	1-3	Kishoreganj	Itna	Bashikura bazar	Type-B	N7
2	1-4	Kishoreganj	Itna	Joysiddhi bazar	Type-B	R9
3	1-9	Kishoreganj	Sadar	Kaliarkanda Bazar Ghat	Type-B	N1
4	1-18	Kishoreganj	Sadar	Char Pumdi bazar Ghat	Type-B	R4
5	1-19	Kishoreganj	Sadar	Rampur bazar Ghat	Type-B	R4
6	1-24	Kishoreganj	Sadar	Char Katkhal	Type-A	R9
7	1-27	Kishoreganj	Sadar	Olua	Type-A	N2
8	1-30	Kishoreganj	Sadar	Kacharighat	Type-A	R7
9	1-32	Kishoreganj	Sadar	Panahar bazar Ghat	Type-B	N1
10	1-33	Kishoreganj	Sadar	shudi bazar Ghat	Type-B	N1
11	2-4	Netrokona	Purbadhala	Patra Ghat	Type-A	R1
12	2-5	Netrokona	Purbadhala	Ghagra Ghat	Type-A	R1
13	2-6	Netrokona	Purbadhala	Moheshpotti Ghat	Type-A	R1
14	3-9	Sunamganj	Sulla	Rahutola Bazar Ghat	Type-B	R14
15	3-37	Sunamganj	Derai	Boalia	Type-A	R8
16	3-46	Sunamganj	SUNAMGANJ-SADAR	Joynagar Ghat	Type-A	N12
17	3-55	Sunamganj	Dakhin Sunamganj	Pathariabazar GC	Type-B	N12
18	3-56	Sunamganj	Dakhin Sunamganj	Birgaonbazar	Type-B	N12
19	4-2	Habiganj	HABIGANJ-S	Purbo Poil Bazar Ghat	Type-B	R13
20	4-3	Habiganj	HABIGANJ-S	Poil Natun Bazar Ghat	Type-B	R13
21	4-11	Habiganj	Baniachonj	Sujath pur Bazar	Type-B	R10

Brahmanbaria : Not applicable

Type-A : Not with market, Type-B : with market

	Total	Type-A	Type-B	(nos)
	21	8	13	(nos)
Kishoregnj	10	3	7	(nos)
Netorkona	3	3	0	(nos)
Sunamganj	5	2	3	(nos)
Habiganj	3	0	3	(nos)
Brahmanbaria	0	0	0	(nos)



**APPENDIX 4.6 Standard Drawings****List of Drawing**

No.	Title		Remarks
1	B.C Road Section (Non-submerged)	(Union Road)	Source 1)
2	B.C Road Section (Non-submerged)	(Upazila Road)	Source 1)
3	RCC Road Section (Submerged)	(Union Road)	Source 1)
4	RCC Road Section (Submerged)	(Upazila Road)	Source 1)
5	Block Road Section (Non-submerged)	(Village Road)	Source 1)
6	Block Road Section (Submerged)	(Village Road)	Source 1)
7	Existing Rad Cross-section		
8	Hat (Market)Layout Plan		Source 3)
9	Ghat (Boat Landing Step)		Source 2)
10	Hat and Ghat Protection		Source 3)

Source 1): Technical Viability Study of Block Road, Community based Resource Management Project Final Report (April 2011, BRTC and BUET)

Source 2): ROAD DESIGN STANDARDS RURAL ROAD (LGED and JICA)

Source 3): Haor Infrastructure and Livelihood Improvement Project (HILIP)

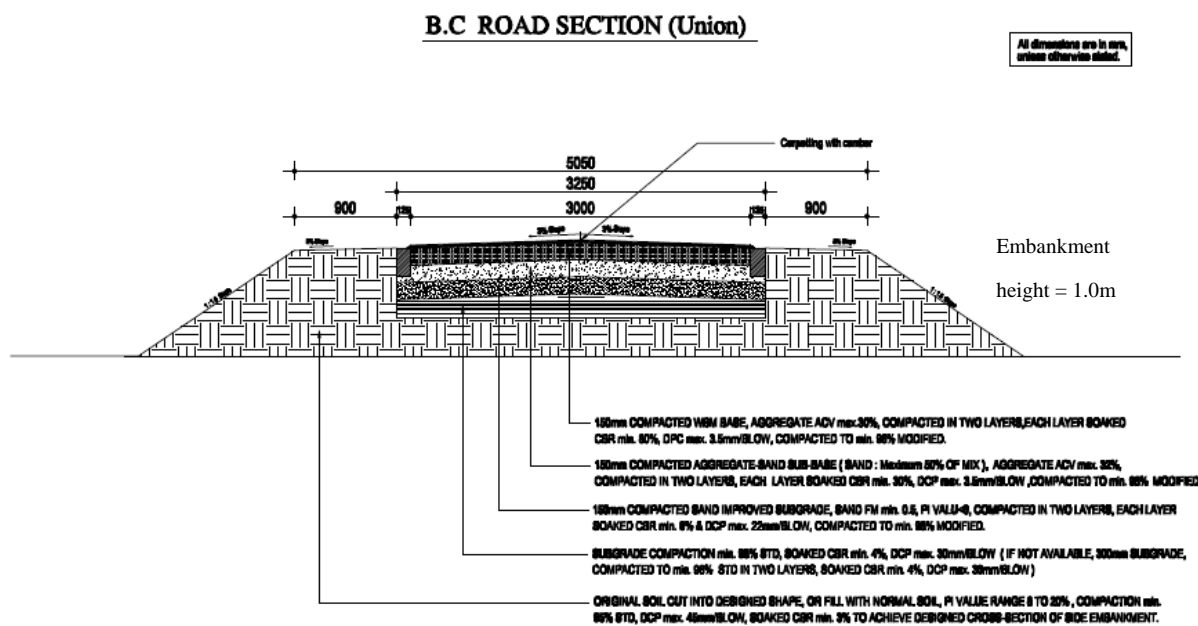


Figure 1 B.C Road Section (Non-submerged) (Union Road)

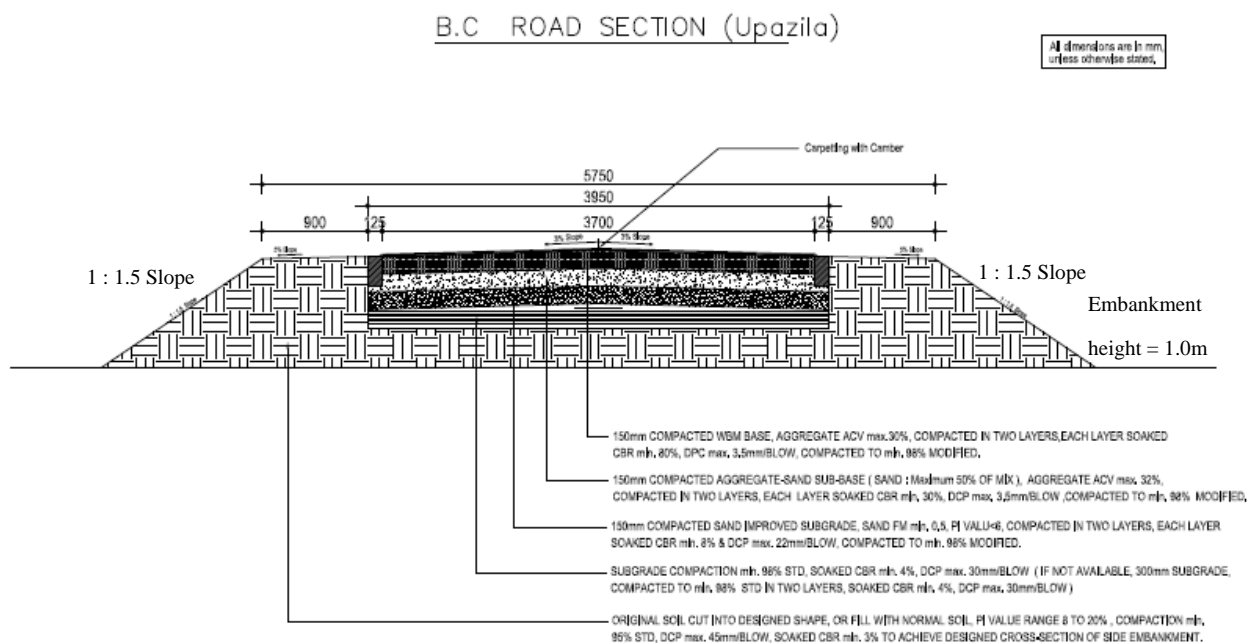
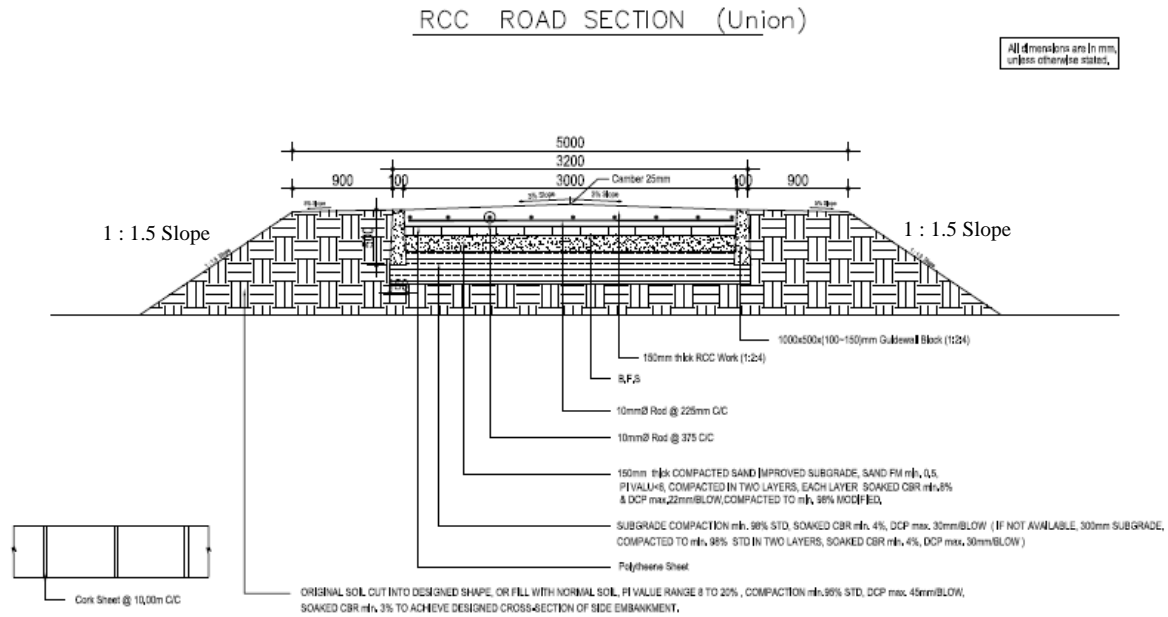
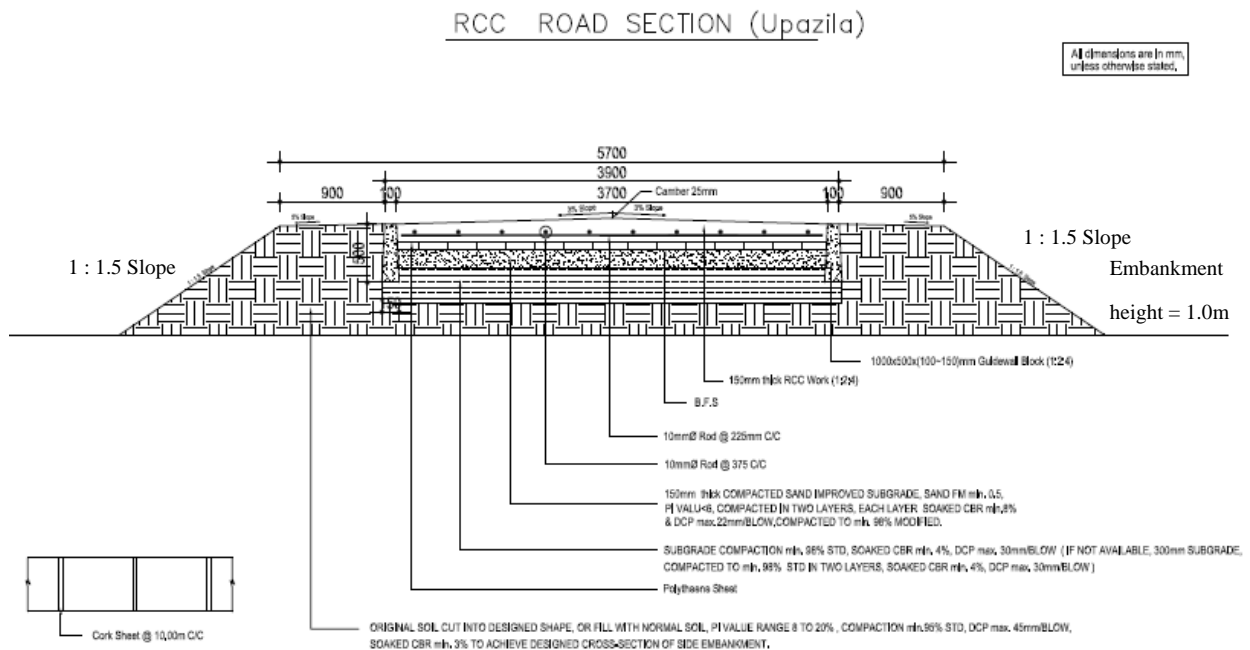


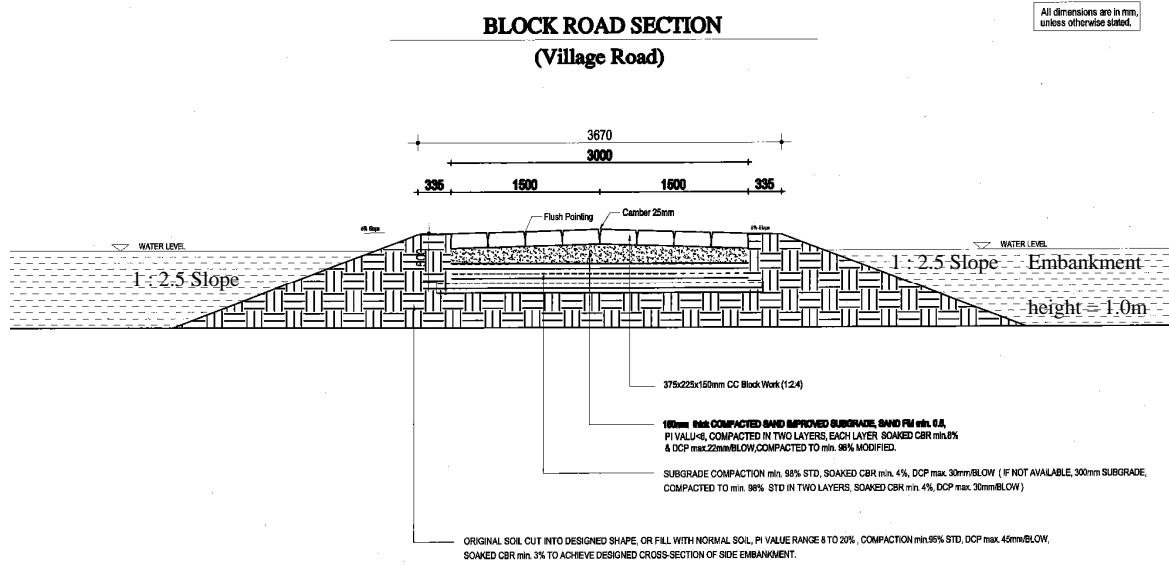
Figure 2 B.C Road Section (Non-submerged) (Upazila Road)



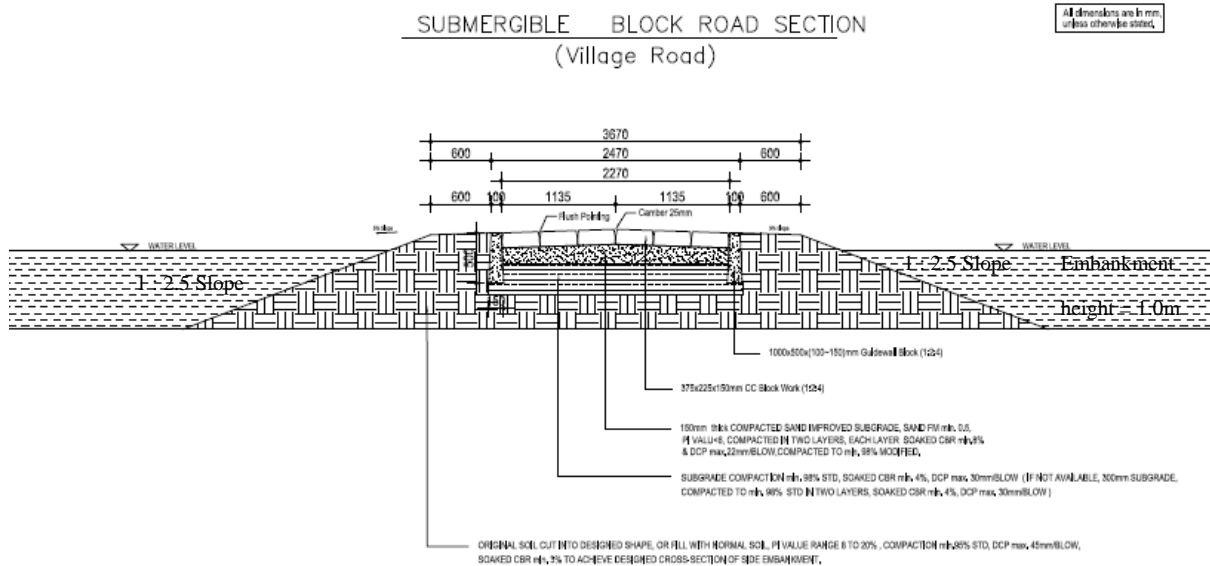
**Figure 3 RCC Road Section (Submerged) (Union Road)**



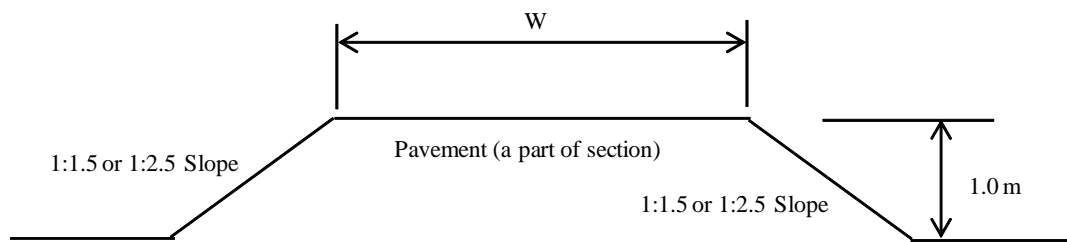
**Figure 4 RCC Road Section (Submerged) (Upazila Road)**



**Figure 5 Block Road Section (Non-submerged) (Village Road)**



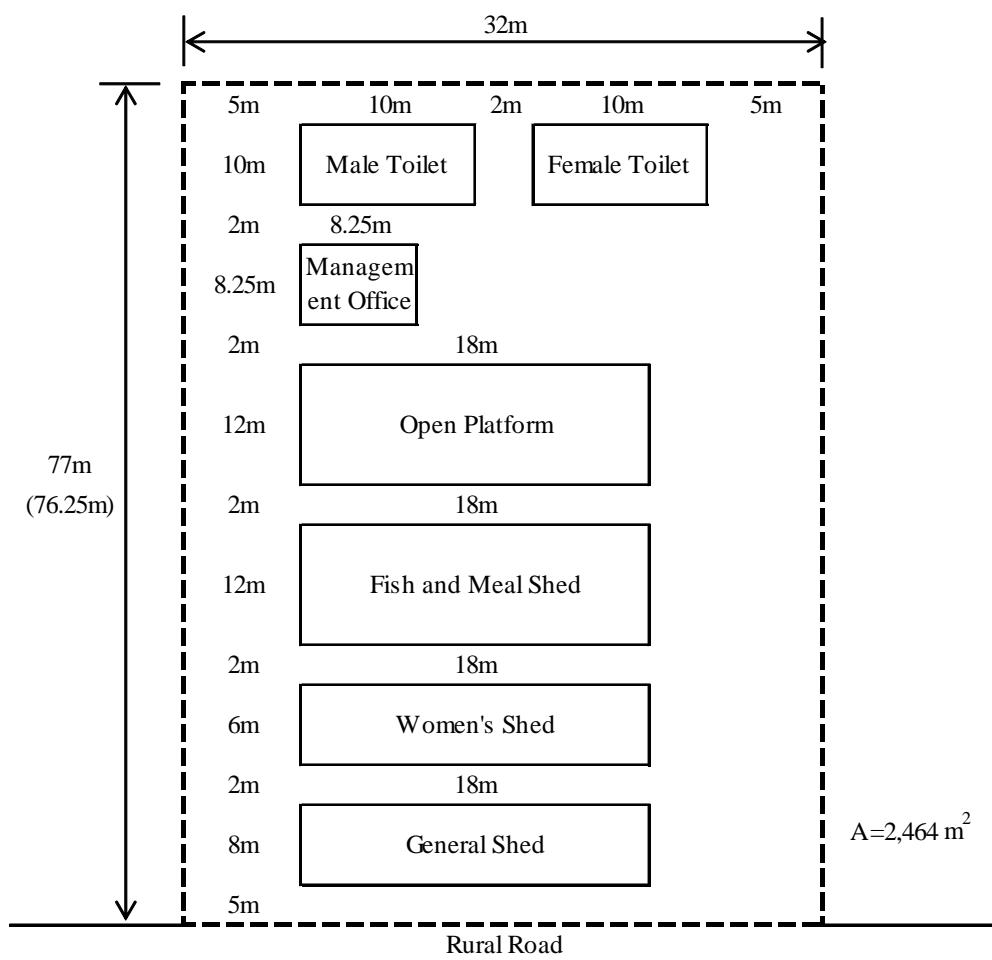
**Figure 6 Block Road Section (Submerged) (Village Road)**



Average crest width (W)

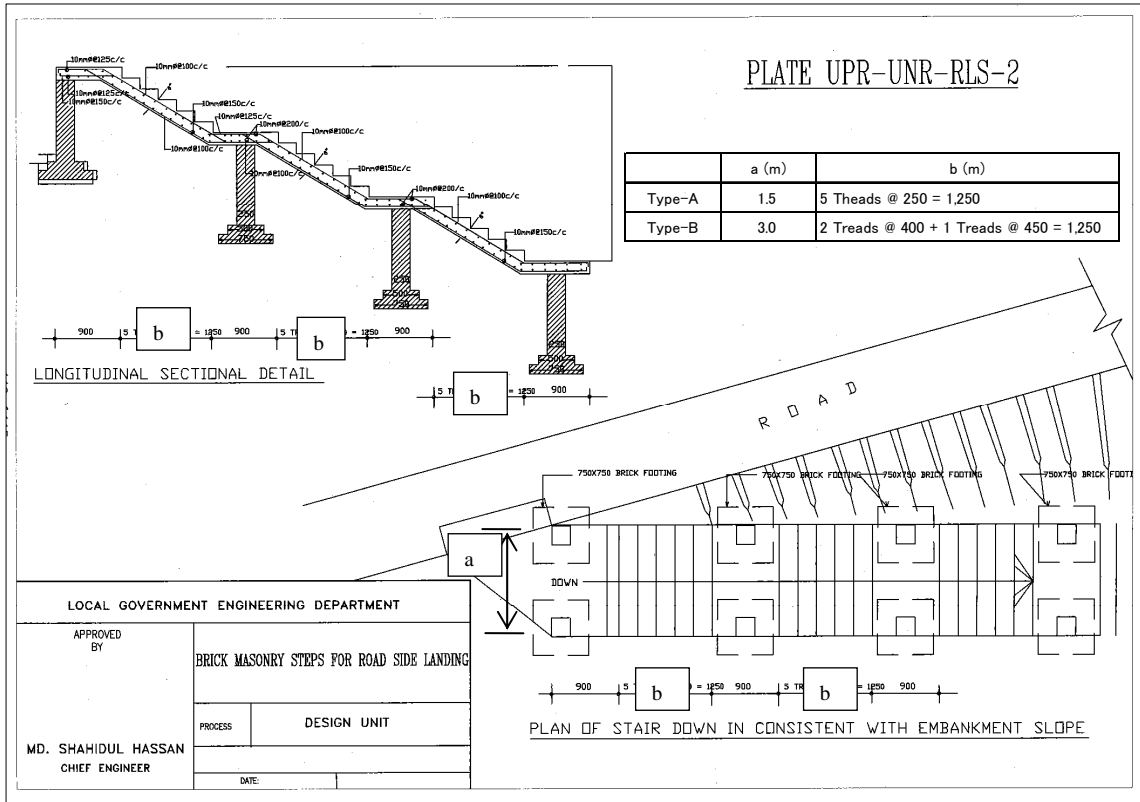
Upazila road	4.0 (m)
Union road	3.7 (m)
Villgae road	2.6 (m)

**Figure 7 Existing Road Cross-section**

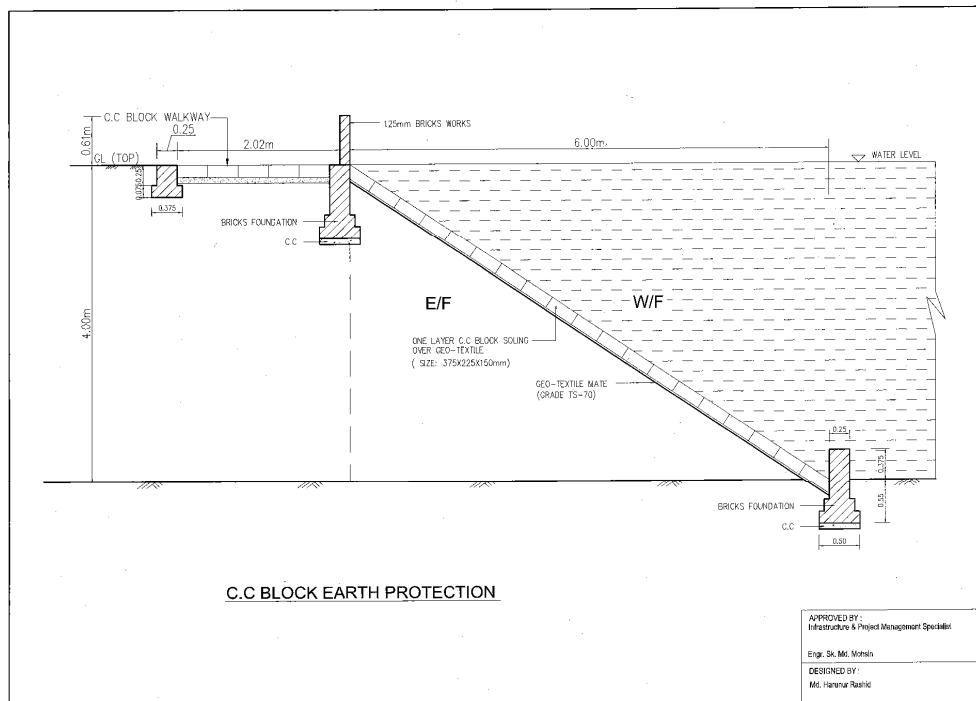


Item	Dimension	Area (m <sup>2</sup> )
General Shed	18m X 8m	144
Women's Shed	18m X 6m	108
Fish and Meat Shed	18m X 12m	216
Open Platform	18m X 12m	216
Male Toilet	10m X 10m	100
Female Toilet	10m X 10m	100
Tube Well		
Management Committee Office	8.25m X 8.25m	68
Dust Bins		
<b>Total</b>		<b>952</b>

**Figure 8 Hat (Market) Layout Plan**



**Figure 9 Ghat (Boat landing Facility)**



**Figure 10 Hat and Ghat Protection**



**APPENDIX 4.7 Quantity****List of Quantity**

No.	Title			Calculation Sheet No.*	Remarks
1	B.C Road Section	(Non-submerged)	(Union Road)	No.1	Source 1)
2	B.C Road Section	(Non-submerged)	(Upazila Road)	No.2	Source 1)
3	RCC Road Section	(Submerged)	(Union Road)	No.3	Source 1)
4	RCC Road Section	(Submerged)	(Upazila Road)	No.4	Source 1)
5	Block Road Section	(Non-submerged)	(Village Road)	No.5	Source 1)
6	Block Road Section	(Submerged)	(Village Road)	No.6	Source 1)
7	Culverts (double lane) on Upazila Road				Source 2)
8	Cunverts (single lane) on Union Road				Source 2)
9	RCC bridge (single lane) on Union Road				Source 2)
10	Road Safty Measures			No.10	Source 2)
11	Tree lantation and Caretaking				Source 2)
12	Fish and Meat Shed				Source 2)
13	Multi-purpose Shed				Source 2)
14	General Shed without Platform				Source 2)
15	Open Sales Platform				Source 2)
16	Women's Shed				Source 2)
17	Market Management Committee Office				Source 2)
18	Male Toilet				Source 2)
19	Female Toilet				Source 2)
20	Tube Well				Source 2)
21	Dust Bins				Source 2)
22	Boat Landing Step			No.22	
23	Hat and Ghat Protection				Source 3)

Source 1): Technical Viability Study of Block Road, Community based Resource Management Project Final Report (April 2011, BRTC and BUET)

Source 2): Preparatory Survey on the Northern Region Rural Development and Local Govemance Improvement Project Final Repor Annex 1

Source 3): Haor Infrastructure and Livelihood Improvement Project (HILIP)

\*Calculation Sheet No.: Quantity is basically based on HILIP etc..The calculation sheet is modified adopted the structure.

**B.C Road Section (Non- submerged, Uniuni Road) for 1.0 km**

SN No.	Item Code	Layers	Description in Brief	Calculation	Unit	Quantity
1	2.1.02	Bed preparation	Cleaning by removal and disposal		LS	1.00
2	2.1.04.02.3		Earth filling with works with specified soil in type of embankment .....	$= (1/2 * (5.05 + 8.05) * 1.0 - 1/2 * (3.7 + 6.7) * 1.0) * 1000$	m <sup>3</sup>	1,350.00
3	2.1.08.01		Manual Compaction of earth in 150 mm thick compacted .....		m <sup>3</sup>	1,350.00
4	3.1.04		Earth work in box cutting		m <sup>2</sup>	3,250.00
5	3.2.15.02	End Protection	Brick on the edging(125mm across) with 1st class/picked		m	2,000.00
6	3.2.15.03		CC Block on end edging (375mm across) with cc blocks (375mm x100mmx225mm)		m	0.00
7	3.2.25.03.1		CC Block on end edging (375mm across) with cc blocks		m	0.00
8	3.1.06.02	Improved Subgrade	Sand(FM 0.50) filling (ISG).....		m <sup>3</sup>	813.00
9	3.2.02.03		Providing Compacted aggregate sand(AS) Sub-base Course.....		m <sup>3</sup>	463.00
10	5.02		Single layer brick flat soling with 1st class or picked jhama.....		m <sup>2</sup>	0.00
11	3.2.02.02	Base Course	Providing laying, spreading and compacting 38mm down graded aggregates.....		m <sup>3</sup>	450.00
12	3.2.25		Prime coat with cut back bitumen.....		m <sup>2</sup>	3,000.00
13	3.2.29.1		25mm thick(compact) pre-mixed bitumenous carpeting to be prepared using 20mm down-stone chips.....		m <sup>2</sup>	3,000.00
14	3.2.24.04		Providing tack coat with 60/70 or 80/100 penetration grade.....		m <sup>2</sup>	3,000.00
15	3.2.34		7mm thick(compact) pre-mixed bitumenous seal coat to be prepared using 6.33mm down pea gravel or crush stone.....		m <sup>2</sup>	3,000.00
16	4.2.03.01.1		Reinforcement cement Concrete(RCC) works in.....		m <sup>3</sup>	0.00
17	4.2.06.01		Supply and fabrication of MS high strength deformed		kg	0.00
18	3.2.11.01		Single layer CC Block soling with CC Block((375mm x 100mm x 225mm)		m <sup>2</sup>	0.00
19	5.028		Providing polytene sheet (0.18mm thick) on floor....		m <sup>2</sup>	0.00
20	5.103.04		Flush pointing to CC Block laying for pavement.....		m <sup>2</sup>	0.00
21	5.2		Supplying, fittings sign board (6'-0" x 4'-0") fitted with strong bambo.....		No	1.00

Source : Technical Viability Study of Block Road, Community based Resource Management Project Final Report (April 2011, BRTC and BUET)

## B.C Road Section (Non- submerged, Upazi Road) for 1.0 km

						No.2
SN No.	Item Code	Layers	Description in Brief	Calculation	Unit	Quantity
1	2.1.02	Bed preparation	Cleaning by removal and disposal		LS	1.00
2	2.1.04.02.3		Earth filling with works with specified soil in type of embankment .....	$= (1/2 * (5.75 + 8.75) * 1.0 - 1/2 * (4.0 + 7.0) * 1.0) * 1000$	m <sup>3</sup>	1,750.00
3	2.1.08.01		Manual Compaction of earth in 150 mm thick compacted .....		m <sup>3</sup>	1,750.00
4	3.1.04		Earth work in box cutting		m <sup>2</sup>	3,950.00
5	3.2.15.02	End Protection	Brick on the edging (125mm across) with 1st class/picked		m	2,000.00
6	3.2.15.03		CC Block on end edging (375mm across) with cc blocks (375mm x 100mm x 225mm)		m	0.00
7	3.2.25.03.1		CC Block on end edging (375mm across) with cc blocks		m	
8	3.1.06.02	Improved Subgrade	Sand (FM 0.50) filling (ISG).....		m <sup>3</sup>	988.00
9	3.2.02.03		Providing Compacted aggregate sand (AS) Sub-base Course.....		m <sup>3</sup>	568.00
10	5.02		Single layer brick flat soling with 1st class or picked jhama.....		m <sup>2</sup>	0.00
11	3.2.02.02	Base Course	Providing laying, spreading and compacting 38mm down graded aggregates.....		m <sup>3</sup>	555.00
12	3.2.25		Prime coat with cut back bitumen.....		m <sup>2</sup>	3,700.00
13	3.2.29.1		25mm thick (compact) pre-mixed bitumenous carpeting to be prepared using 20mm down-stone chips.....		m <sup>2</sup>	3,700.00
14	3.2.24.04		Providing tack coat with 60/70 or 80/100 penetration grade.....		m <sup>2</sup>	3,700.00
15	3.2.34		7mm thick (compact) pre-mixed bitumenous seal coat to be prepared using 6.33mm down pea gravel or crush stone.....		m <sup>2</sup>	3,700.00
16	4.2.03.01.1		Reinforcement cement Concrete (RCC) works in.....		m <sup>3</sup>	0.00
17	4.2.06.01		Supply and fabrication of MS high strength deformed		kg	0.00
18	3.2.11.01		Single layer CC Block soling with CC Block ((375mm x 100mm x 225mm)		m <sup>2</sup>	0.00
19	5.028		Providing polytene sheet (0.18mm thick) on floor....		m <sup>2</sup>	0.00
20	5.103.04		Flush pointing to CC Block laying for pavement.....		m <sup>2</sup>	0.00
21	5.2		Supplying, fittings sign board (6'-0" x 4'-0") fitted with strong bambo.....		No	1.00

Source : Technical Viability Study of Block Road, Community based Resource Management Project Final Report (April 2011, BRTC and BUET)

**RCC Road Section ( submerged, Union Road) for 1.0 km**

**No.3**

SN No.	Item Code	Layers	Description in Brief	Calculation	Unit	Quantity
1	2.1.02	Bed preparation	Cleaning by removal and disposal		LS	1.00
2	2.1.04.02.3		Earth filling with works with specified soil in type of embankment .....	$= (1/2 * (5.05 + 8.05) * 1.0 - 1/2 * (3.7 + 6.70) * 1.0) * 1000$	m <sup>3</sup>	1,350.00
3	2.1.08.01		Manual Compaction of earth in 150 mm thick compacted .....		m <sup>3</sup>	1,350.00
4	3.1.04		Earth work in box cutting		m <sup>2</sup>	3,200.00
5	3.2.15.02	End Protection	Brick on the edging(125mm across) with 1st class/picked		m	0.00
6	3.2.15.03		CC Block on end edging (375mm across) with cc blocks (375mm x100mmx225mm)		m	0.00
7	3.2.25.03.1		CC Block on end edging (375mm across) with cc blocks		m	2,000.00
8	3.1.06.02	Improved Subgrade	Sand(FM 0.50) filling (ISG).....		m <sup>3</sup>	450.00
9	3.2.02.03		Providing Compacted aggregate sand(AS) Sub-base Course.....		m <sup>3</sup>	0.00
10	5.02		Single layer brick flat soling with 1st class or picked jhama.....		m <sup>2</sup>	3,000.00
11	3.2.02.02	Base Course	Providing laying, spreading and compacting 38mm down graded aggregates.....		m <sup>3</sup>	0.00
12	3.2.25		Prime coat with cut back bitumen.....		m <sup>2</sup>	0.00
13	3.2.29.1		25mm thick(compact) pre-mixed bitumenous carpeting to be prepared using 20mm down-stone chips .....		m <sup>2</sup>	0.00
14	3.2.24.04		Providing tack coat with 60/70 or 80/100 penetration grade.....		m <sup>2</sup>	0.00
15	3.2.34		7mm thick(compact) pre-mixed bitumenous seal coat to be prepared using 6.33mm down pea gravel or crush stone.....		m <sup>2</sup>	0.00
16	4.2.03.01.1		Reinforcement cement Concrete(RCC) works in.....		m <sup>3</sup>	489.00
17	4.2.06.01		Supply and fabrication of MS high strength deformed		kg	13,571.00
18	3.2.11.01		Single layer CC Block soling with CC Block((375mm x 100mm x 225mm)		m <sup>2</sup>	0.00
19	5.028		Providing polytene sheet (0.18mm thick) on floor....		m <sup>2</sup>	3,000.00
20	5.103.04		Flush pointing to CC Block laying for pavement.....		m <sup>2</sup>	0.00
21	5.2		Supplying, fittings sign board (6'-0" x 4'-0") fitted with strong bambo.....		No	1.00

Source : Technical Viability Study of Block Road, Community based Resource Management Project Final Report (April 2011, BRTC and BUET)

## RCC Road Section ( submerged, Upazi Road) for 1.0 km

No.4

SN No.	Item Code	Layers	Description in Brief	Calculation	Unit	Quantity
1	2.1.02	Bed preparation	Cleaning by removal and disposal		LS	1.00
2	2.1.04.02.3		Earth filling with works with specified soil in type of embankment .....	$= (1/2 * (5.75 + 8.75) * 1.0 - 1/2 * (4.0 + 7.0) * 1.0) * 1000$	m <sup>3</sup>	1,750.00
3	2.1.08.01		Manual Compaction of earth in 150 mm thick compacted .....		m <sup>3</sup>	1,750.00
4	3.1.04		Earth work in box cutting		m <sup>2</sup>	3,900.00
5	3.2.15.02	End Protection	Brick on the edging (125mm across) with 1st class/picked		m	0.00
6	3.2.15.03		CC Block on end edging (375mm across) with cc blocks (375mm x 100mm x 225mm)		m	0.00
7	3.2.25.03.1		CC Block on end edging (375mm across) with cc blocks		m	2,000.00
8	3.1.06.02	Improved Subgrade	Sand (FM 0.50) filling (ISG) .....		m <sup>3</sup>	555.00
9	3.2.02.03		Providing Compacted aggregate sand (AS) Sub-base Course .....		m <sup>3</sup>	0.00
10	5.02		Single layer brick flat soling with 1st class or picked jhama .....		m <sup>2</sup>	3,700.00
11	3.2.02.02	Base Course	Providing laying, spreading and compacting 38mm down graded aggregates .....		m <sup>3</sup>	0.00
12	3.2.25		Prime coat with cut back bitumen .....		m <sup>2</sup>	0.00
13	3.2.29.1		25mm thick (compacted) pre-mixed bitumenous carpeting to be prepared using 20mm down-stone chips .....		m <sup>2</sup>	0.00
14	3.2.24.04		Providing tack coat with 60/70 or 80/100 penetration grade .....		m <sup>2</sup>	0.00
15	3.2.34		7mm thick (compacted) pre-mixed bitumenous seal coat to be prepared using 6.33mm down pea gravel or crush stone .....		m <sup>2</sup>	0.00
16	4.2.03.01.1		Reinforcement cement Concrete (RCC) works in .....		m <sup>3</sup>	603.00
17	4.2.06.01		Supply and fabrication of MS high strength deformed		kg	16,740.00
18	3.2.11.01		Single layer CC Block soling with CC Block ((375mm x 100mm x 225mm)		m <sup>2</sup>	0.00
19	5.028		Providing polytene sheet (0.18mm thick) on floor .....		m <sup>2</sup>	3,700.00
20	5.103.04		Flush pointing to CC Block laying for pavement .....		m <sup>2</sup>	0.00
21	5.2		Supplying, fittings sign board (6'-0" x 4'-0") fitted with strong bambo .....		No	1.00

Source : Technical Viability Study of Block Road, Community based Resource Management Project Final Report (April 2011, BRTC and BUET)



**Block Road Section (Non- submerged, Village Road) for 1.0 km**

**No.5**

SN No.	Item Code	Layers	Description in Brief	Calculation	Unit	Quantity
1	2.1.02	Bed preparation	Cleaning by removal and disposal		LS	1.00
2	2.1.04.02.3		Earth filling with works with specified soil in type of embankment .....	$= (1/2 * (3.67 + 6.67) * 1.0 - 1/2 * (2.6 + 5.6) * 1.0) * 1000$	m <sup>3</sup>	1,070.00
3	2.1.08.01		Manual Compaction of earth in 150 mm thick compacted .....		m <sup>3</sup>	1,070.00
4	3.1.04		Earth work in box cutting	$= 2.47 * 1000$	m <sup>2</sup>	2,470.00
5	3.2.15.02	End Protection	Brick on the edging (125mm across) with 1st class/picked		m	0.00
6	3.2.15.03		CC Block on end edging (375mm across) with cc blocks (375mm x 100mm x 225mm)		m	2,000.00
7	3.2.15.01		CC Block on end edging (375mm across) with cc blocks		m	0.00
8	3.1.06.02	Improved Subgrade	Sand (FM 0.50) filling (ISG).....	$= 2.47 * 0.15 * 1000$	m <sup>3</sup>	371.00
9	3.2.02.03		Providing Compacted aggregate sand (AS) Sub-base Course.....		m <sup>3</sup>	0.00
10	5.02		Single layer brick flat soling with 1st class or picked jhama.....		m <sup>2</sup>	0.00
11	3.2.02.02	Base Course	Providing laying, spreading and compacting 38mm down graded aggregates.....		m <sup>3</sup>	0.00
12	3.2.25		Prime coat with cut back bitumen.....		m <sup>2</sup>	0.00
13	3.2.29.1		25mm thick (compacted) pre-mixed bitumenous carpeting to be prepared using 20mm down-stone chips.....		m <sup>2</sup>	0.00
14	3.2.24.04		Providing tack coat with 60/70 or 80/100 penetration grade.....		m <sup>2</sup>	0.00
15	3.2.34		7mm thick (compacted) pre-mixed bitumenous seal coat to be prepared using 6.33mm down pea gravel or crush stone.....		m <sup>2</sup>	0.00
16	4.2.03.01.1		Reinforcement cement Concrete (RCC) works in.....		m <sup>3</sup>	0.00
17	4.2.06.01		Supply and fabrication of MS high strength deformed		kg	0.00
18	3.2.11.01		Single layer CC Block soling with CC Block ((375mm x 100mm x 225mm)	$= 2.270 * 1000$	m <sup>2</sup>	2,270.00
19	5.028		Providing polytene sheet (0.18mm thick) on floor....		m <sup>2</sup>	0.00
20	5.103.04		Flush pointing to CC Block laying for pavement.....	$= 2.470 * 1000$	m <sup>2</sup>	2,470.00
21	5.2		Supplying, fittings sign board (6'-0" x 4'-0") fitted with strong bambo.....		No	1.00

Source : Technical Viability Study of Block Road, Community based Resource Management Project Final Report (April 2011, BRTC and BUET)

## Block Road Section (submerged, Village Road) for 1.0 km

SN No.	Item Code	Layers	Description in Brief	Calculation	Unit	Quantity
1	2.1.02	Bed preparation	Cleaning by removal and disposal		LS	1.00
2	2.1.04.02.3		Earth filling with works with specified soil in type of embankment .....	$= (1/2 * (3.67 + 6.67) * 1.0 - 1/2 * (2.6 + 5.6) * 1.0) * 1000$	m <sup>3</sup>	1,070.00
3	2.1.08.01		Manual Compaction of earth in 150 mm thick compacted .....		m <sup>3</sup>	1,070.00
4	3.1.04		Earth work in box cutting	$= 2.47 * 1000$	m <sup>2</sup>	2,470.00
5	3.2.15.02	End Protection	Brick on the edging (125mm across) with 1st class/picked		m	0.00
6	3.2.15.03		CC Block on end edging (375mm across) with cc blocks (375mm x 100mm x 225mm)		m	0.00
7	3.2.15.01		CC Block on end edging (375mm across) with cc blocks		m	2,000.00
8	3.1.06.02	Improved Subgrade	Sand (FM 0.50) filling (ISG).....	$= 2.47 * 0.15 * 1000$	m <sup>3</sup>	371.00
9	3.2.02.03		Providing Compacted aggregate sand (AS) Sub-base Course.....		m <sup>3</sup>	0.00
10	5.02		Single layer brick flat soling with 1st class or picked jhama.....		m <sup>2</sup>	0.00
11	3.2.02.02	Base Course	Providing laying, spreading and compacting 38mm down graded aggregates.....		m <sup>3</sup>	0.00
12	3.2.25		Prime coat with cut back bitumen.....		m <sup>2</sup>	0.00
13	3.2.29.1		25mm thick (compacted) pre-mixed bitumenous carpeting to be prepared using 20mm down-stone chips.....		m <sup>2</sup>	0.00
14	3.2.24.04		Providing tack coat with 60/70 or 80/100 penetration grade.....		m <sup>2</sup>	0.00
15	3.2.34		7mm thick (compacted) pre-mixed bitumenous seal coat to be prepared using 6.33mm down pea gravel or crush stone.....		m <sup>2</sup>	0.00
16	4.2.03.01.1		Reinforcement cement Concrete (RCC) works in.....		m <sup>3</sup>	0.00
17	4.2.06.01		Supply and fabrication of MS high strength deformed		kg	0.00
18	3.2.11.01		Single layer CC Block soling with CC Block ((375mm x 100mm x 225mm))	$= 2.270 * 1000$	m <sup>2</sup>	2,270.00
19	5.028		Providing polytene sheet (0.18mm thick) on floor....		m <sup>2</sup>	0.00
20	5.103.04		Flush pointing to CC Block laying for pavement.....	$= 2.470 * 1000$	m <sup>2</sup>	2,470.00
21	5.2		Supplying, fittings sign board (6'-0" x 4'-0") fitted with strong bambo.....		No	1.00

Source : Technical Viability Study of Block Road, Community based Resource Management Project Final Report (April 2011, BRTC and BUET)

No.10

Road safety measures (guard post & sign board) for 2.0 km

SL No.	Item Code	Item of Works	Calculation			Unit	Quantity
1	3.2.68	Supply and installation of guard post (10 guard post per curve section)	n = 2*10*2	=	40.00	no.	40.00
2	LGED Standard	Supply and installation of sign board	n = 2*8	=	16.00	no.	16.00

**Ghat (Boat Landing Step)**

**No.22**

SL No.	Item Code	Item oWorksf	Calculation	Unit	Quantity
1		Excavation	$V1 = (1/2*(1.1+2.5)*1.4)*(1.5+0.5+0.5+0.35*2) = 8.06$	m <sup>3</sup>	
			$V = 8.06*4 = 32.24$	m <sup>3</sup>	32.24
2		Reinforreteced concrete	$V1 = (1.0*4+1.677*3)*1.5*0.3 = 4.06$	m <sup>3</sup>	
			$V2 = (1/2*0.250*0.125)*1.5*(6*3) = 0.42$	m <sup>3</sup>	
			$V3 = (((0.75*0.15)+(0.50*0.15)+(0.25*1.10))*1.50*4 = 2.78$	m <sup>3</sup>	
			$V = 4.06+0.42+2.78 = 7.26$	m <sup>3</sup>	7.26
3		Reinforced bar	$W = 7.26*0.1 = 0.73$	t	0.73
4		Form	$A1 = (1.0*4+1.677*3)*0.3*2 = 5.42$	m <sup>2</sup>	
			$A2 = (1/2*0.250*0.125)*(6*3)*2 = 0.56$	m <sup>2</sup>	
			$A3 = (((0.75*0.15)+(0.50*0.15)+(0.25*1.10))*2+1.4*1.5*2)*4 = 20.50$	m <sup>2</sup>	
			$A = 5.42+0.56+20.50 = 26.48$	m <sup>2</sup>	26.48
5		Earth Filling		m <sup>3</sup>	200.00

## Appendix 4.8 Land Acquisition

[Finalized List of Subproject]

## RURAL ROAD LAND ACQUISITION

Ranki	No.	District	Upazila	Road Code	Road Name	Road Class	Crest Width (m)		Land Acquisition			Haor Project(29)
							Existing ①	Plan ②	Ares (m2/m) ③=②-①	Length (km) ④	Area (m2) ⑤=③×④	
1	4-103	Habiganj	Baniachang	636113013	Subidpur Up office-Aowar Mohal Bazar Via Kabirpur, Niamat pur	UNR	2.30	5.050	2.750	7.40	20,350	R13
2	4-7	Habiganj	Sadar	636444065	Bohula 2no word Pirbari - Paschim Haor Road	VRB	2.00	3.670	1.670	3.00	5,010	R13
3	1-44	Kishoreganj	Karimganj	348422008	Niamatpur-Gundhar GC Road via Fazilkhali Bazar	UZR	7.32	5.750	-1.570	12.90		N9
4	2-4	Netrokona	Purbadhala	372833012	Ghagra UP (Kapashia)-Jaria Bazar road via Katwari	UNR	3.20	5.050	1.850	6.00	11,100	R1
5	3-123	Sunamganj	SUNAMG	690892009	R&H (Rabarbari)-Baishber-Joynagar GC Road.(Laxmansree/Mohanpur)	UZR	3.00	5.750	2.750	8.30	22,825	N12
6	4-100	Habiganj	Baniachang	636112007	Kadir Gonj Ge-Paharpur Gc Via Karcha	UZR	3.00	5.750	2.750	5.00	13,750	R8
7	4-105	Habiganj	Baniachang	636113017	Bithangal Ge-Hobigonj - Sujathpur Road Via Monduri Up office , Bijoypur,	UNR	2.11	5.050	2.940	3.00	8,820	R10
8	4-55	Habiganj	Azmiriganj	636024002	Pirojpur Lanchghat-Jalsuka bazar Rd.	VRA	3.00	3.670	0.670	2.00	1,340	R8
9	2-19	Netrokona	Khailajuri	372384012	Hayatpur-Chanpur via Khusalpur	VRA	3.00	3.670	0.670	5.00	3,350	R15
10	3-158	Sunamganj	chin Sunamg	690932011	Santiganj bazar (UZ HQ.)-Rajaniganj bazar( Patharia GC) via Dungria Road.	UZR	5.50	5.750	0.250	15.13	3,783	N12
11	1-21	Kishoreganj	Austagram	348022002	Austagram-Mitamoin Road	UZR	5.50	5.750	0.250	10.20	2,550	N6
12	1-3	Kishoreganj	Pakundia	348793006	Hossendi UP-Ashutia old bazer Rd via Mongalbaria and Thutarja	UNR	3.66	5.050	1.390	11.94	16,597	R5
13	1-4	Kishoreganj	Pakundia	348793007	Pakundia UP-Mosua hat via Saluadi	UNR	2.90	5.050	2.150	9.97	21,436	R5
14	1-9	Kishoreganj	Itna	348332004	Itna-Kakailchew Road	UZR	4.48	5.750	1.270	13.37	16,980	N9
15	1-15	Kishoreganj	Sadar	348494052	Baratopa-Thadapara Bazer Road	VRA	3.00	3.670	0.670	4.66	3,122	R4
16	1-18	Kishoreganj	Nikli	348764005	Jariatata UP office-Chetra Road	VRA	2.44	3.670	1.230	2.00	2,460	N1
17	1-29	Kishoreganj	Hossainpur	348274038	Gangahatia bazar-Janata bazar/via Abdul Aziz H/S road	VRA	3.00	3.670	0.670	4.87	3,263	R4
18	1-35	Kishoreganj	Mithamoin	348593001	Mithamoin Noya hati-Dhaki UP Office Rd.	UNR	3.60	5.050	1.450	9.59	13,906	N2
19	1-26	Kishoreganj	Hossainpur	348273007	Char Pundi bazar-Pundi UP H/Q Road	UNR	4.00	5.050	1.050	4.45	4,673	R4
20	4-54	Habiganj	Azmiriganj	636025034	Anandopur Ghat - Anadopur Village	VRB	2.50	3.670	1.170	1.80	2,106	R9
21	1-22	Kishoreganj	Austagram	348023004	Austagram-Badha ghat-Kalma UP office road	UNR	3.66	5.050	1.390	9.53	13,247	N6
22	1-28	Kishoreganj	Hossainpur	348273010	Gobindapur UP H/Q-Janata bazar Road	UNR	4.80	5.050	0.250	4.00	1,000	R4
23	1-48	Kishoreganj	Kuliarchar	348543006	Dumrakanda Bazar-Ramdi UP Office Rd.	UNR	4.88	5.050	0.170	5.38	915	R9
24	3-126	Sunamganj	SUNAMG	690893001	R&H road Janigaon-Joynagar Bazar Road (Laxmansree/Mohanpur)	UNR	2.50	5.050	2.550	7.70	19,635	N12
25	4-47	Habiganj	Azmiriganj	636022003	Azmirigonj - Paharpur road.	UZR	7.32	5.750	-1.570	14.06		R8
26	1-23	Kishoreganj	Austagram	348023005	Austagram-Mohishertilla-Gagra UP office Rd	UNR	2.66	5.050	2.390	11.37	27,174	N6
27	4-49	Habiganj	Azmiriganj	636022005	Paharpur - Baniachong Via Jhilsuik.	UZR	2.50	5.750	3.250	7.02	22,815	R13
28	1-5	Kishoreganj	Bajitpur	348063001	Ujanchar bazar-Halimpur UP Rd	UNR	2.75	5.050	2.300	7.06	16,238	N8
29	1-8	Kishoreganj	Itna	348335041	Mowra-Chandrapur hat Rd.	VRB	3.66	3.670	0.010	3.00	30	N7
30	1-34	Kishoreganj	Mithamoin	348592002	Mithamoin Sadar-Karimganj Boardar Balikhola Road	UZR	5.00	5.750	0.750	10.00	7,500	N2
31	1-36	Kishoreganj	Mithamoin	348594001	Singua Ferry ghat-Bagadia Bazar Rd.	VRA	3.30	3.670	0.370	3.00	1,110	N2
32	1-37	Kishoreganj	Tarail	348923004	Thana H.Q-Dhamiha Bazer	UNR	3.00	5.050	2.050	3.54	7,257	N7
33	3-89	Sunamganj	Derai	690292004	Derai Bazar-Dhol-Marculi Road	UZR	3.70	5.750	2.050	1.84	3,772	R8
34	4-8	Habiganj	Bahubal	636053004	Satkapan UP Office (Chalitatala)-Bakterpur via Shoaia bazar Rd	UNR	4.00	5.050	1.050	4.50	4,725	R13
35	4-109	Habiganj	Baniachang	636114049	Pukra Up office -Kandipura village Riad Via Darowa, Sathgran High School	VRA	2.50	3.670	1.170	3.13	3,662	R13



[Finalized List of Subproject]

**RURAL ROAD LAND ACQUISITION**

Ranki	No.	District	Upazila	Road Code	Road Name	Road Class	Crest Width (m)		Land Acquisition		Area (m <sup>2</sup> ) ⑥=③×⑤	Haor Project(29)
							Existing ①	Plan ②	Ares (m <sup>2</sup> /m) ③=②-①	Length (km) ⑤		
1	4-103	Habiganj	Baniachang	636113013	Subidpur Up office-Aowar Mohal Bazar Via Kabirpur, Niamat pur	UNR	2.30	5.050	2.750	7.40	20,350	R13
2	4-7	Habiganj	Sadar	636444065	Bohula 2no word Pirbari - Paschim Haor Road	VRB	2.00	3.670	1.670	3.00	5,010	R13
3	1-44	Kishoreganj	Karimganj	348422008	Niamatpur-Gundhar GC Road via Fazilkhali Bazar	UZR	7.32	5.750	-1.570	12.90		N9
4	2-4	Netrokona	Purbadhala	372833012	Ghagra UP (Kapashia)-Jarja Bazar road via Katwari	UNR	3.20	5.050	1.850	6.00	11,100	R1
36	1-10	Kishoreganj	Ina	348333007	Badla UP-Barshikura Hat Road	UNR	3.60	5.050	1.450	3.00	4,350	N7
37	1-39	Kishoreganj	Tarail	348923010	Jawer UP-Dhamiha UP via Echaphashar	UNR	3.10	5.050	1.950	3.31	6,455	N6
38	1-47	Kishoreganj	Kuliarchar	348543002	Chhaysuti UP Office[R&H]-Paltia Bazar via Madhobdi, Pailanpur R	UNR	4.88	5.050	0.170	4.97	845	R7
39	2-3	Netrokona	Purbadhala	372833002	Purbadhala (Kalduar)-Ghagra UP (Kapashia) road via Ghagra bazar	UNR	4.67	5.050	0.380	3.36	1,277	R1
40	3-70	Sunamganj	Jamalganj	690502004	Sachna Bazar - Beheli GC - Taherpur	UZR	5.50	5.750	0.250	0.15	38	N12
41	4-53	Habiganj	Azmiriganj	636025035	Solori - Shhibpasha.	VRB	2.50	3.670	1.170	8.50	9,945	R8
42	4-106	Habiganj	Baniachang	636114013	Habigonj-Baniyachong RHD to Sunaru vill	VRA	2.00	3.670	1.670	1.00	1,670	R13
43	4-107	Habiganj	Baniachang	636114019	Shibgonj Bazar to halderpur Chiloni road	VRA	1.50	3.670	2.170	3.00	6,510	N13
44	4-58	Habiganj	Azmiriganj	636025026	Kamulpur Ghat - Kamulpur Pry School.	VRB	2.25	3.670	1.420	2.75	3,905	R9
45	3-47	Sunamganj	Dharmapasha	690322007	Joysree-Moddhanog Via Ramdiga Road.	UZR	3.70	5.750	2.050	17.46	35,793	N4
46	1-2	Kishoreganj	Pakundia	348793005	Hossendi UP-Mokhola GC Via Alandi	UNR	4.60	5.050	0.450	8.30	3,735	R5
47	1-19	Kishoreganj	Nikli	348765009	Guroi UP office-Chapirchar Rd	VRB	3.65	3.670	0.020	0.64	13	N8
48	1-25	Kishoreganj	Hossainpur	348273005	Gobindapur Chowrasta bazar-Gobindapur UP H/Q Road	UNR	3.90	5.050	1.150	2.08	2,392	R4
49	1-27	Kishoreganj	Hossainpur	348273009	Adu Master bazar-Shahedal UP H/Q Road	UNR	4.50	5.050	0.550	3.00	1,650	R4
50	1-32	Kishoreganj	Katiadi	348453007	Achmita UP H/Q.-Pong Masua bazar Rd.	UNR	3.65	5.050	1.400	2.10	2,940	R6
51	2-6	Netrokona	Purbadhala	372834065	Kalihor R&H-Dampara via Chander Bazar	VRA	3.00	3.670	0.670	3.00	2,010	R1
52	2-7	Netrokona	Purbadhala	372835039	Shahala-Hatkhala Bazar	VRB	2.75	3.670	0.920	3.20	2,944	R1
53	2-20	Netrokona	Barhatta	372092007	Amotala-Samaj GC Road (Barhatta Portion)	UZR	4.40	5.750	1.350	6.24	8,424	N5
54	3-132	Sunamganj	SUNAMG	690894005	Tokerghat-Bahadurpur Rd.(Laxmansreec)	VRA	2.00	3.670	1.670	3.60	6,012	N12
55	4-10	Habiganj	Bahubal	636054079	Guharua Pry. School - Panchparia Road Via Stluice gate Durga pur .	VRA	3.75	3.670	-0.080	5.00		R13
56	4-48	Habiganj	Azmiriganj	636023001	Pashchimbag - Azmirigonj Road	UNR	2.50	5.050	2.550	8.45	21,548	R8
57	4-59	Habiganj	Azmiriganj	636025012	G C C Road - Ronia Road.	VRB	3.00	3.670	0.670	2.10	1,407	R8
58	4-57	Habiganj	Azmiriganj	636025008	Pituarkandi Ghat - Shalla Highschool.	VRB	3.50	3.670	0.170	3.65	621	R8
59	4-52	Habiganj	Azmiriganj	636025027	Kakilsow Bazar - Rahala Rd.	VRB	2.80	3.670	0.870	2.25	1,958	R9
60	1-11	Kishoreganj	Sadar	348493009	Danapatuli UP-Jalia bazar	UNR	4.88	5.050	0.170	2.61	444	N1
61	2-11	Netrokona	Atpara	372045037	Sukari Badirakola	VRB	2.00	3.670	1.670	2.00	3,340	N11
62	3-102	Sunamganj	Derai	690294018	Nagergaon Ferryghat-Nasnibazar	VRA	2.50	3.670	1.170	2.00	2,340	R8
63	3-103	Sunamganj	Derai	690294019	Akilha Bazar-Nagergaon via Kulanje	VRA	3.00	3.670	0.670	2.00	1,340	R8
64	3-104	Sunamganj	Derai	690294020	Akilha Bazar-Nasni Bazar	VRA	2.50	3.670	1.170	1.25	1,463	R8
65	4-4	Habiganj	Sadar	636444035	Poil-Pachparia Rd.	VRA	3.50	3.670	0.170	4.20	714	R13
66	4-15	Habiganj	Bahubal	636055058	Shuaiyabazar-Ruyail	VRB	3.00	3.670	0.670	6.00	4,020	R13

## [Finalized List of Subproject]

## RURAL ROAD LAND ACQUISITION

Ranki	No.	District	Upazila	Road Code	Road Name	Road Class	Crest Width (m)		Land Acquisition		Area (m <sup>2</sup> ) ⑥=③×⑤	Haor Project(29)
							Existing ①	Plan ②	Ares (m <sup>2</sup> /m) ③=②-①	Length (km) ⑤		
1	4-103	Habiganj	Baniachang	636113013	Subidpur Up office-Aowar Mohal Bazar Via Kabirpur, Niamat pur	UNR	2.30	5.050	2.750	7.40	20,350	R13
2	4-7	Habiganj	Sadar	636444065	Bohula 2no word Pirbari - Paschim Haor Road	VRB	2.00	3.670	1.670	3.00	5,010	R13
3	1-44	Kishoreganj	Karimganj	348422008	Niamatpur-Gundhar GC Road via Fazilkhali Bazar	UZR	7.32	5.750	-1.570	12.90		N9
4	2-4	Netrokona	Purbadhala	372833012	Ghagra UP (Kapashia)-Jaria Bazar road via Katwari	UNR	3.20	5.050	1.850	6.00	11,100	R1
67	4-56	Habiganj	Azmiriganj	636025006	Bong rd - Paddy land Rd	VRB	3.00	3.670	0.670	5.10	3,417	R8
68	2-28	Netrokona	Barhatta	372094015	Rambhadrapur FRB-Naihati Bazar Rd	VRA	2.92	3.670	0.750	4.39	3,293	N5
69	3-166	Sunamganj	chin Sunamg	690934021	Ganiganj RHD-Jibdara Road.	VRA	3.70	3.670	-0.030	4.70		N12
70	4-12	Habiganj	Bahubal	636054010	Khagaura Bagdair Road	VRA	3.00	3.670	0.670	5.80	3,886	R13
71	4-51	Habiganj	Azmiriganj	636025023	Kakilsow GCCR - Rosulpur.	VRB	3.00	3.670	0.670	2.10	1,407	R9
72	3-50	Sunamganj	Dharmapasha	690323005	Modhayanagar bazar-Golha Rd.	UNR	3.00	5.050	2.050	8.00	16,400	N4
73	2-5	Netrokona	Purbadhala	372835052	Jaria Purbopara-Jaria Switch Gate via RPSchool Rd.	VRB	2.50	3.670	1.170	3.00	3,510	R2
74	2-9	Netrokona	Atpara	372045034	Ukrakhal Road	VRB	2.00	3.670	1.670	1.75	2,923	N11
75	2-10	Netrokona	Atpara	372045036	Duaz bazar road	VRB	2.50	3.670	1.170	1.50	1,755	N11
76	2-16	Netrokona	Khailajuri	372383009	Upazila HQ - Gazipur UP office rd.	UNR	5.00	5.050	0.050	3.23	161	R15
78	3-79	Sunamganj	Jamalganj	690505037	Sukdebpur - Radanagar Road	VRB	3.70	3.670	-0.030	0.04		N12
79	3-99	Sunamganj	Derai	690294012	Tarapasa-Tongor	VRA	3.00	3.670	0.670	2.00	1,340	R8
80	3-101	Sunamganj	Derai	690294017	Boalia Bazar-Bhaitgaon	VRA	2.50	3.670	1.170	2.00	2,340	R8
81	3-131	Sunamganj	SUNAMG	690894022	RHD(Haluargoan)-Islampur.(Laxmansree)	VRA	2.00	3.670	1.670	2.20	3,674	N12
82	3-135	Sunamganj	SUNAMG	690894073	Bahaderpur RHD to Nurulla Village Road.(Laxmansree/Mohanpur)	VRA	2.00	3.670	1.670	4.00	6,680	N12
83	3-142	Sunamganj	SUNAMG	690895111	Katair joynagor GC road (Noagaon)-Kandigoan village road.(Katair)	VRB	2.00	3.670	1.670	3.00	5,010	N12
84	3-152	Sunamganj	SUNAMG	690895038	Katair-Joynagar Road to Narkila GPS.(Mohanpur)	VRB	1.50	3.670	2.170	2.00	4,340	N12
85	3-174	Sunamganj	chin Sunamg	690934048	Ashammura Pry. School-Puran -Kandigoan Road.	VRA	3.70	3.670	-0.030	3.81		N12
<b>TOTAL</b>											506,733	

HAT [Finalized List]								29 Haor	
No.	List No.	District	Upazila	Union name	Hat name	Type		Land Acquisition (m2)	Haor project No.
3	1-9	Kishoreganj	Sadar	Danapatuli	Kaliar Kanda Bazar	RM	New	2,464	N1
7	1-27	Kishoreganj	"	Saharam Dhuldia	Dhuldia Hat	GC	Rehabilitation		N1
9	1-41	Kishoreganj	"	Joyka	Shadakhali	RM	New	2,464	N1
<b>N1</b>								<b>4,928</b>	
8	1-32	Kishoreganj	"	Gopdighi	Bogadia	RM	New	2,464	N2
<b>N2</b>								<b>2,464</b>	
<b>N3</b>								<b>0</b>	
19	3-16	Sunamganj	Dhamapasha	Selborash	Badshagonj	RM	New	2,464	N4
<b>N4</b>								<b>2,464</b>	
<b>N5</b>								<b>0</b>	
<b>N6</b>								<b>0</b>	
<b>N7</b>								<b>0</b>	
<b>N8</b>								<b>0</b>	
2	1-4	Kishoreganj	Itna	Joysiddhi	Mudirgaon	RM	New	2,464	N9
<b>N9</b>								<b>2,464</b>	
<b>N10</b>								<b>0</b>	
<b>N11</b>								<b>0</b>	
20	3-45	Sunamganj	Sunamganji Sadar	Mohanpur	Joynagar	GC	Rehabilitation		N12
<b>N12</b>								<b>0</b>	
<b>N13</b>								<b>0</b>	
<b>N14</b>								<b>0</b>	
11	2-5	Netrokona	"	Hogla	Patra Bazar	RM	New	2,464	R1
12	2-6	Netrokona	"	Ghagra	Ghagra Bazar	RM	New	2,464	R1
<b>R1</b>								<b>4,928</b>	
<b>R2</b>								<b>0</b>	
<b>R3</b>								<b>0</b>	
4	1-20	Kishoreganj	"	Pumdi	Pumdi bazar	RM	New	2,464	R4
5	1-21	Kishoreganj	"	"	Adu master bazar	RM	New	2,464	R4
6	1-22	Kishoreganj	"	"	Nimeukhali bazar	RM	New	2,464	R4
<b>R4</b>								<b>7,392</b>	
1	1-1	Kishoreganj	Pakundia	Agarosindur	Bahahadia	RM	New	2,464	R5
<b>R5</b>								<b>2,464</b>	
<b>R6</b>								<b>0</b>	
<b>R7</b>								<b>0</b>	
24	4-10	Habiganj	AZMIRIGANJ	Badolpur	Paharpur	GC	Rehabilitation		R8
<b>R8</b>								<b>0</b>	
25	4-11	Habiganj	AZMIRIGANJ	Kakailew	Nischintopur	RM	New	2,464	R9
28	4-20	Habiganj	Baniachong	Muradpur	Muradpur Bazar	RM	New	2,464	R9
<b>R9</b>								<b>4,928</b>	
27	4-19	Habiganj	Baniachong	Sujatpur	Sujatpur Bazar	GC	Rehabilitation		R10
<b>R10</b>								<b>0</b>	
<b>R11</b>								<b>0</b>	
<b>R12</b>								<b>0</b>	
21	4-3	Habiganj	HABIGANJ-S	Poil	Poil Natun Bazar	RM	Rehabilitation		R13
22	4-5	Habiganj	Bahubal	Putijuri up	Digoambar	RM	New	2,464	R13
23	4-7	Habiganj	Bahubal	Satkapon up	Shoai Bazer	RM	New	2,464	R13
26	4-17	Habiganj	Baniachong	Pukra	Aowar Mohal Bazar	RM	New	2,464	R13
<b>R13</b>								<b>7,392</b>	
<b>R14</b>								<b>0</b>	
16	2-13	Netrokona	"	MENDIPUR	Satgoan Bazar	RM	New	2,464	R15
<b>R15</b>								<b>2,464</b>	
<b>TOTAL</b>								<b>41,888</b>	

GHAT [Finalized List]					29 Haor	
No.	List No.	District	Upazila	Ghat name	Land Acquisition (m2)	Haor project No.
3	1-9	Kishoreganj	Sadar	Kaliarkanda Bazar Ghat	12	N1
9	1-32	Kishoreganj	Sadar	Panahar bazar Ghat	12	N1
10	1-33	Kishoreganj	Sadar	shudi bazar Ghat	12	N1
<b>N1</b>					<b>36</b>	
7	1-27	Kishoreganj	Sadar	Olua	12	N2
<b>N2</b>					<b>12</b>	
<b>N3</b>					<b>0</b>	
<b>N4</b>					<b>0</b>	
<b>N5</b>					<b>0</b>	
<b>N6</b>					<b>0</b>	
1	1-3	Kishoreganj	Itna	Bashikura bazar	12	N7
<b>N7</b>					<b>12</b>	
<b>N8</b>					<b>0</b>	
<b>N9</b>					<b>0</b>	
<b>N10</b>					<b>0</b>	
<b>N11</b>					<b>0</b>	
19	3-46	Sunamganj	SUNAMGANJ-SADAR	Joynagar Ghat	12	N12
20	3-55	Sunamganj	Dakhin Sunamganj	Pathariabazar GC	12	N12
21	3-56	Sunamganj	Dakhin Sunamganj	Birgaonbazar	12	N12
<b>N12</b>					<b>36</b>	
<b>N13</b>					<b>0</b>	
<b>N14</b>					<b>0</b>	
12	2-4	Netrokona	Purbadhala	Patra Ghat	12	R1
13	2-5	Netrokona	Purbadhala	Ghagra Ghat	12	R1
14	2-6	Netrokona	Purbadhala	Moheshpotti Ghat	12	R1
<b>R1</b>					<b>36</b>	
<b>R2</b>					<b>0</b>	
<b>R3</b>					<b>0</b>	
4	1-18	Kishoreganj	Sadar	Char Pumdi bazar Ghat	12	R4
5	1-19	Kishoreganj	Sadar	Rampur bazar Ghat	12	R4
<b>R4</b>					<b>24</b>	
<b>R5</b>					<b>0</b>	
<b>R6</b>					<b>0</b>	
8	1-30	Kishoreganj	Sadar	Kacharighat	12	R7
<b>R7</b>					<b>12</b>	
18	3-37	Sunamganj	Derai	Boalia	12	R8
<b>R8</b>					<b>12</b>	
2	1-4	Kishoreganj	Itna	Joysiddhi bazar	12	R9
6	1-24	Kishoreganj	Sadar	Char Katkhal	12	R9
<b>R9</b>					<b>24</b>	
24	4-11	Habiganj	Baniachonj	Sujath pur Bazar	12	R10
<b>R10</b>					<b>12</b>	
<b>R11</b>					<b>0</b>	
<b>R12</b>					<b>0</b>	
22	4-2	Habiganj	HABIGANJ-S	Purbo Poil Bazar Ghat	12	R13
23	4-3	Habiganj	HABIGANJ-S	Poil Natun Bazar Ghat	12	R13
<b>R13</b>					<b>24</b>	
17	3-9	Sunamganj	Sulla	Rahutola Bazar Ghat	12	R14
<b>R14</b>					<b>12</b>	
<b>R15</b>					<b>0</b>	
<b>TOTAL</b>					<b>252</b>	

Appendix 4.9 Resettlement  
Rural Road Resettlement (1/2)

29

## Rural Road Resettlement

[Finalized List of Subproject]

Ranking	No.	District	Upazila	Road Code	Road Name	Resettlement number	Existing					Plan			Hao Project(29)				
							Beneficiary	Crs. Width (m)	Surface Type (km)			Length (km)		Road Class		Bridg (m)	Culvert (m)		
									Earthen	Flexible	Bric	Rigid	Submergible					non-submergi	Total
1	4-103	Habiganj	Baniachang	636113013	Subidpur Up office-Aowar Mohal Bazar Via Kabirpur, Niamat pur	0	350,000	2.30	8.20	0.00	0.00	0.00	0.00	7.40	7.40	VRB	30	20	R13
2	4-7	Habiganj	Sadar	636444065	Bohula 2no ward Pirbari - Paschim Haor Road	0	120,000	2.00	3.00	0.00	0.00	0.00	0.00	3.00	3.00	VRB	0	10	R13
3	1-44	Kishoreganj	Karimganj	348422008	Niamapur-Gundhar GC Road via Fazilkhali Bazar	2	50,000	7.32	10.60	2.30	0.00	0.00	0.00	12.90	12.90	UZR	0	0	N9
4	2-4	Netrokona	Purbadhala	372853012	Ghagra UP (Kapashia)-Jaria Bazar road via Katwari	5	50,000	3.20	6.00	0.00	0.00	0.00	0.00	6.00	6.00	VRB	0	0	R1
5	3-123	Sunamganj	SUNAMGANJ	690892009	R&H (Rabarbari)-Baishber-Joynagar GC Road.(Laxmansree/Mohanpur)	0	50,000	3.00	6.20	0.00	0.00	2.10	8.30	0.00	8.30	UZR	0	23	N12
6	4-100	Habiganj	Baniachang	636112007	Kadir Gonj Ge-Paharpur Ge Via Karcha	0	50,000	3.00	6.50	0.00	0.00	0.00	0.00	5.00	5.00	UZR	50	20	R8
7	4-105	Habiganj	Baniachang	636113017	Bitthangal Ge-Hobigonj - Sujathpur Road Via Monduri Up office . Bijoypur,	0	50,000	2.11	11.00	0.00	0.00	0.00	1.30	1.50	3.00	VRB	100	30	R10
8	4-55	Habiganj		636024002	Pirojpur Laneghat-Jalsuka bazar Rd.	0	46,200	3.00	2.40	0.00	0.00	0.00	2.00	0.00	2.00	VRB	0	10	R8
9	2-19	Netrokona	Khailajuri	372384012	Udaypur-Chanpur via Khusalpur	0	45,000	3.00	5.00	2.88	0.00	0.00	0.00	5.00	5.00	VRB	0	0	R15
10	3-158	Sunamganj	akhin Sunamganj	690932011	Santiganj bazar (UZ HQ.)-Rojaniganj bazar( Patharia GC) via Dungria Road.	0	45,000	5.50	8.57	3.71	2.50	0.35	15.13	0.00	15.13	UZR	185	45	N12
11	1-21	Kishoreganj	Austagram	348022002	Austagram-Mithamin Road	1	40,200	5.50	9.84	0.00	0.00	0.36	10.20	0.00	10.20	UZR	0	0	N6
12	1-3	Kishoreganj	Pakundia	348793006	Hossendi UP-Ashuta old bazer Rd via Mongabaria and Thutoria	4	40,000	3.66	8.53	3.10	0.30	0.00	0.00	11.93	11.93	VRB	0	0	R5
13	1-4	Kishoreganj	Pakundia	348793007	Pakundia UP-Mosua hat via Saluadi	5	40,000	2.90	9.02	0.95	0.00	0.00	0.00	9.97	9.97	VRB	0	0	R5
14	1-9	Kishoreganj	Itna	348332004	Itna-Kakalchev Road	1	40,000	4.48	9.07	0.00	0.00	4.30	13.37	0.00	13.37	UZR	0	0	N9
15	1-15	Kishoreganj	Sadar	348494005	Biratoga-Thadpara Bazar Road	3	40,000	3.00	4.66	0.00	0.00	2.33	2.33	4.66	4.66	VRB	0	0	R4
16	1-18	Kishoreganj	Nikli	348764005	Janatala UP office-Chern Road	2	40,000	2.44	2.00	0.00	0.00	0.00	0.00	2.00	2.00	VRB	0	0	N1
17	1-29	Kishoreganj	Hossainpur	348274038	Gangahaia bazar-Janata bazaria Abdul Aziz H/S road	4	40,000	3.00	2.95	1.92	0.00	0.00	0.00	4.87	4.87	VRB	0	0	R4
18	1-35	Kishoreganj	Mithamin	348593001	Mithamin Nova hali-Dhaki UP Office Rd.	2	40,000	3.60	9.12	0.00	0.00	0.48	9.59	0.00	9.59	VRB	0	0	N2
19	1-26	Kishoreganj	Hossainpur	348273007	Char Pundi bazar-Pundi UP H/Q Road	3	38,000	4.00	2.82	1.63	0.00	0.00	0.00	4.45	4.45	VRB	0	0	R4
20	4-54	Habiganj	Azmiriganj	636025034	Anandapur Ghat - Anadepur Village	0	36,000	2.50	1.80	0.00	0.00	1.00	1.80	0.00	1.80	VRB	55	10	R9
21	1-22	Kishoreganj	Austagram	348023004	Austagram-Badha ghat-Kalma UP office road	1	35,000	3.66	9.53	0.00	0.00	0.00	9.53	0.00	9.53	VRB	0	0	N6
22	1-28	Kishoreganj	Hossainpur	348273010	Gobindapur UP H/Q-Janata bazar Road	4	35,000	4.80	1.88	2.12	0.00	0.00	0.00	4.00	4.00	VRB	0	0	R4
23	1-48	Kishoreganj	Kuliarchar	348543006	Dumrakanda Bazar-Ramdi UP Office Rd	5	35,000	4.88	4.38	1.00	0.00	0.00	0.00	5.38	5.38	VRB	0	0	R9
24	3-126	Sunamganj	SUNAMGANJ	690893001	R&H road Janigaon-Joynagar Bazar Road (Laxmansree/Mohanpur)	0	35,000	2.50	4.12	1.00	0.58	2.00	3.85	3.85	7.70	VRB	0	10	N12
25	4-47	Habiganj	Azmiriganj	636022003	Azmiriganj - Paharpur road.	0	35,000	7.52	16.06	0.00	0.00	0.00	0.00	14.06	14.06	UZR	0	0	R8
26	1-23	Kishoreganj	Austagram	348023005	Austagram-Mohishertilla-Gagra UP office Rd	2	34,000	2.66	7.80	0.00	0.00	3.57	11.37	0.00	11.37	VRB	0	0	N6
27	4-49	Habiganj	Azmiriganj	636022005	Paharpur - Baniachong Via Jhilsuk.	0	31,200	2.50	9.02	0.00	0.00	0.00	7.02	0.00	7.02	UZR	0	63	R13
28	1-5	Kishoreganj	Bajripur	348063001	Ujanchar Bazar-Halimpur UP Rd	4	30,000	2.75	2.86	4.20	0.00	0.00	0.00	7.06	7.06	VRB	0	0	N8
29	1-8	Kishoreganj	Itna	348335041	Movra-Chandrapur hat Rd	1	30,000	3.66	1.95	0.00	0.00	1.05	3.00	0.00	3.00	VRB	0	0	N7
30	1-34	Kishoreganj	Mithamin	348592002	Mithamin Sadar-Karimganj Boardar Balikhola Road	2	30,000	5.00	6.51	0.00	1.22	2.27	10.00	0.00	10.00	UZR	0	0	N2
31	1-36	Kishoreganj	Mithamin	348594001	Singra Ferry ghat-Bagadia Bazar Rd.	3	30,000	3.30	3.00	0.00	0.00	0.00	3.00	0.00	3.00	VRB	0	0	N2
32	1-37	Kishoreganj	Tarai	348923004	Thana H.O-Dhaniba Bazar	4	30,000	3.00	3.54	0.00	0.00	0.00	0.00	3.54	3.54	VRB	0	0	N7
33	3-89	Sunamganj	Derai	690292004	Derai Bazar-Dhol-Marcuti Road	0	30,000	3.70	1.84	0.00	0.00	19.41	0.92	0.92	1.84	UZR	0	10	R8
34	4-6	Habiganj	Bahubal	636053004	Satkapur UP Office (Chalitalata)-Bakterpur via Sheonia bazar Rd	0	30,000	4.00	4.50	8.17	0.00	0.00	0.00	4.50	4.50	VRB	0	0	R13
35	4-109	Habiganj	Baniachang	636114049	Pakra Up office -Kandipura village Riad Via Darawa, Satthgan High School	0	30,000	2.50	3.13	0.00	0.00	0.00	0.00	3.13	3.13	VRB	0	10	R13
36	1-10	Kishoreganj	Itna	348333007	Badia UP-Barshikura Hat Road	2	25,000	3.60	3.00	0.00	0.00	0.00	3.00	0.00	3.00	VRB	0	0	N7
37	1-39	Kishoreganj	Tarai	348923010	Jawer UP-Dhaniba UP via Echapashar	5	25,000	3.10	3.31	0.00	0.00	0.00	3.31	0.00	3.31	VRB	0	0	N6
38	1-47	Kishoreganj	Kuliarchar	348543002	Chhoyanti UP Office(R&H)-Palita Bazar via Medhobdi. Palanpur R	6	25,000	4.88	2.47	1.99	0.51	0.00	0.00	4.97	4.97	VRB	0	0	R7
39	2-3	Netrokona	Purbadhala	372853002	Purbadhala (Kalduar)-Ghagra UP (Kapashia) road via Ghagra bazar	8	25,000	4.67	3.36	11.64	0.00	0.00	0.00	3.36	3.36	VRB	0	0	R1
40	3-70	Sunamganj	Jamalganj	690502004	Sachna Bazar - Beheli GC - Taherpur	0	25,000	3.50	0.50	0.00	0.00	8.00	0.15	0.00	0.15	UZR	20	0	N12
41	4-53	Habiganj	Azmiriganj	636025035	Solori - Shripasha.	0	25,000	2.50	8.50	0.00	0.00	0.00	8.50	0.00	8.50	VRB	0	12.7	R8
42	4-106	Habiganj	Baniachang	636114013	Habigonj-Baniyachong RHD to Sunaru vill	0	25,000	2.00	2.00	0.00	0.00	0.00	0.00	1.00	1.00	VRB	30	15	R13
43	4-107	Habiganj	Baniachang	636114019	Shibgonj Bazar to halderpur Chitleri road.	0	25,000	1.50	3.90	0.00	0.00	0.00	0.00	3.00	3.00	VRB	0	10	N13
44	4-58	Habiganj	Azmiriganj	636025026	Kamulpur Ghat - Kamulpur Pny School.	0	21,900	2.25	2.75	0.00	0.00	0.00	2.75	0.00	2.75	VRB	0	10	R9
45	3-47	Sunamganj	Dharmapasha	690322007	Joysee-Moddhanogor Via Ramdiga Road.	0	20,400	3.70	16.96	0.00	0.00	1.55	8.73	8.73	17.46	UZR	0	100	N4
46	1-2	Kishoreganj	Pakundia	348793005	Hossendi UP-Mokhola GC Via Alamdi	3	20,000	4.60	3.90	4.40	0.00	0.00	0.00	8.30	8.30	VRB	0	0	R5

Rural Road Resettlement (2/2)

Rural Road Resettlement		[Finalized List of Subproject]										Plan							
Ranking	No.	District	Upazila	Road Code	Road Name	Resettlement number	Existing				Length (km)			Road Class	Bridg (m)	Culvert (m)	Haor Project(20) No.		
							Beneficiary	Crest Width (m)	Surface Type (km)				Submergible					Non-submergible	Total
									Earthen	Flexible	Bric	Rigid							
47	1-19	Kishoreganj	Nikli	348765009	Guroi UP office-Chapirchar Rd	4	20,990	3.65	0.64	0.00	0.00	0.00	0.64	0.64	VRB	0	0	N8	
48	1-25	Kishoreganj	Hossainpur	348273005	Gobindapur Chowrasta bazar-Gobindapur UP HQ Road	3	20,000	3.90	0.75	1.33	0.00	0.00	0.00	2.08	2.08	VRB	0	0	R4
49	1-27	Kishoreganj	Hossainpur	348273009	Adu Master bazar-Shahedai UP HQ Road	5	20,000	4.50	1.00	2.00	0.00	0.00	0.00	3.00	3.00	VRB	0	0	R4
50	1-32	Kishoreganj	Kotiadi	348453007	Achmita UP HQ-Pong Masua bazar Rd.	5	20,000	3.65	1.00	1.10	0.00	0.00	0.00	2.10	2.10	VRB	0	0	R6
51	2-6	Netrokona	Purbadhala	372834065	Kalihar R&H-Dampara via Chandar Bazar	6	20,000	3.00	3.00	0.00	0.00	0.00	0.00	3.00	3.00	VRA	60	0	R1
52	2-7	Netrokona	Purbadhala	372835039	Shahala-Itakhalha Bazar	6	20,000	2.75	3.20	0.00	0.00	0.00	0.00	3.20	3.20	VRB	0	0	R1
53	2-20	Netrokona	Barhatta	372092007	Amjala-Samaj GC Road (Barhatta Portion)	0	20,000	4.40	6.24	4.70	0.00	0.00	6.24	0.00	6.24	UZR	0	0	N5
54	3-132	Sunamganj	SUNAMGANJ	690894005	Tokerghat-Bahadurpur Rd.(Laxmansree)	0	20,000	2.00	2.60	1.00	0.00	0.00	3.60	0.00	3.60	VRA	0	10	N12
55	4-10	Habiganj	Bahubal	636054079	Guharua Pny. School - Panchparia Road Via Sluice gate Durga pur	0	20,000	3.75	5.00	0.00	0.00	0.00	5.00	5.00	VRA	0	20	R13	
56	4-48	Habiganj	Azmiriganj	636023001	Pashchimbag - Azmiriganj Road.	0	19,200	2.50	7.25	1.20	0.00	0.00	4.23	4.22	8.45	VRB	0	50	R8
57	4-59	Habiganj	Azmiriganj	636025012	G C C Road - Ronia Road.	0	18,500	3.00	2.10	0.00	0.00	0.00	2.10	0.00	2.10	VRB	0	10	R8
58	4-57	Habiganj	Azmiriganj	636025008	Pituarikandi Ghat - Shalla Highschool.	0	17,600	3.50	3.65	0.00	0.00	0.00	3.65	0.00	3.65	VRB	0	10	R8
59	4-52	Habiganj	Azmiriganj	636025027	Kakilsow Bazar - Bahala Rd.	0	16,300	2.80	2.25	0.00	0.00	0.00	2.25	0.00	2.25	VRB	0	10	R9
60	1-11	Kishoreganj	Sadar	348493009	Danapatuli UP-Jalia bazar	5	15,000	4.88	1.11	1.50	0.00	0.00	0.00	2.61	2.61	VRB	0	0	N1
61	2-11	Netrokona	Atpara	372045037	Sukari Badirakola	0	15,000	2.00	2.00	0.00	0.00	0.00	2.00	0.00	2.00	VRB	0	0	N11
62	3-102	Sunamganj	Derai	690294018	Nagergaon Ferryghat-Nasribazar	0	15,000	2.50	4.50	0.00	0.00	2.50	2.00	0.00	2.00	VRB	0	0	R8
63	3-103	Sunamganj	Derai	690294019	Akilia Bazar-Nagergaon via Kulanje	0	15,000	3.00	2.31	0.00	0.00	5.10	2.00	0.00	2.00	VRA	0	40	R8
64	3-104	Sunamganj	Derai	690294020	Akilia Bazar-Nasri Bazar	0	15,000	2.50	2.25	0.00	0.00	2.00	0.00	1.25	1.25	VRA	20	20	R8
65	4-4	Habiganj	Sadar	636444035	Poil-Pachparia Rd.	0	15,000	3.50	4.20	1.70	0.60	0.00	0.00	4.20	4.20	VRA	0	0	R13
66	4-15	Habiganj	Bahubal	636055058	Shuaiyabazar-Ruvail	0	15,000	3.00	6.00	0.00	0.00	0.00	6.00	0.00	6.00	VRB	10	100	R13
67	4-56	Habiganj	Azmiriganj	636025006	Bong rd - Paddy land Rd	0	13,400	3.00	5.10	0.00	0.00	0.00	5.10	0.00	5.10	VRB	0	10	R8
68	2-28	Netrokona	Barhatta	372094015	Rambhadrapur FRB-Naihati Bazar Rd	11	13,000	2.92	4.39	2.01	0.00	0.00	0.00	4.39	4.39	VRA	0	0	N5
69	3-160	Sunamganj	akhin Sunamga	690934021	Ganiganj RHD-Jibdara Road.	0	12,000	3.70	4.70	0.00	0.00	0.00	4.70	0.00	4.70	VRA	0	19	N12
70	4-12	Habiganj	Bahubal	636054010	Khagaura-Bagdair Road	0	12,000	3.00	5.80	0.00	0.00	0.00	0.00	5.80	5.80	VRA	0	10	R13
71	4-51	Habiganj	Azmiriganj	636025023	Kakilsow GCCR - Rosulpur.	0	11,250	3.00	2.10	0.00	0.00	0.00	2.10	0.00	2.10	VRB	0	10	R9
72	3-50	Sunamganj	Dharmapasha	690323005	Modhayanagar bazar-Golha Rd.	0	10,500	3.00	8.00	0.00	0.00	1.00	8.00	0.00	8.00	VRB	0	42	N4
73	2-5	Netrokona	Purbadhala	372835052	Jaria Purbopara-Jaria Switch Gate via RPSchool Rd.	0	10,000	2.50	3.00	0.00	0.00	0.00	3.00	0.00	3.00	VRB	0	0	R2
74	2-9	Netrokona	Atpara	372045034	Ukraiha Road	2	10,000	2.00	1.75	0.00	0.00	0.00	1.75	0.00	1.75	VRB	0	0	N11
75	2-10	Netrokona	Atpara	372045036	Duaz bazar road	3	10,000	2.50	1.50	0.00	0.00	0.00	1.50	0.00	1.50	VRB	0	0	N11
76	2-16	Netrokona	Kharajuri	372383009	Upazila HQ - Gazipur UP office rd.	7	10,000	5.00	6.60	1.90	0.00	0.00	4.25	4.25	8.50	VRB	450	20	R15
78	3-79	Sunamganj	Jamalganj	690505037	Sukdebpur - Rudanagar Road	0	10,000	3.70	1.00	0.00	0.00	0.00	0.00	0.04	0.04	VRB	20	10	N12
79	3-99	Sunamganj	Derai	690294012	Tarapasa-Tongur	0	10,000	3.00	2.25	0.00	0.00	1.00	2.00	0.00	2.00	VRA	0	20	R8
80	3-101	Sunamganj	Derai	690294017	Boalia Bazar-Bhaitgaon	0	10,000	2.50	3.35	0.00	0.00	1.90	0.00	2.00	2.00	VRA	0	0	R8
81	3-131	Sunamganj	SUNAMGANJ	690894022	RHD(Haluargaon)-Islampur.(Laxmansree)	0	10,000	2.00	2.20	0.00	0.00	0.00	2.20	0.00	2.20	VRA	0	0	N12
82	3-135	Sunamganj	SUNAMGANJ	690894073	Bahaderpur RHD to Nurulla Village Road (Laxmansree/Mohanpur)	0	10,000	2.00	3.75	0.00	0.00	0.25	4.00	0.00	4.00	VRA	0	0	N12
83	3-142	Sunamganj	SUNAMGANJ	690895111	Katair joynagar GC road (Noagaon)-Kandigoan village road (Katair)	0	10,000	2.00	3.00	0.00	0.00	0.00	3.00	0.00	3.00	VRB	0	0	N12
84	3-152	Sunamganj	SUNAMGANJ	690895038	Katair-Joynagar Road to Narkila GPS (Mohanpur)	0	10,000	1.50	2.00	0.00	0.00	0.00	0.00	2.00	2.00	VRB	0	0	N12
85	3-174	Sunamganj	akhin Sunamga	690934048	Ashamnura Pny. School-Puran -Kandigoan Road.	0	10,000	3.70	1.90	0.00	0.00	1.91	3.81	0.00	3.81	VRA	0	10	N12
Total						139													



## Hat Resettlement

Hat Resettlement							29 Haor	
No.	List No.	District	Upazila	Union name	Hat name	Resettlement number	Type	Haor project No.
1	1-1	Kishoreganj	Pakundia	Agarosindur	Bahahadia	4	RM	R5
2	1-4	Kishoreganj	Itna	Joysiddhi	Mudirgaon	5	RM	N9
3	1-9	Kishoreganj	Sadar	Danapatuli	Kaliar Kanda Bazar	3	RM	N1
4	1-20	Kishoreganj	Sadar	Danapatuli	Pumdi bazar	4	RM	R4
5	1-21	Kishoreganj	Sadar	Danapatuli	Adu master bazar	3	RM	R4
6	1-22	Kishoreganj	Sadar	Danapatuli	Nimeukhali bazar	5	RM	R4
7	1-27	Kishoreganj	Sadar	Saharam Dhuldia	Dhuldia Hat	4	GC	N1
8	1-32	Kishoreganj	Sadar	Gopdighi	Bogadia	6	RM	N2
9	1-41	Kishoreganj	Sadar	Joyka	Shadakhali	5	RM	N1
10	2-3	Netrokona	Purbadhala	Jaria	Jaria Bazar	220	RM	R2
11	2-5	Netrokona	Purbadhala	Hogla	Patra Bazar	5	RM	R1
12	2-6	Netrokona	Purbadhala	Ghagra	Ghagra Bazar	12	RM	R1
13	2-10	Netrokona	Dharmapasha	CHAKUA	Lipsa Bazar	250	GC	R14
14	2-11	Netrokona	Dharmapasha	KHALIAJURI	khaliajuri Bazar	210	GC	R14
15	2-12	Netrokona	Khaliajuri	GAZIPUR	Panchhat Bazar	21	RM	R15
16	2-13	Netrokona	Khaliajuri	MENDIPUR	Satgoan Bazar	11	RM	R15
17	2-14	Netrokona	Barhatta	SINGDHA	Chandrapur GC	204	GC	N5
18	2-17	Netrokona	Barhatta	Mozafarpur	Dogda bazar	18	RM	N6
19	3-16	Sunamganj	Dharmapasha	Selborash	Badshagonj	0	RM	N4
20	3-45	Sunamganj	Sunamganji Sadar	Mohanpur	Joynagar	0	GC	N12
21	4-3	Habiganj	HABIGANJ-S	Poil	Poil Natun Bazar	0	RM	R13
22	4-5	Habiganj	Bahubal	Putijuri up	Digoambar	0	RM	R13
23	4-7	Habiganj	Bahubal	Satkapon up	Shoia Bazer	0	RM	R13
24	4-10	Habiganj	AZMIRIGANJ	Badolpur	Paharpur	0	GC	R8
25	4-11	Habiganj	AZMIRIGANJ	Kakailsew	Nischintopur	0	RM	R9
26	4-17	Habiganj	Baniachong	Pukra	Aowar Mohal Bazar	0	RM	R13
27	4-19	Habiganj	Baniachong	Sujatpur	Sujatpur Bazar	0	GC	R10
28	4-20	Habiganj	Baniachong	Muradpur	Muradpur Bazar	0	RM	R9

Total  
Resettlement  
Number

Initial List of Candidate Subproject	990
Finalized List of Subproject	67 (exclusion: more than 15)

### Ghat Resettlement

Ghat Resettlement						29 Haor
No.	List No.	District	Upazila	Ghat name	Resettlement number	Haor project No.
1	1-3	Kishoreganj	Itna	Bashikura bazar	3	N7
2	1-4	Kishoreganj	Itna	Joysiddhi bazar	4	R9
3	1-9	Kishoreganj	Sadar	Kaliarkanda Bazar Ghat	2	N1
4	1-18	Kishoreganj	Sadar	Char Pumdhi bazar Ghat	3	R4
5	1-19	Kishoreganj	Sadar	Rampur bazar Ghat	3	R4
6	1-24	Kishoreganj	Sadar	Char Katkhal	4	R9
7	1-27	Kishoreganj	Sadar	Olua	3	N2
8	1-30	Kishoreganj	Sadar	Kacharighat	3	R7
9	1-32	Kishoreganj	Sadar	Panahar bazar Ghat	4	N1
10	1-33	Kishoreganj	Sadar	shudi bazar Ghat	5	N1
11	2-3	Netrokona	Purbadhala	Jaria Ghat	25	R2
12	2-4	Netrokona	Purbadhala	Patra Ghat	0	R1
13	2-5	Netrokona	Purbadhala	Ghagra Ghat	0	R1
14	2-6	Netrokona	Purbadhala	Moheshpotti Ghat	0	R1
15	2-10	Netrokona	Khaliajuri	Khaliajuri Ghat	15	R14
16	2-11	Netrokona	Khaliajuri	Lipsa Ghat	87	R14
17	3-9	Sunamganj	Sulla	Rahutola Bazar Ghat	0	R14
18	3-37	Sunamganj	Derai	Boalia	0	R8
19	3-46	Sunamganj	SUNAMGANJ-SADAR	Joynagar Ghat	0	N12
20	3-55	Sunamganj	Dakhin Sunamganj	Pathariabazar GC	0	N12
21	3-56	Sunamganj	Dakhin Sunamganj	Birgaonbazar	0	N12
22	4-2	Habiganj	HABIGANJ-S	Purbo Poil Bazar Ghat	0	R13
23	4-3	Habiganj	HABIGANJ-S	Poil Natun Bazar Ghat	0	R13
24	4-11	Habiganj	Baniachonj	Sujath pur Bazar	0	R10

Total  
Resettlement  
Number

Initial List of Candidate Subproject	161
Finalized List of Subproject	34

(exclusion: more than 15)

## *Appendixes 5.1 to 5.18*

Table Land Use and Area by Land Type of the Sub-project Areas (29 sub-projects)

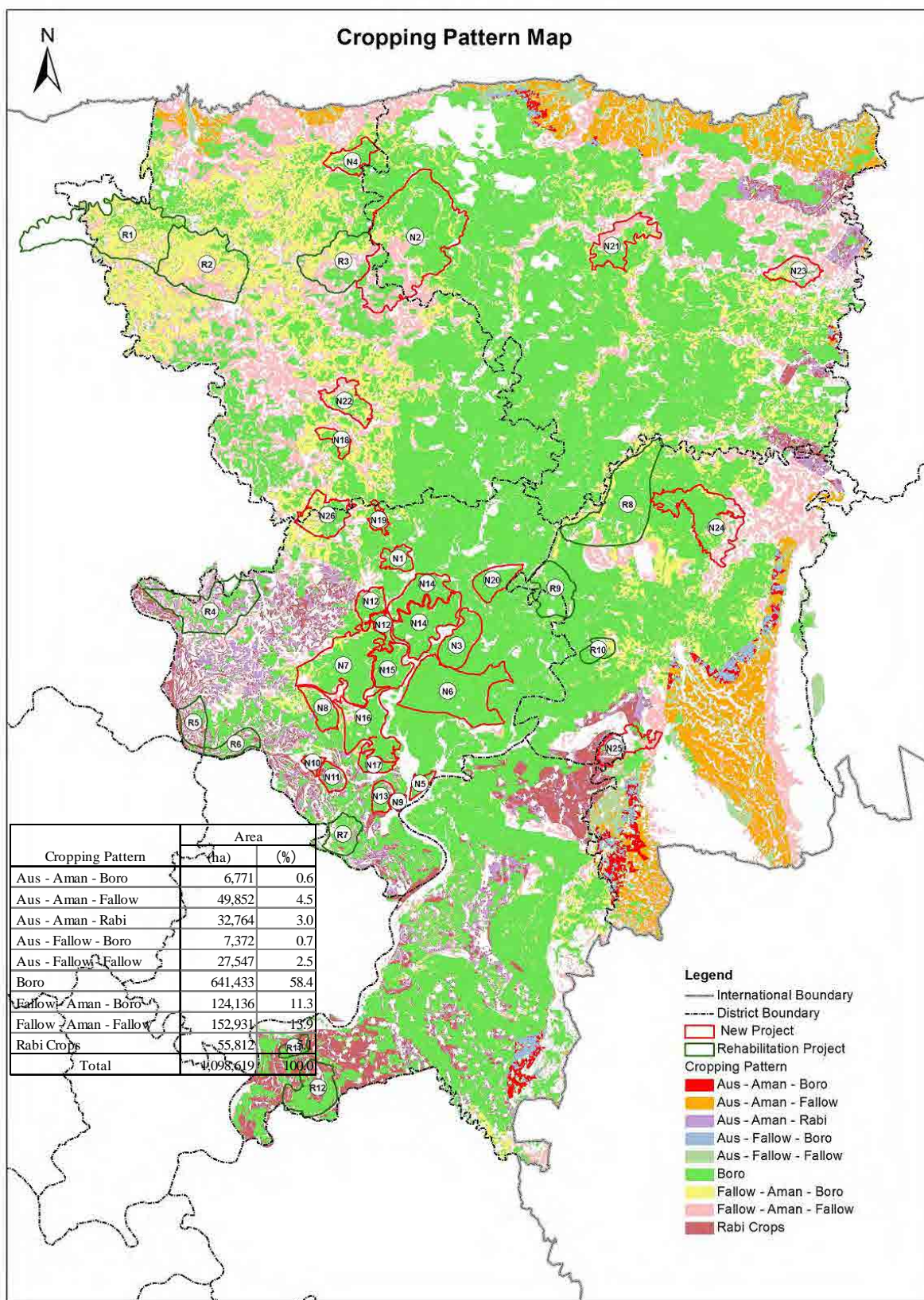
Appendix 5.1

ID	Area by Land Type of the Sub-project Areas (ha)						
	Highland	Medium Highland	Medium Land	Lowland	Very Lowland	Others	Total
	F0	F1	F2	F3	F4		
<b>Rehabilitation Sub-project</b>							
R-1	1,927	13,077					15,004
R-2	740	10,359	238				11,337
R-3	313	1,141	4,639	1,107			7,200
R-4		6,433	2,234				8,667
R-5	566	1,898					2,464
R-6		2,008				52	2,060
R-7		2,627	25				2,652
R-8			4,601	7,136		164	11,900
R-9			1,071	3,442		7	4,521
R-10			713	788			1,501
R-11			1,012				1,012
R-12			5,049				5,049
R-13	7,518		108	12,815			20,441
R-14				6,517		93	6,611
R-15				7,201			7,201
Sub-total	11,065	37,543	19,690	39,006	0	316	107,621
<b>New Construction Sub-project</b>							
N-1				9,146			9,146
N-2				8,985		119	9,104
N-3				540	1,925		2,466
N-4			2,862	18,043	658		21,563
N-5		134		2,177			2,311
N-6			454	3,440			3,894
N-7				1,486		18	1,504
N-8		116	53	5,622		20	5,810
N-9			369	2,101		12	2,482
N-10				816			816
N-11			3,083	6			3,090
N-12				4,425			4,425
N-13			3,956	4,108			8,064
N-14				3,122		58	3,180
Sub-total	0	249	10,778	64,018	2,583	227	77,855
<b>Total</b>	<b>11,065</b>	<b>37,792</b>	<b>30,468</b>	<b>103,024</b>	<b>2,583</b>	<b>543</b>	<b>185,476</b>
<b>%</b>	<b>6.0</b>	<b>20.4</b>	<b>16.4</b>	<b>55.5</b>	<b>1.4</b>	<b>0.3</b>	<b>100</b>

ID	Rehabilitation Project	Land Use of the Sub-project Areas (ha)				Total
		Agriculture Land	Settlement	Water Body	Forest	
<b>Rehabilitation Sub-project</b>						
R-1	Dampara Water Management Scheme	11,069	3,305	630		15,004
R-2	Kangsa River Scheme	8,477	2,461	399		11,337
R-3	Singer Beel Scheme	5,842	1,144	214		7,200
R-4	Baraikhali Khal Scheme	4,719	3,826	123		8,667
R-5	Aladia-Bahadia Scheme	1,128	1,115	220		2,464
R-6	Modkhola Bairagirchar Sub-project Scheme	1,213	829	17		2,060
R-7	Ganakkahali Sub-scheme	1,807	814	31		2,652
R-8	Kairdhala Ratna Scheme	11,205	405	291		11,900
R-9	Bashira River Schme	4,061	260	201		4,521
R-10	Aralia Khal Scheme	1,406	95			1,501
R-11	Chandal Beel Scheme	841	89	82		1,012
R-12	Satdona Beel Scheme	4,153	640	255		5,049
R-13	Gangajuri FCD Sub-Project	17,418	2,903	120		20,441
R-14	Khaliajuri Polder #02 Scheme	6,200	126	285		6,611
R-15	Khaliajuri Polder #04 Scheme	6,866	80	255		7,201
<b>Rehabilitation Sub-project Total</b>		<b>86,406</b>	<b>18,091</b>	<b>3,124</b>	<b>0</b>	<b>107,621</b>
<b>New Construction Sub-project</b>						
N-1	Boro Haor Prtoject (Nikli)	8,347	705	93		9,146
N-2	Naogaon Haor Project	8,643	223	239		9,104
N-3	Jaliar Haor Project	2,191	271	3		2,466
N-4	Dharmapasha Rui Beel Project	19,096	1,644	823		21,563
N-5	Chandpur Haor Project	2,022	135	153		2,311
N-6	Sunair Haor Project	3,293	558	44		3,894
N-7	Badla Haor Project	1,314	107	83		1,504
N-8	Nunnir Haor Project	5,309	416	86		5,810
N-9	Dakhshiner Haor Project	2,320	56	107		2,482
N-10	Chatal Haor Project	786	23	8		816
N-11	Ganesh Haor Project	2,806	137	146		3,090
N-12	Dhakua Haor Project	3,742	296	387		4,425
N-13	Mokhar Haor Project	7,253	616	195		8,064
N-14	Noapara Haor Project	2,864	195	120		3,180
<b>New Construction Sub-project Total</b>		<b>69,986</b>	<b>5,381</b>	<b>2,487</b>	<b>0</b>	<b>77,855</b>
<b>Overall Project</b>		<b>156,392</b>	<b>23,473</b>	<b>5,611</b>	<b>0</b>	<b>185,476</b>
<b>%</b>		<b>84.3</b>	<b>12.7</b>	<b>3.0</b>	<b>0</b>	<b>100</b>

Source: GIS data, Master plan of Haor, 2012, CEGIS

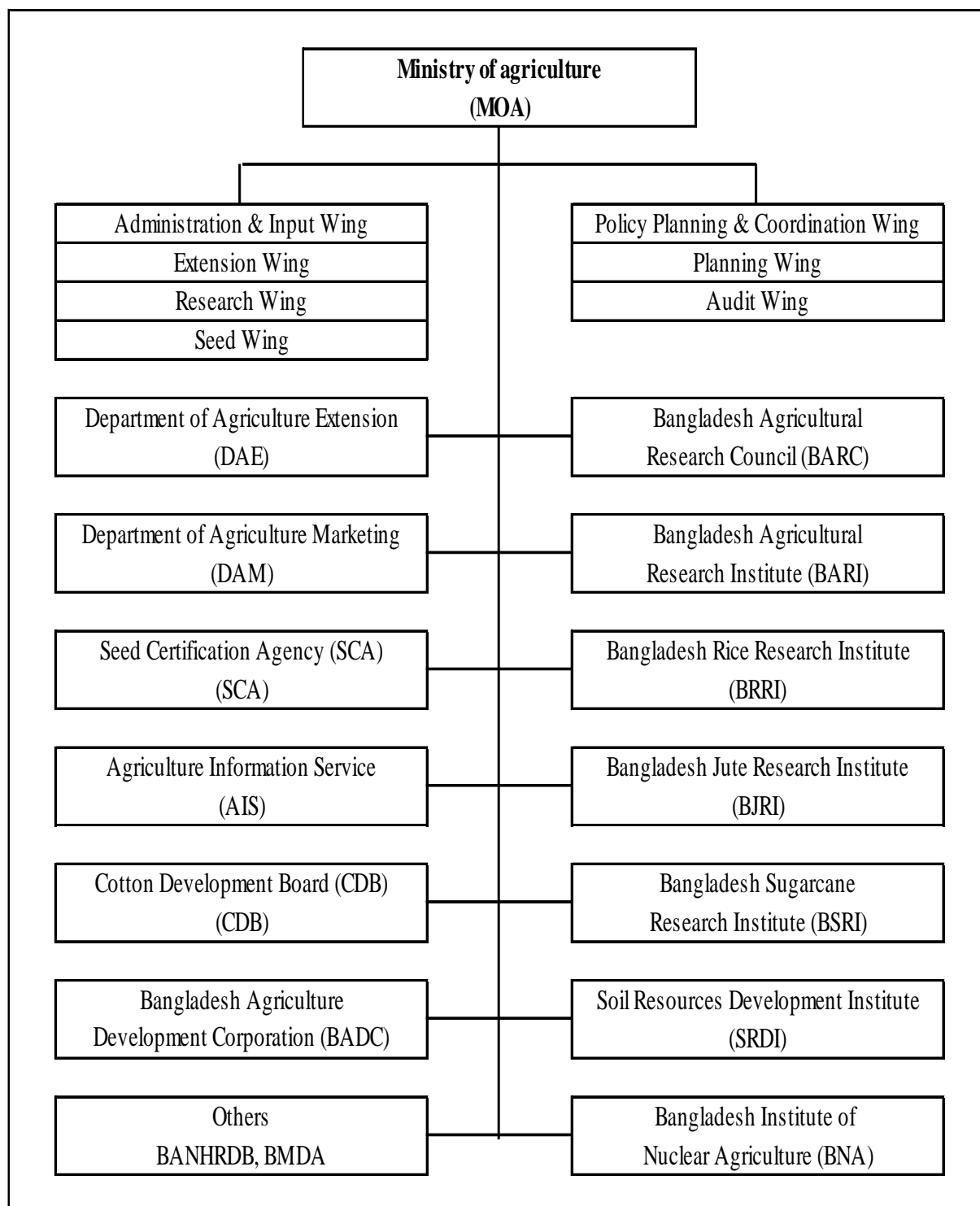
Appendix 5.2



Source: MP Annex 2 Agriculture

**Figure Cropping Pattern Map of the Project Districts**

Appendix 5.3

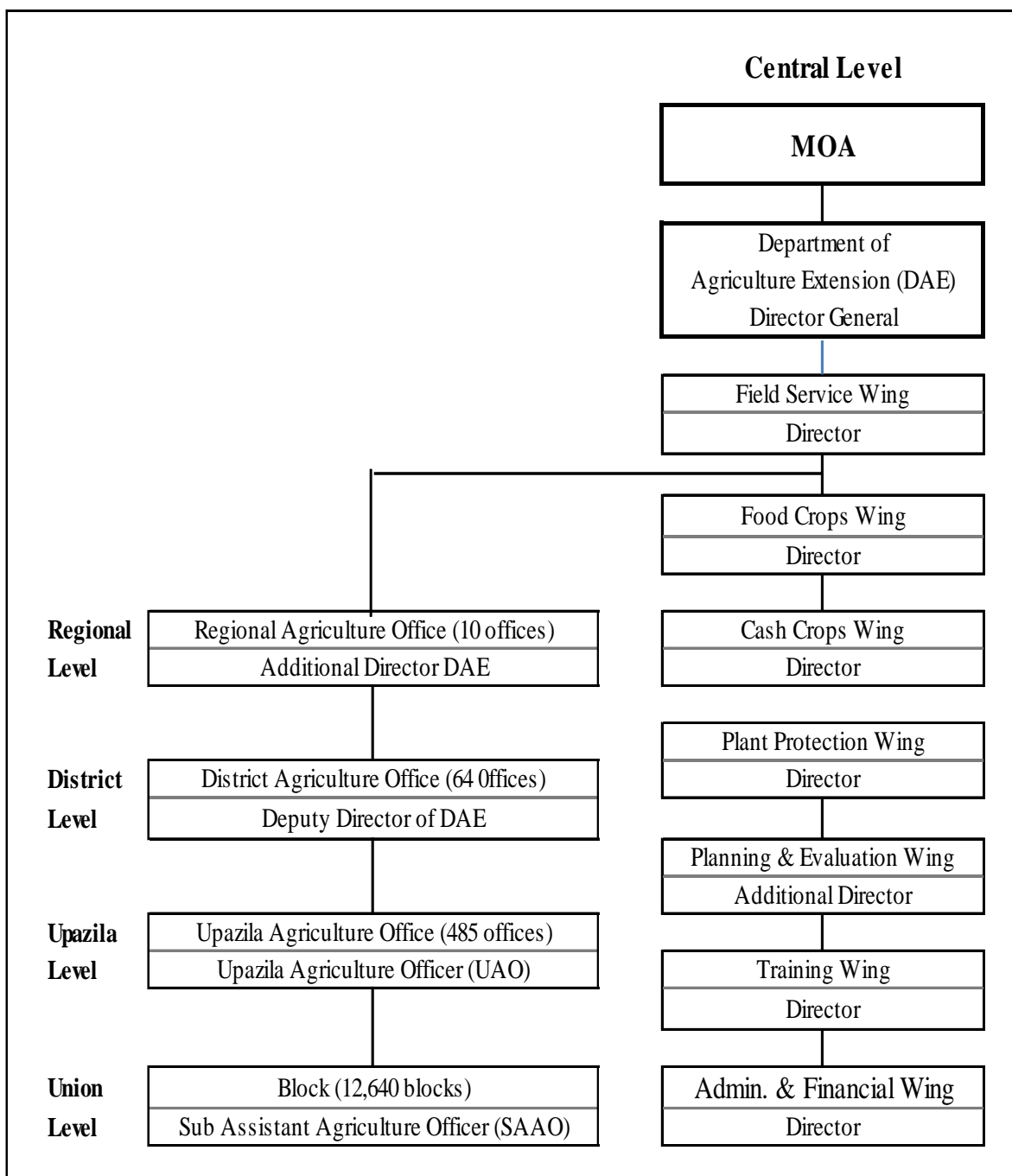


Source: MOA website

**Figure Organization Structure of Ministry of Agriculture (MOA)**

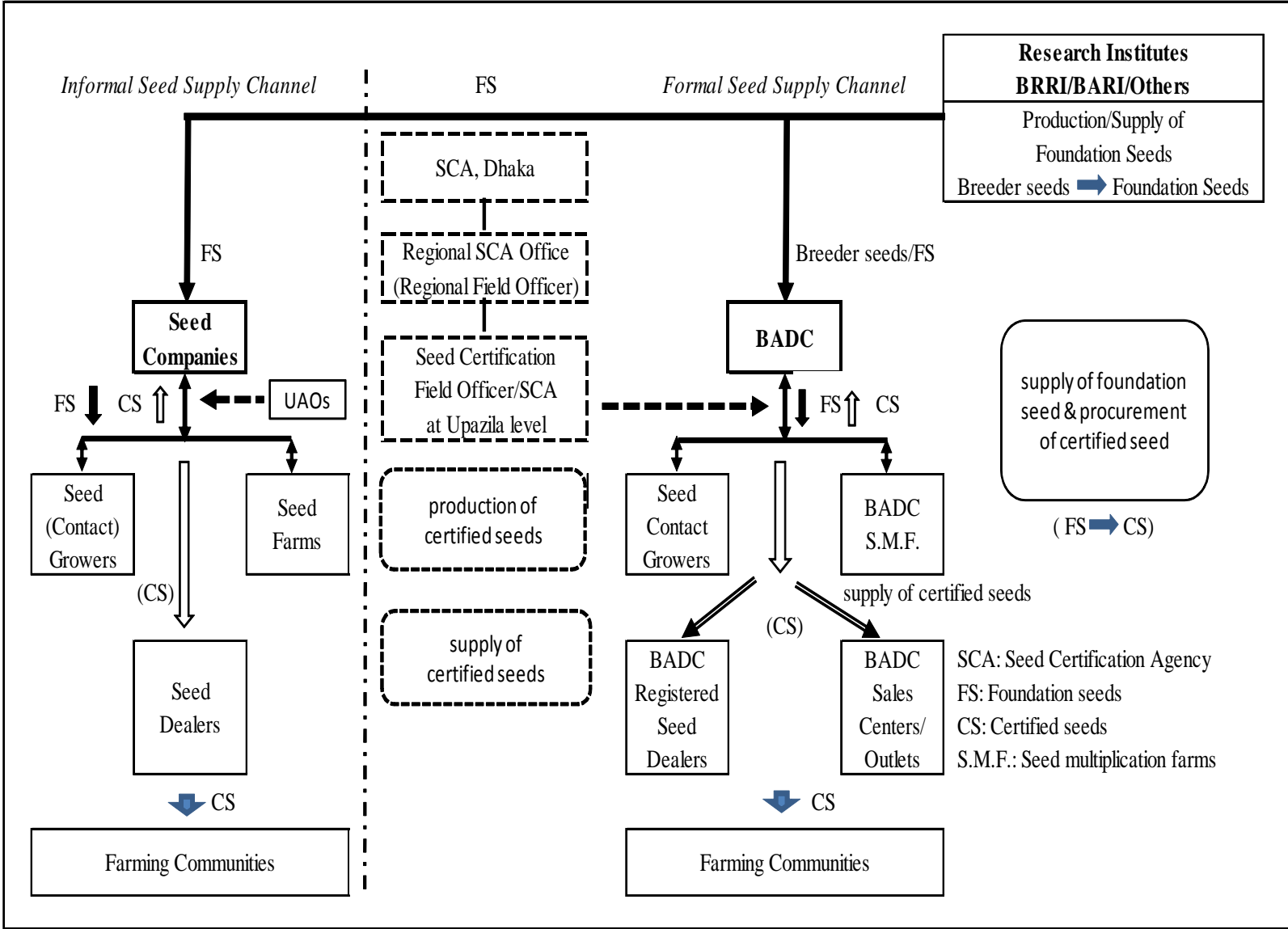


Appendix 5.4



Source: DAE website

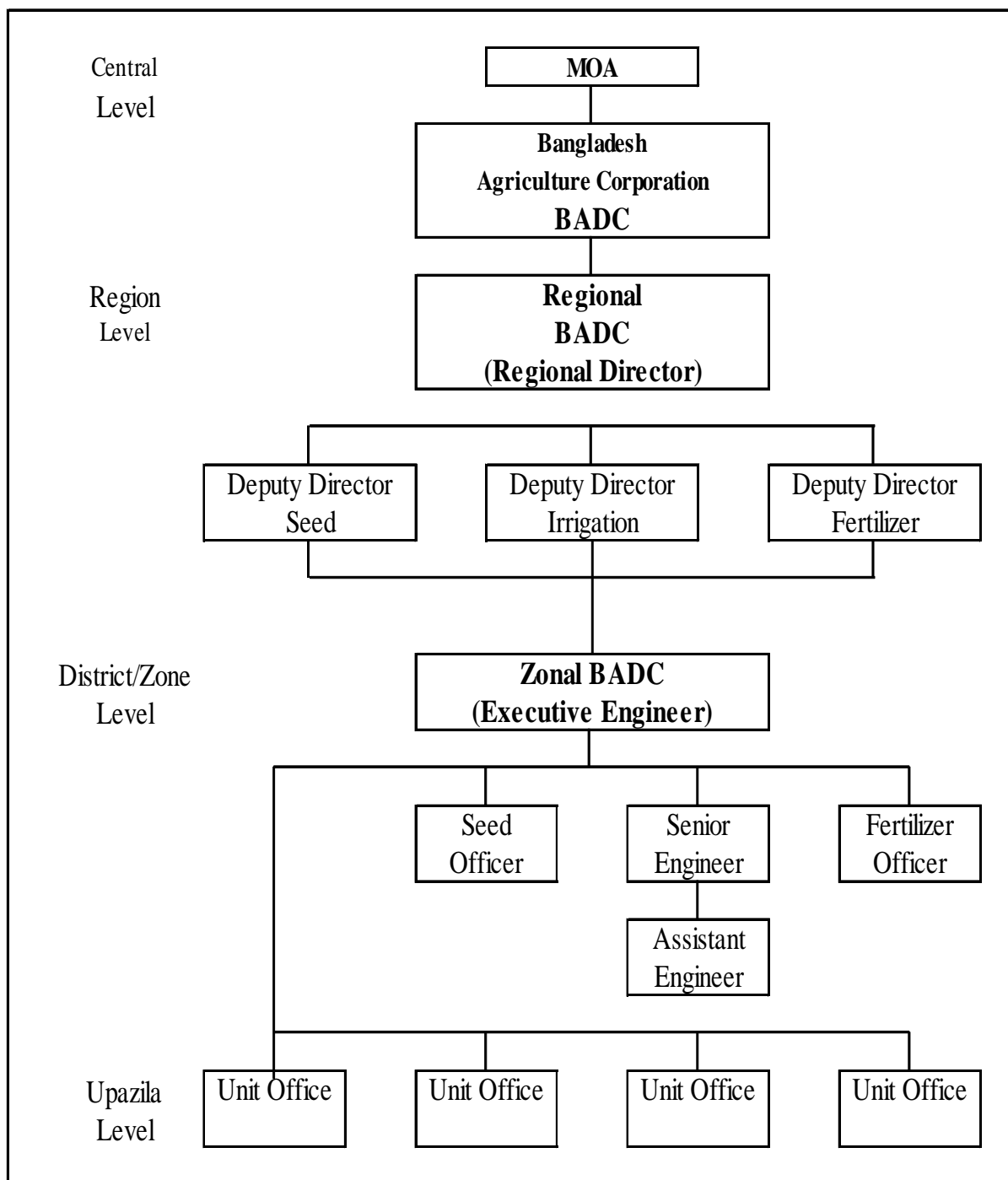
**Figure Organization Structure of Department of Agriculture Extension (DAE)**



Prepared by the JICA Survey Team

Figure Seed Production & Distribution Systems in Bangladesh

Appendix 5.6



Source: Prepared by the JICA Survey Team

**Figure Organization Structure of Bangladesh Agriculture Development Corporation (BADC)**

Appendix 5.7

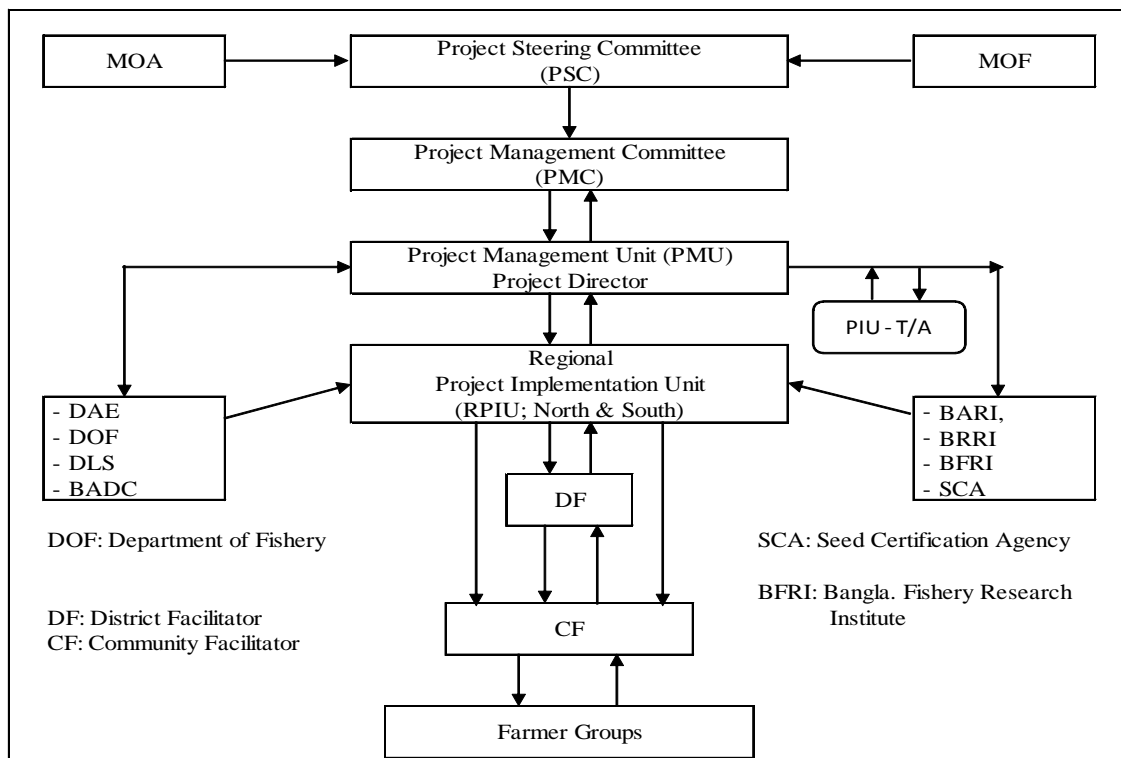


Figure Organization Structure for Implementation of IAPP

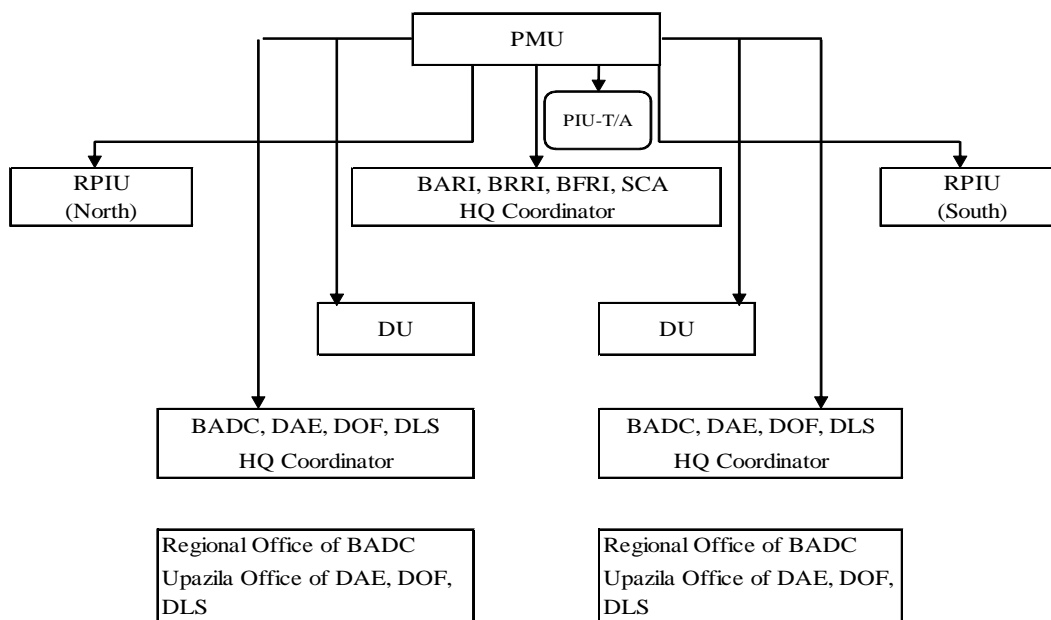
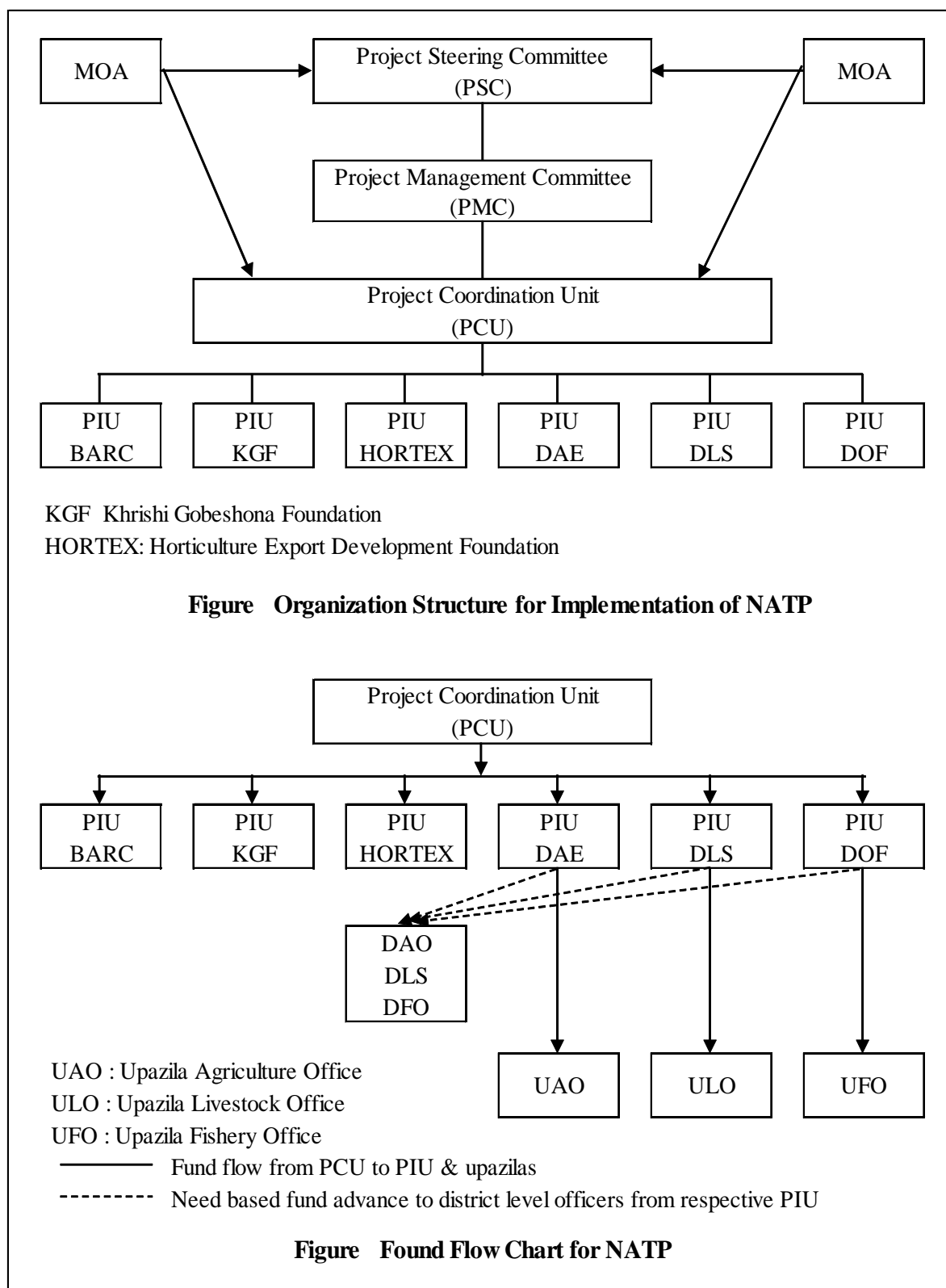


Figure Financial Management Set-up of IAPP

Source: Prepared by the JICA Survey Team based on information provided by DAE

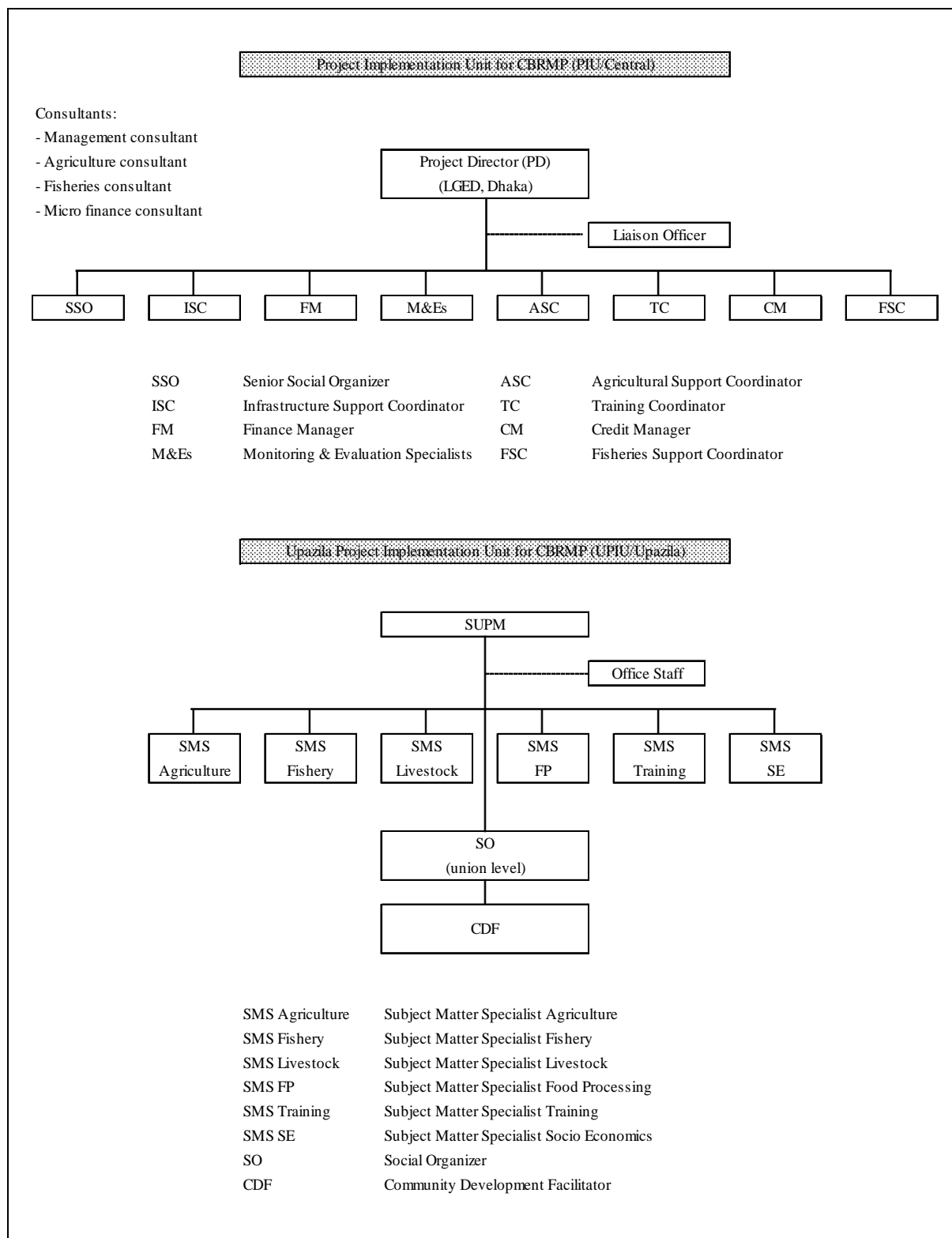
Figure Implementation Arrangements for IAPP

Appendix 5.8



**Figure Implementation Arrangements for NATP**

Appendix 5.9



Source: prepared by the JICA Survey Team based on data provided by the PD for CBRMP of LGED

**Figure Institutional Set-up for CBRMP under LGED**



**Table Problems/Constraints for Agriculture Promotion in Haor Areas Reported by District Offices**

Appendix 5.10

District	Problems/Constraints			
Sunamganj	<b>Farming Issues</b>	<b>Farming Issues</b>	<b>Marketing Issues</b>	
	- Flash flood,	- High fuel cost for machinery operation beyond farmers capacity	- Transportation problem for marketing	
	- Lack of appropriate technologies for haor areas	<b>Post-harvesting Issues</b>	- Selling at low price because of transportation problems	
	- Labour shortage in boro planting & harvesting	- Lack of drying spaces in fields & home	- Collector agents procure farm products directly at farm gate because no transportation means & distance to markets	
	- Traditional farming practices (use own old seeds & aged seedlings)	- Threshing cost by private hiring services is high	- No cooperative (public) market in haor areas	
	- Higher seeding rate for rice cultivation	- Lack of storage facility in village & home	- Public prices for fertilizers, but farm gate prices depending on transportation costs added	
	- Shortage of farm machinery & difficult to find spareparts	<b>Extension Services Issues</b>	- No other or very limited outlet of farm products than collector agents because of transportation problems	
	- Shortage of seed supply (HYV & hybrid)	- Insufficient technical capability of field extension staff	<b>Other Issues</b>	
	- Limited access to farm credit	- Extension visits restricted and costive/time consuming	- Lack of animal feed	
	- Very poor transportation conditions	- Lack of technical training for farmers		
	- Poor seedlings quality	- No training facility & SAAO office in Block		
	- Lack of suitable cultivars for haor & beel areas	- Poor logistic support (transport means) for district & upazila staff		
	- Inadequate fertilization practices (high doses of urea)	- Block size is too large & distributed far away each other		
Habiganj	<b>Farming Issues</b>	<b>Farming Issues</b>	<b>Extension Services Issues</b>	
	- Early flash flood & excessive rain	- Shortage of threshing machine	- Block size is too large (10 to 15km apart)	
	- Serious labour shortage in planting & harvesting time (high cost)	- Pulse, oil seeds & vegetable seeds very limited	- No office for SAAO	
	- Shortage of irrigation equipment (boro land left fallow)	<b>Post-harvesting Issues</b>	- Poor logistic support for SAAO (no transportation means)	
	- Shortage of quality HYV seeds	- Problems with drying & storing of paddy (no dryer)	<b>Marketing Issues</b>	
	- Farmers limited knowledge	- Forced to sell paddy at low price of just after harvest (transport problem)	- Selling at low price because of transportation problems	
	- Crop losses due to pest & disease	- No rice mill in haor areas	<b>Other Issues</b>	
	- Traditional vegetable & fruit cultivation	- Shortage of storage facilities	- Lack of awareness of farmers on group dynamic	
	- Shortage of power tiller, pump & winnowers	- Poor storage facility at home	- Limited access to formal credit (complex procedures)	
	- Costive of farm machinery beyond of farmers capacity		- Farmer organizations are not active	
	Netrakona	<b>Farming Issues</b>	<b>Post-harvesting Issues</b>	<b>Marketing Issues</b>
		- Early flash flood	- No rice mill in haor	- High transportation cost of fertilizer
		- Labor shortage at harvesting season	- Poor storage facility at home	<b>Other Issues</b>
- Bad road condition at harvesting season		<b>Extension Services Issues</b>	- Existing conflict among members (FG)	
- Lack of farm machinery		- No. of SAAO insufficient	- IPM, ICM groups not sustainable	
- Inadequate fertilization practices (high doses of urea)		- Poor logistic support for SAAO (no transportation means)	- Few NGOs work on agriculture	
- Lack of threshing machine		- Block size is too large (10 to 15km apart)	- No job opportunity in flooding season	
- Farmers purchase seeds every season due to no storage facility		<b>Marketing Issues</b>	- People are lazy	
- 20% of land left under permanent fallow		- No well organized market in village	- Access to bank limited	
- Use of aged seedlings (35 - 45days)		- Forced to sell paddy at low price of just after harvest (transport problem)	- Complex procedures for formal credit	
- Limited accessibility to quality hybrid seed				
Kishoreganj		<b>Farming Issues</b>	<b>Farming Issues</b>	<b>Extension Services Issues</b>
		- Farm land inundated for 6 to 7 months (May to Oct.)	- Use of aged seedlings (35 - 45days)	- No farmer training center in haor areas
	- Early flash flood	- Delay in water receding resulting in crop losses due to flash flood	<b>Marketing &amp; Other Issues</b>	
	- Serious labour shortage in harvesting time (labour cost highe)	- Lack of farm machinery; (tractor, harvester, dryer, winnower)	- Due to lack of transport, farmers sell paddy at fields to collector ( 200 to 500 BTK/40kg lower than actual price)	
	- Lack of harvesting, threshing & winnowing machine	- Farmers reluctant to introduce double cropping due to risk of flood	- Marketing problems (lack of transport & long distance to markets)	
	- Farmers knowledge limited on improved practices & seed preservation (because of no training)	<b>Post-harvesting Issues</b>	- Serious transportation problems at harvesting season (road muddy)	
	- Shortage of irrigation water in dry season	- No rice mill in haor areas	- Accessibility to farm credit limited	
	- Inadequate fertilization practices (heavy application of urea)	- Poor storage facility at home	- No functioning farmer organizations in haor areas	
	Brahmanbaria	<b>Farming Issues</b>	<b>Farming Issues</b>	<b>Marketing Issues</b>
		- Climatic conditions (early flood, excessive rain, uneven rainfall)	- Limited knowledge on improved technologies of farmers	- Selling price lower than production cost spent
- Pest & disease attack		- Lack of farming capital	- Farmers sell products at low price to collector agents or rice killers because of transport & road problems	
- Degradation of soil fertility		<b>Post-harvesting Issues</b>	<b>Other Issues</b>	
- Inadequate fertilization practices (high doses of urea)		- Poor storage facility at home	- Limited accessibility to farm credit	
- Labour shortage & high labour cost		- Labour & machinery shortage for threshing	- No active farmer organizations in haor areas	
- Shortage of quality HYV seeds		<b>Extension Services Issues</b>	- Migrant labourer for boro harvesting	
- Lack of drought resistant/ short/cold torelant boro variety		- No training facility in haor area	- Women not work in fields, only in garden	
- Lack of farm machinery; tractor, threshing & winnowing machine		- Poor logistic support for SAAO (no transportation means)		
- Shortage of surface water for irrigation		- No office at Block level		

Source: Results of the interview surveys conducted by the JICA Survey Team

**Table Results of Household Survey on Problems/Constraints, Suggestions to Solve Problems/Constraints, Immediate Needs & Future Aspirations: Crop Sub-sector - 1/2 1/**

## Appendix 5.11-1

Problems/Constraints	Suggestions to Solve Problems/Constraints								
	Kangsa River Scheme	Dhanu River	Dharmapasha Rui Beel	Kairdhala Ratna	Charigram Project	Boro Haor (Nikli)	Boro Haor (Austagram)	Satdona Beel Scheme	Overall
Responses/Constraints	Responses								
	No. of Respondents Reported Subject Response								
1. Irrigation Issues									
- Irrigation issues in general	28	25	44	35	28	19	3	1	183
- High irrigation cost/charge,	9	23	38	8	1	15	2	0	96
- Water Shortage	12	0	4	8	3	4	0	0	31
- No electricity, for pumping	5	1	0	0	0	0	0	0	6
- Fuel supply problem/high fuel cost	0	0	0	0	0	0	0	0	0
- No irrigation	1	0	0	1	0	0	0	0	2
<i>Sub-total</i>	<i>55</i>	<i>49</i>	<i>86</i>	<i>52</i>	<i>32</i>	<i>38</i>	<i>5</i>	<i>1</i>	<i>318</i>
2. Farm Inputs Supply Issues									
- Farm inputs issues in general	6	21	48	22	6	0	3	1	107
- High farm input cost	3	20	31	1	3	14	0	1	73
- Farm input supply problems	2	0	16	16	1	0	3	0	38
- Availability of quality seeds	3	5	2	1	3	0	0	0	14
<i>Sub-total</i>	<i>14</i>	<i>46</i>	<i>97</i>	<i>40</i>	<i>13</i>	<i>14</i>	<i>6</i>	<i>2</i>	<i>232</i>
3. Flash Flood/Heavy Rain	4	1	7	15	27	2	28	21	105
4. Lack of Road/Transportation Means	4	0	4	37	1	4	19	1	70
5. Agronomic Issues									
- Insect/pest occurrence	0	0	10	20	2	0	0	0	32
- High production cost	4	3	1	0	1	5	1	0	15
- Mono-culture of boro rice	2	0	4	0	0	1	1	0	8
- Lack of farmers skills	3	0	0	1	0	2	0	0	6
- Low productivity	0	1	0	0	0	0	0	0	1
<i>Sub-total</i>	<i>9</i>	<i>4</i>	<i>15</i>	<i>21</i>	<i>3</i>	<i>8</i>	<i>2</i>	<i>0</i>	<i>62</i>
6. Labour/Machinery Shortage									
- Shortage of farm machinery/draft power	0	1	3	14	5	0	2	0	25
- Labour shortage/high labour cost	1	2	5	1	1	3	9	0	22
<i>Sub-total</i>	<i>1</i>	<i>3</i>	<i>8</i>	<i>15</i>	<i>6</i>	<i>3</i>	<i>11</i>	<i>0</i>	<i>47</i>
7. Marketing Issues									
- Limited access/unfair marketing price	0	0	17	1	2	3	0	0	23
8. Farming Capital Issue									
- Shortage of farming capital	0	0	9	3	2	0	2	0	16
9. Others									
- Drought	0	0	0	0	0	0	3	0	3
- Others	0	0	0	0	0	1	0	0	1
- No problem	0	0	0	0	0	0	0	12	12
- No response	3	0	3	0	0	0	0	0	6
<i>Sub-total</i>	<i>3</i>	<i>0</i>	<i>3</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>3</i>	<i>12</i>	<i>22</i>
<b>Total</b>	<b>90</b>	<b>103</b>	<b>246</b>	<b>184</b>	<b>86</b>	<b>73</b>	<b>76</b>	<b>37</b>	<b>895</b>
1. Irrigation Issues									
- Electricity/fuel supply, low fuel price or electric pump	22	22	34	11	5	13	0	0	107
- Improvement of irrigation system	0	1	1	22	2	1	1	0	28
- DTW	1	0	1	0	5	0	0	2	9
- Development of (surface) irrigation	3	0	2	0	0	0	2	0	7
- Construction/rehabilitation of canal	0	0	0	2	1	3	0	1	7
<i>sub-total</i>	<i>26</i>	<i>23</i>	<i>38</i>	<i>35</i>	<i>13</i>	<i>17</i>	<i>3</i>	<i>3</i>	<i>158</i>
2. Farm Inputs Supply Issues									
- Reduce inputs prices	3	17	24	1	2	16	0	1	64
- Improvement of inputs supply	3	0	14	32	1	0	0	0	50
- Provision quality seeds	1	5	1	2	4	0	0	0	13
- Provision of inputs	0	2	3	0	0	1	0	0	6
<i>sub-total</i>	<i>7</i>	<i>24</i>	<i>42</i>	<i>35</i>	<i>7</i>	<i>17</i>	<i>0</i>	<i>1</i>	<i>133</i>
3. Flood Management									
- Rehabilitation/construction of embankment	13	0	7	15	23	3	14	14	89
- River dredging	2	0	1	2	23	0	6	6	40
- Drainage improvement	7	1	0	0	0	0	2	5	15
<i>sub-total</i>	<i>22</i>	<i>1</i>	<i>8</i>	<i>17</i>	<i>46</i>	<i>3</i>	<i>22</i>	<i>25</i>	<i>144</i>
4. Road Construction/Improvement	2	0	4	24	0	3	22	0	55
5. Agronomic Issues									
- Farmer training	6	0	1	3	1	2	0	0	13
- Appropriate chemical use	0	0	0	8	0	0	0	0	8
- Productivity improvement	0	0	0	1	0	3	0	0	4
- Insect/pest management training	3	0	0	0	0	0	0	0	3
- Use of compost	0	0	0	0	1	0	0	0	1
- Optimize use of inputs	0	0	0	0	0	2	0	0	2
- Introduction of double cropping	0	0	0	0	0	0	1	0	1
- Reduction of production cost	0	0	0	0	0	1	0	0	1
<i>sub-total</i>	<i>9</i>	<i>0</i>	<i>1</i>	<i>12</i>	<i>2</i>	<i>8</i>	<i>1</i>	<i>0</i>	<i>33</i>
6. Labour/Machinery Shortage									
- Reducing hiring cost	0	13	1	11	0	0	0	0	25
- Provision of machinery/hiring services	0	0	1	1	5	1	1	0	9
- Reduce labour cost	0	0	0	0	0	2	1	0	3
<i>sub-total</i>	<i>0</i>	<i>13</i>	<i>2</i>	<i>12</i>	<i>5</i>	<i>3</i>	<i>2</i>	<i>0</i>	<i>37</i>
7. Farming Capital Issue									
- Improvement of access to credit/interest free credit	0	1	9	4	6	0	1	3	24
8. Higher/fixed/fair price of paddy	1	3	14	0	4	0	0	0	22
9. Others	0	0	3	0	0	3	13	10	29
<b>Total</b>	<b>67</b>	<b>65</b>	<b>121</b>	<b>139</b>	<b>83</b>	<b>54</b>	<b>64</b>	<b>42</b>	<b>635</b>

1/: Total number of respondents (sample farmers) = 355

Source: Results of Household Survey Conducted by the JICA Survey Team in 2013

**Table Results of Household Survey on Problems/Constraints, Suggestions to Solve Problems/Constraints, Immediate Needs & Future Aspirations: Crop Sub-sector - 2/2 1/**

**Appendix 5.11-2**

Immediate Needs for Agriculture Promotion										Future Aspirations										
Responses	Kangsa River Scheme	Dhanu River	Dharmapasha Rui Beel	Kairdhala Ratna	Charigram Project	Boro Haor (Nikli)	Boro Haor (Austagram)	Satona Beel Scheme	Overall	Responses	Kangsa River Scheme	Dhanu River	Dharmapasha Rui Beel	Kairdhala Ratna	Charigram Project	Boro Haor (Nikli)	Boro Haor (Austagram)	Satona Beel Scheme	Overall	
	No. of Respondents										No. of Respondents									
Reported Subject Response										Reported Subject Response										
1. Irrigation Issues										1. Irrigation Issues										
- Irrigation water supply	4	23	4	14	24	0	6	0	75	- Irrigation water supply	0	19	1	20	2	0	1	0	0	43
- Motor pump installation	6	2	0	15	4	0	1	0	28	- Electricity supply	0	15	8	3	0	0	1	1	28	
- Electricity supply	18	0	1	3	0	0	4	1	27	- Installation of power pump	0	0	0	20	0	0	0	0	20	
- Reduction of fuel cost,	0	0	12	1	0	0	0	0	13	- Installation of DTW	0	2	1	1	2	0	0	2	8	
- Installation of DTW,	0	0	2	1	4	0	0	1	8	- Low diesel price/easy access to fuel	0	3	2	1	0	0	0	0	6	
- Irrigation canal rehabilitation	0	0	0	0	0	3	0	0	3	<i>sub-total</i>	0	39	12	45	4	0	2	3	105	
- Low cost irrigation	2	0	0	0	0	0	0	0	2	2. Farm Inputs Supply Issues										
<i>sub-total</i>	30	25	19	34	32	3	11	2	156	- Provision of farm inputs	0	10	5	45	0	0	1	4	65	
2. Farm Inputs Supply Issues										3. Flood Management										
- Fertilizer/chemical/seed supply,	9	30	17	64	7	1	6	3	137	- Rehabilitation/construction of embankment	0	1	22	15	33	14	12	8	105	
- Quality seeds supply	11	4	2	1	1	0	13	0	32	- Implementation of river dredging	0	1	0	2	34	1	0	8	46	
- Provision of low cost fertilizer/seed/chemical,	1	1	17	0	2	0	9	0	30	<i>sub-total</i>	0	2	22	17	67	15	12	16	151	
<i>sub-total</i>	21	35	36	65	10	1	28	3	199	4. Road Construction/Improvement	0	0	10	13	0	15	16	0	54	
3. Flood Management										5. Agronomic/Agriculture Issues										
- Embankment	0	0	3	2	0	9	1	6	21	- Provision of power tiller	0	1	0	31	0	0	1	0	33	
- River dredging	0	0	1	0	0	0	3	4	8	- Agriculture training	0	2	4	1	1	1	20	0	29	
- Culvert construction	4	0	0	0	0	0	0	0	4	- Farm machinery at low price/easy access to machinery	0	15	0	1	0	0	0	0	16	
<i>sub-total</i>	4	0	4	2	0	9	4	10	33	- Increase agriculture production/buy land	10	0	0	0	0	0	0	0	10	
4. Road Construction/Improvement	3	0	8	2	0	17	3	0	33	- Double cropping	0	0	3	0	0	3	2	0	8	
5. Agronomic Issues										- Vegetable cultivation	0	0	1	0	0	0	0	0	1	
- Training/extension services	5	0	1	0	2	2	0	0	10	- Use of new seed	0	0	1	0	0	0	0	0	1	
- Introduction of double cropping	0	0	1	0	0	1	0	0	2	<i>sub-total</i>	10	18	9	33	1	4	23	0	98	
- Reduction of production cost	0	0	1	0	0	0	0	0	1	6. Farming Capital Issue										
<i>sub-total</i>	5	0	3	0	2	3	0	0	13	- Access to credit	0	0	1	5	0	0	1	8	15	
6. Labour/Machinery Shortage										7. Marketing Issues										
- Provision of machinery/hiring services & power tiller	0	3	0	47	10	0	12	4	76	- Fair market prices	0	15	3	2	2	0	3	0	25	
- Reducing machinery hiring cost	1	0	1	0	1	0	11	0	14	8. Others										
<i>sub-total</i>	1	3	1	47	11	0	23	4	90	- Continue present agriculture work	24	0	3	0	0	0	0	0	27	
7. Farming Capital Issue										- Engaging in their works	1	0	0	0	0	0	0	0	1	
- Improving access to credit/interest free credit	2	3	24	5	5	0	5	3	47	- Another income source	0	0	1	0	0	0	0	0	1	
8. Marketing Issues										- Market development	0	0	1	0	0	0	0	0	1	
- Higher/fixed/fair price of paddy	0	0	8	0	7	0	6	0	21	- Job opportunity	0	0	0	0	0	0	3	0	3	
9. Others	0	1	10	0	0	2	0	18	31	- Others	2	0	21	0	0	1	3	6	33	
<i>sub-total</i>										<i>sub-total</i>	27	0	26	0	0	1	6	6	66	
<b>Total</b>	<b>66</b>	<b>67</b>	<b>113</b>	<b>155</b>	<b>67</b>	<b>35</b>	<b>80</b>	<b>40</b>	<b>623</b>	<b>Total</b>	<b>37</b>	<b>84</b>	<b>88</b>	<b>160</b>	<b>74</b>	<b>35</b>	<b>64</b>	<b>37</b>	<b>579</b>	

1/: Total number of respondents (sample farmers) = 355; plural answers allowed  
Source: Results of Household Survey Conducted by the JICA Survey Team in 2013

**Table Results of Household Survey on Problems/Constraints, Suggestions to Solve Problems/Constraints, Immediate Needs & Future Aspirations: Livestock Sub-sector 1/**

## Appendix 5.12

Problems/Constraints for Livestock Promotion		Suggestions to Solve Problems/Constraints		Immediate Needs for Livestock Promotion		Future Aspirations for livestock Promotion	
Responses	No. 2/	Responses	No. 2/	Responses	No. 2/	Responses	No. 2/
1. Veterinary Services Issues		1. Veterinary Services Issues		1. Veterinary Services Issues		1. Veterinary Services Issues	
- Insufficient veterinary services (especially in rainy season)/high cost of treatment	57	- Veterinary services strengthening	73	- Veterinary services	69	- Veterinary services	48
- Disease	32	2. Land Issues		2. Land Issues		2. Land Issues	
<i>sub-total</i>	89	- Grazing land	25	- Higher land for cattle raising	18	- Land for cattle raising	21
		- Flood free grazing land	23	- Cattle shed in rainy season	13	3. Farming Capital & Cost Issues	
2. Land Issues		<i>sub-total</i>	48	<i>sub-total</i>	31	- Provision of loan for livestock	43
- Shortage of grazing land & grasses due to inundation	31	3. Farming Capital & Cost Issues		3. Farming Capital & Cost Issues		4. Husbandry Issue	
- No land for raising animal	31	- Credit & animal loan	30	- Capital/cattle loan/interest free loan	80	- Training	56
<i>sub-total</i>	62	- Low cost feed	23	- Feed/low cost feed	52	- Access to fodder/Feed/fodder production	25
		<i>sub-total</i>	53	<i>sub-total</i>	132	<i>sub-total</i>	81
3. Farming Capital & Cost Issues		4. Husbandry Issue		4. Husbandry Issue		5. Others	
- Insufficient capital	18	- Training	24	- Training	71	- Continue livestock	21
- High feed price	19	5. Others		5. Others		- Increase cattle No.	16
- High husbandry cost	1	- Feed stock (straw)	9	- Others	13	- Production increase	4
<i>sub-total</i>	38	- Others	21	- No need	18	- Start cattle farming	4
4. Husbandry Issue		- No response	174	- No response	112	- Not interest in livestock	1
- Poor raising practices/lack of knowledge/no training	10	<i>sub-total</i>	204	<i>sub-total</i>	143	- Others	22
						- No aspiration	17
5. Others						- No response	119
- Flooding (to evacuate cattle)	1					<i>sub-total</i>	204
- Heavy rainfall	5						
- Low selling price	4						
- Others	1						
- No problem	31						
- No response	154						
<i>sub-total</i>	196						
<b>Total</b>	<b>395</b>	<b>Total</b>	<b>402</b>	<b>Total</b>	<b>446</b>	<b>Total</b>	<b>397</b>

1/: Plural answers accepted; sample farmers 355; No. of answers per sample farmer was 1 to 4 answers; average no. of answers per sample farmer = 1.3 answers

2/: Major problems/constraints or suggestions or immediate needs & aspirations responded

Source: Results of House Hold Survey conducted by the JICA Survey Team

## Appendix 5.13-1

**Table Results of Household Survey on Extension Services, Farm Inputs Supply, Farmers Organizations, Marketing & Others 1/****1. Extension Services****1.1 Extension Services Provided**

Unit: No. of Respondents Reported

Item	Service Provider										No Services Provided	No Answer	Total
	DAE/UAO						NGO	Chemical Dealer	Others				
	UAO	DAE Project	UAO Not Sufficient	UAO & NGO	UAO Visit with No Advice	Sub-total							
No. of Respondents (No.)	77	2	6	3	8	96	8	6	4	226	15	355	
(%)	22	1	2	1	2	27	2	2	1	64	4	100	

1/: Household Survey conducted by JICA Survey Team in July, 2013; sample No. 355

**1.2 Satisfied with Extension Services Provided**

Unit: No. of Respondents Reported

Item	Not Satisfied				Satisfied with Services	Others	No Answer	Total
	No Services Provided	Not Satisfied	Training or Technical Advices to Be Provided 2/	Sub-total				
No. of Respondents (No.)	115	63	63	241	23	3	88	355
(%)	32	18	18	68	6	1	25	100

1/: Household Survey conducted by JICA Survey Team in July, 2013; sample No. 355

2/: Respondent suggested training &amp; technology transfer requirements assumed to be not satisfied

**1.3 Frequency of Visit of Extension Personnel**

Unit: No. of Respondents Reported

Extension Personnel 2/	No response/NA		Once/2 weeks		Once/3-4weeks		Once/1-3months		Seldom - No Visit	
	Count	% 3/	Count	% 3/	Count	% 3/	Count	% 3/	Count	% 3/
UAO Staff	29	8%	2	1%	23	6%	53	15%	248	70%
UFO Staff	173	49%	3	1%	11	3%	11	3%	157	44%
DLO Staff	222	63%			2	1%	4	1%	127	36%
NGO	263	74%			3	1%	13	4%	76	21%

1/: Household Survey conducted by JICA Survey Team in July, 2013; sample No. 355

2/: UAO - Upazila Agriculture Office; UFO - Upazila Fishery Office; DLO - District Livestock Office

3/: Proportion to total respondents 355

**2. Farm Inputs Supply****2.1 Seeds (where do you procure seeds)**

Unit: No. of Respondents Reported

Item	Local Supplier			BADC/DAE	Self-multiplied Seed	Others	No Answer	Total
	Local Market/Dealer	Upazila Market/Dealer	Sub-total					
No. of Respondents (No.)	283	5	288	34	3	3	3	355
(%)	80	1	81	10	1	1	1	100

1/: Household Survey conducted by JICA Survey Team in July, 2013; sample No. 355

**2.2 Fertilizer (where do you procure seeds)**

Unit: No. of Respondents Reported

Item	Local Supplier			BADC/DAE	No Answer	Total
	Local Market/Dealer	Upazila/Town Dealer	Sub-total			
No. of Respondents (No.)	233	56	289	63	3	355
(%)	66	16	81	18	1	100

1/: Household Survey conducted by JICA Survey Team in July, 2013; sample No. 355

**2.2 Fertilizer (where do you procure fertilizers)**

Unit: No. of Respondents Reported

Item	Local Supplier			BADC/DAE	No Answer	Total
	Local Market/Dealer	Upazila/Town Dealer	Sub-total			
No. of Respondents (No.)	233	56	289	63	3	355
(%)	66	16	81	18	1	100

1/: Household Survey conducted by JICA Survey Team in July, 2013; sample No. 355

**2.3 Agrochemicals (where do you procure agrochemicals)**

Unit: No. of Respondents Reported

Item	Local Supplier			BADC/DAE	Chemical Shop	No Answer	Total
	Local Market/Dealer	Upazila/Town Dealer	Sub-total				
No. of Respondents (No.)	280	34	314	21	17	3	355
(%)	79	10	88	6	5	1	100

1/: Household Survey conducted by JICA Survey Team in July, 2013; sample No. 355

**Appendix 5.13-2**

**Table Results of Household Survey on Extension Services, Farm Inputs Supply, Farmers Organizations, Marketing & Others 1/**

**4 Membership in Farmers Organizations**

Organization/Agency	Major Activities	Obligations	Problems Reported	No. of Respondents	
				No.	% 1/
ASA (NGO)	Micro credit & saving	Monthly installment of loan	High interest rate	10	3
Bangladesh Krishi Bank	Agriculture loan			13	4
BRAC	Agriculture loan			4	1
Grameen Bank	Micro credit & saving			15	4
ICM/IPM Club	Integrated crop/pest management (FFS)		No training room	7	2
PAPI (NGO)	Micro credit, saving & training			6	2
Others				11	3
No answer				289	81

1/: Proportion to total sample farmers 355

**5 Participation in Agriculture Development Intervention**

Organization/Agency	Major Activities	No. of Respondents	
		No.	% 1/
DAE	Training (compost making/IPM/ICM)	13	4
ASA (NGO)	Micro credit & saving	4	1
Grameen Bank	Micro credit & saving	4	1
PAPI (NGO)	Micro credit, saving & training	6	2
Akti Bari Akti Khamar	Personnel & social development	5	1
Others		14	4
No answer		338	95

1/: Proportion to total sample farmers 355

**6. Marketing Destination of Paddy & Other Crops**

Destination	Paddy		Other Crops	
	No.	%	No.	%
Collector (come to farm)	88	18	3	4
Wholesaler in Village	225	46	23	34
Wholesaler in Nearby Toown or Village	113	23	26	38
Retailer in Village	61	12	16	24
Cooperatives	2	0.4	0	0
Total Responses 2/	489	100	68	100
No answer (not marketed)	25		307	

1/: Proportion to total responses of 489 or 68 from 355 respondents

2/: Plural answer allowed



## Appendix 5.14

Table Policy Overview

Policy/Plan & Overview
<p><b>Draft National Agriculture Policy, 2010</b> <b>Research and development (R&amp;D), NAP-2010</b></p> <p>A well-coordination research plan for the rapid development of crop sector, a paradigm shift from a supply-driven to a demand-driven approach in agriculture, change from production level to production efficiency, productivity and profitability; Equity, employment, environmental sustainability, nutrition, food quality, trade etc. have new areas of concern even as efforts to maintain food security to continue; Demands effective introspection, reprioritization and consolidation of R &amp; D activities overall accountability.</p>
<p><b>Governance of Research Institutions, NAP-2010</b></p> <p>Develop measures to strengthen coordination, planning, priority-setting, and monitoring &amp; evaluation mechanisms in the National Agriculture Research System (NARS); Provide to individual researchers or research institutions for innovation, excellence in agricultural research; Provide adequate assistance to scientists and institutionalize project-based activities; Creation of research environment through construction of infrastructure better return from investment; Develop a research system in cooperation with Bangladesh Agriculture Research Council (BARC), agricultural research institutes (BARRI&lt; BARI, BINA, JRI, SRDI etc.) that provide sufficient social benefits per unit of research inputs and add value for investment; To achieve small farm mechanization and precision farming, promote technological empowerment of women in agriculture.</p>
<p><b>Transfer of Technology, NAP-2010</b></p> <p>Emphasis on technology assessment, refinement and transfer by improving interface with farmers and other stakeholders with the involvement of research agencies, BARC and all agricultural research institutes; Efforts to enhance involvement of scientists in outreach extension programmes.</p>
<p><b>Human Resource Development, NAP-2010</b></p> <p>Training coverage in association with research and development in agriculture with assistance of National Agricultural Training Academy (NATA); Develop facilities and programme, award incentives, encourage partnership national and internationally, ensure provision of budget allocation.</p>
<p><b>Seeds and planting Materials, NAP-2010</b></p> <p>Encourage private persons, companies and other agencies to undertake plant breeding programmes and to import breeder/ foundation seeds of notified crops for variety development and promotional purposes; Provide access to institutional credit for individuals, companies or agencies engaged in seed production and business, any individual, company or agency willing to embark upon breeding; Developing and registering new seed varieties, or package seed in labeled containers with the Seed Wing, MoA or the competent authority to be declared by the Government; Multiplication and distribution of seed support to public and private sector seed industries strengthening quality control of seed.</p>
<p><b>Fertilizer, NAP-2010</b></p> <p>Continue procurement and distribution of fertilizers both in the private and the public sector; Maintain a fertilizer buffer stock at the regional, district and upazila level; Facilitate availability of quality fertilizers at farmers level, production, importation, marketing, distribution and use of any kinds of fertilizer that harmful or detrimental to plant, soil, flora and fauna will be banned; Strengthen analytical facilities to assess the quality of fertilizers, and Promotion of Organic Fertilizer and Balanced Fertilizer Use, and encourage use of organic manure, compost and bio-fertilizer at farmers level; Imparted training to farmers in using balanced fertilizers, strengthening fertilizer management, and Monitor supply, storage, price and quality of fertilizer at various levels.</p>
<p><b>Irrigation, NAP-2010</b></p> <p>Dissemination of water management technology to enhance irrigation efficiency and water productivity through optimal use of available water resources, Introduce modern irrigation, drainage and water application systems through expanding irrigation coverage including difficult or disadvantaged areas i.e. in char, hilly, Barind tract, drought-prone and saline areas, meets the distance between two tube-wells safe extraction of groundwater and increase of irrigation efficiency; encourage and train private entrepreneurs and unemployed youths on operation, repair and maintenance of irrigation equipment, provide training of farmers and technical personnel on On-farm Water Management (OFWM) technology, strengthened to bridge knowledge gap as well as yield gap; monitoring activities of both quantity and quality of irrigation water and formulation pragmatic irrigation and water management plan, prepare and update ground water zoning map for judicious use of ground water resources.</p>
<p><b>Mechanization in Agriculture, NAP-2010</b></p> <p>Develop research, manufacturing of agricultural machinery and equipment, support and incentives and training.</p>
<p><b>Agricultural Marketing, NAP-2010</b></p> <p>Develop market infrastructure, market intelligence and extension services, and export and market promotion; create market regulation and facilitation and agri-business</p>
<p><b>Women in Agriculture, NAP-2010</b></p> <p>Empowerment of women, participation in production and marketing, income generation and ensure budgetary allocation</p>
<p><b>Natural Resource Management, NAP-2010</b></p> <p>Encourage generation and promotion of eco-friendly technology and sustainable land and water management for different agro-ecological zones and regions; Research thrust needs to be placed on weather and crop forecasting, climate change and disaster management; Conservation and effective use of life support system of soil, water, flora, fauna and atmosphere; Strengthen the efforts to collect, conserve and utilize genetic resources.</p>
<p><b>Agri-business Opportunity for Private Sector, NAP-2010</b></p> <p>Provide technological support to private entrepreneurs and farmers to undertake agri-business activities; Create to expand local and overseas markets for agri-business opportunities; Provide Good Agriculture Practices (GAP) in production and in supply chain management; Strengthened Quarantine services to meet the needs of both domestic and export market.</p>
<p><b>Programme for Agro-ecologically Disadvantaged Regions, NAP-2010</b></p> <p>Pursue programme for hilly area, drought-prone area, Barind tract, Char land, mongo-prone area, Haor-Baor and coastal belt with appropriate technological support. Measure will be taken to protect crops in the coastal, Haor, beel and char areas keeping harmony with other sub-sectors' production</p>
<p><b>Livestock Policy and Action Plan, 2005</b></p> <p>Improvement of small scale poultry and dairy farming replicating CLDDP, reform of DLS, enforcement of law and regulations towards animal feeds, vaccines and privatization of veterinary services adoption of breeding policy, and establishment of livestock insurance development fund and livestock credit fund</p>
<p><b>National Food Policy, 2004</b></p> <p>Ensuring dependable food security system, adequate and stable supply of safe and nutritious food at affordable prices, increasing access and food purchasing power of people</p>
<p><b>Agriculture and Rural Development section, PRSP, 2005</b></p> <ul style="list-style-type: none"> <li>- Creation of enabling environment and playing supportive roles for intensification of major crops i.e. (cereals) diversification to high value non-cereal crops (i.e. fruits &amp; vegetable).</li> <li>- Development of non-crop enterprises (i.e. livestock, fishery, poultry), and promotion of rural non-farmer economy, and outlining a policy matrix on future actions</li> </ul>
<p><b>New Agricultural Extension Policy (NAEP), 1996</b></p> <p>Provision of efficient decentralized &amp; demand led extension services to all types of farmers, training extension workers, strengthening research-extension linkage and helping environmental protection.</p>
<p><b>DAE-Strategic Plan, 1999-2002</b></p> <p>Adoption of Revised Extension Approach, assessment of farmers' information needs, supervision, use of low or no cost extension methods, promotion of food and non-food crops, and mainstream gender and social development issues into extension service delivery.</p>
<p><b>Seed policy, 1993</b></p> <ul style="list-style-type: none"> <li>- Breeding of crop varieties suitable for high-input and high output agriculture, multiplication of quality seeds, balanced development of public and private sector seed enterprises, simplification of seed important for research &amp; commercial purposes.</li> <li>- Provision of training and technical supports in seed production, processing &amp; storage monitor, control and regulate quality and quantity of seeds.</li> </ul>
<p><b>Seed Rules 1997</b></p> <p>Delineation of rules and regulations regarding changing functions and of national seed board, registration of seed dealers, seed certification, marking truthful labels, and modalities of seed inspection.</p>

Source: MP Annex 2 Agriculture, p. 7 - 11 (CEGIS estimation from DAE &amp; BBS data, 2010)

Table Program Description of APSS &amp; SIGS - 1/4

Appendix 5.15-1

Program	Objectives/Description	Target Area/Group	Technical Specifications	Basis for Estimation of Activity Requirement (tentative)
<b>I APSS</b>				
<b>1 Field Program - 1/2</b>				
1-1. Adaptive Trial (rice)	- To verify adaptability of new/recommended varieties, crops & farming technologies - Target crop: boro rice new variety (short/cold tolerant etc.)	- Non-HILIP upazila - Progressive SFH's field 1/ - Farmer Research Group (FRG) (1 leader + 4 members)	- Size of plot $\approx$ 0.1ha (0.25 acre) - 1 cropping season (boro season) - Field days x 3 times x 25 farmers	- 1 unit/1,000 ha of rice fields
1-2. Adaptive Trial (upland crops/vegetables)	- To verify adaptability of new/recommended varieties, crops & farming technologies - Target upland crop: pulses, oil seeds, cereals - Target vegetables: short growth duration crops - cabbage, kangkong, sweet gourd etc.	- Non-HILIP upazila - Progressive SFH's field 1/ - Farmer Research Group (FRG) (1 leader + 4 members)	- Size of plot $\approx$ 0.1ha (0.25 acre) - 1 cropping season (boro season) - Field days x 3 times x 25 farmers	- 1 unit/2,000 ha of rice fields
1-3. Adaptive Trial/ Cropping Pattern (rice + non-rice)	- To verify adaptability of double cropping - Target crop: boro rice + non-rice	- Non-HILIP upazila - Progressive SFH's field 1/ - Farmer Research Group (FRG) (1 leader + 4 members)	- Size of plot $\approx$ 0.1ha (0.25 acre) - 2 cropping seasons (rabi & boro season) - Field days x 3 times x 25 farmers	- 1 unit/3,000 ha of rice fields
1.4. Demonstration Plot (rice) (0.25 acre/0.1ha)	- Demonstration of area specific farming technologies for rice - Target crop: boro rice	- Non-HILIP upazila - In rice fields where paddy yield is still low (< 4.0 t/ha) - Progressive SFH's field 1/ - Common Interest Group (CIG) (1 leader + 4 members)	- Size of plot $\approx$ 0.1ha (0.25 acre) - 1 cropping season - Field days x 2 times x 25 farmers	- 1 unit/300ha of rice fields
1.5. Demonstration Field (rice) (1.0 acre/0.4ha)	- Demonstration of area specific farming technologies for rice - Target crop: boro rice	- Non-HILIP upazila - In rice fields where paddy yield is still low (< 4.0 t/ha) - Progressive SFH's field 1/ - Common Interest Group (CIG) (1 leader + 14 members)	- Size of plot $\approx$ 0.4ha (1.0 acre) - 1 cropping season - Field days x 2 times x 25 farmers	- 1 unit/900ha of rice fields
1.6. Demonstration Area (rice) (10 acre/4ha)	- Area demonstration of area specific farming technologies for rice - Target crop: boro rice	- Non-HILIP upazila - In rice fields where paddy yield is still low (< 4.0 t/ha) - Progressive SFH's field 1/ - Common Interest Group (CIG) (1 leader + 14 members)	- Size of plot $\approx$ 4ha (.0 acre) - 1 cropping season - Field days x 2 times x 50 farmers x 2 sites	- 1 unit/2,500 ha of rice fields
1.7. Demonstration Plot (upland crop & vegetables) (0.25 acre/0.1ha)	- Demonstration of area specific farming technologies for upland crops & vegetables - Target upland crop: pulses, oil seeds, cereals - Target vegetables: short growth duration crops - cabbage, kangkong, sweet gourd etc.	- Non-HILIP upazila - Progressive SFH's field 1/ - Common Interest Group (CIG) (1 leader + 4 members)	- Size of plot $\approx$ 0.1ha (0.25 acre) - 1 cropping season - Field days x 2 times x 25 farmers	- 1 unit/1,500 ha of rice fields
1.8. Cropping Pattern Demonstration (0.25 acre/0.1ha)	- Demonstration of double cropping of rice & non-rice crop - Target crop: boro rice + non-rice	- Non-HILIP upazila - Progressive SFH's field 1/ - Farmer Research Group (FRG) (1 leader + 4 members)	- Size of plot $\approx$ 0.1ha (0.25 acre) - 2 cropping seasons (rabi & boro season) - Field days x 4 times x 25 farmers	- 1 unit/2,000 ha of rice fields
1.9. Water Management Demonstration (20 acre/8ha)	- Demonstration of on-farm water management for & area specific farming technologies for rice - Target crop: boro rice	- Non-HILIP upazila - Fields in the same irrigation command area - WMG	- Farm size of plot $\approx$ 8ha (20 acre) - 1 cropping season(boro season) - Field days x 2 times x 50 farmers x 2 sites	- 1 unit/3,000 ha of rice fields

**Table Program Description of APSS & SIGS – 2/4**

Program	Objectives/Description	Target Area/Group	Technical Specifications	Basis for Estimation of Activity Requirement (tentative)
<b>1 Field Program - 2/2</b>				
1.10. IPM FFS/ICM FFS (rice) - IPM FFS (rice)	- To adopt agronomic/biological control method of pests & diseases in which appropriate use of chemicals practiced; through establishing field schools - Target crop: rice	- Non-HILIP upazila - Area suffered from serious crop losses from pest/disease - Common Interest Group (CIG) (1 leader + 24 members)	- 10 sessions, 25 farmers - Demonstration field size ≈ 0.3 ha - 1 cropping season (boro season) - 25 participants x 10 times (training at field schools)	- 1 unit/2,000 ha of rice fields
- ICM FFS (rice)	- To adopt Integrated Crop Management (ICM) practices through establishing field schools - Target crop: rice	- Non-HILIP upazila - In rice fields where paddy yield is still low (< 4.0 t/ha) - Common Interest Group (CIG) (1 leader + 24 members)	- 8 sessions, 25 farmers - Demonstration field size ≈ 0.3 ha - 1 cropping season (boro season) - 25 participants x 8 times (training at field schools)	
1.11. Seed Multiplication	- Establishing paddy seed growers group of 5 ha for ensuring quality seed supply in the Project Area - Supporting seed growers for 1 crop - Contract seed growing with seed dealers envisaged	- Non-HILIP upazila - Progressive farmers in sub-project - 1 cropping season	- Size of plot ≈ 0.1ha (0.25 acre) - 25 farmers x 0.1ha = 2.5 ha/unit - 1 day inception training - Field inspection by SA staff or UAO	- 1 unit/1,000 ha of rice fields
1.12. Research-Extension-Farmer Dialog	- Visit to problem areas by a team composing of researchers & extension staffs to identify problems, solution or program needs to solve the problems	- All sub-project areas; targeted to problem areas in rice cultivation	- 1 visit/cropping season - 20 participants - 3 days	- 2 units/year x 6 years = 12 times
<b>2. Farmer Training Program - 2/2</b>				
2.1. Farmer Training Program				
2.1.1 Farmer Training - 3 days course - 5 days course	- Training of representatives of farmers/farmer groups in class or practical training - Main subjects: (depending on needs of target groups) * Farming practices, water management, compost making, on-farm water management, group management, farmer organization, marketing, farm machinery operation etc.	- Non-HILIP upazila - Representatives of farmers/farmer groups in the sub-project areas - Progressive SFH 1/	- 1 course 25 participants - 3 & 5 days per course - Avoiding busy cropping season	- 1 unit/800 ha of rice fields
2.1.2. Study Tour/Exchange Visit	- Visit to advanced farming areas or communities in haor areas or else to learn farming practices/operations, irrigation O&M, management of farmer organization, marketing etc.	- Representatives of farmer groups, WMGs & other CBOs in whole Project Area	- 25 participants/tour - 1 day	- 4 units/Project x 5 years = 40 units
<b>2. Farmer Training Program - 2/2</b>				
2.1. Farmer Training Program				
2.1.3 Mass Guidance /Campaign /Workshop	- Mass guidance/campaign on specific subjects by upazila or sub-project, on need basis * Subject: integrated rat control, integrated pest control, cropping schedule, planning of extension programs etc. * Workshop for preparation of Annual Work Plan (AWP)	- Non-HILIP upazila - Project beneficiaries by upazila or sub-project	- Guidance, campaign, workshop by upazila or sub-project area - 1 day per guidance / campaign / workshop - No. participants ≈ 40 & 80	- 1 unit/1,000 ha of rice fields
2.1.4 Agriculture Fair	- Exhibition of agricultural products, appropriate agriculture practices introduced and the Project activities in the project upazilas to promote the promotion of agriculture sector production. - Exhibition of crop, livestock, fishery sub-sector products, production practices & Project activities.	- Fair will be held at selected project district HQ - Presentation by project benefited farm households & farmer organizations expected	- 4 times during project period. (at Sunamuganj, Habiganj, Netrakona, Kishoregonj) - Fair held for 3 days in a district HQ	- 2 units/year x 6 years = 12 times

Table Program Description of APSS &amp; SIGS – 3/4

Appendix 5.15-3

Program	Objectives/Description	Target Area/Group	Technical Specifications	Basis for Estimation of Activity Requirement (tentative)
<b>2. Farmer Training Program - 2/2</b>				
2.2. Empowerment of Existing Farmer Organizations (FO)	<ul style="list-style-type: none"> <li>- To provide guidance to representatives of existing farmer organizations and to assist them in activation of their organizations</li> <li>- Training of executive members on group management, leadership, financial issues, marketing, etc.</li> <li>- Provision of continues guidance &amp; monitoring</li> </ul>	<ul style="list-style-type: none"> <li>- Non-HILIP upazila</li> <li>- Executive members of existing farmer organizations</li> <li>- 5 executive members x 5 FOs = 25 participants</li> <li>- Training subject: group management, book keeping, group marketing/purchasing, cooperatives etc.</li> </ul>	<ul style="list-style-type: none"> <li>- Operated by NGO facilitators</li> <li>- 1 course 25 participants</li> <li>- Training: 5 days (25 participants)</li> <li>- Follow-up guidance 1day x 10 times</li> <li>- Training subject: group management, book keeping, group marketing/purchasing,, cooperatives etc.</li> </ul>	- 1 unit/600 ha of rice fields
2.3. Fomation & Empowerment of Farmer Organizations (FO)	<ul style="list-style-type: none"> <li>- To support fomation of farmer organizations and to assist activation of the organizations through continuous guidance</li> <li>- Training of executive members on group management, leadership, financial issues, marketing, etc.</li> <li>- Provision of continues guidance &amp; monitoring</li> </ul>	<ul style="list-style-type: none"> <li>- Non-HILIP upazila</li> <li>- Target organization: fomation of 5 new FOs</li> <li>- 5 executive members x 5 FOs = 25 participants</li> <li>- Training subject: group management, book keeping, group marketing/purchasing, cooperatives etc.</li> </ul>	<ul style="list-style-type: none"> <li>- Operated by NGO facilitators</li> <li>- 1 course 25 participants</li> <li>- Training: 5 days (25 participants)</li> <li>- Follow-up guidance 1day x 10 times</li> <li>- Training subject: group management, book keeping, group marketing/purchasing,, cooperatives etc.</li> </ul>	- 1 unit/600 ha of rice fields
<b>3. Field Staff Empowerment Program</b>				
3.1. Induction Training of Field Staff	<ul style="list-style-type: none"> <li>- Induction training of project field staff &amp; related field staff (SAAOs etc.) on the agriculture promotion &amp; livelihood improvement sub-component of the Project</li> </ul>	<ul style="list-style-type: none"> <li>- Field staff deployed in the Project Area</li> </ul>	<ul style="list-style-type: none"> <li>- 1 course 25 field staff</li> <li>- 5 days per course</li> <li>- Training held at district HQ</li> </ul>	- 9 unit/1st year
3.2. Refresher Training of Field Staff	<ul style="list-style-type: none"> <li>- Induction training of project field staff &amp; related field staff (SAAOs etc.) on the agriculture promotion &amp; livelihood improvement sub-component of the Project</li> </ul>	<ul style="list-style-type: none"> <li>- Field staff deployed in the Project Area</li> </ul>	<ul style="list-style-type: none"> <li>- 1 course 25 field staff</li> <li>- 3 days per course</li> <li>- Training held at district HQ</li> </ul>	- 9 unit/year x5 years = 45 units
3.3. Study Tour/Exchange Visit	<ul style="list-style-type: none"> <li>- Visit to advanced farming areas or communities in haor areas or else to learn farming practices/operations, irrigation O&amp;M, management of farmer organization, marketing etc.</li> </ul>	<ul style="list-style-type: none"> <li>- Field staff deployed in the Project Area</li> </ul>	<ul style="list-style-type: none"> <li>- 25 participants/tour</li> <li>- 3 days</li> </ul>	- 1 unit/year x6 years = 6 units
<b>4. Farm Machinery &amp; Facility Support</b>				
4.1. Farm Machinery Hiring Services	<ul style="list-style-type: none"> <li>- Strengthening of farm machinery hiring services to mitigate shortage of farm machinery in the sub-project areas by establishing farm machinery hiring services operated by a group of farmers</li> <li>- Fomation of machinery hiring service group (MHSG)</li> <li>- Training of group members</li> <li>- Provision of machinery at subsidized rate</li> <li>- Provision of machinery hiring services by MHSGs</li> <li>- Pilot operation for the initial 3 years</li> </ul>	<ul style="list-style-type: none"> <li>- All sub-project areas</li> <li>- Project upazilas where mechanization of land preparation &amp; threshing is still limited.</li> <li>- Machinery Hiring Services Group (MHSG) 5 members (1 leader + 4 members)</li> </ul>	<ul style="list-style-type: none"> <li>- 2 MHSGs/unit</li> <li>- Basic allocation of machinery/MHSG Power tiller 5 units &amp; power thresher 5 units</li> <li>- Group training: 2 weeks</li> <li>- Training subject: Operation &amp; maintenance, book &amp; record keeping, hiring services management, group management, etc.</li> </ul>	<ul style="list-style-type: none"> <li>- Based on preliminary need assessment of project upazilas conducted by survey Team 3/</li> <li>- 1st priority upazila: 1 unit/2,000ha</li> <li>- 1nd priority upazila: 1 unit/4,000ha</li> </ul>
4.2. Construction of Community Drying Floor & Seed Storage Facility	<ul style="list-style-type: none"> <li>- Construction of seed drying floor &amp; storage facility in farm land area for community use to support quality seed preservation for next cropping</li> <li>- Primary users of the facilities are marginal farm households</li> <li>- Drying floor is for drying paddy preserved for seed only</li> </ul>	<ul style="list-style-type: none"> <li>- All sub-project areas</li> <li>- Project upazilas where elevated community land for the subject facility is available in the project benefitted fam land area</li> </ul>	<ul style="list-style-type: none"> <li>- Scale depending on availability of elevated land free from seasonal flood</li> <li>- Drying floor 50m2 &amp; storage 20m2</li> </ul>	- 1 unit/3,000 ha of rice fields
<b>5. Technology Development Program</b>				
5.1. Field Trial on New Rice Varieties	<ul style="list-style-type: none"> <li>- Simple trial on new rice varieties prior to adaptive trial implemented by research institute</li> <li>- Primary target crop: boro rice</li> <li>- Operation supported by UAOs/SAAOs 2/</li> </ul>	<ul style="list-style-type: none"> <li>- Typical haor areas</li> <li>- 2 trial sites in the Project Area</li> <li>1 site each for: <ul style="list-style-type: none"> <li>- Lowland &amp; very lowland</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- Specification of trial site</li> <li>- located close to all-weathered road</li> <li>- 5 years</li> </ul>	<ul style="list-style-type: none"> <li>- 2 trial sites</li> <li>- 1st year: site selection/operation</li> <li>- 2nd to 6th year: operation</li> </ul>
5.2. Field Trial on Non-rice Crops	<ul style="list-style-type: none"> <li>- Simple trial on non-rice crops prior to adaptive trial implemented by research institute</li> <li>- Target crop: promising upland crops &amp; vegetables in each target haor land type</li> <li>- Operation supported by UAOs/SAAOs 2/</li> </ul>	<ul style="list-style-type: none"> <li>- Typical haor areas</li> <li>- 1 trial site in the Project Area</li> </ul>	<ul style="list-style-type: none"> <li>- Specification of trial site</li> <li>- located close to all-weathered road</li> <li>- 5 years</li> </ul>	<ul style="list-style-type: none"> <li>- 1 trial site</li> <li>- 1st year: site selection &amp; operation</li> <li>- 2nd to 6th year: operation</li> </ul>

**Table Program Description of APSS & SIGS – 4/4**

Program	Objectives/Description	Target Area/Group	Technical Specifications	Basis for Estimation of Activity Requirement (tentative)
<b>II. SIGS (Small-scale Income Generation Sub-component)</b>				
1. Floating Bed Vegetable Culture Scheme	- Provision of floating bed making materials & farm inputs for supporting income generation of the target households.	- Non-HILIP upazila - Selection of target upazila: Based on results of preliminary needs assessment by UAOs 3/ - Marginal farm households, poor female headed farm households & agriculture labour households	- 1 unit: 3 CIGs x 8 member/CIG = 24 FHH 4/ - Formation of CIGs - 2 days training & field guidance - 1 bed/member (W 2m x L 6m x H 1.5m)	- No. of marginal farm households x 5% / 24 beneficiaries per unit - In total of 280 units/Project - Scheme selection: Based on preliminary need assessment of project upazilas conducted by survey Team 3/
2. Small-scale Vegetable Production Support Scheme	- Provision of farm inputs & fencing materials for supporting income generation of the target households. - Use of newly constructed platforms under the Project to be selected as target sites of the scheme, if practical	- Non-HILIP upazila - Selection of target upazila: Based on results of preliminary needs assessment by UAOs 3/ - Marginal farm households, poor female headed farm households & agriculture labour households	- 1 unit: 3 CIGs x 8 member/CIG = 24 FHH 4/ - Formation of CIGs - 1 day training & field guidance - Plot size: 1 decimal (40m2)/FHH	
3. Fruit Production Support Scheme	- Provision of fruit saplings, farm inputs & fencing materials for supporting income generation of the target households.	- Non-HILIP upazila - Selection of target upazila: Based on results of preliminary needs assessment by UAOs 3/ - Marginal farm households, poor female headed farm households & agriculture labour households	- 1 unit: 3 CIGs x 8 member/CIG = 24 FHH 4/ - Formation of CIGs - 1 day training & field guidance - Candidate fruits & No. of seedlings/FHH - Jujube (Ziziphus Mauritian): 5 saplings - Litchi: 5 saplings - Guava: 5 saplings (other fruits: morina & mandarin orange)	
4. Micro Poultry Raising Scheme	- Provision of a package of chicks or ducklings, poultry shed making materials & feed for supporting income generation of the target households.	- Non-HILIP upazila - Selection of target upazila: Based on results of preliminary needs assessment by UAOs 3/ - Marginal farm households, poor female headed farm households & agriculture labour households	- 1 unit: 3 CIGs x 8 member/CIG = 24 FHH 4/ - Formation of CIGs - 2 days training & field guidance - Chicken & duck support package: Chicken: (1♂ + 9 chicks)/package/FHH Duck: (1♂ + 9 ducklings)/package/FHH	
5. Small-scale Mushroom Culture Scheme	- Provision of mushroom spoon packet & culture materials for supporting income generation of the target households.	- Non-HILIP upazila - Selection of target upazila: Based on results of preliminary needs assessment by UAOs 3/ - Marginal farm households, poor female headed farm households & agriculture labour households	- 1 unit: 3 CIGs x 8 member/CIG = 24 FHH 4/ - Formation of CIGs - 3 days training & field guidance - Mushroom support package/FHH: - Mushroom spoon packet - Mushroom shelve materials - 75 wooden spoons & 40 straw spoons/FHH - Packing materials/container	

1/: SFH - small farm household 2/: SAAO = Sub-assistant Agriculture Officer, UAO = Upazila Agriculture Office 4/: CIG = Common Interest Group, FHH = farm households

3/: Results of preliminary need assessment questionnaire survey on program/activity under APSA & SIGA by major project upazilas carried out by JICA Survey Team in July, 2013

Source: Prepared by JICA Survey Team

Appendix 5.16

Table Results of Project Upazila Inventory

New ID	Sub-project	District	Upajila	HLP or Not	Total Upazila Area	Project Area	Boro Cropped Area (ha)	Boro Cropped Rice Area per Farm Household	Boro Rice HYV Yield (t/ha)	No. of Power Tiller	Boro Cropped Area/Power Tiller	No. of Power Thresher	Boro Cropped Area/Power Thresher	No. of SS/MS	Boro Cropped Area/SS/MS (t,000ha)
<b>Rehabilitation Projects</b>															
R-1	Dampara Water Management Scheme	M	Dhobaura	N	25,224	21	-	-	-	-	-	-	-	-	-
		M	Haluaghat	N	35,477	2	-	-	-	-	-	-	-	-	-
		M	Phulpur	N	56,784	3,776	-	-	-	-	-	-	-	-	-
		N	Durgapur	N	28,125	5	17,903	0.6	3.8	724	25	400	45	11	1.6
R-2	Kangsha River Scheme	N	Purbadhala	N	31,770	11,199	22,217	0.5	4.0	1,059	21	894	25	28	0.8
		N	Netrokona Sadar	N	33,465	6,061	21,933	0.6	4.0	985	22	910	24	38	0.6
R-3	Singer Beel Scheme	N	Purbadhala	N	31,770	22,217	0.5	4.0	724	31	400	56	28	0.8	
		N	Barhatta	N	23,052	6,976	14,273	0.6	3.9	468	30	586	24	15	1.0
R-4	Baraikhal Khal Scheme	N	Kalinakandi	H	38,502	1,224	19,167	0.6	3.9	601	32	627	31	10	1.6
		S	Dharmapasha	H	30,085	1,312	30,108	1.2	3.4	352	36	366	36	3.9	
		K	Hossampur	N	11,921	5,989	7,283	0.3	3.9	420	17	410	18	20	0.4
R-5	Aladia-Bahadia Scheme	K	Kishoreganj Sadar	N	18,962	2,309	8,413	0.3	4.1	480	18	495	17	37	0.2
		M	Nandail	N	32,898	369	-	-	-	-	-	-	-	-	-
		K	Pakundia	N	17,634	2,464	8,437	0.2	4.0	420	20	470	18	32	0.3
R-6	Modkhola Bhairagirchar Sub-project Scheme	K	Katiadi	N	22,135	1,416	12,428	0.4	4.0	435	29	400	31	22	0.6
		K	Pakundia	N	17,634	633	8,437	0.2	4.0	420	20	470	18	32	0.3
		O	Manohardi	N	19,555	11	-	-	-	-	-	-	-	-	-
R-7	Ganakkhali Sub-Project Scheme	K	Kular Char	N	10,292	2,652	6,967	0.3	4.0	440	16	488	14	20	0.3
R-8	Kairdhala Ratna Scheme	H	Asimganj	H	38,438	8,236	20,313	1.9	3.6	346	66	352	58	9	2.3
		H	Banachong	H	49,627	4,857	41,227	1.4	3.8	968	43	1,277	32	25	1.6
		S	Demra	H	40,639	1,717	27,147	1.1	3.2	1,355	24	301	30	2.7	
R-9	Bashira River Scheme	H	Asimganj	H	38,438	1,675	20,313	1.9	3.6	346	66	352	58	9	2.3
		H	Banachong	H	49,627	906	41,227	1.4	3.8	968	43	1,277	32	25	1.6
		K	Mithaman	H	22,548	1,342	16,825	1.2	4.2	806	34	370	30	1.3	
R-10	Aralia Khal Scheme	H	Banachong	H	49,627	1,301	41,227	1.4	3.8	968	43	1,277	32	25	1.6
R-11	Chandal Beel Scheme	B	Bascharanagar	H	20,524	1,012	9,373	0.3	4.0	470	16	390	16	28	0.3
R-12	Satdona Beel Scheme	B	Bascharanagar	H	20,524	4,388	9,373	0.3	4.0	470	16	390	16	28	0.3
R-13	Gangajun FCD Sub-Project	O	Homna	N	12,917	60	-	-	-	-	-	-	-	-	-
		H	Bahubal	N	26,467	12,438	9,707	0.5	3.6	453	21	497	20	12	0.8
		H	Banachong	H	49,627	22	41,227	1.4	3.8	968	43	1,277	32	25	1.6
R-14	Khaliajun FCD Polder-2	H	Chunarughat	N	48,093	0	9,627	0.3	3.1	350	28	125	77	29	0.3
		H	Habiganj Sadar	N	24,091	6,485	13,000	0.5	3.9	374	35	451	29	21	0.6
		H	Nabiganj	N	43,355	1,496	21,763	0.8	3.5	683	32	632	34	19	1.1
		N	Sulla	N	26,360	315	21,867	1.7	3.9	539	41	-	6	3.6	
R-15	Khaliajun FCD Polder-4	K	Itina	H	38,529	84	28,325	1.7	4.2	406	39	350	34	5	3.7
		N	Khaliajun	H	29,008	4,847	18,320	1.5	4.2	406	39	350	34	5	3.7
		N	Madan	H	23,088	2,230	16,370	0.7	4.1	369	29	319	27	7	2.4
<b>Rehabilitation Total</b>					<b>1,145,860</b>	<b>107,621</b>	<b>626,325</b>			<b>18,426</b>		<b>17,426</b>		<b>622</b>	<b>1.0</b>
<b>New Construction</b>															
N-2	Naogaon Haor Project	K	Itina	H	38,529	2,728	28,325	1.2	4.2	406	39	350	34	5	3.7
		K	Karimganj	N	20,259	933	10,413	0.3	4.1	430	24	380	27	35	0.3
		K	Mithaman	H	22,548	3,928	16,833	1.2	4.2	806	34	370	30	1.3	
		K	Nikli	H	38,592	1,321	18,346	1.0	4.2	386	36	339	29	1.5	
N-1	Boro Haor Project (Nikli)	K	Karimganj	N	20,259	2,847	10,413	0.3	4.1	430	24	380	27	35	0.3
		K	Katiadi	N	22,135	2,990	12,428	0.4	4.0	435	29	400	31	22	0.6
		K	Kishoreganj Sadar	N	18,962	866	8,413	0.3	4.1	480	18	495	17	37	0.2
N-3	Jalar Haor Project	K	Nikli	H	38,592	2,443	18,316	1.0	4.2	386	36	320	29	1.5	
		S	Chitrad	H	43,303	2,406	8,949	0.3	2.9	408	18	-	18	0.5	
		K	Katiadi	N	22,135	2,294	12,428	0.4	4.0	435	29	400	31	22	0.6
N-4	Dharmapasha Rui Beel Project	K	Nikli	H	38,592	1,877	18,316	1.0	4.2	386	36	320	29	1.5	
		N	Barhatta	N	23,052	3,989	14,273	0.6	3.9	468	30	586	24	15	1.0
		N	Kalinakandi	H	38,502	1,224	19,167	0.6	3.9	601	32	627	31	10	1.6
N-5	Chandpur Haor Project	N	Mithanganj Thana	H	24,077	1,107	18,408	0.7	4.0	375	40	468	29	1.5	
		S	Dharmapasha	H	30,085	1,312	30,108	1.2	3.4	352	36	366	36	3.9	
		N	Kendua	N	14,266	3,050	10,198	0.6	4.1	337	30	475	21	20	0.5
N-6	Sunair Haor Project	N	Kendua	N	14,266	844	20,697	0.5	4.0	515	40	815	25	33	0.6
		K	Itina	H	38,529	1,304	28,325	1.7	4.2	406	39	350	34	5	3.7
N-7	Badla Haor Project	K	Tarail	N	14,266	0	10,198	0.6	4.1	337	30	475	21	20	0.5
		K	Itina	H	38,529	1,304	28,325	1.7	4.2	406	39	350	34	5	3.7
N-8	Nunnir Haor Project	K	Bajitpur	N	18,960	1,386	12,645	0.5	4.1	550	23	450	28	31	0.4
		K	Katiadi	N	22,135	278	12,428	0.4	4.0	430	29	380	33	22	0.6
N-9	Dakhshiner Haor Project	K	Nikli	H	38,592	4,247	18,316	1.0	4.2	386	36	320	29	1.5	
		K	Itina	H	38,529	1,553	28,325	1.7	4.2	406	39	350	34	5	3.7
		K	Mithaman	H	22,548	430	16,825	1.2	4.2	806	34	370	30	1.3	
N-10	Chatal Haor Project	K	Itina	H	38,529	588	28,325	1.7	4.2	406	39	350	34	5	3.7
		K	Tarail	N	14,266	228	10,198	0.6	4.1	337	30	475	21	20	0.5
		N	Madan	H	23,088	1,131	16,370	0.8	4.1	369	29	319	27	7	2.4
N-11	Ganesh Haor Project	N	Atpara	N	18,886	1,690	11,557	0.6	4.0	275	42	276	42	15	0.8
		N	Madan	H	23,088	1,306	16,370	0.7	4.1	366	29	319	27	7	2.4
		S	Dakhshin Sunanganj	H	30,649	1,347	19,647	1.2	2.6	406	41	399	37	3.5	
N-12	Dhakua Haor Project	S	Bairagani	H	33,198	1,767	20,960	0.9	3.1	546	37	-	8	2.5	
		S	Sunanganj Sadar	H	27,824	2,392	18,193	0.7	3.1	278	47	-	12	1.1	
		H	Asimganj	H	38,438	1	20,313	1.9	3.6	346	66	352	58	9	2.3
N-13	Mokhar Haor Project	H	Banachong	H	49,627	4,947	41,227	1.4	3.8	968	43	1,277	32	25	1.6
		H	Nabiganj	N	43,355	3,714	21,763	0.8	3.5	683	32	632	34	19	1.1
		K	Kishoreganj	H	30,085	36	30,098	1.2	3.4	352	36	366	36	3.9	
N-14	Noapara Haor Project	K	Karimganj	N	20,259	15	10,413	0.3	4.1	430	24	380	27	35	0.3
		K	Nikli	H	38,592	1,321	18,346	1.0	4.2	386	36	339	29	1.5	
		K	Nikli	H	38,592	1,321	18,346	1.0	4.2	386	36	339	29	1.5	
<b>New Construction Total</b>					<b>1,007,852</b>	<b>77,855</b>	<b>656,937</b>			<b>18,165</b>		<b>17,108</b>		<b>673</b>	<b>1.0</b>
<b>Overall Project</b>					<b>2,153,712</b>	<b>185,476</b>	<b>1,283,262</b>			<b>36,591</b>	<b>35</b>	<b>34,534</b>	<b>37</b>	<b>1,295</b>	<b>1.0</b>

Source: Project district DAOs (District Agriculture Office)





Table Results of Preliminary Needs Assessment of APSS & SIGS by Project Upazilas – 2/2

Appendix 5.17-2

New ID	Old ID	Sub-project	District	Upajila	HILIP or Not	Total Upazila Area	Project Area	Results of Preliminary Need Assessment on APSS & SIGS																												
								Adaptive trial (rice)	Adaptive trial (non-rice)	Field demonstration (plot, rice/non-rice)	Field demonstration (field)	Field demonstration (area)	Water management demonstration	IPM FFS	CCM FFS	Seed multiplication	Farmer Training	Study tour/exchange visit	Mass guidance/field campaign	Agriculture fair	Empowerment of existing farmer organizations	Formation & empowerment of farmer organizations	Inception training	Annual training	Study tour/exchange visit for strengthening extension activities	Construction of field extension office	Farm inputs supply under revolving arrangement	Provision of simple seed storage container	Farm machinery hiring services	Construction of community drying floor & seed storage facility	Field trial on new rice varieties	Field trial on non-rice crops	Vegetable production support	Micro poultry raising	Floating bed vegetable cultivation	Fruit production support
								1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.1.1	2.1.2	2.1.3	2.1.4	2.2	2.3	3.1.1	3.1.2	3.1.3	3.2	3.3	4.1	4.2	5.1	5.2	6.1	6.2	7.1	7.2	8.1
<b>New Construction</b>								<b>85,964</b>																												
<b>Overall Project</b>								<b>193,585</b>																												

Source: Results of preliminary needs assessment on APSS & SIGS conducted by JICA Survey Team

Table Division of Roles for Implementation of APSS &amp; SIGS (draft) - 1/3

Appendix 5.18-1

Program/Activity	Division of Roles (Scope of Activities)		
	Project Organizations	UAO/DAO (DAE)	Consultant/Others (specified)
	PMO/PIU/Sub-division Office		
<b>Overall &amp; Annual Work Plan for APSS &amp; SIGS Formulation</b>			
- Needs assessment, PCM, PRA, workshop, mass guidance, field campaign	- Needs assessment, PCM, PRA, workshop, mass guidance, field campaign	- Support activities of the project organizations listed in the left column	- Support activities of the project organizations listed in the left column
- Preparation of OWP (Overall Work Plan) & AWP (Annual Work Plan)	- Preparation of OWP (Overall Work Plan) & AWP (Annual Work Plan)	- Support activities of the project organizations listed in the left column	- Support activities of the project organizations listed in the left column
- Preparation/updating technical guideline & operation manuals	- Preparation/updating technical guideline & operation manuals	- Support activities of the project organizations listed in the left column	- Preparation & updating technical guideline & operation manuals for APSS & SIGS
<b>Project Implementation</b>			
	- Implementation of APSS & SIGS based on AWP	- Support the project organizations in their implementation of APSS & SIGS	- Providing technical guidance & support for APSS & SIGS implementation
	- Budget arrangement & disbursement costs required for APSS & SIGS	- Support the project organizations in their monitoring & evaluation of APSS & SIGS	- Support the project monitoring & evaluation activities of the project organizations
	- Procurement & provision of goods, machinery & materials for APSS & SIGS based on AWP	- Assigning DAO/UAO staff to the project organizations as resource person for supporting the project implementation	
	- Monitoring & evaluation of APSS & SIGS		
<b>Agriculture Promotion Support Sub-project (APSS)</b>			
1. Field Program			
(1) Adaptive Trials			
- Adaptive trial (rice), adaptive trial (upland crops & vegetables), adaptive trial (cropping pattern)	- Implementation of program in accordance with technical guideline/operation manuals - Scope of activities include: - Selection of target group/site, technical guidance, operation of Farmer Field Day, liaison with stakeholders, supervision, monitoring & evaluation, reporting, etc.	- Assigning DAO/UAO staff as resource person/technical supporting personnel for supporting the program implementation  - Support the project organizations in their monitoring & evaluation of the program	- Providing technical guidance & support for the program implementation - Support the program monitoring & evaluation activities of the project organizations
(2) Field Demonstrations			
- Demonstration plot (rice), demonstration field (rice), demonstration area (rice), water management demonstration area (rice), demonstration plot (upland crops/vegetables), cropping pattern demonstration	- Implementation of program in accordance with technical guideline/operation manuals - Scope of activities include: - Selection of target group/site, technical guidance, operation of Farmer Field Day, liaison with stakeholders, supervision, monitoring & evaluation, reporting, etc.	- Assigning DAO/UAO staff as resource person/technical supporting personnel for supporting the program implementation  - Support the project organizations in their monitoring & evaluation of the program	- Providing technical guidance & support for the program implementation - Support the program monitoring & evaluation activities of the project organizations
(3) IPM FFS/ICM FFS (rice)			
	- Implementation of program in accordance with technical guideline/operation manuals - Scope of activities include: - Selection of target group/site, formulation of IPM/ICM group, operation of FFS, technical guidance, liaison with stakeholders operation of Farmer Field Day, supervision, monitoring &	- Assigning DAO/UAO staff as resource person/technical supporting personnel for supporting the program implementation  - Support the project organizations in their monitoring & evaluation of the program	- Providing technical guidance & support for the program implementation - Support the program monitoring & evaluation activities of the project organizations
(4) Seed Multiplication (rice)			
	- Implementation of program in accordance with technical guideline/operation manuals - Scope of activities include: - Selection of target group/site, training of target group, technical guidance, liaison with stakeholders field inspection, operation of Farmer Field Day, supervision, monitoring & evaluation, reporting, etc.	- Assigning DAO/UAO staff as resource person/technical supporting personnel for supporting the program implementation  - Support the project organizations in their monitoring & evaluation of the program	- Providing technical guidance & support for the program implementation - Support the program monitoring & evaluation activities of the project organizations - SCA or DAO - Assigning resource person for field inspection
(5) Research-Extension-Farmer Dialog			
	- Implementation of program in collaboration with research institutes in accordance with technical guideline/operation manuals - Scope of activities include: - Selection of target site, preparation of guidance materials, joint field visit & discussion/guidance, reporting, etc.	- Assigning DAO/UAO staff as resource person/technical supporting personnel for supporting the program implementation  - Support the project organizations in their monitoring & evaluation of the program	- Support the program implementation of the project organizations - BRRI & BARI - Assigning resource person for the program

**Table Division of Roles for Implementation of APSS & SIGS (draft) - 2/3**

Program/Activity	Division of Roles (Scope of Activities)		
	Project Organizations	UAO/DAO (DAE)	Consultant/Others (specified)
	PMO/PIU/Sub-division Office		
2. Farmer Training Program 2.1 Farmer Training (1) Farmer Training	<ul style="list-style-type: none"> <li>- Implementation of program in accordance with technical guideline/operation manuals</li> <li>- Scope of activities include: Training need assessment, selection of target group, preparation of training manuals &amp; materials, implementation of training, monitoring &amp; evaluation, reporting, etc.</li> </ul>	<ul style="list-style-type: none"> <li>- Assigning DAO/UAO staff as resource person/trainer for supporting the program implementation</li> <li>- Support the project organizations in their monitoring &amp; evaluation of the program</li> </ul>	<ul style="list-style-type: none"> <li>- Support the program implementation of the project organizations</li> <li>- Preparation of training manuals</li> </ul>
(2) Study Tour/exchange Visit	<ul style="list-style-type: none"> <li>- Implementation of program in accordance with technical guideline/operation manuals</li> <li>- Scope of activities include: Selection of target site for the tour &amp; target group, logistic arrangement, preparation of guidance materials, monitoring &amp; evaluation, reporting &amp; evaluation, reporting, reporting, etc.</li> </ul>	<ul style="list-style-type: none"> <li>- Assigning DAO/UAO staff as resource person for supporting the program implementation</li> <li>- Support the project organizations in their monitoring &amp; evaluation of the program</li> </ul>	<ul style="list-style-type: none"> <li>- Support the program implementation of the project organizations</li> </ul>
(3) Mass Guidance/Workshop/Campaign	<ul style="list-style-type: none"> <li>- Implementation of program in accordance with technical guideline/operation manuals</li> <li>- Scope of activities include: Need assessment, selection of subject for the program &amp; target group, preparation of guidance materials, implementation of the program, monitoring &amp; evaluation, reporting, etc</li> </ul>	<ul style="list-style-type: none"> <li>- Assigning DAO/UAO staff as resource person for supporting the program implementation</li> <li>- Support the project organizations in their monitoring &amp; evaluation of the program</li> </ul>	<ul style="list-style-type: none"> <li>- Support the program implementation of the project organizations</li> </ul>
(4) Agriculture Fair	<ul style="list-style-type: none"> <li>- Implementation of program in accordance with technical guideline/operation manuals</li> <li>- Scope of activities include: Selection of site, participants &amp; stalls for fair, preparation of leaflet/materials, public announcement, operation of fair, liaison with stakeholders, etc.</li> </ul>	<ul style="list-style-type: none"> <li>- Assigning DAO/UAO staff as resource person for supporting the program implementation</li> <li>- Support the project organizations in their monitoring &amp; evaluation of the program</li> <li>- Mobilization of farmers</li> </ul>	<ul style="list-style-type: none"> <li>- Support the program implementation of the project organizations</li> </ul>
(5) Empowerment of Farmer Organizations (FO) - Empowerment of existing farmer organizations, formation & empowerment of farmer organizations	<ul style="list-style-type: none"> <li>- Implementation of program in accordance with technical guideline/operation manuals</li> <li>- Scope of activities include: Selection of target group, resource persons &amp; facilitators, preparation of training manuals/materials, operation of workshop, follow-up guidance, monitoring &amp; evaluation, reporting, etc.</li> </ul>	<ul style="list-style-type: none"> <li>- Assigning DAO/UAO staff as resource person/trainer for supporting the program implementation</li> <li>- Support the project organizations in their monitoring &amp; evaluation of the program</li> </ul>	<ul style="list-style-type: none"> <li>- Support the program implementation of the project organizations</li> <li>- Preparation of training manuals</li> <li>- NGO</li> <li>- Assigning facilitators for the empowerment &amp; follow-up guidance</li> </ul>
3. Field Staff Empowerment Program (1) Staff Training Induction training of field staff, refresher training of field staff	<ul style="list-style-type: none"> <li>- Implementation of program in accordance with technical guideline/operation manuals</li> <li>- Scope of activities include: Training need assessment, selection of target group, trainer &amp; resource person, preparation of training materials, monitoring &amp; evaluation, reporting, etc.</li> </ul>	<ul style="list-style-type: none"> <li>- Assigning DAO/UAO staff as resource person/trainer for supporting the program implementation</li> <li>- Support the project organizations in their monitoring &amp; evaluation of the program</li> </ul>	<ul style="list-style-type: none"> <li>- Support the program implementation of the project organizations</li> <li>- Provide guidance on technical guideline &amp; operation manuals for APSS &amp; SIGS</li> </ul>
(2) Study Tour/Exchange Visit	<ul style="list-style-type: none"> <li>- Implementation of program in accordance with technical guideline/operation manuals</li> <li>- Scope of activities include: Selection of target site for the tour &amp; target group, preparation of guidance materials, logistic arrangement, monitoring &amp; evaluation, reporting, etc.</li> </ul>	<ul style="list-style-type: none"> <li>- Assigning DAO/UAO staff as resource person/trainer for supporting the program implementation</li> <li>- Support the project organizations in their monitoring &amp; evaluation of the program</li> </ul>	<ul style="list-style-type: none"> <li>- Support the program implementation of the project organizations</li> </ul>

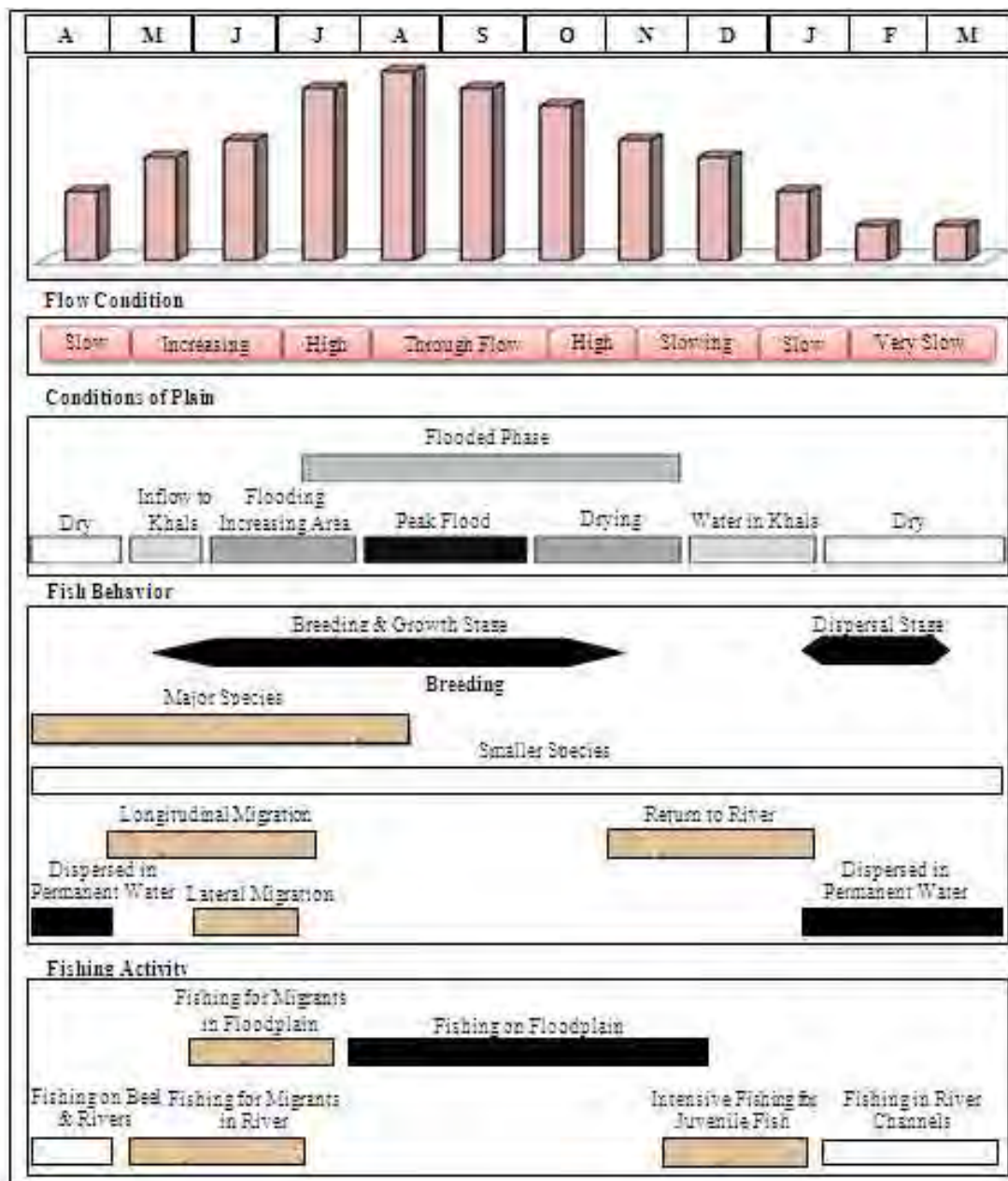
Table Division of Roles for Implementation of APSS &amp; SIGS (draft) - 3/3

Appendix 5.18-3

Program/Activity	Division of Roles (Scope of Activities)		
	Project Organizations	UAO/DAO (DAE)	Consultant/Others (specified)
	PMO/PIU/Sub-division Office		
4. Farm Machinery & Facility Support (1) Farm Machinery Hiring Services	<ul style="list-style-type: none"> <li>- Implementation of program in accordance with technical guideline/operation manuals</li> <li>- Scope of activities include: Need assessment, selection of target group, trainer, resource person, facilitator for the program, preparation of training materials, formation of Farm Machinery Hiring Services Providers Group (FMHSG), arranging revolving fund repayment agreement with FMHSG, procurement &amp; provision of farm machinery, monitoring &amp; evaluation of hiring services &amp; FMHSGs activities/fund repayment, reporting, etc.</li> </ul>	<ul style="list-style-type: none"> <li>- Assigning DAO/UAO staff as resource person/trainer for supporting the program implementation</li> <li>- Support the project organizations in their monitoring &amp; evaluation of the program</li> </ul>	<ul style="list-style-type: none"> <li>- Support the program implementation of the project organizations</li> <li>- NGO</li> <li>- Assigning facilitators for the formation of FMHSG</li> </ul>
(2) Construction of Community Drying Floor & Seed Storage Facility	<ul style="list-style-type: none"> <li>- Implementation of program in accordance with technical guideline/operation manuals</li> <li>- Scope of activities include: Need assessment, selection of construction site, community workshop, selection of facilitator &amp; farmer representatives, joint field survey, construction of drying yard/seed storage, organization of users group, preparation of by-law for users group &amp; users regulations, monitoring &amp; evaluation of the program, reporting, etc.</li> </ul>	<ul style="list-style-type: none"> <li>- Assigning DAO/UAO staff as resource person for supporting the program implementation</li> <li>- Support the project organizations in their monitoring &amp; evaluation of the program</li> </ul>	<ul style="list-style-type: none"> <li>- Support the program implementation of the project organizations</li> <li>- NGO</li> <li>- Assigning facilitators for the formation of users group</li> </ul>
5. Technology Development Program (1) Field Trial on Rice	<ul style="list-style-type: none"> <li>- Implementation of program in accordance with technical guideline/operation manuals</li> <li>- Scope of activities include: Preparation of TOR for the program, Conclude Letter of Agreement (LoA) with BRRI, monitoring &amp; evaluation of the program</li> </ul>	<ul style="list-style-type: none"> <li>- Assigning DAO/UAO staff for supporting the program implementation by BRRI</li> <li>- Support the project organizations in their monitoring &amp; evaluation of the program</li> </ul>	<ul style="list-style-type: none"> <li>- Support the program implementation of the project organizations</li> <li>- RRI</li> <li>- Implementation of the program in accordance with LOA</li> <li>- Operation of field seminar &amp; seminar at Project</li> <li>- Report preparation</li> </ul>
(2) Field Trial on Non-rice Crops	<ul style="list-style-type: none"> <li>- Implementation of program in accordance with technical guideline/operation manuals</li> <li>- Scope of activities include: Preparation of TOR for the program, Conclude Letter of Agreement (LoA) with BARI, monitoring &amp; evaluation of the program</li> </ul>	<ul style="list-style-type: none"> <li>- Assigning DAO/UAO staff for supporting the program implementation by BARI</li> <li>- Support the project organizations in their monitoring &amp; evaluation of the program</li> </ul>	<ul style="list-style-type: none"> <li>- Support the program implementation of the project organizations</li> <li>- BARI</li> <li>- Implementation of the program in accordance with LOA</li> <li>- Operation of field seminar &amp; seminar at Project</li> <li>- Report preparation</li> </ul>
<b>Small-scale Income Generation Sub-project (SIGS)</b> (1) Floating Bed Vegetable Culture Scheme (2) Small-scale Vegetable Production Support Scheme (3) Fruit Production Support Scheme (4) Micro Poultry (chicken, duck) Raising Scheme (5) Small-scale Mushroom Culture Scheme	<ul style="list-style-type: none"> <li>- Implementation of program in accordance with technical guideline/operation manuals</li> <li>- Scope of activities include: Selection of target groups &amp; formation of CIGs, preparation training materials, selection of facilitator, training of CIGs, procurement &amp; provision of goods &amp; materials for the program, field guidance, follow-up field guidance, monitoring &amp; evaluation of the program, reporting</li> </ul>	<ul style="list-style-type: none"> <li>- Assigning DAO/UAO staff for supporting the program implementation</li> <li>- Support the project organizations in their follow-up field guidance and monitoring &amp; evaluation of the program</li> </ul>	<ul style="list-style-type: none"> <li>- Support the program implementation of the project organizations</li> <li>- NGO</li> <li>- Assigning facilitators for the formation of CIGs &amp; follow-up field guidance</li> <li>- DLO/ULO</li> <li>- Support implementation of Micro Poultry Raising Scheme</li> </ul>

## *Appendixes 6.1 to 6.6*

**Appendix 6.1: Diagram of Seasonal Cycle of Floodplain Fisheries**



Source: Adapted from FAP-5.2, 1993.

## Appendix 6.2: Number of Fish Farmer and Fishers by Upazilas in 5 Haor Districts

Kishoreganj District		Pakundia	Katiadi	K Sadar	Kuliar Char	Karinganj	Hossainpur	Austagram	Nikhli	Itna	Mithamain	Bajitpur	Tarail	Bhairab	Total
Fish Farmer	Male	135	2,275	8,776	890	2,150	4,550	256	160	190	400	1,512	1,892	325	23,511
	Female	80	144	150	16	50	1,670	3	5	40	50	8	30	7	2,253
	sub-total	215	2,419	8,926	906	2,200	6,220	259	165	230	450	1,520	1,922	332	25,764
Fisher	Male	80	1,000	2,150	810	1,350	550	7,240	170	300	15,500	2,390	3,250	1,250	36,040
	Female	20	-	350	-	-	-	-	170	150	2,000	5	-	-	2,695
	sub-total	100	1,000	2,500	810	1,350	550	7,240	340	450	17,500	2,395	3,250	1,250	38,735
<b>Total</b>		<b>315</b>	<b>3,419</b>	<b>11,426</b>	<b>1,716</b>	<b>3,550</b>	<b>6,770</b>	<b>7,499</b>	<b>505</b>	<b>680</b>	<b>17,950</b>	<b>3,915</b>	<b>5,172</b>	<b>1,582</b>	<b>64,499</b>

Netrokona District		Mohanganj	Kalma Kanda	Purbadhala	Atpara	Durgapur	Madan	Khaliajuri	Barhatta	Netrokona Sadae	Kendua	Total
Fish Farmer	Male	2,665	5,000	5,710	3,010	4,650	1,650	75	5,500	9,285	7,472	45,017
	Female	35	1,300	2,790	380	-	370	12	730	455	831	6,903
	sub-total	2,690	6,300	8,500	3,390	4,650	2,020	87	6,230	9,740	8,303	51,910
Fishers	Male	4,250	5,655	2,880	6,015	2,550	1,120	7,810	1,755	2,908	520	35,463
	Female	-	280	100	410	-	267	235	800	-	22	2,114
	sub-total	4,250	5,935	2,980	6,425	2,550	1,387	8,045	2,555	2,908	542	37,577
<b>Total</b>		<b>6,940</b>	<b>12,235</b>	<b>11,480</b>	<b>9,815</b>	<b>7,200</b>	<b>3,407</b>	<b>8,132</b>	<b>8,785</b>	<b>12,648</b>	<b>8,845</b>	<b>89,487</b>

Habiganj District		Habiganj Sadar	Bahubal	Lakhai	Nabiganj	Ajmiriganj	Chunarghat	Baniachong	Madhabpur	Total
Fish farmer	Male	3,400	125	1,150	3,950	470	20	800	2,689	12,604
	Female	900	50	260	330	25	10	400	55	2,030
	sub-total	4,300	175	1,410	4,280	495	30	1,200	2,744	14,634
Fisher	Male	5,000	5,200	10,600	5,300	5,200	220	950	3,903	36,373
	Female	-	-	1,550	-	90	25	100	-	1,765
	sub-total	5,000	5,200	12,150	5,300	5,290	245	1,050	3,903	38,138
<b>Total</b>		<b>9,300</b>	<b>5,375</b>	<b>13,560</b>	<b>9,580</b>	<b>5,785</b>	<b>275</b>	<b>2,250</b>	<b>6,647</b>	<b>52,772</b>

Brahmanbaria District		Sarail	B B Sadar	Nasirnagar	Kasba	Ashuganj	Bancharamp	Akhura	Nabinagar	Total
Fish Farmer	Male	685	5,170	85	3,620	500	900	5,000	1,200	17,160
	Female	155	160	10	50	200	125	30	150	880
	sub-total	835	5,330	95	3,670	700	1,025	5,030	1,350	18,035
Fisher	Male	795	8,680	3,000	2,255	700	1,700	500	5,600	23,230
	Female	400	110	1,000	-	200	50	-	-	1,760
	sub-total	1,195	8,790	4,000	2,255	900	1,750	500	5,600	24,990
<b>Total</b>		<b>2,030</b>	<b>14,120</b>	<b>4,095</b>	<b>5,925</b>	<b>1,600</b>	<b>2,775</b>	<b>5,530</b>	<b>6,950</b>	<b>43,025</b>

Sunamganj District		Chatak	Doarabazar	Shalla	South Sunamganj	Bishwanvarpur	Dharmapasha	Jamalganj	Tahirpur	Derai	Jaganathpur	Sunamganj Sadar	Total
Fish Farmer	Male	1,950	105	296	550	525	696	300	391	930	4,510	1,250	11,503
	Female	50	-	-	50	50	23	40	-	-	800	15	1,028
	sub-total	2,000	105	296	600	575	719	340	391	930	4,310	1,265	11,531
Fisher	Male	15,000	7,861	3,500	6,700	4,000	8,989	4,000	6,678	16,090	1,000	500	74,318
	Female	-	-	-	300	-	250	700	-	120	300	8	1,678
	sub-total	15,000	7,861	35,000	7,000	4,000	9,239	4,700	6,678	16,210	1,300	508	107,496
<b>Total</b>		<b>17,000</b>	<b>7,966</b>	<b>35,296</b>	<b>7,600</b>	<b>4,575</b>	<b>9,958</b>	<b>5,040</b>	<b>7,069</b>	<b>17,140</b>	<b>5,610</b>	<b>1,773</b>	<b>119,027</b>

Source: Compiled from the Upazilas of 5 Haor Districts by the JICA Preparatory Survey Team, July/August 2013.



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**Appendix 6.3: Profiles of CFRM and Income generating Activities****1. Establishment of Fish Sanctuaries****(1) Background**

The inland open water fisheries have been experiencing a significant decline in recent years due to FCD/I projects, siltation of habitats, indiscriminate and over fishing, degradation and loss of fish habitat, and shortsighted management. During dry season in particular, the fish become more susceptible to catch, which results in loss of brood stock. Therefore, it affects negatively to the natural recruitment of fish to floodplain fisheries. The enforcement of Conservation and Protection of Fish Act, 1950 could protect and conserve fisheries resources through establishment of sanctuaries. Around 53 sanctuaries are reported in the Haor areas, which are not enough for this area.

These 53 sanctuaries are being managed with the community participation under the co-management approach through different projects such as, MACH, CBFM-2, FFP and other government financed projects. Due to lack of sufficient sanctuary in the haor basin, the brood fish and hatchling are being caught with less effort. Thus, the fish diversity and production are declining severely and negatively affect the livelihoods of the fishermen community in this area are being jeopardized.

**(2) Objective**

The overall objective is the long-term conservation and management of wetland for conservation and improvement of fisheries biodiversity together with the enhancement of dependent livelihood through sustainable natural resource management.

The specific objectives are:

- To conserve fish biodiversity including endangered species;
- To protect brood/mother fish and to facilitate breeding;
- To increase fish production;
- To conserve and protect indigenous fish species; and
- To improve fisheries dependent livelihoods.

**(3) Scope of Work or Activities**

The major activities to be carried out are:

- Delineation of sanctuary area;
- Excavation of water bodies in some cases;
- Arrangement of protection measures for sanctuary;
- Collection and stocking of endangered fish fry/fingerlings;
- Establishment of management committee;
- Training up the officials and beneficiaries; and
- Monitoring and protection.

**(4) Approach**

The specific location will be identified through initial resource mapping and identification of beels through PRA. Training programmes will be arranged for officers of DoF and for beneficiary. Community mobilization and protection (law and orders) of sanctuaries will be core-activities of the project.

**(5) Priority**

The establishment of fish sanctuaries has been considered a priority to improve fish biodiversity, to increase fish production and thereby to improve fisheries dependent livelihoods in the beel/hoar areas. This will facilitate breeding of native fish species and conserving threatened fish species with the objective of increase of fish production to comply with the scenario developed under fisheries Vision 2020/21.

## **(6) Need and Justification**

As the dry season progresses, water in the deeper parts of haor/beel becomes shallow. Even, sometimes the remaining water is pumped out for agriculture, and for fish harvesting which not only causes destruction of the brood fishes but also cause destruction of other aquatic animals and plants. As a result, the fish stock in the haor area is decreasing day by day due to habitat degradation. Hence, the establishment of sanctuary in the beel/haor and river is one of the improved tools/techniques to conserve and enhance fish species along with increasing the yield of fish.

## **(7) Outputs**

- Increased fish population and diversity in water bodies;
- Increased fish production;
- Conserved biodiversity;
- Protein demand met up; and
- Improvement of livelihood of local fishers.

## **2. Establishment of Beel Nurseries**

### **(1) Background**

The inland capture fisheries are decreasing due to increasing pressure on the fishery resources, environmental degradation of aquatic habitats and poor fisheries management. Conventional fisheries management measures such as regulation of minimum mesh sizes, closed areas and closed seasons are used to counteract this situation, but these measures can be difficult to enforce and do not always offer the possibility to increase or maintain production levels in situations of high fishing pressure or in degraded environments. In such cases, fingerling recruitment to the floodplains that can be collectively used for enhancements of selected species above natural levels. In the haor basin, a large number of shallow beels and khals connected with beels or haors that have potential for conducting beel nursery activities for improving production and biodiversity. This sub-component programme is proved as the efficient fingerling recruitment tool.

### **(2) Objective**

The overall objective of the project is to improve fish species diversity and enhance the production in the floodplains. The specific objectives are:

- To increase native carp fish species along with endangered and threatened fishes
- To enhance fish production
- To improve the aquatic biodiversity of the wetland
- To increase the income of wetland (beel) dependent people

### **(3) Scope of Work**

The major activities to be carried out are:

- Selection of beels for conducting beel nursery program;
- Area delineation (with markers) for beel nursery;
- Re-excavation of water bodies and making light dyke in some cases;
- Arrangement of protection measures for the released fry/fingerlings;
- Collection of native and quality hatchling;
- Nursing of fry/fingerling through proper nursery management
- Monitoring and evaluation; and
- Training up the officials and beneficiaries.

**(4) Approach**

The specific location will be identified through initial resource mapping and identification of beels through PRA Training programmes will be arranged for project staff and beel nursery operators (BUGs). Community mobilization and protection (law and orders) of beel nursery and released fingerlings will be core-activities of the project.

**(5) Priority**

The beel nursery project has been considered to increase the biodiversity and corresponding fish production in the beel/haor areas. It would target to boost up fish production by stocking native, endangered and pure strains in turn to improve fisheries dependent livelihoods of the haor basin.

**(6) Need and Justification**

It is a low cost and efficient fingerling recruitment program to the natural and wild environment. This activity ensures less stress on fish fingerling, relatively low cost; render more survival of fingerling with fewer hazards. It is experienced that such project keeps important role in enhancing fish production so as to keep in line the country policy in food security. In this context, spontaneous participation of local people and monitoring of the DoF need to be ensured.

**(7) Outputs**

- Improved fisheries biodiversity;
- Increased fish production;
- Contributed to national economy;
- Created more employment opportunity;
- Improved fisheries dependent livelihoods; and
- Reduced poverty level.

**3. Community and household based net-pen fish culture in the haor/floodplain****(1) Background**

The haor basin has large floodplain and the spatial area more than 5 lakh hectares under moderate type of flooding inundation, which is suitable for net-pen fish culture. Fishermen who usually catch fish in the haor basin could also be involved in the net-pen fish culture practice under a community approach. Due to lack of knowledge and proper training on pen culture, the people of haor basin area are not acquainted with such type of fish culture practice. As the haor basin retains water for 5-6 months a year, it is suitable for net-pen fish culture. Hence, the proposed component would help to proper utilization of open water bodies through fishers' groups/households in the haor area. Therefore, such practice would generate diversified employment opportunities during lean period along with the increase of fish production.

**(2) Objective**

The overall objective is to improve livelihoods of the local community including the dependent fishermen in turn to reduce poverty through increased fish production. More specifically the objectives are:

- To increase fish production;
- To ensure utilization of floodplain area in the haor basin;
- To generate additional employment opportunity; and
- To improve beel/haor dependant poor fisher's livelihood

**(3) Scope of Work**

The major activities to be carried out are:

- Identification and delineation of suitable location;
- Identification household/group of fishers' society;
- Providing credit/elements of net-pen;
- Procurement of crab or other animal cut resistant net;
- Collection of native and quality fish fry/fingerlings;
- Monitoring and protection; and
- Capacity building training on net-pen fish culture to the officials and beneficiaries.

#### **(4) Approach**

The specific locations and communities will be identified through PRA and with the help of upazila fisheries officers. Training programmes will be arranged for officers of DoF and for beneficiary. Community mobilization and protection (law and orders) of net-pen will be core-activities of the project.

#### **(5) Priority**

Net-pen fish culture practice would be suitable for the group of fishers' community/household of the haor basin. So it has been given as a priority project.

#### **(6) Need and Justification**

As the haor basin is rich in flowing and static water bodies so, there is a great potential to generate income to the fishing communities through producing more fish in such a captive fish culture technique.

#### **(7) Outputs/Outcomes**

- Increased fish production;
- Enhanced of income to the poor fishers community;
- Increased employment opportunity and reduced poverty;

### **4. Community and household based fish cage culture**

#### **(1) Background**

In spite of having large floodplain rivers, there is hardly cage fish culture in the haor region. Due to lack of knowledge and proper training on cage fish culture (including pen fish culture), the people of haor area are not aware of fish culture where water retains 5-6 months a year. Hence, the proposed project would help to proper utilization of rivers with mild flow. Besides, this project not only assists in improving the livelihoods of fishers/poor people but would also help to boost up the fish production.

#### **(2) Objective**

The overall objective is to boost fish production and improve the livelihoods of the poor fishers along with other landless people of the haor region. Specifically the objective is to ensure productive utilization of flood plain rivers in the haor basin.

#### **(3) Scope of Work**

The major activities to be carried out are:

- Identification of rivers with mild flow and installing location;
- Identification households to be engaged;
- Providing fish cages and other facilities with demonstration;
- Capacity building to the identified farmers;
- Facilitating the collection of fish fry/fingerlings;
- Monitoring and evaluation; and
- Training to the field officers and other stakeholders.

**(4) Approach**

The specific locations and communities will be identified through PRA and with the help of upazila fisheries officers. Training programmes will be arranged for officers of DoF and for beneficiary. Community mobilization and protection (law and orders) of fish cage will be core-activities of the project.

**(5) Priority**

The project has been taken for facilitating the poor fisher's households and in turn to reduce fishing pressure on the mother fisheries grounds. Poverty reduction by utilizing haor fisheries resources and in turn reduces fishing pressure on the capture habitats is also the government's policy.

**(6) Need and Justification**

The cage fish culture is cost effective for long time (investment cost is high) and technology is manageable by the fishers/communities. It needs rivers having mild flow of water, which are largely spread over the haor region. Women can participate and manage the cage with their family members. The household income of the poor communities in the haor is expected to increase significantly.

**(7) Outputs**

- Increased fish production;
- Enhanced household income;
- Increased employment opportunity;
- Protein demand met;
- Improved livelihood of local fishers; and
- Reduced poverty.

**5. Backyard (Homestead) Pond Aquaculture****(1) Background**

The fish ponds within the project area cover considerable area (around 34,379 ha in 7 study districts. These fishponds are categorised into cultured, culturable and derelict ponds. Cultured ponds are under culture fishery while culturable pond and derelict ponds are considered as capture fishery due to haor inundation characteristics. Out of total habitats for fishponds, cultured ponds generally larger, deeper and do not need much preparation cost, while the culturable ponds may be used for fish culture without any major investment) and derelict ponds that are not presently used and are lying fallow; in most cases covered with water hyacinth. Culturable pond contributes less than one percent of overall fish production in the region. There is a scope of increasing production by using the culturable ponds through some investments. Little support is extended to aquaculture in the region; the exception being the DANIDA-financed Aquaculture Extension Project, but even this operates in parts of Kishoreganj district. For enhancement of pond fish production an extension support project for the farmers is needed.

**(2) Objective**

The overall objective is to increase fish production utilizing the culturable pond through applying improved fish culture technology by developing them; and with a specific objective to improve the socio-economic situation of small and landless farmers.

### **(3) Scope of Work**

The major activities to be carried out are:

- Selection of culturable pond;
- Re-excavation of abandoned pond;
- Raising pond dyke with development of required facilities;
- Facilitating with providing quality fish seed and feed;
- Dissemination of improved fish culture technology to the farmers;
- Capacity building to the fishermen, fish farmers and field level officers;
- Facilitating with giving support regarding fish disease, timing of seed releasing, pond preparation, etc.
- Monitoring and evaluation of the culture practices.

### **(4) Approach**

The specific ponds in backyards of households will be identified through PRA and with the help of upazila fisheries officers.. Training programmes for aquaculture will be arranged for officers of DoF and for beneficiaries. Extension support will be provided through training and credit. Technology will be transferred through demonstration of ponds.

### **(5) Priority**

The project has been considered for the proper utilization of culturable pond to increase more production of quality fish and in turn support livelihoods. The project will also target especially women groups to operate and manage in a collective manner to bring homestead ponds under production and to boost household income.

### **(6) Need and Justification**

The project has been considered to optimize the human nutrients flow and to reduce pressure on capture fisheries. Moreover, such project keep important role in boosting up fish production in line with the country's policy in PRSP, MDGs, etc.

### **(7) Outputs/Outcomes**

- Expanded fish culture under good aquaculture practices;
- Increased culture fish production;
- Contributed to national economy;
- Make available fish to low-income people with low prices; and
- Improved fisheries dependent livelihoods.

## **6. Floodplain aquaculture under the community enterprise approach**

### **(1) Background**

Floodplain aquaculture practice was initiated in Daudkandi upazila of Comilla district under the community enterprise approach. It has four approaches of which community enterprise approach is popularly implemented. One of the major objectives of this model is to proper utilization of floodplain for production after the harvest of paddy. Recently, this model has been introduced and popularized in many other parts of the country. There is an extensive floodplain in the haor basin with different depths and retains water from 5-6 months a year. But there is no such community based floodplain fish culture despite of having flood protection schemes of BWDB. Hence, The project aims to disseminate the proposed fish culture model to haor basin districts with extensive floodplain resources that could potentially generate important benefits for floodplain communities.

**(2) Objective**

The overall objective of the project is to enhance fish production from seasonally flooded areas under the community enterprise approach. Specifically, the objectives are:

- To utilize floodplain (enclosed) private land properly during rainy season;
- To enhance culture fisheries in the floodplain area;
- To ensure sharing among landowners, sharecroppers, landless farmers, fishers and poor local people;
- To provide employment opportunity.

**(3) Scope of Work**

The major activities to be carried out are:

- Identification of the schemes for flood protection, and utilisation of protected land;
- Baseline of floodplain (climate, hydrology, infrastructures, biological resources, socio-economic conditions of floodplain dependent people);
- Natural hazards especially flood (flooding depth, intensity);
- Land use and cropping pattern;
- Water quality of enclosures and fertilizer and agro-chemicals use pattern;
- Identification and strengthening of existing fishing practices, fishers livelihood and existing community based organizations for fisheries management; and
- Skill development training on floodplain aquaculture to the stakeholders.

**(4) Approach**

Prior to the implementation of the component a baseline survey should be established with listing landowners, sharecroppers, and landless poor depends on fishing, etc. Formulation of a groups (communities) for implementing the component and encircle the floodplain area with existing facilities and making bund, fencing and water regulatory structure around and also making canal/khals for dry season stocking of fish. The process of collection (or procuring) of native and quality fish fingerlings with appropriate size for stocking, and setting up of monitoring and guarding, etc.

**(5) Priority**

Increasing population pose increasing demand of protein intake so, increasing production of fish in the vast floodplain would make up the deficit. In addition, the fisheries road map for 2006-2015 also proposes to use open water fisheries and areas suitable for floodplain aquaculture in areas where it is socially and environmental appropriate.

**(6) Need and Justification**

During rainy season, in the haor area extensive floodplain land is either remains unavailable for crop production for several months each year or with paddy cultivation. These waters are considerably underutilized in terms of managed aquatic productivity. In this circumstance, this proposed model would help to increase rice and fish production. In addition to this, it will also help to alternate income source by ensuring sharing of all sorts of community of the project boundary. Hence, the income of the local people will be increased along with the strengthening of social bonding.

**(7) Outputs**

- Increased fish production;
- Improvement of livelihood of local community;
- Reduced poverty; and
- Developed social bonding.



## Appendix 6.4: Daudkandi Model

### Floodplain aquaculture under the community enterprise approach: Daudkandi model

Fish output from the rivers and khals, and open water bodies like beels and floodplains are declining and thus floodplain fisheries become crucial in providing food, income and employment for millions of people in the haor planning area. Excluding other open waters, floodplains in totality around 8.13 lakh hectares in area and are thought to be producing about 2.48 lakh tons of fish, annually in the haor basin. Typical yields from these flooded areas are between 250-400 kg per ha. In comparison, yields from the floodplain aquaculture systems applied are usually in the range of 1-3 ton(s) per hectare i.e. 4-7 times the naturally occurring fish production. This dramatic increase in productivity highlights the potential for development of floodplain fisheries along with the increase of paddy production with less input costs.

**Floodplain aquaculture practice in Daudkandi, Comilla District:** Daudkandi with 30 percent landless households had long been recognized as a food deficit area, hence two factors became prominent such as (i) underemployment induced wet season out-migration; and (ii) appearance of famine during September to November to farming households including even the well-off landowner families. During this period mass people become engage in subsistence fishing though fish caught from the floodplain, albeit in small amounts, contributes greatly to maintaining nutrition standards and good health, and may even provide an income if a surplus is caught. Realizing the magnitude of misery, SHISUK (Sikkha Sastha Unnayan Karjakram i.e. Education and Health Development Programmes) an NGO acted as a catalyst to develop a new approach of floodplain aquaculture at Daudkandi in 1995. This practice is done in a polder of 327 sq. km established by BWDB in the vicinity of Gumti River. The NGO helped in mobilizing the community with awareness campaign and capacity building training towards the approach and in developing a framework for conducting the self-reliant initiatives of “Pankowri Fisheries Project” in floodplain.

### Salient features of Daudkandi Model

- Self-reliant sustainable community development through application of scientific, technical and local knowledge in land, water and growth centers;
- SHISUK facilitates people's own strength and support initiatives of the approach;
- Accumulation of capital through floating of shares for subsequent investment in resource development enterprises e.g. aquaculture project, rice farming and so on;
- Under NGO\*-Community partnership, SHISUK contributes 15-20 % of the capital through share subscription and becomes a community partner involving directly in the community development activities and enjoying equal share of loss or profit;
- Equity: No one is allowed to buy more than 1 percent of total shares allowing room for all households and preventing rich households to grab more shares. 5 percent shares are kept reserved for the landless and fishers from the members belonging to the project area. The NGOs buys reserved shares from its own resources for the landless, vulnerable and the female-headed households. Subsequently, these hard-core poor repay back to the NGO in interest-free installments or in exchange for dividends received. They finally become owners of these shares;
- The community body is registered under the Company Act as public limited company as a part of institutionalization. The Company operates by a ‘Board of Directors’ where at least two

Directors must be women. All members of the community through secret ballots elect the Board members. The Board meets every month and prepares reports of activities for every shareholder through an AGM;

- Standard book keeping and open- to- all- systems are followed where the NGO helps Board members in record keeping, prepare accounts, and provide training on transparent transactions through commercial banks. The NGO and CBO operate accounts by joint signatures;
- The NGO and CBO liaise with local government bodies/political leaders/government agencies and potential donors to accumulate funds for infrastructure development and technical support;
- Capacity building training for the community is provided by the NGO. The training includes community leadership, record keeping, organic farming, IPM, aquaculture, tree plantation and gardening;
- Special attention is taken for formation of women groups, providing them with training on Income Generating Activities (IGA), human rights, health education and empowerment; and
- The NGO does not think of 'plugging off' rather it has been trying to roll over to adjacent areas, while graduated CBOs are encouraged to recruit staff locally and become self-reliant.

(Note: \* Initially the Daudkandi Model required the assistance/support of NGO to organize, motivate, implement, etc. leading the community to entrepreneurship. The model now has been successfully disseminated to other districts, including Kishoreganj district by DoF, LGED, etc. which have the expertise to implement without NGO support. Therefore, the need for NGO support is not considered here.)

### **Economic impact of floodplain aquaculture**

There seems to be no doubt that a new resource system has been created through the process of land enclosure and that the floodplain aquaculture projects are contributing significantly to local economies.

#### **a) Fish Output**

Fish production, in terms of unit area, has increased by many times. In 2006, the five SHISUK projects produced more than 800 tons of fish from 344 ha (an average fish production of 2.3 tons per ha.) i.e. about 10 times more than naturally occurring fish production.

#### **b) Shareholders' Benefit**

The benefits of increased production and profits are passed on to the members of the project in the form of dividends and land rent. The distribution of net profits amongst the members of the SHISUK projects adopts the following criteria:

- 50 percent as dividends to the owners of project shares;
- 27 percent as land rent to the owners of land inside the project;
- 20 percent is kept as reserve (for investment in the following year and for contingencies); and
- 3 percent is spent on social welfare (e.g. donation to mosques or temples).

#### **c) Embankments and Employment**

The creation and maintenance of the embankments\* has created work opportunities and promoted the rapid expansion and movement of people and goods. The local economy can

now employ more people and out-migration has been reduced. (\*As a pilot project, no construction of embankments. Available enclosures, polders, etc. will be appropriately used as enclosures; the target groups will cooperate to make bunds and/or use nets to enclose the water area for fish culture, and accordingly they will be trained to maintain.)

#### d) Benefits to Landowners

Landowners also benefit from higher productivity. It has been found that output in agricultural land has increased by 10-15 percent. On the other hand, input costs have declined by 25-35 percent because no pesticides are used; irrigation is provided to the members at a lower cost, and lower fertilizer doses are required due to the residual impact of manure and feed used in aquaculture. Farmers producing winter-paddy appear to be following IPM recommendations in terms of reducing pesticide use.

However, the number of dry season cash crops has reduced in the floodplain areas, probably due to the efforts of the projects to retain water for as long as possible, and thereby maximize fish yields.

#### e) Forward and Backward Linkages

Incomes earned from aquaculture projects have boosted the local economy through both backward and forward linkages. The local economy therefore gains from both the direct benefits of the projects (increased production, profits and incomes) and from the indirect benefits that are transmitted through backward linkages (mainly from the suppliers of inputs for the fish production).

The backward linkages of the project are relatively easy to identify but very difficult to quantify. However, it is clear that the total number of stakeholders is quite substantial. The followings are some of the agents that are associated with the project through backward and forward linkages:

No.	Backward Linkages	No.	Forward Linkages
1	Fingerling nursery operators	1	Ice plant operators
2	Fish Hatchery operators	2	Ice supplier / middlemen
3	Fingerling traders	3	Ice carriers (transport)
4	Fish feed sellers	4	Fish Aratder ( big seller)/landing center
5	Lime traders	5	Middlemen in fish Arat
6	Fertilizer dealers	6	Fish transport truck / trolley owners
7	Bamboo made fencing makers	7	Bamboo/plastic made fish basket makers
8	Bamboo made fencing sellers	8	Bamboo/plastic made fish basket sellers
9	Rickshaw/Van owners	9	Rickshaw/Van owners
10	Rickshaw/Van puller	10	Rickshaw/Van puller
11	Cow dung /Poultry litter suppliers	11	Banking

The major component of production costs is purchase of fingerlings and supplementary feed (estimated to be around 30-40 percent of the operational cost). This is understandable because stocking density is very high (about 30-40 fingerlings per decimal). Thus backward linkages tend to be more dominating than forward linkages. Costs associated with the maintenance of embankments are as low as 1 per cent of total costs. This indicates that once the initial lumpy

investment on embankment construction is made, the recurring costs of maintaining the structure are low.

**f) Law and order situation**

The law and order situation has improved significantly in areas where community initiatives in floodplain fisheries were undertaken. More motivation and community consultations have been taking place to bring landowners under aquaculture projects. Community leaders, Union Parishad Chairmen, Ward Members and other distinguished citizens sitting together face to face more frequently to solve problems relating to project development helped to reduce social mistrust and old conflicts. Social harmony and togetherness has increased and complaints to police have decreased significantly. It is reported that in the project area social violence, anarchy and terrorism have been significantly reduced.

**Applicability\* of the “Daudkandi Model” in Haor Area**

The haor basin is also mostly low lying having a vast area of floodplain. As the area grows a single crop, which is boro, cannot meet the food demand and people are also suffering from acute unemployment problems. The study area has at least 120 schemes with submersible embankment and three full flood embankments. The seasonal floodplain aquaculture in the fashion of “Pankowri Fisheries Project” could be done in the existing BWDB schemes through further compartmentalization of the polders if required. Based on suitability criteria, there are 99 aquaculture project have been proposed under the HMP. The successful operation of this approach by involving the community might change the local as well as the country’s economy and could create huge employment opportunity even for the women.

(\*According to HMP, haor basin with its extensive floodplain with varying depths and retaining water for 5-6 months has suitable areas where Daudkandi model could be introduced for seasonal floodplain aquaculture. The selected area/sites should have appropriate enclosures, and there should not be flash floods.)

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**Appendix 6.5: Selection Criteria****1. Site selection criteria for Beel Nursery**

- (1) Beels/haors having huge potential to connect to the extensive connecting floodplains are suitable for the conservation of fish biodiversity and those that are less vulnerable to early flash flood;
- (2) Beels/khals where water reservoir can be created with holding capacity of 3-5 feet water by constructing light dykes and also by re-excavating if necessary and other facilities as such to be suitable for nursing the fry/hatchling during the pre-monsoon season preferably within February to March; and
- (3) The site should be suitable for transporting, guarding and supply of different types of inputs for beel and sanctuary / nursery management.
- (4) The area range and connectivity be set within 0.5 to 4 ha considering the various issues of preparing and management of beel nursery in haor basin.

Based on the above selection criteria, the areas/sites will have to be selected preliminarily. The local fisheries officer and other concerned officials in the locality will assist in the final selection through physical investigation.

**2. Site selection criteria for practicing floodplain aquaculture**

- (1) From a better management, the suitable floodplain area for fish and paddy cultivation ranges from 80 - 325 ha following the Daudkandi Model Experience.
- (2) Smaller area produce less fish while larger area produces more fish and if it is larger than 400 ha there might have various management constraints.
- (3) Floodplain area which is already confined at 2 to 3 sides either indiscrete or discretely by embankments (above flood level)/settlements/roads and by constructing embankment on the remaining side(s) with less effort for creating the confinement of the desired site to maintain 3-7 feet water for 4-6 months would be suitable for practicing the model.
- (4) The site should have connecting channels/khals which may need re-excavation measure and also with given water regulatory structure and should have ditches/borrow pits/khals containing water so that the natural fish could take shelter during dry season and stocking of fish fingerlings could be done during January to February.
- (5) The site should be suitable for transporting, guarding and supply of various types of inputs like fingerlings, feeds, fertilizers, etc. The site should also have harvesting and marketing facilities.
- (6) Stakeholders of the site should be willing and have interest, and consensus on doing the activity or motivated those to concentrate on the issue by making them realized with its profitability and doing all activities by community based management.

**3. Site selection criteria for Net-Pen culture**

The haor basin has large floodplain and rich in flowing and static water bodies that are suitable for net-pen fish culture. Hence, there is a great potential to generate income to the fishing communities through producing more fish in such a captive fish culture technique. Due to lack of knowledge and proper training on pen culture, the people of haor basin area are not acquainted with such type of fish culture practice. The pro-poor or vulnerable fishers households could be encouraged to practice this type of culture

The selection criteria are as follows.

- (1) Net-pen culture practice should be conducted during the monsoon in the floodplains where water stays for 5-6 months with a water depth range of 4 to 12 feet.
- (2) Easily accessible by road/water transport.
- (3) Nearer to settlement area.

- (4) Availability of suitable nets with different mesh sizes, which are water proof and resistant to crab/other aquatic animal, cuts.
- (5) Availability of poles (bamboo/ water tolerant trees/cement pillars/etc.) for fixing nets.
- (6) Availability of culturable native quality fish seeds.
- (7) Availability of quality feeds and other inputs.

#### **4. Selection criteria for the establishment of fish sanctuary**

The inland open water fisheries are experiencing a significant decline during the last four decades due to FCD/I projects, siltation of habitats, indiscriminate and over fishing, degradation and loss of fish habitat, and shortsighted management. Around 50-53 fish sanctuaries are reported to exist in the Haor areas, which are not enough for this area. Due to lack of sufficient sanctuary in the haor basin, the brood fish and hatchling are being caught with less effort. This leads to a severe decline in fish diversity and production that affects the livelihoods of the fishermen community in this area. Hence, the establishment of sanctuary in the beel/haor and river is one of the improved techniques to conserve and enhance fish species along with increasing the fish yield. Beel sanctuary that is a permanent or seasonal sanctuary is recommended based on beel resident fish species and seasonality of breeding. In the permanent fish sanctuary one or few beels, some floodplain area or a total haor where fish catch will be banned permanently. In these sanctuaries, fish could take shelter, feed, breed, migrate and disperse to the nearby other water bodies without any kinds of disturbances. Whereas in the seasonal type of fish sanctuary in beel and floodplain areas fish catches are restricted for particular period to protect mother fish, to allow time for safe breeding and to grow their fry/fingerlings up to suitable size for 3-6 months in a year depend on the habitat and species of fish. The main criteria are as follows for a beel nursery.

- (1) Nearly 5-10 percent of area of beel could be taken under fish sanctuary based on the suitability criteria.
- (2) Deeper parts of the beels where water remains perennially by 5-7 feet depth.
- (3) Bamboo poles, branches of trees, tetrapod, and some other necessary structures could be used in the beel sanctuary.
- (4) Fixing pillars with red flag and signboard could mark sanctuary area.

As regard to the fish sanctuary management the following are the criteria.

- (1) Co-management arrangement by the local community particularly by the fisher community residing in the area.
- (2) Sanctuary committee should be formed by the stakeholders to prepare action plan for the proper management of the sanctuary, such as beel fisheries management committee.
- (3) Representation of local elites, school teachers, women, etc. in the committee based on the willingness of the concerned fishermen community for mobilization, motivation, conflict resolution, chaos and above all for better management of the sanctuary.
- (4) The management committee should set rules and regulation for the fishing time, gear selectivity, area of fishing, species restriction, fishing type (like common fishing, share fishing, gear based fishing, etc.), marketing, share and equity distribution, etc.
- (5) Stocking of threatened/endangered fish species may be given priority in the sanctuary.
- (6) Some fishermen community may be interested in stocking fry/fingerlings in the sanctuary/floodplain for higher production. In that case, care should be taken so that stocked species are native and genetically pure, and relevant fisheries officers (DoF) should be consulted.

## 5. Selection criteria for floating fish cage fish culture

There is very little cage fish culture in the haor areas despite of having large floodplain rivers. This is due to lack of knowledge and proper training on cage fish culture in addition to unawareness among the fishers that fish culture can be conducted where water retains 5-6 months a year. Hence, the fish cage culture would help to proper utilization of rivers with mild flow as well as improve the livelihoods of poor fishers and increase fish production. The practice of cage culture may be intensive, semi-intensive and extensive in nature and the culture patterns are depending on stocking rates of fish, food supply, care and hydrological conditions of the habitats. The basic criteria for site are as follows.

- (1) Proper site selection with adequate depth that depends on the depth of the net and intensity of production.
- (2) Good water exchange is important in cage culture to replenish oxygen and flush away wastes.
- (3) Area where pH is almost neutral.
- (4) Using floating feeds to keep feed waste and FCR (feed conversion ratio) low.
- (5) Good communication facilities.
- (6) Proximity to the settlement area, etc.



## Appendix 6.6: Technical Specification of Sub-components

Sub-components (Programs)	Technical Specifications	Objectives/Description
<b>A. COMMUNITY RESOURCE MANAGEMENT</b>		
<b>Development of Beels</b>		
A-1. Resource Mapping & Identification of Resources	<ul style="list-style-type: none"> <li>Data collection and screening for 150 Beels</li> <li>- Haor Upazilas of five project districts</li> <li>- Within 29 the sub-project schemes (Component - 1)</li> <li>Preparation of list of beels (not covered in HILIP) &amp; review</li> <li>- Availability &amp; status of beels (at DC Offices, etc.)</li> <li>- Identification of physical location of potential beels</li> <li>- Assessment of lease value and legal status</li> <li>- PRAs to identify, select &amp; mapping (with representatives from districts, Upazilas, etc.</li> <li>Group Formation</li> <li>- Process to acquire or requisite selected beels from MoL, etc.</li> <li>- Mobilize and form groups (BUGs, BMCs)</li> <li>- Provide training (on excavation, conservation, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>- A participatory exercise with the involvement of the stakeholders (i.e. villagers, fishers, women, local officials, public representatives.</li> <li>- To develop an inventory of all available resources, e.g., beels, khals, swamp forest, khas lands, administrative location (mouza, dag, khatian etc.), status of leases and their terms in 29 sub project and district-wise.</li> <li>- A detailed implementation plan would be developed in consultation with the communities.</li> <li>- PRAs to cover the 29 sub-projects areas.</li> <li>- Group formation (BUG) will be done by organizing general meetings of beneficiaries.</li> <li>- After MOU signing with MoL &amp; LGED, BUGs will get lease from MoL representative and commence to pay lease rent.</li> <li>- Project with its local upazila, zila offices &amp; DoF office will organize training, the project staff will facilitate the process.</li> </ul>
A-2. Development of Beel System	<ul style="list-style-type: none"> <li>- Demarcation &amp; zoning of sanctuary (with markers)</li> <li>- Removal of silt (excavation), strengthening of bunds, dykes</li> <li>- Planting of hizal &amp; koroch tree samplings (200) in shallow areas</li> <li>- Making of shelters (FADs) with tree branches (2,000 m)</li> <li>- Bamboos &amp; flags (for markers &amp; fencing)</li> <li>- Removal of silt (excavation), strengthening of bunds, dykes</li> <li>- Nursery construction (water in-take &amp; out-flow, net fixing etc.)</li> <li>- Nursery preparation (pond bottom cleaning, ploughing, liming, manuring, predator eradication, etc.)</li> <li>- Procuring of spawns/fry (stocking 1 million/ha)</li> <li>- Nursery management (netting, feeding, plankton management, liming &amp; fertilization, etc.)</li> <li>- Billboards</li> </ul>	<ul style="list-style-type: none"> <li>- Area size of beels varies with location; the specification provided is for 1 ha model size. One-hectare developed beel area has an impact on 14 ha of the surrounding.</li> <li>- About 225 km of canals/khals for the beels considered for re-excavation to maintain connectivity with the developed beels.</li> <li>- BUGs will gradually develop other potential areas of the beel with their fund and savings.</li> <li>- Nursery will be established in a suitable area (or place) of the beel by BUGs.</li> </ul>
A.2.1 Establishment of sanctuary, swamp forest, etc.		
A.2.2 Beel connectivity (canal/khal excavation)		
<b>B. FLOODPLAIN AQUACULTURE ACTIVITIES</b>		
<b>B-1. Alternate Income Generating Activities (Pilot models)</b>		
<b>B-1.1 Fish Net-Pen Culture</b>		
	<ul style="list-style-type: none"> <li>Selection &amp; identification of location for Fish Net-Pen</li> <li>Area size: About 10 ha/fish net-pen</li> <li>Number: 2 fish-pens/district</li> <li>Total: 10 fish pens (5 districts)</li> <li>Formation of Groups (HHs, Fishers/Farmers), women included.</li> <li>Training of management group (2 days &amp; 2 times/year) for 6 years</li> <li>For Set-up of One unit Fish Net-Pen (10 ha) for One Group</li> <li>- Erection of nets &amp; bamboo screens (700 m Bamboo screen, etc.)</li> <li>- Land preparation (cleaning, eradication of predators, etc.)</li> <li>- Procuring fingerlings/juvenile fish (1,200/ha) and stocking</li> <li>- Feeding (only partial) and management</li> <li>- Fish culling and harvesting</li> </ul>	<ul style="list-style-type: none"> <li>- Demonstration of pen aquaculture in group</li> <li>- Provides opportunity of livelihood development in haor area during flood months.</li> <li>- Fish production outside the beels; provides alternate income with other crop (paddy).</li> <li>- Suitable sites will be selected by community in consultation with DOF and project staff.</li> <li>- Size of the net-pen size will be decided by the community on availability and suitability of the land.</li> <li>- It will create scope of fish production in flood land and economical earning for the communities during wet months.</li> </ul>
B-1.2. Fish Cage Culture		
- Small Individual cages set of 20 units/location	<ul style="list-style-type: none"> <li>Selection &amp; identification of location for Fish Cages installations</li> <li>Small cage: 1 unit (m<sup>2</sup>) x 20 units (20 m<sup>2</sup>) per selected location</li> <li>One set per district; total 5 sets (5 districts)</li> </ul>	<ul style="list-style-type: none"> <li>- Demonstration of cage aquaculture in group or individual</li> <li>- Operate and manage by 20 individuals (farmers, women, etc.)</li> <li>- Fish production in canals, rivers and flood plain during flood months in control method (planned aquaculture).</li> </ul>
- Large-cage set of 10 units- joint/location	<ul style="list-style-type: none"> <li>Large cage set: 10 units joint (25 m<sup>2</sup>) per selected location</li> <li>One set per district; total 5 sets (5 districts)</li> <li>Formation of Groups (HHs, Fishers, Farmers)</li> <li>Training of management group (2 days &amp; 2 times/year) for 6 years</li> <li>- Cage size (large) 20' x 10' x 4.5'</li> <li>- Cage material: frames, nets, drums, floats, etc.</li> <li>- Preparation of the site</li> <li>- Construction &amp; setting up of cages, labour, etc.</li> <li>- Procuring fingerlings (30-40 gm) and stocking</li> <li>- Feeding (floating feed FCR 1.35) and cage management</li> </ul>	<ul style="list-style-type: none"> <li>- Operate and manage by a group (farmers, women, etc.)</li> <li>- Employment opportunity during flood season</li> <li>- Introduction of Cage fish culture in Haor areas</li> </ul>
B-1.3 Backyard Fish Pond Culture		
(5 - 10 ponds/group); 10 members or HHs/group)	<ul style="list-style-type: none"> <li>Identification &amp; selection of location for suitable backyard ponds</li> <li>Size: 5-10 ponds/group; 10 members of HHs/group</li> <li>Number: 4 groups/district</li> <li>Total: 20 groups (5 districts)</li> <li>Formation of Groups (HHs, Fishers, Farmers)</li> <li>Training of management group (2 days &amp; 2 times/year) for 6 years</li> <li>Pond renovation &amp; preparation for culture</li> <li>- Making dykes &amp; fixing nets (if necessary)</li> <li>- Drying, cleaning, liming, manuring, fertilization, etc.</li> <li>- Procuring fingerlings (2 fingerling/m<sup>2</sup>) and stocking</li> <li>- Pond management, feeding, etc.</li> </ul>	<ul style="list-style-type: none"> <li>- The selected backyard ponds may be owned individually, and the ponds will also be operated and maintained individually. Forming the group (group-oriented approach) is essentially to procure inputs such as fingerlings, fertilizers, feed, etc. collectively in order to purchase in large quantities at reduced cost, and also convenient for the group to receive training and extension services.</li> <li>- Provide additional supply of nutrition &amp; income for HHs.</li> <li>- Provides employment opportunity year around.</li> </ul>
4 groups/district x 5 districts = 20 groups		
B-1.4 Daukhandi Model Aquaculture		
(2 model sites within 29 sub-project scheme area)	<ul style="list-style-type: none"> <li>Identification &amp; selection of location for seasonal floodplain aquacult</li> <li>Area size: about 10 ha</li> <li>Water: seasonal 4-5 months (depth not above 8')</li> <li>Number: 2 model sites within the 29 sub-project scheme area</li> <li>Total: 2 models (5 districts)</li> <li>Formation of Groups (HHs, Fishers, Farmers)</li> <li>Training of management group (2 days &amp; 2 times/year) for 6 years</li> <li>Preparation of the site</li> <li>- Infrastructural improvement (dyke, water regulators, net, etc.)</li> <li>- Drying, cleaning, liming, manuring, fertilization, etc.</li> <li>- Procuring fingerlings/Fish Juvenile 5'-6" size (10,000/ha) &amp; stocking</li> </ul>	<ul style="list-style-type: none"> <li>- Selection of suitable location in the floodplain area locations (semi-closed waters)</li> <li>- Proper utilization of paddy lands during the flood months</li> <li>- Demonstration of the model for adaptation to other suitable areas.</li> </ul>
1 model area size= about 10 ha		
B-1.5 Fish Drying and Fermentation		
	<ul style="list-style-type: none"> <li>Selection among HHs and groups already in dry fish processing</li> <li>Mobilize and organize beneficiaries groups</li> <li>Training on improved processing &amp; awareness on sanitation, hygiene &amp; new products (preferably to have a brand name).</li> </ul>	<ul style="list-style-type: none"> <li>- Select existing fish drying locations/sites that have potential for development as model.</li> <li>- Dry &amp; fermented (value added) fish production in hygienic condition.</li> <li>- Provide better fish preservation</li> <li>- Create employment opportunities for women in Haor areas.</li> </ul>

Sub-components (Programs)	Technical Specifications	Objectives/Description
<b>C. FISHERIES SUPPORT SERVICES</b>		
Strengthening of Fisheries Extension	Fisheries training and extension material development Provision of promotional materials for training & extension services Water and fish disease testing capacity building of DoF offices. Develop access to public institutions for beneficiaries	- DoF (thru DFOs, UFOs) to provide technical assistance to beneficiaries whenever needed - Established relationship will continue even after the project period in a sustainable manner. - Extension, training and diagnostic facilities of DFOs, UFOs offices in Haor areas will be developed.
<b>D. TRAINING/WORKSHOP/SEMINAR</b>		
D-1. Training of Project Staff/Officer	Training for field staff deployed in field (PMO, PIU) - 25 field staff/four-day course - 2 courses/ per year for 5 districts - Training duration for 6 years - Training venue at PIU Office (Dhaka) - Total number of trainings = 10	Resource persons (trainers): project staff, officers from DC, DoF, DFO - Skill development on aquatic biodiversity, beel management, aquaculture activities, nursing & marketing - Submersible plant management, etc. - Record keeping & monitoring/evaluation - Update information development on project activities
D-2. Training of Beneficiaries	Training for beneficiaries - 20 participants/one-day course - 1 course/district per year - Training duration for 6 years - Training venue selected in each district - Total number of trainings = 25	- Resource persons (trainers): consultants, officers from DoF, DFO - Skill development of beneficiary on Net-Pen Fish Culture - Successful operation of Net-Pen fish culture demonstration
D-2.1 Fish Net-Pen Culture		
D-2.2 Fish Cage Culture	- 20 participants/one-day course - 1 course/district per year - Training duration for 6 years - Training venue selected in each district - Total number of trainings = 25	- Introduction of appropriate fish cage culture in Haor areas - Employment opportunity during flood months. - Fish supply during scarcity of fish in the market
D-2.3 Backyard Fish Pond Culture	- 25 participants/one-day course - 1 course/district per year - Training duration for 6 years - Training venue selected in each district - Total number of trainings = 25	- Skill development on pond aquaculture - Increase present production rate of backyard fish production.
D-2.4 Daukhandi Model Aquaculture	- 20 participants/one-day course - 1 course/district per year - Training duration for 6 years - Training venue selected in each district - Total number of trainings = 10	- Skill development among the poor and landless HHs. - Better use and management of flood plain aquaculture.
D-2.5 Capacity Building of BUGs	- 25 participants/one-day course - 3 meetings/per year/district - Training duration for 6 years - Training venue selected in each district - Total number of trainings = 75	- Better group management and saving program development - Develop modalities to get access to the public organization for beel leasing and other disputes (to reduce social conflicts/tension) - Health care, education and social relationship development.
D-2.6 Fish Drying & Fermentation	- 20 participants/one-day course - 2 courses/district per year - 1 meeting/per year/district - Training duration for 6 years - Training venue selected in each district - Total number of trainings = 50	Skill development Acquire new ideas on production of value added fisheries product
D-3 Consultation Meetings with Gos & NGOs	- 20 participants/one-day meeting - 1 meeting/per year/district - Meeting duration for 6 years - Meeting venue selected in each district - Total number of meetings = 15	Resource persons (trainers): consultants, officers from DoF, DFO - To inform on activities related to beel management & livelihood - To discuss on problems/issue & to find solutions (resolve) - To get necessary assistance & advise from different organizations - To promote better understandings among local agencies - To promote & continue the activities by NGOs (for sustainability)
D-4 Workshops (on need based subjects)	- 30 participants/one-day workshop - 2 workshops/per year/district - Workshop duration for 6 years - Workshop venue selected in each district - Total number of trainings = 40	- Find ways to improve & get better benefits of the activities - Resolving issues/problems on a need basis (depending on the areas) - Dissemination and sharing of technology
D-5 Seminars on Findings, New Ideas & Results	- 50 participants/one-day seminar - 1 seminar/year in Dhaka (Every year for 5 years) - 1 Seminars/year/district (every year for 5 years) - 6 seminars in the closing year (1 in Dhaka & 5 in districts) - Total number of seminars = 30	Experience sharing Dissemination of project experience with other stakeholders, planners, decision makers.
<b>E. Exchange Visits for Experience Sharing</b>	- 20 participants/batch/exchange visit - 2 batches per year/district - Exchange visit duration for 5 years - Total number of visits = 40	Knowledge and experience sharing. Adaptation of technologies.
<b>F. Monitoring, Legal Support &amp; Studies</b>		
F-1 Third Party M & E / Knowledge Management	Study the environmental and social dynamics of the beels, conduct base line survey and impact during/after the project intervention. Regular monitoring of selected representing beels in 29 sub project area. Production of reports on biodiversity, environmental (aquatic), social study before and after intervention of the project.	- Get data/information on the aquatic biodiversity & social dynamics of the hoar project area. - Assess the impact of project intervention on aquatic biodiversity and socioeconomic status of beel and its impacted area & inhabitants. - Documentation on environment, productivity and socio economic changes in the project area
F-2 BUGs Auditing & Accounting Support for 6 years	An audit firm will be engaged by the project during project period The firm will prepare printed reports for individual BUG and provide to the project. Participate in the consultation meeting of the group.	- Better group management by accounting transparency - Economical study of the project intervention. - Capacity building of the BUG members in accounts management. - Efficiency building on financial documentation & record keeping.
F-3 Legal Support for 6 years	5 lawyers for 5 districts will be engaged to resolve any legal issues with MoL and Judiciary department in favour of BUG, and one lawyer will be engaged at Dhaka to take up the appeal cases at centre Resolve the legal complication if any in Beel leasing process or conflict with other. Resolve land endorsement with neighbouring land owners.	- Assist BUG and its members to resolve the legal aspects of beel ownership. - Capacity building of BUG to access the public water bodies.

## *Appendixes 7.1 to 7.8*

**Appendix 7.1 Manpower Concerned to Project Implementation and O&M in BWDB****O&M Directorate**

Office Name	No.	Position	Nos. of Approved Position	Nos. of Filled Position	Nos. of Vacant Position
O&M Directorate	1	Superintending Engineer	1	1	0
	2	Executive Engineer	2	1	1
	3	Asstt. Engineer	6	2	4
	4	Stenographer	1	1	0
	5	U.D. Asstt.	1	1	0
	6	Sr. D.E. Operator	1	1	0
	7	Data Entry Operator	1	1	0
	8	Sr. Accounts Asstt.	1	1	0
	9	L.D.A Cum Typist	2	0	2
	10	Driver	3	3	0
	11	DMO	1	1	0
	12	Chowkider	1	0	1
	13	MLSS / Peon	3	1	2
<b>Total</b>			<b>24</b>	<b>14</b>	<b>10</b>

**Sunamganj O&M Division**

Division Name	Sub-division Name	Section Name	No.	Position	Nos. of Approved Position	Nos. of Filled Position	Nos. of Vacant Position
Sunamganj O&M Division			1	Executive Engineer	1	1	-
			2	Assistant Engineer	1	-	1
			3	Estimator	1	1	-
			4	U.D. Assistant	1	-	1
			5	Assistant Accountant	1	-	1
			6	Senior Accounts Assistant	1	-	1
			7	Accounts Clerk	1	1	-
			8	D.E.O	3	-	3
			9	Revenue Surveyor	1	-	1
			10	D.M.O	1	-	1
			11	Driver	1	1	-
			12	Tracer	1	-	1
			13	MLSS	4	-	4
			14	Chowkidar	1	-	1
			15	Mali	1	-	1
<i>Sub-total</i>					<b>20</b>	<b>4</b>	<b>16</b>
Sunamganj O&M Sub-division-1			1	Subdivisional Engineer	1	-	1
			2	L.D. Assistant cum Typist	1	1	-
			3	Accounts Clerk	1	-	1
			4	Surveyor	1	1	-
			5	Speed Boat Driver	1	1	-
			6	MLSS	2	1	1
			7	Chowkidar	1	1	-
			8	Assistant Cook *	1	-	1
			9	Electrician	1	-	1
			10	Bearer	1	-	1
<i>Sub-total</i>					<b>11</b>	<b>5</b>	<b>6</b>
Sunamganj O&M Section-1			1	Sub-Assistant Engineer/S.O	1	1	-
			2	Work Assistant	2	2	-
			3	MLSS	1	-	1
			<i>Sub-total</i>				
Jamalgang O&M Section			1	Sub-Assistant Engineer/S.O	1	1	-
			2	Work Assistant	2	1	1
			3	MLSS	1	-	1
			<i>Sub-total</i>				
Tahirpur O&M Section			1	Sub-Assistant Engineer/S.O	1	1	-
			2	Work Assistant	2	-	2
			3	MLSS	1	-	1
			<i>Sub-total</i>				

Division Name	Sub-division Name	Section Name	No.	Position	Nos. of Approved Position	Nos. of Filled Position	Nos. of Vacant Position		
	Sunamganj O&M Sub-division-2		1	Subdivisional Engineer	1	-	1		
			2	L.D.Assistant cum Typist	1	-	1		
			3	Accounts Clerk	1	-	1		
			4	Surveyor	1	-	1		
			5	Speed Boat Driver	1	1	-		
			6	MLSS	2	1	1		
			7	Chowkidar	1	1	-		
			<i>Sub-total</i>		8	3	5		
			Sunamganj O&M Section-2		1	Sub-Assistant Engineer/S.O	1	1	-
		2			Work Assistant	2	-	2	
		3			MLSS	1	-	1	
				<i>Sub-total</i>	4	1	3		
			Dharmapasha O&M Section-1		1	Sub-Assistant Engineer/S.O	1	1	-
		2			Work Assistant	2	1	1	
		3			MLSS	1	-	1	
				<i>Sub-total</i>	4	2	2		
			Dharmapasha O&M Section-2		1	Sub-Assistant Engineer/S.O	1	1	-
		2			Work Assistant	2	-	2	
		3			MLSS	1	-	1	
				<i>Sub-total</i>	4	1	3		
			Derai O&M Sub-division		1	Subdivisional Engineer	1	1	-
		2			L.D.Assistant cum Typist	1	1	-	
		3			Accounts Clerk	1	-	1	
		4			Surveyor	1	-	1	
		5			Driver	1	-	1	
		6			Speed Boat Driver	1	-	1	
		7			MLSS	2	1	1	
		8			Chowkidar	1	1	-	
				<i>Sub-total</i>	9	4	5		
		Derai O&M Section-1			1	Sub-Assistant Engineer/S.O	1	1	-
	2				Work Assistant	2	-	2	
	3				MLSS	1	-	1	
				<i>Sub-total</i>	4	1	3		
		Derai O&M Section-2			1	Sub-Assistant Engineer/S.O	1	1	-
	2				Work Assistant	2	-	2	
	3				MLSS	1	-	1	
			<i>Sub-total</i>	4	1	3			
		Jaganathpur O&M Sub-division		1	Subdivisional Engineer	1	-	1	
	2			L.D.Assistant cum Typist	1	-	1		
	3			Accounts Clerk	1	-	1		
	4			Surveyor	1	-	1		
	5			Driver	1	-	1		
	6			Speed Boat Driver	1	-	1		
7	MLSS			2	1	1			
8	Chowkidar			1	1	-			
			<i>Sub-total</i>	9	2	7			
	Jaganathpur O&M Section-1			1	Sub-Assistant Engineer/S.O	1	1	-	
2				Work Assistant	2	-	2		
3				MLSS	1	-	1		
			<i>Sub-total</i>	4	1	3			
	Jaganathpur O&M Section-2			1	Sub-Assistant Engineer/S.	1	1	-	
2				Work Assistant	2	-	2		
3		MLSS		1	-	1			
		<i>Sub-total</i>	17	5	12				
	<b>Grand Total</b>				<b>97</b>	<b>32</b>	<b>65</b>		

Note: \* One is on duty as Cook.

**Netrokona O&M Division**

Division Name	Sub-division Name	Section Name	No.	Position	Nos. of Approved Position	Nos. of Filled Position	Nos. of Vacant Position
Netrokona O&M Division			1	Executive Engineer	1	1	0
			2	Asstt. Engineer	1	0	1
			3	AEO	1	0	1
			4	SAE/Estimator	1	1	0
			5	U.D. Asstt.	1	0	1
			6	Asstt. Accountant	1	0	1
			7	Sr. Accounts Asstt.	1	1	0
			8	Accounts Clerk	1	0	1
			9	L.D. Asstt. CumTypist/DEO	3	1	2
			10	DMO	1	0	1
			11	Driver	1	1	0
			12	Tracer	1	0	1
			13	MLSS	4	2	2
			14	Chowkider (Guard)	1	0	1
			15	Mali (Gardener)	1	0	1
			16	Rev. Surveyor	1	0	1
<i>Sub-total</i>					21	7	14
Netrokona O&M Sub-division			1	Sub-divisional Engineer	1	0	1
			2	LDA Asstt. Cum Typist	1	1	0
			3	Account Clerk	1	0	1
			4	Surveyor (Engineering)	1	1	0
			5	Driver	1	0	1
			6	Speed-boat Driver	1	0	1
			7	MLSS	2	1	1
			8	Pump Operator	1	0	1
			9	Chowkider	1	0	1
			10	Asstt. Cook	1	0	1
			11	Bearer	1	1	0
<i>Sub-total</i>					12	4	8
Netrokona O&M Section			1	SAE/SO	1	1	0
			2	Work Assistant	2	2	0
			3	MLSS	1	0	1
<i>Sub-total</i>					4	3	1
Thakurakona O&M Section			1	SAE/SO	1	1	0
			2	Work Assistant	2	1	1
			3	MLSS	1	1	0
<i>Sub-total</i>					4	3	1
Mohongang O&M Sub-division			1	Sub-divisional Engineer	1	1	0
			2	LD Asstt. Cum-Typist	1	1	0
			3	Accounts Clerk	1	0	1
			4	Surveyor (Engineering)	1	0	1
			5	Driver	1	0	1
			6	Speed boat Driver	1	0	1
			7	MLSS	2	0	2
			8	Chowkider	1	0	1
			9	Asstt. Cook	1	0	1
			10	Bearer	1	0	1
<i>Sub-total</i>					11	2	9
Mohonganj O&M Section-I			1	SAE/SO	1	1	0
			2	Work Assistant	2	1	1
			3	MLSS	1	0	1
<i>Sub-total</i>					4	2	2
Mohonganj O&M Section-II			1	SAE/SO	1	1	0
			2	Work Assistant	2	1	1
			3	MLSS	1	0	1
<i>Sub-total</i>					4	2	2
Mohonganj O&M Section-III			1	SAE/SO	1	0	1
			2	Work Assistant	2	0	2
			3	MLSS	1	0	1
<i>Sub-total</i>					4	0	4
<b>Grand Total</b>					<b>64</b>	<b>23</b>	<b>41</b>

**Kishoreganj WD Division**

Division Name	Sub-division Name	Section Name	No.	Position	Nos. of Approved Position	Nos. of Filled Position	Nos. of Vacant Position	
Kishoreganj WD Division			1	Executive Engineer	1	1	-	
			2	Assistant Engineer	1	-	1	
			3	Estimator	1	1	-	
			4	U.D. Assistant	1	1	-	
			5	DEO	1	-	1	
			6	Senior Accounts Assistant	1	-	1	
			7	Driver	1	1	-	
			8	Revenue Surveyor	1	-	1	
			9	D.M.O	1	-	1	
			10	MLSS	2	2	-	
			11	Sweeper	1	-	1	
			12	Guard	2	-	2	
			13	Speed Boat Driver	1	-	1	
				<i>Sub-total</i>	15	6	9	
Kishoreganj O&M Sub-division			1	Sub divisional Engineer	1	1	-	
			2	LD Assistant cum Typist	1	-	1	
			3	Accounts Clerk	1	1	-	
			4	Driver	1	-	1	
			5	Speed Boat Driver	1	1	-	
			6	MLSS	2	1	1	
			7	Chowkidar	1	1	-	
			8	Surveyor	1	-	1	
			9	Bearer	1	1	-	
					<i>Sub-total</i>	10	6	4
		Kishoreganj O&M Section		1	Sub-Assistant Engineer/S.O	1	1	-
	2			Work Assistant	2	2	-	
	3			MLSS	1	1	-	
					<i>Sub-total</i>	4	4	-
		Bajitpur O&M Section		1	Sub-Assistant Engineer/S.O	1	1	-
	2			Work Assistant	2	-	2	
	3			MLSS	1	-	1	
					<i>Sub-total</i>	4	1	3
		Bhairab O&M Section		1	Sub-Assistant Engineer/S.O	1	1	-
2	Work Assistant			2	-	2		
3	MLSS			1	-	1		
				<i>Sub-total</i>	4	1	3	
Bhairab WD Sub-division			1	Sub divisional Engineer	1	1	-	
			2	LD Assistant cum Typist	1	-	1	
			3	Accounts Clerk	1	-	1	
			4	Driver	1	-	1	
			5	Speed Boat Driver	1	-	1	
			6	MLSS	2	-	2	
			7	Chowkidar	1	-	1	
			8	Surveyor	1	1	-	
			9	Bearer	1	-	1	
					<i>Sub-total</i>	10	2	8
		Bhairab WD Section-1		1	Sub-Assistant Engineer/S.O	1	1	-
	2			Work Assistant	2	1	1	
	3			MLSS	1	-	1	
					<i>Sub-total</i>	4	2	2
		Bhairab WD Section-2		1	Sub-Assistant Engineer/S.O	1	1	-
	2			Work Assistant	2	-	2	
	3			MLSS	1	-	1	
					<i>Sub-total</i>	4	1	3
		<b>Grand Total</b>				<b>55</b>	<b>23</b>	<b>32</b>



**Brahmanbaria WD Division**

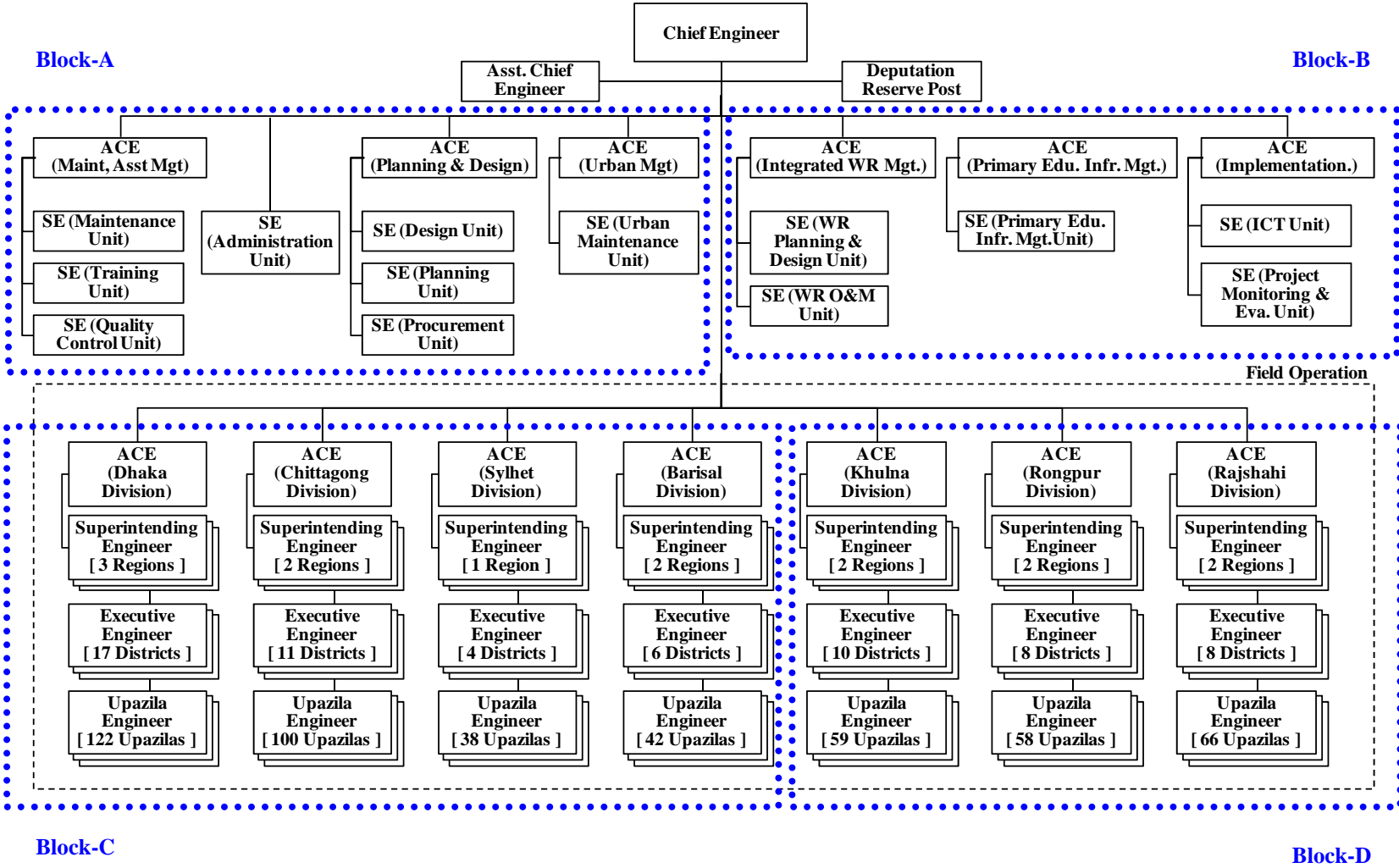
Division Name	Sub-division Name	Section Name	No.	Position	Nos. of Approved Position	Nos. of Filled Position	Nos. of Vacant Position	
Brahmanbaria WD Division			1	Executive Engineer	1	1	0	
			2	Revenue Officer	1	0	1	
			3	Sub-assistant Engineer/Estimator	1	0	1	
			4	Senior Clerk	1	0	1	
			5	DEO	1	0	1	
			6	Driver	1	0	1	
			7	MLSS	2	0	2	
			8	Guard	1	0	1	
				<i>Sub-total</i>		9	1	8
			Ashuganj WD Sub-division			1	Sub-divisional Engineer	1
2	Surveyor (Engineering)	1				0	1	
3	DEO	1				0	1	
4	Driver	1				0	1	
5	MLSS	1				0	1	
6	Guard	1				0	1	
	<i>Sub-total</i>			6	0	6		
Ashuganj WD Section				1	Sub-assistant Engineer/Section Officer	1	0	1
				2	Enumerator	1	0	1
				3	MLSS	1	0	1
	<i>Sub-total</i>			3	0	3		
Nasirnagar WD Section				1	Sub-assistant Engineer/Section Officer	1	0	1
				2	Work Assistant	1	0	1
				3	MLSS	1	0	1
	<i>Sub-total</i>			3	0	3		
Shorail WD Section				1	Sub-assistant Engineer/Section Officer	1	0	1
				2	Work Assistant	1	0	1
				3	MLSS	1	0	1
	<i>Sub-total</i>		3	0	3			
Nabinagar WD Sub-division			1	Sub-divisional Engineer	1	0	1	
			2	Surveyor (Engineering)	1	0	1	
			3	DEO	1	0	1	
			4	Driver	1	0	1	
			5	MLSS	1	0	1	
			6	Guard	1	0	1	
		<i>Sub-total</i>		6	0	6		
	Nabinagar WD Section-I			1	Sub-assistant Engineer/Section Officer	1	0	1
				2	Work Assistant	1	0	1
				3	MLSS	1	0	1
		<i>Sub-total</i>		3	0	3		
	Nabinagar WD Section-II			1	Sub-assistant Engineer/Section Officer	1	0	1
				2	Surveyor	1	0	1
				3	MLSS	1	0	1
		<i>Sub-total</i>		3	0	3		
	Bancharampur WD Section			1	Sub-assistant Engineer/Section Officer	1	0	1
				2	Surveyor	1	0	1
				3	MLSS	1	0	1
	<i>Sub-total</i>		3	0	3			
Brahmanbaria O&M Sub-division			1	Sub-divisional Engineer	1	1	0	
			2	L D Assistant-cum-Typist	1	1	0	
			3	Accounts Clerk	1	1	0	
			4	Surveyor (Engineering)	1	1	0	
			5	Driver	1	0	1	
			6	Pump Operator	1	0	1	
			7	MLSS	2	0	2	
			8	Guard	1	0	1	
			9	Assistant Cook	1	1	0	
			10	Bearer	1	0	1	
		<i>Sub-total</i>		11	5	6		
	Brahmanbaria O&M Section-I			1	Sub-assistant Engineer/Section Officer	1	1	0
				2	Work Assistant	2	2	0
				3	MLSS	1	0	1
		<i>Sub-total</i>		4	3	1		
	Brahmanbaria O&M Section-II			1	Sub-assistant Engineer/Section Officer	1	1	0
				2	Work Assistant	1	0	1
				3	MLSS	1	0	1
		<i>Sub-total</i>		3	1	2		
	Brahmanbaria O&M Section-III			1	Sub-assistant Engineer/Section Officer	1	1	0
				2	Work Assistant	1	0	1
				3	MLSS	1	0	1
		<i>Sub-total</i>		3	1	2		
	<b>Grand Total</b>					<b>60</b>	<b>11</b>	<b>49</b>

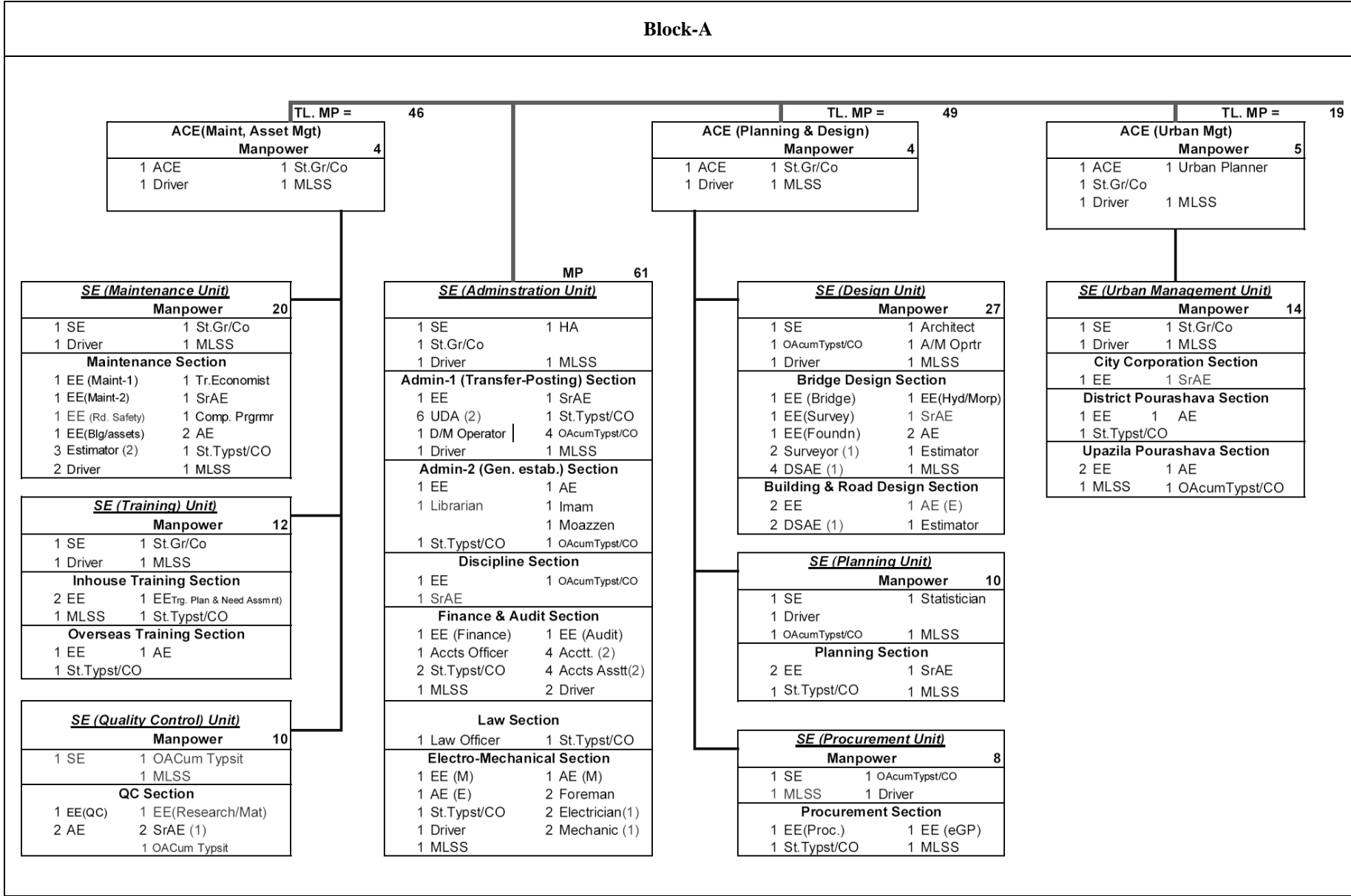
**Habiganj O&M Division**

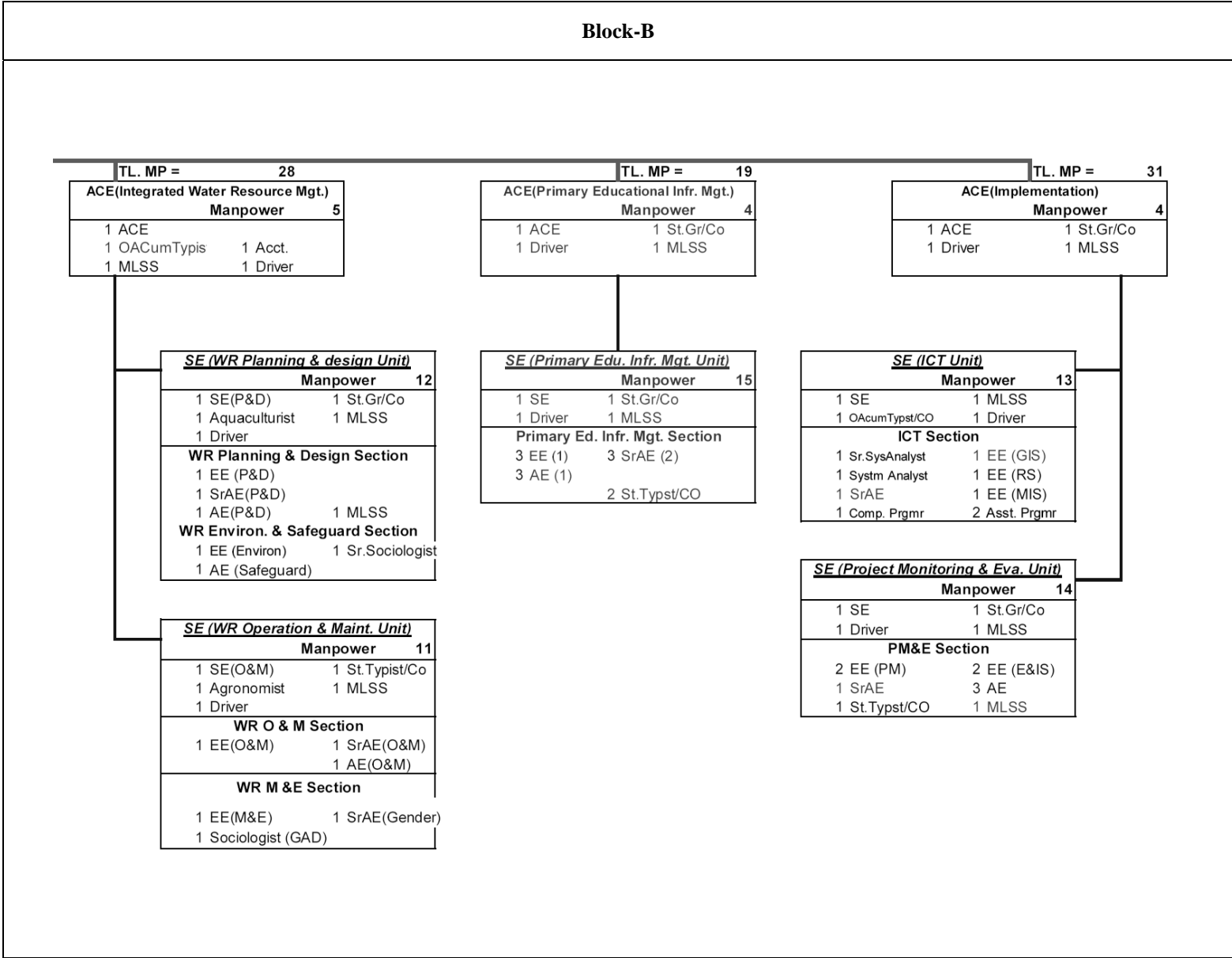
Division Name	Sub-division Name	Section Name	No.	Position	Nos. of Approved Position	Nos. of Filled Position	Nos. of Vacant Position
Habiganj O&M Division			1	Executive Engineer	1	1	0
			2	Asstt. Engineer	1	0	1
			3	SAE/Estimator	1	1	0
			4	U.D. Asstt.	1	0	1
			5	Asstt. Accountant	1	0	1
			6	Sr. Accounts Asstt.	1	0	1
			7	Accounts Clerk	1	1	0
			8	L.D. Asstt. Cum Typist/DEO	3	1	2
			9	DMO	1	0	1
			10	Driver	1	1	0
			11	Tracer	1	0	1
			12	MLSS	4	2	2
			13	Chowkider (Guard)	1	0	1
			14	Mali (Gardener)	1	0	1
			15	Rev. Surveyor	1	0	1
			<i>Sub-total</i>	20	7	13	
Habiganj O&M Sub-division-1			1	Sub-divisional Engineer	1	0	1
			2	LD Asstt. Cum Typist	1	1	0
			3	Account Clerk	1	0	1
			4	Surveyor (Engineering)	1	0	1
			5	Driver	1	0	1
			6	Speed-boat Driver	1	0	1
			7	Pump Operator	1	1	0
			8	MLSS	2	1	1
			9	Chowkider	1	1	0
			10	Asstt. Cook	1	1	0
			11	Bearer	1	0	1
			12	Imam	1	0	1
						<i>Sub-total</i>	13
Habiganj O&M Section			1	SAE/SO	1	1	0
			2	Work Assistant	2	2	0
			3	MLSS	1	0	1
			<i>Sub-total</i>	4	3	1	
Balla O&M Section			1	SAE/SO	1	1	0
			2	Work Assistant	1	0	1
			3	MLSS	1	0	1
			<i>Sub-total</i>	3	1	2	
Bahubal O&M Section			1	SAE/SO	1	1	0
			2	Work Assistant	1	0	1
			3	MLSS	1	0	1
			<i>Sub-total</i>	3	1	2	
Habiganj O&M Sub-division-2			1	Sub-divisional Engineer	1	1	0
			2	LD Asstt. Cum-Typist	1	0	1
			3	Accounts Clerk	1	0	1
			4	Surveyor (Engineering)	1	0	1
			5	Driver	1	0	1
			6	MLSS	2	1	1
			7	Chowkider	1	0	1
			<i>Sub-total</i>	8	2	6	
Habiganj Town Protec. Section			1	SAE/SO	1	0	1
			2	Work Assistant	2	2	0
			3	MLSS	1	0	1
			<i>Sub-total</i>	4	2	2	
Baniachong O&M Section			1	SAE/SO	1	1	0
			2	Work Assistant	1	0	1
			3	MLSS	1	0	1
			<i>Sub-total</i>	3	1	2	
Madanpur O&M Section			1	SAE/SO	1	0	1
			2	Work Assistant	1	1	0
			3	MLSS	1	0	1
			<i>Sub-total</i>	3	1	2	
<b>Grand Total</b>					<b>61</b>	<b>23</b>	<b>38</b>

Appendix 7.2 Manpower Concerned to Project Implementation and O&M in LGED

The overall structure below is divided into four blocks in the following four pages in order to show the detail numbers of manpower.







### Block-C

TL. MP 2731	TL. MP 2172	TL. MI 830	TL. MI 956																																																																																																																																																																																																																										
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Asst.	1 Acctt.	1 OAcumTypist	1 OA	2 MLSS	1 Chowkider	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th colspan="2" style="text-align: center;">Superintending Engineers-2 Regions</th></tr> <tr><td colspan="2" style="text-align: center;">(Barisal &amp; Patuakhali Regions)</td></tr> <tr><td><b>MP</b></td><td><b>12*2= 24</b></td></tr> <tr><td>1 SE</td><td>3 EE (2)</td></tr> <tr><td>1 AE</td><td>1 SAE</td></tr> <tr><td>1 Acctt. Asstt.</td><td>1 StGr/Co(BS)</td></tr> <tr><td>2 Driver</td><td>2 MLSS (1)</td></tr> <tr><td>1 OAcumTpst (Pt.khali)</td><td></td></tr> <tr><td colspan="2" style="text-align: center;"><b>EE (6 Districts) Gr. Dt. 2</b></td></tr> <tr><td><b>MP</b></td><td><b>(19+2) x 4 = 84</b></td></tr> <tr><td>22 X 2 =</td><td><b>44 = 128</b></td></tr> <tr><td>1 EE</td><td>1 Sr.AE</td></tr> <tr><td>1 AE</td><td>1 AE (M)*</td></tr> <tr><td>1 Sociologist</td><td>1 Foreman</td></tr> <tr><td>2 SAE(*1)</td><td>1 Acctt.</td></tr> <tr><td>1 UDA</td><td>1 Accts Asstt.*</td></tr> <tr><td>1 St.Typst/CO</td><td>1 Electrician</td></tr> <tr><td>3 Driver</td><td>3 Roll. Driver</td></tr> <tr><td>1 MLSS</td><td>1 Truck Driver</td></tr> <tr><td colspan="2" style="text-align: center;"><b>UE (42 Upazilas)</b></td></tr> <tr><td><b>MP</b></td><td><b>19 x 40+17*2 = 794</b></td></tr> <tr><td>1 UE</td><td>1 UAE</td></tr> <tr><td>2 SAE</td><td>1 DSAE</td></tr> <tr><td>4 WA</td><td>1 Surveyor</td></tr> <tr><td>1 C.Org.</td><td>1 Electrician</td></tr> <tr><td>1 Acct. Asst.</td><td>1 Acctt.</td></tr> <tr><td>1 OAcumTypist</td><td>1 OA</td></tr> <tr><td>2 MLSS</td><td>1 Chowkider</td></tr> </table>	Superintending Engineers-2 Regions		(Barisal & Patuakhali Regions)		<b>MP</b>	<b>12*2= 24</b>	1 SE	3 EE (2)	1 AE	1 SAE	1 Acctt. Asstt.	1 StGr/Co(BS)	2 Driver	2 MLSS (1)	1 OAcumTpst (Pt.khali)		<b>EE (6 Districts) Gr. Dt. 2</b>		<b>MP</b>	<b>(19+2) x 4 = 84</b>	22 X 2 =	<b>44 = 128</b>	1 EE	1 Sr.AE	1 AE	1 AE (M)*	1 Sociologist	1 Foreman	2 SAE(*1)	1 Acctt.	1 UDA	1 Accts Asstt.*	1 St.Typst/CO	1 Electrician	3 Driver	3 Roll. Driver	1 MLSS	1 Truck Driver	<b>UE (42 Upazilas)</b>		<b>MP</b>	<b>19 x 40+17*2 = 794</b>	1 UE	1 UAE	2 SAE	1 DSAE	4 WA	1 Surveyor	1 C.Org.	1 Electrician	1 Acct. Asst.	1 Acctt.	1 OAcumTypist	1 OA	2 MLSS	1 Chowkider
Superintending Engineers-3 Regions																																																																																																																																																																																																																													
(Dhaka, Faridpur & Mymensingh Regions)																																																																																																																																																																																																																													
<b>MP</b>	<b>12 x 3 = 36</b>																																																																																																																																																																																																																												
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2 Driver	2 MLSS (1)																																																																																																																																																																																																																												
<b>EE (17 Districts) Gr. Dt. 5</b>																																																																																																																																																																																																																													
<b>MP</b>	<b>(19+2) x 12 = 252</b>																																																																																																																																																																																																																												
22X5 =	<b>110 = 362</b>																																																																																																																																																																																																																												
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<b>UE (122 Upazilas)</b>																																																																																																																																																																																																																													
<b>MP</b>	<b>19 x 122 = 2318</b>																																																																																																																																																																																																																												
1 UE	1 UAE																																																																																																																																																																																																																												
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<b>MP</b>	<b>12 x 2 = 24</b>																																																																																																																																																																																																																												
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1 Acctt. Asstt.	1 StGr/Co																																																																																																																																																																																																																												
2 Driver	2 MLSS (1)																																																																																																																																																																																																																												
<b>EE (11 Districts) Gr. Dt.6</b>																																																																																																																																																																																																																													
<b>MP</b>	<b>(19+2) x 5 = 105</b>																																																																																																																																																																																																																												
22X6 =	<b>132 = 237</b>																																																																																																																																																																																																																												
1 EE	1 Sr.AE																																																																																																																																																																																																																												
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1 MLSS	1 Truck Driver																																																																																																																																																																																																																												
<b>UE (100 Upazilas)</b>																																																																																																																																																																																																																													
<b>MP</b>	<b>19 x 100 = 1900</b>																																																																																																																																																																																																																												
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2 Driver	2 MLSS (1)																																																																																																																																																																																																																												
<b>EE (4 Districts) Gr. Dt. 1</b>																																																																																																																																																																																																																													
<b>MP</b>	<b>(19+2) x 3 = 63</b>																																																																																																																																																																																																																												
22X1 =	<b>22 = 85</b>																																																																																																																																																																																																																												
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1 MLSS	1 Truck Driver																																																																																																																																																																																																																												
<b>UE (38 Upazilas)</b>																																																																																																																																																																																																																													
<b>MP</b>	<b>19 x 38 = 722</b>																																																																																																																																																																																																																												
1 UE	1 UAE																																																																																																																																																																																																																												
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<b>MP</b>	<b>12*2= 24</b>																																																																																																																																																																																																																												
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<b>MP</b>	<b>(19+2) x 4 = 84</b>																																																																																																																																																																																																																												
22 X 2 =	<b>44 = 128</b>																																																																																																																																																																																																																												
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<b>UE (42 Upazilas)</b>																																																																																																																																																																																																																													
<b>MP</b>	<b>19 x 40+17*2 = 794</b>																																																																																																																																																																																																																												
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2 MLSS	1 Chowkider																																																																																																																																																																																																																												

\* Star mark represents the posts are created only in greater districts BUT 1 SAE and 1 Accts Asstt are consented in all districts by Ministry of Public Administration.

## Block-D

TL. Mi 1369		TL. Mi 1306		TL. MP 1464	
<b>ACE (Khulna Division)</b>		<b>ACE (Rongpur Division)</b>		<b>ACE (Rajshahi Division)</b>	
<b>Manpower 11</b>		<b>Manpower 10</b>		<b>Manpower 15</b>	
1 ACE	1 EE (Impl.)	1 ACE	1 EE (Impl.)	1 ACE	1 EE (Impl.)
1 EE (O&M)	1 EE (M)	1 EE (O&M)	1 EE (M)	1 EE (O&M)	1 EE (M)
1 Sr. Sociologist	1 AE	1 Sr. Sociologist	1 AE	1 Sr. Sociologist	1 AE
1 St.Gr./Co	1 SAE	1 St.Gr./Co	1 SAE	1 OACumTypist/C	1 SAE
1 Acctt.	2 MLSS	1 Acctt.	1 MLSS	3 Driver	3 MLSS
				1 Acctt.Asstt.	
<b>Superintending Engineers-2 Regions</b>		<b>Superintending Engineers-2 Regions</b>		<b>Superintending Engineers-2 Regions</b>	
(Khulna & Jessore Regions)		(Dinajpur & Rangpur Regions)		(Rajshahi & Bogra Regions)	
<b>MP</b>	<b>12*2= 24</b>	<b>MP</b>	<b>12*2= 24</b>	<b>MP</b>	<b>12*2= 24</b>
1 SE	3 EE (2)	1 SE	3 EE (2)	1 SE	3 EE (2)
1 AE	1 SAE	1 AE	1 SAE	1 AE	1 SAE
1 Acctt. Asstt.	1 StGr/Co(Kh)	1 Acctt. Asstt.	1 StGr/Co(RP)	1 Acctt. Asstt.	1 StGr/Co(RS)
2 Driver	2 MLSS (1)	2 Driver	2 MLSS (1)	2 Driver	2 MLSS (1)
1 OACumTpst (Jessr)		1 OACumTpst (DP)		1 OACumTpst (Bgra)	
<b>EE (10 Districts) Gr. Dt. 3</b>		<b>EE (8 Districts) Gr. Dt. 2</b>		<b>EE (8 Districts) Gr. Dts 3</b>	
<b>MP</b>	<b>(19+2) x 7 = 147</b>	<b>MP</b>	<b>(19+2) x 6 = 126</b>	<b>MP</b>	<b>(19+2) x 5 = 105</b>
22 X3 =	66 = 213	22 X2 =	44 = 170	22 X3 =	66 = 171
1 EE	1 Sr.AE	1 EE	1 Sr.AE	1 EE	1 Sr.AE
1 AE	1 AE (M)*	1 AE	1 AE (M)*	1 AE	1 AE (M)*
1 Sociologist	1 Foreman	1 Sociologist	1 Foreman	1 Sociologist	1 Foreman
2 SAE(*1)	1 Acctt.	2 SAE(*1)	1 Acctt.	2 SAE(*1)	1 Acctt.
1 UDA	1 Accts Asst. *	1 UDA	1 Accts Asst. *	1 UDA	1 Accts Asst. *
1 St.Typst/CO	1 Electrician	1 St.Typst/CO	1 Electrician	1 St.Typst/CO	1 Electrician
3 Driver	3 Roll. Driver	3 Driver	3 Roll. Driver	3 Driver	3 Roll. Driver
1 MLSS	1 Truck Driver	1 MLSS	1 Truck Driver	1 MLSS	1 Truck Driver
<b>UE (59 Upazilas)</b>		<b>UE (58 Upazilas)</b>		<b>UE (66 Upazilas)</b>	
<b>MP</b>	<b>19 x 59 = 1121</b>	<b>MP</b>	<b>19 x 58 = 1102</b>	<b>MP</b>	<b>19 x 66 = 1254</b>
1 UE	1 UAE	1 UE	1 UAE	1 UE	1 UAE
2 SAE	1 DSAE	2 SAE	1 DSAE	2 SAE	1 DSAE
4 WA	1 Surveyor	4 WA	1 Surveyor	4 WA	1 Surveyor
1 C.Org.	1 Electrician	1 C.Org.	1 Electrician	1 C.Org.	1 Electrician
1 Acct. Asstt.	1 Acctt.	1 Acct. Asstt.	1 Acctt.	1 Acct. Asstt.	1 Acctt.
1 OAcumTypist	1 OA	1 OAcumTypist	1 OA	1 OAcumTypist	1 OA
2 MLSS	1 Chowkider	2 MLSS	1 Chowkider	2 MLSS	1 Chowkider



## Appendix 7.3 List of Sub-Projects of Components 1 and 3-1 by Upazila

No	District	Upazila	Component 1 Sub-Project	Component 3-1 (agriculture) Sub-Project	BWDB Sub-division Office
1	Netrokona	1 Atpara	N11,	APSS-1, 2, 4, SIGS	Mohanganj
		2 Borhatta	R3, N4,	APSS-1, 2, 4, SIGS APSS-1, 2, 4, SIGS	Netrokona Sunamganj II
		3 Durgapur			
		4 Khaliajuri	R14, R15,	APSS-4	Mohanganj
		5 Kalmakanda	N4,	APSS-1, 2, 4, SIGS	Sunamganj II
		6 Kendua	N6,	APSS-1, 2, 4, SIGS	Kishoreganj
		7 Madan	N11, N10	APSS-1, 2, 4, SIGS APSS-1, SIGS	Mohanganj Kishoreganj
		8 Mohonganj	N4,	APSS-1, 2, 4, SIGS	Sunamganj II
		9 Netrokona Sadar	R2,	APSS-1, 2, 4, SIGS	Netrokona
		10 Purbadhala	R1, R2,	APSS-1, 2, 4, SIGS	Netrokona
2	Kishoreganj	1 Astagram	N14,	APSS-4	Bhairab
		2 Bajitpur	N8,	APSS-1, 2, 4, SIGS	Bhairab
		3 Bhairab			
		4 Hossainpur	R4,	APSS-1, 2, 4, SIGS	Kishoreganj
		5 Itna	N2, N7, N9, N10,	APSS-1, 2, 4, SIGS	Kishoreganj
		6 Karimganj	N1, N2, N7, N14,	APSS-1, 2, 4, SIGS APSS-4	Kishoreganj Bhairab
		7 Katiadi	R5, R6, N1, N5, N8,	APSS-1, 2, 4, SIGS APSS-1, 2, 4, SIGS	Kishoreganj Bhairab
		8 Kishoreganj Sadar	R4, N1,	APSS-1, 2, 4, SIGS	Kishoreganj
		9 Kuliarchar	R7,	APSS-1, 2, 4, SIGS	Bhairab
		10 Mithamain	N2, N9,	APSS-1, 2, 4, SIGS	Kishoreganj
		11 Nikli	N1, N2, N5, N8, N14	APSS-1, 2, 4, SIGS APSS-1, 2, 4, SIGS	Kishoreganj Bhairab
		12 Pakundia	R5, R6,	APSS-1, 2, 4, SIGS	Kishoreganj
		13 Tarail	N6, N7, N10,	APSS-1, 2, 4, SIGS	Kishoreganj
3	Habiganj	1 Ajmiriganj	R8, R9, N13,	APSS-1, 2, 4, SIGS	Habiganj II
		2 Bahubal	R13,	APSS-1, 2, 4, SIGS	Habiganj I
		3 Baniachanj	R8, R9, R10, N13 R13,	APSS-1, 2, 4, SIGS APSS-1, 2, 4, SIGS	Habiganj II Habiganj I
		4 Chunarughat			
		5 Habiganj Sadar	R13, N13,	APSS-1, 2, 4, SIGS APSS-1, 2, 4, SIGS	Habiganj I Habiganj II
		6 Lakhai			
		7 Madhabpur			
		8 Nabiganj			
4	Brahman-baria	1 Akhaura			
		2 Bancharampur	R11, R12,	APSS-4,	Nabinagar
		3 Brahmanbaria Sadar			
		4 Kashba			
		5 Nabinagar			
		6 Nasimnagar			
		7 Sarail			
		8 Ashuganj			
		9 Bijoynagar			
5	Sunamganj	1 Bishwamvarpur			
		2 Chhatak	N3,	APSS-4,	Sunamganj I
		3 Derai			
		4 Dharmapasha	N4,	APSS-1, 2, 4, SIGS	Sunamganj II
		5 Dowarabazar			
		6 Jagannathpur			
		7 Jamalganj	N12,	APSS-4,	Sunamganj I&II
		8 Sullah			
		9 Sunamganj Sadar	N12,	APSS-4,	Sunamganj I&II
		10 Tahirpur			
		11 South Sunamganj	N12,	APSS-4,	Sunamganj I&II

Notes:

- 1) Part of R1 area and part of R4 area (component 1 sub-projects) are located in Phulpur and Nandaail Upazilas respectively in Mymensingh District.
- 2) APSS-1=Field Program, APSS-2=Farmer Training Program, APSS-3=Field Staff Empowerment Program, APSS-4=Farm Machinery & Facility Support Program,
- 3) District base programs and project base programs for APSS are not shown in the above table.
- 4) BWDB Kishoreganj Sub-division Office indicated above means the existing office, or new office additionally established for the Project, or both.

## Appendix 7.4 Proposed Staff Arrangement of BWDB PIUs and Sub-division Offices for Implementation of the Project

BWDB PIUs in Division Office	Netrokona PIU			Kishoreganj PIU			Habiganj PIU			Brahmanbaria PIU			Sunamganj PIU		
	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed
Executive Engineer	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Revenue Officer	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Assistant Engineer	1	0	1	1	0	1	1	0	1	0	0	1	1	0	1
Assistant Extension Officer	1	0	2	0	0	2	0	0	2	0	0	2	0	0	2
Sub-divisional Engineer*1		*2	1 per SDO			1 per SDO			1 per SDO			1 per SDO			1 per SDO
Sub-assistant Engineer*1			1 per SO			1 per SO			1 per SO			1 per SO			1 per SO
Sub-assistant Engineer/Estimator	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1
U.D. Assistant	1	0	1	1	1	1	1	0	1	0	0	0	1	0	1
Assistant Accountant	1	0	1	0	0	1	1	0	1	0	0	0	1	0	1
Senior Accounts Assistant	1	1	1	1	0	1	1	0	1	0	0	0	1	0	1
Accounts Clerk	1	0	1	0	0	1	1	1	1	0	0	0	1	1	1
Senior Clerk	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0
L.D. Assistant cum Typist/DEO	3	1	3	0	0	3	3	1	3	0	0	0	0	0	0
DEO	0	0	0	1	0	0	0	0	0	1	0	1	3	0	3
Revenue Surveyor	1	0	1	1	0	1	1	0	1	0	0	1	1	0	1
DMO	1	0	1	1	0	1	1	0	1	0	0	1	1	0	1
Driver	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1
Speed Boat Driver	0	0	1	1	0	1	0	0	1	0	0	1	0	0	1
Tracer	1	0	1	0	0	1	1	0	1	0	0	1	1	0	1
MLSS	4	2	4	2	2	4	4	2	4	2	0	2	4	0	4
Chowkidar (Guard)	1	0	1	2	0	1	1	0	1	1	0	1	1	0	1
Sweeper	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Mali (Gardener)	1	0	1	0	0	1	1	0	1	0	0	0	1	0	1
Total*3	21	7	23	15	6	23	20	7	23	9	1	15	20	4	23

Note: \*1= Sub-divisional Engineers are stationed in Sub-division Offices and Sub-assistant Engineers are stationed in Section Offices, but their assignment places can be adjusted flexibly depending on the work load within the division.

\*2= SDO means Sub-division Office, and SO means Section Office.

\*3= Total amounts do not include Sub-divisional Engineers and Sub-assistant Engineers as marked \*1.

BWDB Sub-division Offices (SDO)	Netrokona PIU						Kishoreganj PIU								
	R1, R2, R3			R14, R15 N11			R4, R5, R6 N1, N2, N6, N7, N9, N10,			R7 N5, N8, N14					
	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed			
Name of Post	Netrokona SDO			Mohonganj SDO			Kishoreganj SDO (Existing)			Kishoreganj SDO (New)			Bhairab SDO		
Sub-divisional Engineer	1	0	1	1	1	1	1	1	1	0	0	1	1	1	1
LD Assistant cum Typist/DEO	1	1	1	1	1	1	1	0	1	0	0	1	1	0	1
Account Clerk	1	0	1	1	0	1	1	1	1	0	0	1	1	0	1
Surveyor (Engineering)	1	1	1	1	0	1	1	0	1	0	0	1	1	1	1
Extension Overseers	0	0	22	0	0	8	0	0	13	0	0	13	0	0	9
Driver	1	0	1	1	0	1	1	0	1	0	0	1	1	0	1
Speed Boat Driver	1	0	1	1	0	1	1	1	1	0	0	1	1	0	1
MLSS	2	1	2	2	0	2	2	1	2	0	0	2	2	0	2
Pump Operator	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Chowkidar (Guard)	1	0	1	1	0	1	1	1	1	0	0	1	1	0	1
Assistant Cook	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0
Electrician	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bearer	1	1	1	1	0	1	1	1	1	0	0	1	1	0	1
Imam (Religious Leader)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	12	4	34	11	2	19	10	6	23	0	0	23	10	2	19

Sub-division Office (SDO)	Habiganj PIU						Brahmanbaria PIU			Sunamganj PIU					
	R13			R8, R9, R10 N13			R11, R12			N3, N12			N4, N12		
	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed
Name of Post	Habiganj-1 SDO			Habiganj-2 SDO			Nabinagar SDO			Sunamganj-1 SDO			Sunamganj-2 SDO		
Sub-divisional Engineer	1	0	1	1	1	1	1	0	1	1	0	1	1	0	1
LD Assistant cum Typist/DEO	1	1	1	1	0	1	1	0	1	1	1	1	1	0	1
Account Clerk	1	0	1	1	0	1	0	0	0	1	0	1	1	0	1
Surveyor (Engineering)	1	0	1	1	0	1	1	0	1	1	1	1	1	0	1
Extension Overseers	0	0	10	0	0	13	0	0	4	0	0	6	0	0	8
Driver	1	0	1	1	0	1	1	0	1	0	0	0	0	0	0
Speed Boat Driver	1	0	1	0	0	0	0	0	0	1	1	1	1	1	1
MLSS	2	1	2	2	1	2	1	0	1	2	1	2	2	1	2
Pump Operator	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Chowkidar (Guard)	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1
Assistant Cook	1	1	1	0	0	0	0	0	0	1	0	1	0	0	0
Electrician	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0
Bearer	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0
Imam (Religious Leader)	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Total	13	5	23	8	2	21	6	0	10	11	5	17	8	3	16



**Appendix 7.6 Proposed Staff Arrangement of LGED PMO, PIUs and Project Upazila Offices for Implementation of the Project**

PMO (LGED)				Recruitment			Yen Portion
Name of Post	Quantity	Qualifications	Full/ Part	Deputation	Contractual	Outsourcing	
Project Director	1	B.Sc. Civil Engineering	Full-time	Deputation			
Deputy Project Director	4	2 B.Sc. Civil Engineering	Full-time	Deputation			
Deputy Project Director		2 M.Sc. Fisheries/ Master in Sociology with having experience in CBFM/ Fisheries Governance	Full-time		Contractual		
Senior Assistant Engineer	2	B.Sc. Civil Engineering	Full-time	Deputation			
Community Resource Management Specialist	1	B.Sc. Fisheries/ Sociology with MBA	Full-time		Contractual		
Accounts Officer	1	Master in Finance/ Accounting	Full-time	Deputation	Contractual		
M&E Specialist*	1	Master in Economics/Statistics/ B.Sc. with MBA/ BBA & MBA/ MDS, with IT experience	Full-time		Contractual		Yen
Sub-Assistant Engineer	3	2 Diploma Civil Engineering	Full-time	Deputation			
Sub-Assistant Engineer		1 Diploma Civil Engineering	Full-time		Contractual		
Environmental Engineer/ Expert*	1	B.Sc. in Civil Engineering with M.Sc. in Environment/ B.Sc. in Environment	Full-time		Contractual		Yen
Administrative/Human Resources Manager	1	Bachelor in any discipline with MBA	Full-time		Contractual		
Finance Expert	2	Bachelor in any discipline	Full-time		Contractual		
Office Assistant cum Computer Operator	2	Bachelor in any discipline	Full-time		Contractual		
Driver	3	J.S.C.	Full-time			Outsourcing	
Office Helper	2	J.S.C.	Full-time			Outsourcing	
Guard	1	J.S.C.	Full-time			Outsourcing	
Total	25						

Note:

\*—Major tasks and duties of M&amp;E Specialist and Environmental Engineer/Expert are shown in Page A7.6-4.

### LGED PIU (District) Offices

Name of Post	Qualifications	Netrokona PIU	Kishoreganj PIU	Habiganj PIU	Brahmanbaria PIU*1	Sunamganj PIU	Recruitment				
							Full/Part	Deputation	Contractual	Outsourcing	Yen Portion
Executive Engineer	B.Sc. Civil Engineering	1	1	1	1	1	Part	Deputation			
District Project Coordinator	B.Sc. in Civil Engineering/ B.Sc. in Fisheries	1	1	1	1	1	Full	Deputation (structure)	Contractual (fisheries)		
Sub-Assistant Engineer (Structure)	Diploma in Civil Engineering	1	1	1	1	1	Full	Deputation			
Sub-Assistant Engineer (Fisheries)	Diploma in Civil Engineering	1	1	1	1	1	Full		Contractual		
District Training Coordinator	Masters in any Discipline	1	1	1	1	1	Full		Contractual		
Community Infrastructure Coordination Expert*	B.Sc. Civil Engineering	1	1	1	1	1	Full	Deputation			Yen
Community Resource Management Coordination Expert*	B.Sc. in Fisheries/ Bachelor in any discipline with CBFM experience	1	1	1	1	1	Full		Contractual		Yen
District M&E Officer	Master in Economics/ Statistics/ MBA/ MDS	1	1	1	1	1	Full		Contractual		
Accountant	Bachelor in Finance/ Accounting	1	1	1	1	1	Full	Deputation			
Computer Operator cum Office Assistant	Bachelor in any Discipline	1	1	1	1	1	Full		Contractual		
Driver	J.S.C.	1	1	1	1	1	Full			Outsourcing	
Boat Driver	J.S.C.	1	1	1	1	1	Full			Outsourcing	
Office Helper	J.S.C.	1	1	1	1	1	Full			Outsourcing	
Guard	J.S.C.	1	1	1	1	1	Full			Outsourcing	
Total		14	14	14	14	14					

Note: \*=Major tasks and duties of Community Infrastructure Coordination Expert and Community Resource Management Coordination Expert are shown in Page A7.6-4.

### LGED Project Upazila Offices (PUOs) - See separate sheet of PUOs for details

Name of Post	Qualifications	Netrokona	Kishoreganj	Habiganj	B Baria	Sunamganj	Full/Part	Recruitment		
		9 PUOs*1	12 PUOs	4 PUOs	1 PUO*1	7 PUOs*1		Deputation	Contractual	Outsourcing
Upazila Engineer	B.Sc. Civil Engineering	9	12	4	1	7	Part	Deputation		
Sub-Assistant Engineer	Diploma in Civil Engineering	9	12	4	1	7	Full	Deputation (structure)	Contractual (fisheries)	
SMS Fisheries*2	B.Sc. Fisheries/ Zoology	9	12	4	1	7	Full		Contractual	
Work Assistant	H.S.C.	9	12	4	1	7	Full	Deputation	Contractual	
LCS Organizer	Bachelor in any discipline	9	12	4	1	7	Full		Contractual	
Social Organizer (Fisheries)	Bachelor in any discipline	9	12	4	1	7	Full		Contractual	
Surveyor	Diploma in Engineering	9	12	4	1	7	Full	Deputation		
Guard	J.S.C.	9	12	4	1	7	Full			Outsourcing
Office Helper	J.S.C.	9	12	4	1	7	Full			Outsourcing
Total		81	108	36	9	63				

Notes: \*1=Staff of Brahmanbaria PIU and some PUOs in Netrokona, Brahmanbaria and Sunamganj will be re-arranged after identification of component 3-2 sub-projects.

\*2: SMS=Subject matter specialist

## LGED Project Upazila Offices (PUOs)

Name of Post	Name of Post										Total
	Atpara	Borhatta	Khaliajuri	Kamalkanda	Kendua	Madan	Mohonganj	Netrokona Sdr	Purbadhala		
Upazila Engineer	1	1	1	1	1	1	1	1	1	1	9
Sub-Assistant Engineer	1	1	1	1	1	1	1	1	1	1	9
SMS Fisheries*1	1	1	1	1	1	1	1	1	1	1	9
Work Assistant	1	1	1	1	1	1	1	1	1	1	9
LCS Organizer	1	1	1	1	1	1	1	1	1	1	9
Social Organizer (Fisheries)	1	1	1	1	1	1	1	1	1	1	9
Surveyor	1	1	1	1	1	1	1	1	1	1	9
Guard	1	1	1	1	1	1	1	1	1	1	9
Office Helper	1	1	1	1	1	1	1	1	1	1	9
Total	9	9	9	9	9	9	9	9	9	9	81

Note:  
Staff of PUOs in particular in Kamalkanda, Madan and Netrokona Sadar will be re-arranged after identification of component 3-2 sub-projects.

\*1: SMS=Subject matter specialist

Name of Post	Name of Post												Total
	Astagram	Bajitpur	Hossainpur	Itna	Karinganj	Katiadi	Kishoreganj Sdr	Kuliarchar	Mithamain	Nikli	Pakundia	Tarail	
Upazila Engineer	1	1	1	1	1	1	1	1	1	1	1	1	12
Sub-Assistant Engineer	1	1	1	1	1	1	1	1	1	1	1	1	12
SMS Fisheries*1	1	1	1	1	1	1	1	1	1	1	1	1	12
Work Assistant	1	1	1	1	1	1	1	1	1	1	1	1	12
LCS Organizer	1	1	1	1	1	1	1	1	1	1	1	1	12
Social Organizer (Fisheries)	1	1	1	1	1	1	1	1	1	1	1	1	12
Surveyor	1	1	1	1	1	1	1	1	1	1	1	1	12
Guard	1	1	1	1	1	1	1	1	1	1	1	1	12
Office Helper	1	1	1	1	1	1	1	1	1	1	1	1	12
Total	9	9	9	9	9	9	9	9	9	9	9	9	108

Name of Post	Name of Post				Total
	Ajmiriganj	Bahubal	Baniachanj	Habiganj sadar	
Upazila Engineer	1	1	1	1	4
Sub-Assistant Engineer	1	1	1	1	4
SMS Fisheries*1	1	1	1	1	4
Work Assistant	1	1	1	1	4
LCS Organizer	1	1	1	1	4
Social Organizer (Fisheries)	1	1	1	1	4
Surveyor	1	1	1	1	4
Guard	1	1	1	1	4
Office Helper	1	1	1	1	4
Total	9	9	9	9	36

Name of Post	Name of Post	Total
	Bancharampur	
Upazila Engineer	1	1
Sub-Assistant Engineer	1	1
SMS Fisheries*1	1	1
Work Assistant	1	1
LCS Organizer	1	1
Social Organizer (Fisheries)	1	1
Surveyor	1	1
Guard	1	1
Office Helper	1	1
Total	9	9

Note:  
Staff of PUO in Bancharampur will be re-arranged after identification of component 3-2 sub-projects.

Name of Post	Name of Post							Total
	Chhatak	Derai	Dharmapasha	Jamalganj	Sullah	Sunamganj Sdr	S. Sunamganj	
Upazila Engineer	1	1	1	1	1	1	1	7
Sub-Assistant Engineer	1	1	1	1	1	1	1	7
SMS Fisheries*1	1	1	1	1	1	1	1	7
Work Assistant	1	1	1	1	1	1	1	7
LCS Organizer	1	1	1	1	1	1	1	7
Social Organizer (Fisheries)	1	1	1	1	1	1	1	7
Surveyor	1	1	1	1	1	1	1	7
Guard	1	1	1	1	1	1	1	7
Office Helper	1	1	1	1	1	1	1	7
Total	9	9	9	9	9	9	9	63

Note:  
Staff of PUO in Chhatak will be re-arranged after identification of component 3-2 sub-projects.

## Institutional Support Component for LGED

### (1) PMO (LGED)

Name of Post	Major Tasks and Duties
Environmental Engineer/ Expert	<ul style="list-style-type: none"> <li>- Conduct works relevant to environmental management under the guidance of PD.</li> <li>- Review draft EIA/IEE including EMP and RAP prepared by the consultant in accordance with Environmental Conservation Rules 1997 of Bangladesh and others.</li> <li>- Disseminate and explain additionally confirmed and identified environmental issues to public including holding public consultations.</li> <li>- Assist PD in obtaining Environmental Clearance from DOE.</li> <li>- Review and approve environmental programs prepared by the contractors in accordance with EMP, relevant plans and JICA Environmental Guidelines.</li> <li>- Coordinate with DOE and other government agencies relating to the environmental management in terms of the environmental programs and activities.</li> </ul>
M&E Specialist	<ul style="list-style-type: none"> <li>- Conduct works relevant to reporting and project management under the guidance of PD.</li> <li>- Prepare AWPB and procurement plan with the help of consultants team.</li> <li>- Prepare the optimum type of monitoring &amp; evaluation program for project implementation.</li> <li>- Design a monitoring system based on measurable inputs, outputs and outcomes. The system shall include road traffic, market, household and bio-diversity characteristics survey.</li> <li>- Review the result of baseline survey and monitoring activity to be carried out by the consultants.</li> <li>- Periodically review monitoring activities during project implementation.</li> <li>- Review subproject profile including baseline data and detail design for construction works from the viewpoint of project monitoring and evaluation.</li> <li>- Review the inception report, progress reports, and completion report prepared by the consultants and ensure that these reports meet monitoring and evaluation requirements.</li> <li>- Overview implementation of measures stated in the environmental programs.</li> <li>- Overview implementation of measures in RAP.</li> <li>- Monitor the effectiveness of EMP and compliance with requirements of Environmental Conservation Rules, relevant guidelines, etc.</li> <li>- Coordinate with DOE and other government agencies relating to the environmental management in terms of the environmental programs and activities.</li> <li>- Generate other reports to satisfy the reporting obligation of GOB and JICA with the help of consultants.</li> </ul>

### (2) PIU (LGED)

Name of Post	Major Tasks and Duties
Community Infrastructure Coordination Expert	<ul style="list-style-type: none"> <li>- Conduct works relevant to community infrastructure management under the guidance of EE.</li> <li>- Assist District Project Coordinator in planning the implementation plan for all infrastructure (rural roads and appurtenant structures, hats and ghats) including surveys/investigations in coordination with Local Government Institute (LGI) and communities.</li> <li>- Implement and monitor all the infrastructure activities in coordination with LGI and communities.</li> <li>- Implement and monitor land acquisition and compensation activities for the infrastructure.</li> </ul>
Community Resource Management Coordination Expert	<ul style="list-style-type: none"> <li>- Conduct works relevant to community resource management under the guidance of EE.</li> <li>- Assist District Project Coordinator in preparing the overall work plan for community resource management including beels.</li> <li>- Implement and monitor the process of accessing to resources including beels in coordination with LGI.</li> <li>- Establish rights of the community on the community resources and sustainable management in coordination with LGI and community.</li> </ul>

**Appendix 7.7 Result of Interview Survey on Communities' O&M Works****Methodology of Questionnaire Survey on Communities' O&M Works****1. Objective of Survey**

Currently O&M works for flood management structures at field level are carried out by both BWDB local offices and local communities depending on the scales of structures, types of structure, types of O&M activities, etc. It is therefore assumed that such works will be carried out by local communities in cooperation with BWDB in the proposed sub-projects in the future as well.

The purpose of this questionnaire survey is to collect information on the communities' O&M works regarding flood management sub-projects/ structures from the relevant communities in order to understand the current situations and to identify issues and their needs toward the establishment of a proper O&M system in the proposed sub-project areas.

**2. Target Groups for the Survey**

In view of effective and efficient identification of communities' issues and needs, target group will be selected from the existing sub-project areas. The conceivable sub-projects are tabulated as below. The target group shall be i) members of existing water management organization or similar organization, or ii) persons with experience in actual O&M works. In case neither i) nor ii) are available, a chairman or members of Union Parishad (UP) shall be selected.

The interview will be made with at least one interviewee per one sub-project. In the case of the above ii), an interviewee will be basically selected from regulator operators because the regulators are the main facilities for O&M. The number of interviewee is however changeable depending on the situation such as accessibility and communities reason. The tentative number of sub-projects is 15 for the time being as shown in the table below.

**Table 2.1 List of Sub-projects and Numbers of Regulators for the Survey**

No.	Sub-project Name	District	Nos. of Regulators	Project Type
1	Dampara Water Management Project	Netrokona	2	<b>FCDI</b>
2	Kangsha River Scheme	Netrokona	7	<b>FCDI</b>
3	Singer Beel Subproject	Netrokona	4	<b>FCDI</b>
4	Boraikhali Khal Sub-project	Mymensingh and Kishoreganj	1	<b>FCDI</b>
5	Alalia-Bahadia Sub-project	Kishoreganj	1	FCD
6	Motkhola-Bairagir Char Sub-project	Kishoreganj	1	FCD
7	Ganakkhali Sub-project	Kishoreganj	2	FCD
8	Kair Dhala Ratna Sub-project	Habiganj	3	<b>FCDI</b>
9	Bashira River Re-excavation Sub-project	Habiganj	2	<b>FCDI</b>
10	Aralia khal Sub-project	Habiganj	2	<b>FCDI</b>
11	Chandal beel Sub-project	Brahmanbaria	1	<b>FCDI</b>
12	Satdona Beel Scheme	Brahmanbaria	2	<b>FCDI</b>
13	Gangajuri Sub-project	Habiganj	7	FCD
14	Khaliajuri FCD Polder-2	Netrokona	10	FCD
15	Khaliajuri FCD Polder-4	Netrokona	5	FCD

Source: Result of inventory survey conducted in the Data Collection Survey



### 3. Survey Method

The questionnaire is prepared on the assumption of interview-style rather than self filling-up-style. Answer sheets will be separately prepared for each question. The Survey Team's 2-3 local engineers will execute the survey by making appointments in advance and visiting the respective sub-project areas. The O&M planner of JICA Survey Team will also guide the local engineers by conducting interview together with them on the first day. The contact persons of each sub-project have been already identified through the inventory survey conducted in the Data Collection Survey. The collected information shall be summarized for each interviewee.

### 4. Survey Schedule

The survey will be carried out between August 26 and September 5 with some optional extra days in consideration of the possibility of interruption due to unanticipated events like hartals.

**Table 4.1 Tentative Schedule of Survey**

Date		Activities
August	22	(Thu) Guidance by JICA Survey Team
	23	(Fri) -----
	24	(Sat) -----
	25	(Sun) Preparatory works including appointments and travel arrangement
	26	(Mon) Conducting interview survey in the field
	27	(Tue) Conducting interview survey in the field
	28	(Wed) Conducting interview survey in the field
	29	(Thu) Conducting interview survey in the field
	30	(Fri) Conducting interview survey in the field
	31	(Sat) Conducting interview survey in the field
September	1	(Sun) Conducting interview survey in the field
	2	(Mon) Conducting interview survey in the field
	3	(Tue) Data input/ an optional extra day for interview survey in the field
	4	(Wed) Data input/ an optional extra day for interview survey in the field
	5	(Thu) Data input/ an optional extra day for interview survey in the field

## QUESTIONNAIRE ON COMMUNITIES' O&M WORKS

### 1. Basic Information on Interview

Date of interview	
Location	District: <i>Netrokona</i> Upazila: <i>Purbodhola</i> Village:
Name of interviewee	<i>Mr. Polash</i>
Organization	<i>Dampara Regulator Committee</i>
Position	<i>Operator of Chorervita Regulator</i>
Name of enumerator	

Note: *Italic characters* denote the example of "Dampara Water Management Project".

### 2. Basic Information on Sub-project

(\* to be filled up in advance by enumerator based on the result of Inventory Survey conducted in the Data Collection Survey.)

Sub-project name	<i>Dampara Water Management Project</i>
Location	District: <i>Netrokona</i> Upazila: <i>Purbodhola</i>
Regulator	Reg-1: <i>Chorervita Reg., L 25m x W 16m, 10 vents, functioning</i>
	Reg-2: <i>Khatuary Reg., L 13m x W 7.5m, 5 vents, not functioning</i>
	continue if any
Full embankment	Length <i>20 km</i> , Crest width <i>4.27 m</i> , Crest elev. <i>12.20 to 13.14 El.m</i>
Submergible embankment	Length <i>27 km</i> , Crest width <i>2.44 m</i> , Crest elev. <i>10.14 to 11.80 El.m</i>
Canal	Can-1: <i>Motiara Khal, L 5.0 km, Bed width 4.5 m, Top width 16 m</i>
	Can-2: <i>Kalihor Khal, L 12.0 km, Bed width 4.0 m, Top width 15 m</i>
	continue if any

Note: *Italic characters* denote the example of "Dampara Water Management Project".

### 3. Your Personal Experience in O&M Works

Q3-1: What is your major income source?

Q3-2: How many years do you have experience in O&M works?

Q3-3: What kinds of O&M works have you experienced?

O&M works	Check	Frequency
Periodical inspection of flood management structures		
Operation of regulator		
Maintenance of embankment		
Maintenance of drainage canal		
Repair of structures		
Others (specify in detail)		

Q3-4: How far and how long does it take from your house to the O&M work place (to the regulator, to the water gauge, to the embankment)?

Q3-5: How often and how do you go to the O&M work place?

- Q3-6: Do you belong to any local community groups including but not limited to O&M work purpose?  
(what is the name? what is the purpose of group?)
- Q3-7: If you participate in O&M works individually, do you have an official contract with BWDB?

#### 4. Current Status of Your Organization

- Q4-1: Are there any special organization/ committee for O&M works in the sub-project?  
(when was it formed? who formed it? what is the name of organization?)
- Q4-2: How many persons do belong to the organization/ committee?  
(what are their major income sources (including side job)?)
- Q4-3: Is cooperation of members is enough?  
(what is the reason?)
- Q4-4: What is the major funding source of your organization/ committee?  
(who provide a cost for your O&M activities? does your organization/ committee contribute to cost sharing?)
- Q4-5: Does your organization/ committee receive any O&M cost from BWDB?  
(how much do you receive? how is the amount decided? what is the criteria for cost allocation?)

- Q4-6: What kinds of O&M works is your organization responsible for?

O&M works	Check	Frequency
Periodical inspection of flood management structures		
Operation of regulator		
Maintenance of embankment		
Maintenance of drainage canal		
Repair of structures		
Others (specify in detail)		

- Q4-7: What is the demarcation of roles and responsibilities between BWDB and your organization?
- Q4-8: Is there any other local community group in/ around the sub-project area?  
(what is the name? what is the purpose of group?)
- Q4-9: Do you know whether BWDB officers regularly come to the field for inspection?  
(how often? what is his position?)
- Q4-10: Do you regularly communicate with BWDB offices?  
(how often? what situation? what is the communication tool?)
- Q4-11: Do you have a proper contact when you face to issues on your O&M works?

#### 5. Issues on Operation Works

- Q5-1: When you operate a regulator, do you use a rule/ technical manual/ standard?  
(who provided it? what are stipulated in the document? do you always follow it?)
- Q5-2: Do you sometimes have no idea of what to do for operating regulator?  
(What situation?)
- Q5-3: Do you have any problems if you operate a regulator in accordance with only water level or seasonal fixed operating schedule.

- Q5-4: Do you have any experience that you failed to operate a regulator due to sudden troubles while there have been no problems in normal time?  
(what situation? what is the main cause?)
- Q5-5: Do you have any experience that flash flood could not be prevented though you properly operated a regulator?  
(what situation? what is the main cause?)
- Q5-6: Do you have any experience that you had difficulties in allowing water to flow into polder or draining water from polder though you properly operated a regulator?  
(what situation? what is the main cause?)
- Q5-7: Have you been made a complaint over your operation by local people?  
(what situation? how did you respond to the complaint?)
- Q5-8: Are there problems in operating regulator due to any conflict between different groups, for instance, farmers and fisheries?  
(what group? what situation? how solved?)
- Q5-9: What are other issues in operation works?  
(please specify in detail.)

## 6. Issues on Maintenance Works

- Q6-1: Have there been any failures of flood management structures?

Structure	Cause of Failure	Check	Structure	Cause of Failure	Check	
Regulator	1. Lack of grease		Embankment	13. Artificial cut		
	2. Lost or loose of bolt			14. Erosion by rainfall		
	3. Damage of gear box			15. Erosion by wave		
	4. Theft of gear box			16. Erosion by river flow		
	5. Damage of hoist rod			17. Wheel truck		
	6. Theft of hoist rod			18. Shortage of height		
	7. Lost of gate			19. Overtopping		
	8. Damage of rubber seal			20. Others (specify in detail)		
	9. Damage of structure			Canal	21. Sedimentation	
	10. Debris in front of gate				22. Land degradation	
	11. No operation committee		23. Others (specify in detail)			
	12. Others (specify in detail)		Others	24. (specify in detail)		

- Q6-2: What measures did you take to overcome the above respective failures?

O&M works	Structural Failure No (from Q6-1)								
	1	2	3	-	-	-	22	23	24
Repair by your own manpower									
Outsourcing									
Purchase any missing parts									
Request BWDB to repair									
Others (specify in detail)									

- Q6-3: If no measure has been taken to the above failures, please explain the reason.
- Q6-4: Do you provide different maintenance works for submergible structures and non-submergible structures?  
(what is the difference?)
- Q6-5: What are other issues in maintenance works?  
(please specify in detail.)

## 7. Technical Capacities

- Q7-1: What kinds of guidance/ trainings on O&M works have you been provided? (by whom? how frequent? what is the contents?)
- Q7-2: Are you satisfied with the above guidance/ training? (what is the reason?)
- Q7-3: What kinds of equipments, materials and transportation for O&M works have you been provided?
- Q7-4: Are you satisfied with the above equipment? (what is the reason?)
- Q7-5: Is there any difficulty in accessing to the field? (what situation? to where? why?)
- Q7-6: When you inspect structures, what points do you normally check?

Structure	Check Points	Check	Structure	Check Points	Check
Regulator	1. Lack of grease		Embankment	15. Artificial cut	
	2. Lost or loose of bolt			16. Erosion by rainfall	
	3. Damage of gear box			17. Erosion by wave	
	4. Theft of gear box			18. Erosion by river flow	
	5. Damage of hoist rod			19. Wheel truck	
	6. Theft of hoist rod			20. Shortage of height	
	7. Lost of gate			21. Crack	
	8. Damage of rubber seal			22. Wet condition	
	9. Damage of steel structure			23. Uncovering	
	10. Crack of concrete			24. Others (specify in detail)	
	11. Degradation of concrete		Canal	25. Sedimentation	
	12. Settlement of structure			26. Land degradation	
	13. Debris in front of gate			27. Others (specify in detail)	
	14. Others (specify in detail)			28. (specify in detail)	
		Others			

## 8. Needs for Future O&M Works

- Q8-1: Do you need any technical training/ manual? (what kind? why?)
- Q8-2: Do you need to be provided communication tool? (what tool? why?)
- Q8-3: Do you need to be provided equipments? (what equipment? why?)
- Q8-4: Although proper O&M works may bring much benefit from farm products, do you still need financial assistance from the Government for participating in O&M works? (why?)
- Q8-5: Do you think that the number of organization members should be increased for proper O&M works? (how many? why?)
- Q8-6: Do you think that other types of members should be participated in O&M works? (who? why?)
- Q8-7: What are other needs in O&M works? (please specify in detail.)

End of Questionnaire

Thank you for your cooperation.

## Interview Result: Dampara Water Management Project

<b>1. Basic Information on Interview</b>	
Date of interview	28 August 2013; Time: 2.10 PM to 4.40 PM
Location	District: Netrokona Upazila: purbodhala Village: Zaria
Name of interviewee	Mrs. Sheuly Talukdar w/o Mr. polash Talukdar
Organization	Chorervita Sluice Committee
Position	Member
Name of interviewer	Md. Moniruzzaman P Eng
<b>2. Basic Information on Sub-project</b>	
Sub-project name	Dampara Water Management project
Location	District: Netrokona Upazila: purbodhala
Regulator	Reg-1:Chorervita Regulator Reg-2:
Full embankment	Length:20 km, Crest width:4.27 m, Crest elev. 12.20 to 13.14 El.m
Submergible embankment	Length: 27 km, Crest width: 2.44 m, Crest elev. 10.14 to 11.80 El.m
Canal	Can-1:Motiara khal Length- 5.0 km Can-2:
<b>3. Your Personal Experience in O&amp;M Works</b>	
Q3-1:	Agricultural Farming.
Q3-2:	About 07 (Seven) years
Q3-3:	Periodical inspection of flood management structures, Operation of regulator, Repair of structures
Q3-4:	10 to 15 minutes walk; for structure & canal ; 05m( just beside the house)- for embankment.
Q3-5:	Every day twice or more.
Q3-6:	No. I am not involved in any other community group.
Q3-7:	No contract with BWDB
<b>4. Current Status of Your Organization</b>	
Q4-1:	There is no special organization for O & M works ; but there is another sluice committee named Khatuary Sluice Committee. Our organization is- Chorervita Sluice Committee
Q4-2:	11 members ; All are farmers.
Q4-3:	Yes, it is enough. Because everybody is farmer.
Q4-4:	Voluntary contribution of the members and some of the large farmers.
Q4-5:	No, BWDB pays nothing.
Q4-6:	Periodical inspection of flood management structures, Operation of regulator, Maintenance of embankment, Maintenance of drainage canal
Q4-7:	There is no such demarcation; however repair and maintenance of the Structure and large scale maintenance of Embankment. + Canal are the responsibilities of BWDB.
Q4-8:	There is no other local community group in/ around
Q4-9:	I have seen none from BWDB to carry out any regular inspection.
Q4-10:	Not regularly communicated; it is done only when there is necessity.
Q4-11:	No, there is no such contact point.
<b>5. Issues on Operation Works</b>	
Q5-1:	No, we have no rules / standards/ manual. We operate the gates according to the decision of the Committee.
Q5-2:	Out of 10 (ten) gates 2 gates are damaged and we face difficulties as to what to do in reactivating those.
Q5-3:	No, we do not face any problem.
Q5-4:	No such troubles occurred.
Q5-5:	Due to non-functioning of flap gates, water enters inside the polder causing damage to crops. However, we repaired those by crude methods of our own. That is not sufficient enough.
Q5-6:	Due to non-functioning of structure elements (i.e Flap Gates), this type of problem occurring frequently.
Q5-7:	No such complaints lodged till now.
Q5-8:	No, there is no conflicting group in the sub-project area.
Q5-9:	Nothing is particular.
<b>6. Issues on Maintenance Works</b>	
Q6-1:	1. Lack of grease, 2. Lost or loose of bolt, 3. Damage of gear box, 4. Theft of gear box, 5. Damage of hoist rod, 8. Damage of rubber seal, 9. Damage of structure, 10. Debris in front of gate, 19. Overtopping, 21. Sedimentation
Q6-2:	Repair by your own manpower, Request BWDB to repair
Q6-3:	We could not replace the flap gates because it is out of our capacity.
Q6-4:	Almost same.
Q6-5:	Nothing in particular.
<b>7. Technical Capacities</b>	
Q7-1:	No training, no guidance.
Q7-2:	No comments.
Q7-3:	Only 2 (two) nos. of handles for gate operation were given by BWDB
Q7-4:	No, we are not satisfied. These are not adequate; Manual operation of gate is too difficult job.
Q7-5:	It is will communicated.
Q7-6:	1. Lack of grease, 2. Lost or loose of bolt, 3. Damage of gear box, 4. Theft of gear box, 5. Damage of hoist rod, 6. Theft of hoist rod, 7. Lost of gate, 8. Damage of rubber seal, 9. Damage of steel structure, 10. Crack of concrete, 11. Degradation of concrete, 12. Settlement of structure, 13. Debris in front of gate, 15. Artificial cut, 16. Erosion by rainfall, 17. Erosion by wave, 18. Erosion by river flow, 19. Wheel truck, 20. Shortage of height, 21. Crack, 22. Wet condition, 23. Uncovering, 25. Sedimentation, 26. Land degradation
<b>8. Needs for Future O&amp;M Works</b>	
Q8-1:	Yes, we want training and also manual for better O & M.
Q8-2:	Nothing in particular.
Q8-3:	Chain pulley- for lifting flap gate, Grease gun- for regular greasing, Wrenches -for tightening/ unscrewing, Brushes- for periodical painting
Q8-4:	It is true that our farm productivity has increased; but O &M responsibilities are very large and the sluice committee is not empowered / legally bound to that extent, so we need to be protected by BWDB/ Govt.
Q8-5:	The present committee members are adequate; no need to increase.
Q8-6:	Absentee land owner; different categories / trades of people and a broad-based participation in O &M works needed for improved performance.
Q8-7:	A thorough rehabilitation / major repair / maintenance should be undertaken by BWDB immediately. Afterwards the whole subproject should be handed over to the committee.

Interview Result: Kangsha River Scheme

<b>1. Basic Information on Interview</b>	
Date of interview	28 August 2013; Time: 11.00 AM to 01.30 PM
Location	District: Netrokona, Upazila: purbodhala, Village: shaldigha
Name of interviewee	M.d. Jobied Hossain Fakir
Organization	Shaldigha Regulator Committee
Position	General Secretary
Name of interviewer	M.d. Moniruzzaman P Eng
<b>2. Basic Information on Sub-project</b>	
Sub-project name	Kangsha River subproject.
Location	District: Netrokona Upazila: purbodhala
Regulator	Reg-1:
	Reg-2:
Full embankment	Length: 20.0 km, Crest width: 4.27m, Crest elev.12.20 to 10.90 El.m
Submergible embankment	Length: x km, Crest width: x m, Crest elev. to El.m
Canal	Can-1:
	Can-2:
<b>3. Your Personal Experience in O&amp;M Works</b>	
Q3-1:	Trading ; pharmacy Agricultural Farming as subsidiary.
Q3-2:	For about 15 (Fifteen) years.
Q3-3:	Periodical inspection of flood management structures, Operation of regulator, Maintenance of embankment, Maintenance of drainage canal
Q3-4:	5 minutes walk
Q3-5:	Frequently – at any time ; walking on foot.
Q3-6:	Member of the Drugs Trading Association. To look after the well being of drug traders.
Q3-7:	Yes, I on behalf of the committee keep liaison with BWDB.
<b>4. Current Status of Your Organization</b>	
Q4-1:	No other organization/ committee exist. (but there are other regulators in this subproject; and each regulator has its own committee. Interviewee was not aware of it.)
Q4-2:	13 member committee.
Q4-3:	Yes, common interest of the members.
Q4-4:	Voluntary subscription of money (for O&M) raised at times of needs only; this amount is spent for O &M (by the committee).
Q4-5:	No. BWDB pays nothing (against O&M costs) to the committee.
Q4-6:	Periodical inspection of flood management structures, Operation of regulator, Maintenance of embankment, Maintenance of drainage canal, Others (We are supposed to undertake all the above tasks; but in practice we do these only as and when required.)
Q4-7:	In fact BWDB plays no roles, so the question of demarcation with those of ours is immaterial.
Q4-8:	Yes ; there are : Shaldigha Bazar committee – for the development of the market. Youngstar Sporting Club – for spots/ games.
Q4-9:	Yes, BWDB staffs visit periodically. Level/ Position: Work Assistant.
Q4-10:	Yes ; the committee communicates to BWDB both verbally and in writing. When we face problem in O & M ; as and when required.
Q4-11:	Yes ; we establish contact with a designate staff of BWDB i.e Sectional Officer / Work Asstt.
<b>5. Issues on Operation Works</b>	
Q5-1:	Yes, we follow some norms set by the committee. BWDB did not provide anything. Agriculture is the only issue and we operate gates according to agricultural needs. No conflict exists
Q5-2:	Yes, such situation of difficult operation beyond our ideas occurred. All the river side gates (4 nos.) were damaged and when river stage rise water enters. We look like helpless – BWDB pays on attention
Q5-3:	No, we operate according to the needs of agricultural requirement. No problem occurs.
Q5-4:	Yes, it happened once in this long 15 years. The people in the upstream area were submerged due to high flooding. They came and cut away the embankment.
Q5-5:	As stated above; the gates were closed gates but the upstream people become aggrieved and cut the embankment.
Q5-6:	As stated above.
Q5-7:	No there has been no complaint against committee decision.
Q5-8:	No, there is no conflicting group.
Q5-9:	I think there should have some strong co-operative society based on this structure/ block of farming area so that it can work for the O & M without any external aid.
<b>6. Issues on Maintenance Works</b>	
Q6-1:	1. Lack of grease, 2. Lost or loose of bolt, 3. Damage of gear box, 4. Theft of gear box, 5. Damage of hoist rod, 6. Theft of hoist rod, 8. Damage of rubber seal, 9. Damage of structure, 10. Debris in front of gate, 13. Artificial cut, 17. Wheel truck, 19. Overtopping, 22. Land degradation
Q6-2:	Repair by your own manpower, Purchase any missing parts, Request BWDB to repair
Q6-3:	We have limitations and BWDB remains silent.
Q6-4:	No submergible embankment (in the sub-project).
Q6-5:	Same as reply to Q- 5.9 : hence skipped
<b>7. Technical Capacities</b>	
Q7-1:	Just after commissioning of the gate BWDB provided one day consultative training on O & M.
Q7-2:	No, this is not sufficient. We need training and development support for better O & M.
Q7-3:	Only one handle given for operation of gate.
Q7-4:	No, this is not sufficient. Manual operation of gates is seriously hard.
Q7-5:	No, the field is quite accessible.
Q7-6:	1. Lack of grease, 2. Lost or loose of bolt, 3. Damage of gear box, 4. Theft of gear box, 5. Damage of hoist rod, 6. Theft of hoist rod, 7. Lost of gate, 8. Damage of rubber seal, 9. Damage of steel structure, 10. Crack of concrete, 11. Degradation of concrete, 12. Settlement of structure, 13. Debris in front of gate, 15. Artificial cut, 16. Erosion by rainfall, 19. Wheel truck, 20. Shortage of height, 21. Crack, 22. Wet condition, 23. Uncovering, 25. Sedimentation
<b>8. Needs for Future O&amp;M Works</b>	
Q8-1:	O & M training ; and Socio- Economic Capability strengthening courses are required. This will ensure institutionalization of the O & M responsibilities.
Q8-2:	We need one Operator with M motor bike
Q8-3:	Chain pulley- for lifting flap gate, Grease gun- for regular greasing, Light wrenches- for minor repairs, Brushes- periodical painting.
Q8-4:	No, if we become self reliant, then we need no assistance.
Q8-5:	Yes, all categories of beneficiaries should represent in the committee / organization, the members should be 21 at least.
Q8-6:	Yes, it should be broad-based.
Q8-7:	A viable co-operative society will be effective for assured O & M.

## Interview Result: Singer Beel Subproject

<b>1. Basic Information on Interview</b>	
Date of interview	31 Aug. 2013; Time: 08.35 AM to 11.05 AM
Location	District: Netrokona Upazila: Barhatta Village: Putukia
Name of interviewee	M.d. Jalal Uddin (in presence of M.d. Shahjahan, Gate Operator)
Organization	Tumnir Sluice Committee
Position	Chairman of the Committee
Name of interviewer	Md. Moniruzzaman P Eng
<b>2. Basic Information on Sub-project</b>	
Sub-project name	Singer Beel Subproject
Location	District: Netrokona Upazila: Barhatta
Regulator	Reg-1: Tumnir Regulator Reg-2:
Full embankment	Length: 20.0 km, Crest width: 4.27 m, Crest elev. 12.20 to 13.14 El.m
Submergible embankment	Length: 27.0 km, Crest width: 2.44 m, Crest elev.: 10.14 to 11.80 El.m
Canal	Can-1: Tumnir Canal; Length: 2.50 km; Bed width: 7.0 m, Top width: 20.0 m Can-2: Kamalpur Canal; Length: 3.00 km; Bed width: 6.0 m, Top width: 18.0 m
<b>3. Your Personal Experience in O&amp;M Works</b>	
Q3-1:	I am a farmer
Q3-2:	I am a farmer
Q3-3:	Periodical inspection of flood management structures, Operation of regulator, Maintenance of embankment, Maintenance of drainage canal, Repair of structures
Q3-4:	About 1.0 km off and it takes nearly 1.00 hour walking time (to see every thing).
Q3-5:	I visit almost everyday; I walk on foot.
Q3-6:	Yes, I belong to a mosque committee as its member
Q3-7:	Whatever O&M responsibilities I carry out; that is absolutely a voluntary effort.
<b>4. Current Status of Your Organization</b>	
Q4-1:	Yes, this Sluice Committee is responsible for O&M works; there is no other organization/committee.
Q4-2:	So far I remember it may be a 24-member committee. All are farmers; main income comes from agricultural activities.
Q4-3:	Yes, enough. Because we have the common interest of farming.
Q4-4:	There is no funding source of the committee. Local beneficiaries provide little money when it is required to take up any O&M work emergently.
Q4-5:	No, the Committee never received any O&M cost from BWDB.
Q4-6:	Periodical inspection of flood management structures, Operation of regulator, Maintenance of embankment, Maintenance of drainage canal, Repair of structures
Q4-7:	No idea about our roles and those of BWDB.
Q4-8:	There is no such community/group in and around the area.
Q4-9:	Yes, periodically they come here; they means -Sectional Officer and Work Assistant etc.
Q4-10:	No, the committee does not communicate regularly. When BWDB men approaches and ask for any information, we provide it verbally.
Q4-11:	No proper contact point to get any crisis solved or even simply to report.
<b>5. Issues on Operation Works</b>	
Q5-1:	Yes, we have our own norms and practices set by the Committee; this includes gate opening/closing schedule as per crops production demand. Yes, we have been following those norms.
Q5-2:	Yes, about 4 years back the Gear Box of 2 nos. gates were stolen; we became helpless. No remedies as yet.
Q5-3:	No, we did not face any such problem.
Q5-4:	Yes, we experienced this problem once when the Gear Box was stolen.
Q5-5:	No such situation occurred.
Q5-6:	No, this situation never happened.
Q5-7:	No, there has not been any complaint till now.
Q5-8:	The gates are opened or closed as per agricultural needs only; no Fisheries Groups exist here and hence no such conflicting situation arises.
Q5-9:	The Gear Box (02 nos. out of 03 gates) were stolen 4 years ago. Since then the gates are being opened/closed manually. This is really a hard job. We want some remedial measures; BWDB should take it to help the Committee. If we are provide with a Chain Pulley and if the gates are repaired/replaced, our hardship will be removed, we will be benefitted more.
<b>6. Issues on Maintenance Works</b>	
Q6-1:	1. Lack of grease, 2. Lost or loose of bolt, 3. Damage of gear box, 4. Theft of gear box, 8. Damage of rubber seal, 10. Debris in front of gate, 16. Erosion by river flow, 21. Sedimentation
Q6-2:	Repair by your own manpower, Request BWDB to repair
Q6-3:	The case of Gear Box theft has been reported to BWDB; but till now no remedial measures taken by them.
Q6-4:	Actually the non-submergible structures need relatively less maintenance. Since the committee voluntarily shoulders very little maintenance roles/responsibilities of non-submergible structures only, I can not say anything about those of submergible ones.
Q6-5:	I think there should have some regular patrolling gang (to be engaged by the Committee or by BWDB) to watch over the Structures, Embankments and Canals, who can take instantaneous actions against the anomalies observed (by doing something appropriate from their own) or report to the Committee for quick remedies.
<b>7. Technical Capacities</b>	
Q7-1:	No such guidance /training provided; only the operating handle was given with some practical demonstration as to how the gates are opened/closed.
Q7-2:	No, this is not sufficient. If we were trained and provided with more necessary aids/tools, the task of gate operation would become easier.
Q7-3:	Only one handle for manual operation of the gates.
Q7-4:	No. Very difficult to lift the gate manually.
Q7-5:	No easy access to go to the structure, embankment and canal sites; The embankment and canal bank alignments are full of jungles/bushes. For fear of snakes/ other animals, no body usually goes there. In the wet season boat is needed to go the structure place.
Q7-6:	1. Lack of grease, 2. Lost or loose of bolt, 3. Damage of gear box, 4. Theft of gear box, 5. Damage of hoist rod, 6. Theft of hoist rod, 7. Lost of gate, 8. Damage of rubber seal, 9. Damage of steel structure, 10. Crack of concrete, 11. Degradation of concrete, 12. Settlement of structure, 13. Debris in front of gate, 15. Artificial cut, 16. Erosion by rainfall, 17. Erosion by wave, 18. Erosion by river flow, 19. Wheel truck, 20. Shortage of height, 21. Crack, 22. Wet condition, 23. Uncovering
<b>8. Needs for Future O&amp;M Works</b>	
Q8-1:	Yes. O&M training – for better O&M.
Q8-2:	No need.
Q8-3:	Yes. We need the following equipment: Chain Pulley - to lift the Flap Gates; Wrench Box- for repairing / mmaintenance; Grease Gun – to apply grease; and Painting Brushes –to apply paint to corrosive surfaces.
Q8-4:	The Committee is not solvent enough and has no economical foot-hold. We can not spend money for the O&M works needed.
Q8-5:	I think it is sufficient. The main problem is with the members' silence at times of needs.
Q8-6:	Yes, there should have broad-based participation for O&M works. These may be: All land owners; Absentee land owners; Peoples of different trades including Fishermen; and All who live inside the Sub-project area.
Q8-7:	Nothing in particular



Interview Result: Boraikhali Khal Sub-project

1. Basic Information on Interview	
Date of interview	01 September 2013; Time: 08.45 AM to 11.05 AM
Location	District: Kishoreganj+ Mymensingh Upazila: Kishoreganj + Nandail Village: Brahman Kachuri
Name of interviewee	Md. Habibur Rahman
Organization	Brahman Kachuri Sluice Committee
Position	Chairman of the Committee
Name of interviewer	Md. Moniruzzaman P Eng
2. Basic Information on Sub-project	
Sub-project name	Boraikhali Khal Subproject
Location	District: Kishoreganj Upazila: Kishoreganj Sadar & Nandail
Regulator	Reg-1: Brahman Kachuri Regulator Reg-2:
Full embankment	Length: 5.30 km, Crest width: 3.0 m, Crest elev. x to x ELm
Submergible embankment	Length: x km, Crest width: x m, Crest elev. x to x ELm
Canal	Can-1: Boraikhali Canal; Length: 24.50 km; Bed width: 6.0 m, Top width: 20.0 m Can-2:
3. Your Personal Experience in O&M Works	
Q3-1:	My major income source is Agricultural Farming
Q3-2:	About 18 years
Q3-3:	Periodical inspection of flood management structures, Operation of regulator, Maintenance of embankment, Maintenance of drainage canal, Repair of structures
Q3-4:	About 1.0 km apart from my house; It takes about 1.50 hour of walking to cover every aspect.
Q3-5:	I visit off and on as required; I walk on foot.
Q3-6:	Yes, I belong to several NGO groups as Member; some of those are: Grameen Bank Society; for micro credit /socio-economic development WASH (a Health Sector NGO); for improvement of public health BRAC Society; micro credit and many other development programs
Q3-7:	No, this is not done under any contract with BWDB; absolutely voluntary efforts
4. Current Status of Your Organization	
Q4-1:	No, there is no other organization/committee for the O&M works
Q4-2:	A 13-member committee now exists. All of them are farmers; major income source is agricultural activities
Q4-3:	I think it is enough because of their common interest of agricultural farming. However a few of the committee members are active while others are just nominal members.
Q4-4:	In fact, the committee has no fund. Only the active members contribute for some O&M works as and when required; we have no other funding source.
Q4-5:	No. BWDB pays nothing against the cost of O&M works done by us.
Q4-6:	Periodical inspection of flood management structures, Operation of regulator, Maintenance of embankment, Maintenance of drainage canal, Repair of structures
Q4-7:	I do not understand.
Q4-8:	Yes, there are: i) Brahman Kachuri Sramajeebi Samabaya Samity, (this is a Co-operative society to look after the socio-economic interests of day-labors) ii) Bangladesh Co-operative Shyamol Chaya Islamic Sangstha (this is also a co-operative society working as a voluntary organization for relief and economic aids.
Q4-9:	Yes, S.O and Work Assistant visits only as and when required.
Q4-10:	Yes, we communicate both verbally and in writing only when it is required; not regularly.
Q4-11:	No.
5. Issues on Operation Works	
Q5-1:	I in the past we used to operate as per rules of our own and that was agricultural need-based; but for last 4/5 years the gates are not functioning. So at present- no rule for no operation. You can say, we have nothing to do now. Since the gate is out of order, the committee members had no other alternative than to build earthen closures both on the upstream and downstream of the structure; and it was done. The structure is totally obsolete now.
Q5-2:	Yes, it happened once. Nearly 4/5 years ago, when we wanted to close the gates- we failed. The gates were affixed in a tightly jammed position- neither moving up nor going down. Passage of water through the gates could not be prevented. The matter was communicated to BWDB for immediate solution; standing crops were drowning. No response came from BWDB. We left it and became simply helpless. The gates are still hanging in that position. Afterwards we built the closures to save our crops and properties.
Q5-3:	As state above, the structure is not at all functioning now. In the previous days when it used to function well, we faced no such problems.
Q5-4:	It did not happen so.
Q5-5:	Yes. As stated earlier, it happened so once in the past. Since then the structure went permanently out of order. Afterwards we were compelled to build earthen closures. Simply due to non-functioning of the gates.
Q5-6:	Yes, in the past it happened severally. The gates used to remain closed according to our agricultural needs; but some of the people living far away in the upstream areas started complaining that they are drowning. In fact this was partly true; mainly they did so out of jealousy. On being aggrieved they cut the embankment and subsequently we had to repair at our own costs.
Q5-7:	Yes. I have stated above.
Q5-8:	I have already stated the situation. However, there are in fact no groups of conflicting interest in the sub-project area like Fisheries Society, professional Boatmen Association or common people asking for simple navigation facilities etc.
Q5-9:	The main issue is to bring the subproject back to its original state of functioning. I think following discussions may be relevant: At first the gates will have to be repaired by BWDB. Also other necessary maintenance works of embankment should be undertaken and completed with due participation of the sluice committee. At the same time, the committee should also be reformed with a broad-based participation of the local stakeholders. It would be better if a permanent organization is floated with institutional character like that of a cooperative society. The sub-project thus rehabilitated will be handed over to the reformed committee/organization to enjoy the usufructuary rights with some pre-determined rules and regulations. BWDB and Local Govt. institutions like Union Parishads should have the roles of overseeing the functioning of the committee/organization. It is expected that having all conditions fulfilled, the sub-project will function well with maximum participation of the local people and having guidance from the overseeing offices/bodies.
6. Issues on Maintenance Works	
Q6-1:	1. Lack of grease, 2. Lost or loose of bolt, 3. Damage of gear box, 4. Theft of gear box, 8. Damage of rubber seal, 10. Debris in front of gate, 13. Artificial cut, 17. Wheel truck, 18. Shortage of height, 19. Overtopping
Q6-2:	Repair by your own manpower, Purchase any missing parts, Request BWDB to repair
Q6-3:	The situation has been stated above. The reasons of failure may be attributed to the overall inability of the committee.
Q6-4:	There are no submergible structures in this sub-project.
Q6-5:	There should have BWDB's assistance in routine maintenance works like that of providing support to community groups employed for regular patrolling and undertaking preventive maintenance works.
7. Technical Capacities	
Q7-1:	I received 1-day training on O&M in one occasion during my long association with Sluice Committee for about 18 years. It was organized by BWDB at Mymensingh. Training topics included only the technical details of structures and its O&M procedures.
Q7-2:	Yes. At that time it was sufficient.
Q7-3:	Only a handle was given to me for opening and closing of the gates.
Q7-4:	No. Some more vital equipment/tools are required. It is very difficult to open or close the gate manually.
Q7-5:	No difficulties; on the whole good.
Q7-6:	1. Lack of grease, 2. Lost or loose of bolt, 3. Damage of gear box, 4. Theft of gear box, 5. Damage of hoist rod, 6. Theft of hoist rod, 7. Lost of gate, 8. Damage of rubber seal, 9. Damage of steel structure, 10. Crack of concrete, 11. Degradation of concrete, 12. Settlement of structure, 13. Debris in front of gate, 15. Artificial cut, 16. Erosion by rainfall, 17. Erosion by wave, 18. Erosion by river flow, 19. Wheel truck, 20. Shortage of height, 21. Crack, 22. Wet condition, 23. Uncovering
8. Needs for Future O&M Works	
Q8-1:	Yes. We should be given some norms and procedures for O&M in the form of a standard manual written in Bangla. We need technical training on O&M – for better performance in O&M. Also Issues of Sustainability of Community Organization should be included in the training – for better management of the committee affairs.
Q8-2:	Nothing in particular.
Q8-3:	Yes. Following equipment are needed: Chain Pulley- for lifting the flap gates; Wrench Box- for supporting minor repairing jobs; Grease Gun – for applying grease to the moving mechanical elements; and Brushes –for periodical painting
Q8-4:	Proper O&M works may assure yielding of desired benefits to the local stakeholders; but the past experiences in doing O&M of the infrastructures definitely created a negative impact among them. Under these circumstances we can not expect that they will voluntarily take part in O&M works.
Q8-5:	It is alright; no need to increase or decrease.
Q8-6:	Yes, there should have a broad-based participation of local people in all the affairs of the sub-project.
Q8-7:	Immediate restoration of the gates and accomplishment of other maintenance works are vital at this stage.

## Interview Result: Alalia-Bahadia Sub-project

<b>1. Basic Information on Interview</b>	
Date of interview	27 Aug 2013; Time: 11.25 AM to 02.10 PM
Location	District: Kishoreganj Upazila: Pakundia + Katiadi Village: Bahadia
Name of interviewee	Md. Lal Miah
Organization	Bahadia Sluicce Committee
Position	Member of the Committee
Name of interviewer	Md. Moniruzzaman P Eng
<b>2. Basic Information on Sub-project</b>	
Sub-project name	Alalia-Bahadia Subproject
Location	District: Kishoreganj Upazila: Pakundia + Katiadi
Regulator	Reg-1: Bahadia Regulator
	Reg-2:
Full embankment	Length: km, Crest width: m, Crest elev. x to x El.m
Submergible embankment	Length: x km, Crest width: x m, Crest elev. x to x El.m
Canal	Can-1: Alalia Canal; Length: 5.0 km; Bed width: 5.0 m, Top width: 13.0 m
	Can-2: Bahad ia Canal; Length: 5.0 km Bed Width: 5.0m Top Width: 12.0m
<b>3. Your Personal Experience in O&amp;M Works</b>	
Q3-1:	Agricultural Farming
Q3-2:	About 35 years i.e since commissioning of the Regulator
Q3-3:	Operation of regulator, Repair of structures
Q3-4:	Structure: about 100 m apart from my house; off and on I go there and see. No embankment; and I do not go to visit Canal sites
Q3-5:	Very often; just before the eyes.
Q3-6:	Yes, I belong to Bahadia Sluice Gate Mosque Committee as Member; It is the prayer place.
Q3-7:	I am a member of the Committee-just nominally. However BWDB people/staffs approach me at times of need. No official contract with BWDB.
<b>4. Current Status of Your Organization</b>	
Q4-1:	No, there is no other organization/committee for the O&M works
Q4-2:	The Sluice Committee comprises 11 members; all of them are farmers. Major income source is agricultural farming.
Q4-3:	Yes; but some are more influential.
Q4-4:	No funding arrangement. The committee provides no money for O&M. BWDB does everything ( O&M works) what is required.
Q4-5:	BWDB places no fund (for the cost of O&M works) to the committee.
Q4-6:	Operation of regulator
Q4-7:	No job responsibilities assigned to the committee; Committee undertakes those responsibilities what BWDB asks for.
Q4-8:	There are 3 Nos. of LLP (Low-lift Pump) groups; Bahadia Madhyapara-2 Nos. and Bahadia Dakshinpara-1 No These are for surface water irrigation.
Q4-9:	Once or twice in a year. May be Sectional Officer or Work Assistant.
Q4-10:	No such regular communication with BWDB; Only when there occur some problems, the committee informs BWDB at Kishoreganj either in writing or verbally.
Q4-11:	No. There is no such contact at BWDB.
<b>5. Issues on Operation Works</b>	
Q5-1:	No formal rule or manual given (to the Committee); but once demonstrated as to how the gates will be opened / closed.
Q5-2:	No, there happened no such situation; BWDB staffs tackle it (any disorder) in time.
Q5-3:	Opening or closing of gates is only done at times of needs (agricultural).
Q5-4:	Yes, I had difficulties in opening the gate for 2/3 times during last 35 years (due to collapsing of operating system). We reported to BWDB office and they replaced the gear box etc. to re-activate.
Q5-5:	No such failure happened.
Q5-6:	Yes, I had difficulties in each year. There is a serious conflict between the high land and low land owners. They quarrel during the Boro Cultivation season; one group wants to drain (water from the polder) up to the last limit while the high land owners oppose.
Q5-7:	Yes. This (above mentioned-5.6) has been communicated to the top brasses of the committee. The committee tried to resolve the crisis through introducing gradual and judicious way of slow but regulated drainage for satisfying both the quarrelling factions.
Q5-8:	Yes, already discussed above.
Q5-9:	The committee should be more active and judicious in regulating the post-monsoon drainage procedure.
<b>6. Issues on Maintenance Works</b>	
Q6-1:	1. Lack of grease, 2. Lost or loose of bolt, 3. Damage of gear box, 4. Theft of gear box, 7. Lost of gate, 8. Damage of rubber seal, 9. Damage of structure, 10. Debris in front of gate, 16. Erosion by river flow, 21. Sedimentation
Q6-2:	Repair by your own manpower, Request BWDB to repair
Q6-3:	Whatever measures have been taken so far, these are somewhat stop gap arrangement. If these were not taken, the sub-project would collapse or die down by now.
Q6-4:	There is no submergible structure in this sub-project.
Q6-5:	Prevention of erosion at the downstream of the structure (Regulator) is needed to stop severe scouring of the canal banks near a village mosque.
<b>7. Technical Capacities</b>	
Q7-1:	No training provided till now; only some physical demonstration of opening / closing the gates by the Contractor's men were made available.
Q7-2:	No. Training and development of the committee members and local beneficiaries community is really essential to remove conflicts and ensuring more benefit to all categories of land owners.
Q7-3:	Only a handle to open /close the gate; Supplied just after completion of the construction works of the regulator.
Q7-4:	No. Some more equipment/tools are required, specially to keep the device under lock. (If it is locked, then no individual attempt to operate the gate on personal whim will be prevented)
Q7-5:	No.
Q7-6:	1. Lack of grease, 2. Lost or loose of bolt, 3. Damage of gear box, 4. Theft of gear box, 5. Damage of hoist rod, 6. Theft of hoist rod, 7. Lost of gate, 8. Damage of rubber seal, 9. Damage of steel structure, 10. Crack of concrete, 11. Degradation of concrete, 12. Settlement of structure, 13. Debris in front of gate, 15. Artificial cut, 16. Erosion by rainfall, 17. Erosion by wave, 18. Erosion by river flow, 19. Wheel truck, 20. Shortage of height, 21. Crack, 22. Wet condition, 23. Uncovering
<b>8. Needs for Future O&amp;M Works</b>	
Q8-1:	Yes. We need training for better O&M and institutionalization of the local beneficiaries.
Q8-2:	No.
Q8-3:	Yes. Following equipment are needed: Chain Pulley - for lifting the flap gates; Wrench Box - for supporting minor repairing jobs; Grease Gun - for applying grease to the moving mechanical elements; and Brushes -for periodical painting
Q8-4:	We need some assistance for the patrolling gang of labors engaged by the Committee from among the beneficiaries. Local people are not solvent enough; Sluice committee fails to raise fund for O&M.
Q8-5:	The committee members should be 21 (at least) to represent the whole community.
Q8-6:	Yes, different categories of people should be there to take part in O&M and in all other affairs of the sub-project.
Q8-7:	The canal encroachment should be stopped and regularly maintained for quick drainage.

Interview Result: Motkhola-Bairagir Char Sub-project

1. Basic Information on Interview	
Date of interview	27 Aug. 2013; Time: 03.00 PM to 06.00 PM
Location	District: Kishoreganj Upazila: Katiadi Village: Betal
Name of interviewee	Md. Jalal Uddin
Organization	Betal Sluicce Committee
Position	General Secretary of the Committee
Name of interviewer	Md. Moniruzzaman P Eng
2. Basic Information on Sub-project	
Sub-project name	Mathkhola-Bairagir Char Subproject
Location	District: Kishoreganj Upazila: Katiadi + Pakundia
Regulator	Reg-1: Betal Regulator Reg-2:
Full embankment	Length: 10.8 km, Crest width: 03.0 m, Crest elev. 10.50 El.m
Submergible embankment	Length: x km, Crest width: x m, Crest elev.: NA El.m
Canal	Can-1: x ; Length: x km; Bed width: x m, Top width: x m Can-2: x; Length: x km; Bed width: x m, Top width: x m
3. Your Personal Experience in O&M Works	
Q3-1:	Trading & Business
Q3-2:	About 05 years
Q3-3:	Periodical inspection of flood management structures, Operation of regulator, Maintenance of embankment, Maintenance of drainage canal, Repair of structures
Q3-4:	Regulator: about 0.5 km away; Water Gauge: same as above Embankment: 10.0 km long. It takes 1.00 hours walking time.
Q3-5:	4/5 times in a week I ride on a bi-cycle
Q3-6:	Yes. These are: Informal (unregistered) Co-operative Society named - Bhai Bhai Samabaya Samity ; as a member - this is for Peoples' Welfare. Katiadi Thana Jubodal (Youth front of BNP the political Party): Organizing Secretary; taking part in national politics.
Q3-7:	No, I have no official contract with BWDB.
4. Current Status of Your Organization	
Q4-1:	No, there is no other organization for O&M works. We do O&M through Betal Sluice Committee by ourselves. It was formed in 2001. Patronized by BWDB. Name: Betal Sluice Committee is the official name.
Q4-2:	Betal Sluice committee has 11-members. They are predominantly farmers; some of them have some subsidiary trading houses.
Q4-3:	Yes. Since the problem of flood management is common to all, each of the members come forward willingly.
Q4-4:	Major funding comes from members and influential/ affluent farm families. Funds are raised at times of needs
Q4-5:	No. BWDB pays nothing for O&M of the sub-project.
Q4-6:	Periodical inspection of flood management structures, Operation of regulator, Maintenance of embankment, Maintenance of drainage canal, Repair of structures
Q4-7:	We do not understand the roles and responsibilities of BWDB.
Q4-8:	There is no other community group in the sub-project area.
Q4-9:	I have never seen any BWDB officer to come for regular inspection.
Q4-10:	At times we try to ventilate our problems to BWDB; but they do not respond.
Q4-11:	Some people whimsically acts against O&M activities, we try to prevent and report to BWDB and local administration.
5. Issues on Operation Works	
Q5-1:	Yes, We follow a principle of upholding majority peoples' interest for farming. The Committee decided unanimously. The gates are opened/ closed as per peoples' choice; the committee just manages accordingly.
Q5-2:	No, such problems occurred as yet.
Q5-3:	Yes, We have to face problems of conflicting interests like High land owners versus Low land owners; Farmers versus Fisheries.
Q5-4:	Yes, the fisher-folk community creates sudden pressure to drain out or enter water as per their requirement. This often goes against normal farming practices.
Q5-5:	Yes, it happened in the last flood (probably in 1988 or 1994 I can not remember exactly) because there was overtopping due to high rise of water level.
Q5-6:	Yes, it happens periodically. The gear box and other moving parts are jam packed for want of greasing. We solve according to our ability.
Q5-7:	No such situation occurred.
Q5-8:	Yes, already described earlier.
Q5-9:	I am just telling you that during monsoon it happens (as noted below) at times: The water level inside the polder and also that in the river side becomes same- it is mainly due to flooding or incessant rainfall. At this condition no gate operation solves the problem. To save the polder inhabitants (from drowning), can it be made some provision that we have also the pumping facilities.
6. Issues on Maintenance Works	
Q6-1:	1. Lack of grease, 2. Lost or loose of bolt, 3. Damage of gear box, 8. Damage of rubber seal, 9. Damage of structure, 10. Debris in front of gate, 14. Erosion by rainfall, 17. Wheel truck
Q6-2:	Repair by your own manpower, Request BWDB to repair
Q6-3:	It is due to the inability of the Sluice Committee. No other comments
Q6-4:	We have no submergible type of structures or embankment. So I can not make any comments. What we do - those are for non-submergible elements.
Q6-5:	There should have well organized and registered cooperative society for the sub-project. That will be viable enough economically. Then the O&M works can be done as per needs and in time.
7. Technical Capacities	
Q7-1:	Only Physical demonstration of gate operation; by BWDB at the time of hand over of handle-once for all. No other training given.
Q7-2:	No, We need more training on O&M as well as on strengthening our capabilities.
Q7-3:	Only a hand operating tool for opening/ closing of gates.
Q7-4:	No, We need something more like locking arrangement of gates/ hoists so that only committee's decision can be implemented unilaterally.
Q7-5:	No, there is no difficulty.
Q7-6:	1. Lack of grease, 2. Lost or loose of bolt, 3. Damage of gear box, 4. Theft of gear box, 5. Damage of hoist rod, 6. Theft of hoist rod, 7. Lost of gate, 8. Damage of rubber seal, 9. Damage of steel structure, 10. Crack of concrete, 11. Degradation of concrete, 12. Settlement of structure, 13. Debris in front of gate, 15. Artificial cut, 16. Erosion by rainfall, 17. Erosion by wave, 18. Erosion by river flow, 19. Wheel truck, 20. Shortage of height, 21. Crack, 22. Wet condition, 23. Uncovering
8. Needs for Future O&M Works	
Q8-1:	Yes, already told earlier. O&M training- to bring in improvement in O&M works and also sustainability assurance.
Q8-2:	A motor bike for the Operator. So that he can move and see the condition of embankment regularly
Q8-3:	Grease Gun - to apply grease to Gear Box; Painting Brushes -for painting; Wrench Box- to undertake minor repairing; and Chain Pulley - to lift gates;
Q8-4:	I think no assistance will be effective, instead there should have some arrangement to make the beneficiaries' organization stronger for O&M works. That should be self reliant too.
Q8-5:	I feel that the numbers of Committee Members would be at least 21 Nos. to include more categories of representatives.
Q8-6:	I think that absentee land owners (staying in towns); fishermen; poorer section in the society should also included to take part in O&M works.
Q8-7:	Block Pitching in weaker sections of the embankment is urgently required; Local Administrative authority should pay due attention to the complaints lodged by the Committee; Biological protection of embankment slopes to check erosion is also required.

## Interview Result: Ganakkhali Sub-project

1. Basic Information on Interview	
Date of interview	31.08.2013
Location	District: Kishoreganj Upazila: Kuliarchar Village: Vhatidaria
Name of interviewee	Prodip Chandra Shaha, Son of Late Debesh Chandra Shaha
Organization	-
Position	-
Name of interviewer	Muhammad Alamgir Hossain
2. Basic Information on Sub-project	
Sub-project name	Ganakkhali Sub-project
Location	District: Kishoreganj Upazila: Kuliarchar
Regulator	Reg-1: Ganakkhali Reg., 2 Vents, size (BXH): 1.52m x 1.83m, Not functioning
Full embankment	Length - km, Crest width - m, Crest elev. - to - ELm
Submergible embankment	Length - km, Crest width - m, Crest elev. - to - ELm
Canal	Can-1:-
3. Your Personal Experience in O&M Works	
Q3-1:	My major income sources are Business and Cultivation. Boro paddy (Irri) is cultivated here once a year.
Q3-2:	My father had 16 years experience in O&M works and I have 4 years experience.
Q3-3:	Neither my father nor I did any O&M works. There was no necessity of operation for the regulator
Q3-4:	The Ganakkhali regulator is 400 m far from my house and it takes 10 to 15 minutes to reach the regulator site by walking.
Q3-5:	I go to the regulator site once a week on foot.
Q3-6:	No, I do not belong to any local community groups.
Q3-7:	I was very young when the construction of the regulator was done. The regulator site was on our land. They took the land from us to build the regulator. After construction of the regulator, the handle was given to my father by the contractor and the BWDB office. I don't know whether my father had any official contract with BWDB. I don't have any office contract with BWDB.
4. Current Status of Your Organization	
Q4-1:	No, there is no special organization/ committee for O&M works in the sub-project. There are some individual irrigation schemes in the sub-project area. The owners of the irrigation scheme take paddy the farmers who received water from the respective irrigation scheme.
Q4-2:	There is no organization/ committee for O&M works in the sub-project. There are some individual irrigation schemes in the sub-project area.
Q4-3:	There is no organization/ committee for O&M works in the sub-project. After construction of the regulator, the handle was given to my father by the contractor and the BWDB office.
Q4-4:	There is no funding source.
Q4-5:	No, I don't receive any O&M cost from BWDB. The blocks of the downstream of the regulator were repaired BWDB around 4 years ago.
Q4-6:	There was no necessity of operation for the regulator.
Q4-7:	BWDB has all responsibilities. I just have the handle.
Q4-8:	There are some cooperative societies among the fishermen outside the regulator area to develop their fishery.
Q4-9:	No, the BWDB officers do not regularly come to the field for inspection. They come occasionally and do not contact with me. As I know they came here 4 years ago. The position of the BWDB officer may be Work Assistant (W/A).
Q4-10:	No, it is not necessary.
Q4-11:	No, I have no proper contact with BWDB offices because the regulator was not operated even a single time.
5. Issues on Operation Works	
Q5-1:	The regulator was not operated even a single time. There is no rule/ technical manual/ standard.
Q5-2:	Skip.
Q5-3:	The regulator was not operated even a single time.
Q5-4:	The regulator was not operated even a single time.
Q5-5:	Our area is higher than others. So no flash flood is occurred here. We need water for irrigation purpose.
Q5-6:	One gate is close. The second gate has been stolen and the vent is open. Small amount of water passes through the regulator because the canal is silted up.
Q5-7:	The regulator was not operated even a single time. So no complaint was there.
Q5-8:	There are some cooperative societies among the fishermen outside the project area. So there is no conflict between different groups, for instance, farmers and fisheries.
Q5-9:	No specific issues in operation works is there. A formal regulator operator may be required if the 3 km canal is excavated and regulator is repaired.
6. Issues on Maintenance Works	
Q6-1:	4. Theft of gear box, 6. Theft of hoist rod, 7. Lost of gate, 11. No operation committee, 21. Sedimentation
Q6-2:	Request BWDB to repair
Q6-3:	The regulator has no use to the local community. Long time ago we used the water the canal for irrigation. When the canal was silted up we did not receive water from the canal during dry season. So we started using of ground water by deep tube-well well before the construction of the regulator. Excavation of the 3 km canal is a very necessary for proper functioning of the project.
Q6-4:	The regulator is non-submergible structure and there is no embankment around the project.
Q6-5:	The canal has ever not been excavated.
7. Technical Capacities	
Q7-1:	No guidance/ trainings on O&M works have been provided.
Q7-2:	Skip.
Q7-3:	Only the handle of the regulator has been provided.
Q7-4:	I am not satisfied with the about the hole project. We have lost our land but we did not get any benefit from the project. Excavation of the 3 km canal is a very necessary for proper functioning of the project.
Q7-5:	There is no difficulty in accessing to the field.
Q7-6:	If They have no experience in the inspection of the structure.
8. Needs for Future O&M Works	
Q8-1:	If it is just for operation of the gate of the regulator then no training Manual is required.
Q8-2:	No, I have mobile phone. I can use my mobile phone if it's necessary to communicate. I just need the amount of money (500 Taka per Month) for balance of mobile.
Q8-3:	Some spread is needed for Excavation of the 3 km.
Q8-4:	Yes, we need some financial assistant from the government for participating in O&M works. We are not able to bear the total O&M cost due to our poverty. We agree to provide some percentage of O&M cost. If the length of the canal is small and volume of the excavation is less then we will do the excavation work by ourselves.
Q8-5:	Yes, it viable organization should be in place. All the beneficiaries will be member of the committee for better functioning of the organization and there will be a core committee to supervise the organization.
Q8-6:	Yes, other types of members (like women, service holders) should be participated in O&M works. Involvement of women will increase the work capacity of the organization. Service holders can contribute financially for O&M works.
Q8-7:	Proper monitoring is necessary from both BWDB and local administrative officials with regulator committee for smooth functioning the project.

Interview Result: Kair Dhala Ratna Sub-project

1. Basic Information on Interview	
Date of interview	30.08.2013
Location	District: Habiganj Upazila: Ajmiriganj Village: Korcha
Name of interviewee	Gourango Boisnab
Organization	-
Position	-
Name of interviewer	Muhammad Alamgir Hossain
2. Basic Information on Sub-project	
Sub-project name	Kair Dhala Ratna Sub-project
Location	District: Habiganj Upazila: Ajmiriganj Village: Korcha
Regulator	Reg-1: Korcha Reg., L 4.4m x W 4.4m, 2vents, Not functioning
Full embankment	Length - km, Crest width - m, Crest elev. - to - ELm
Submergible embankment	Length -26 km, Crest width – 3.96 m, Crest elev. - to - ELm
Canal	Kairdhala khal, L 40.0km, Bed Width 4 m, Top Width 25 m.
3. Your Personal Experience in O&M Works	
Q3-1:	My major income source is cultivation.
Q3-2:	I have about 10-12 years experience in O&M works from time of regulator construction. After construction of the regulator local MP gave me the responsibilities for operation.
Q3-3:	Maintenance of embankment, Maintenance of drainage canal
Q3-4:	Korcha regulator is about 200 m away from my house and takes 5-10 minutes to reach the regulator site by walking.
Q3-5:	I go to the regulator daily. I notice the regulator twice a week on foot.
Q3-6:	Yes, I belong to the "Korcha village committee." The committee plays a vital role to keep peace and regulation in the village and arrange various religious events. They also arrange the auction for irrigation scheme.
Q3-7:	I have no official contract with BWDB.
4. Current Status of Your Organization	
Q4-1:	There is no special organization/ committee at all for O&M works in the sub-project. There is a village committee named "Korcha village committee." The village committee does various activities for peace and happiness of the village including arranging various religious events and auction for irrigation scheme before cultivation.
Q4-2:	All the villagers are in the organization/ committee. 10-12 senior citizens control the entire committee. Most of them are farmers.
Q4-3:	The villagers are very cooperative among themselves.
Q4-4:	There is no funding source for O&M activities of the organization/ committee. Some time the villagers construct embankment by their own cost for protecting crops from flood. Some parts of damaged embankment have been being repaired by BWDB at every year.
Q4-5:	No, the organization/ committee does not receive any O&M cost from BWDB. Some parts of damaged embankment have been being repaired by BWDB at every year.
Q4-6:	Operation of regulator, Maintenance of embankment
Q4-7:	We just have the handle and we operate the gate according to our needs depending on water level. Some time the villagers construct embankment by their own cost for protecting crops from flood. Some parts of damaged embankment have been being repaired by BWDB at every year.
Q4-8:	There are some cooperative societies among the fishermen in the sub-project area to develop their fishery.
Q4-9:	No, the BWDB officers do not regularly come to the field for inspection. They come here occasionally, like once a year for estimate the O&M allocation. The position of the BWDB officer may be Sectional Officer (SO).
Q4-10:	No, I don't communicate with BWDB.
Q4-11:	No, I have no proper contact with BWDB officials. We operate the gate according to our needs depending on water level. We take decision all together.
5. Issues on Operation Works	
Q5-1:	There is no rule/ technical manual/ standard. We operate the gate according to our needs depending on water level. We take decision all together.
Q5-2:	No, We operate the gate according to our needs depending on water level. We take decision all together.
Q5-3:	If we follow seasonal fixed operating schedule then will be some problems because flash flood does not follow the seasonal fixed operating schedule. We have to operate the regulator according to water level by close monitoring during early flood.
Q5-4:	Gear box has broken.
Q5-5:	During early flood the area in between the regulator and Kalni river is inundated because canal is silted up. The water current and pressure was so high that 150m embankment was washed away.
Q5-6:	Yes, the canal is silted up and the farmers don't get sufficient irrigation water from the river. During early flood the area in between the regulator and Kalni river is inundated because canal is silted up.
Q5-7:	There is no complaint.
Q5-8:	There is no conflict between different groups, for instance, farmers and fisheries because fishermen also have cultivable land in the project area and they also produce crops with us. All the decisions are taken by the villagers together.
Q5-9:	During early flood the intake canal of the regulator is closed by the villagers to protect their crops.
6. Issues on Maintenance Works	
Q6-1:	1. Lack of grease, 3. Damage of gear box, 8. Damage of rubber seal, 11. No operation committee, 19. Overtopping, 21. Sedimentation
Q6-2:	Request BWDB to repair
Q6-3:	Some portion of damaged embankment have been being repaired by BWDB at every year. Cultivation has been by traditional way. The villagers gather in a meeting for an open auction. The seniors are presided over the meeting. They who give lowest price will get the contact. The contractor use deep-tube well for irrigation scheme.
Q6-4:	All the structures (regulator & embankment) are submergible.
Q6-5:	From Kalni river to regulator 1.5 km and from regulator to the beel another 1 km canal need to be excavated. Blocks are also need to be repaired.
7. Technical Capacities	
Q7-1:	No guidance/ trainings on O&M works have been provided.
Q7-2:	No. Details guidance/ training are essential for proper operation and maintenance works.
Q7-3:	No equipments, materials and transportation for O&M works have been provided.
Q7-4:	Skip.
Q7-5:	There is no difficulty in accessing to the field. It is accessible on foot.
Q7-6:	1. Lack of grease, 3. Damage of gear box, 8. Damage of rubber seal, 25. Sedimentation
8. Needs for Future O&M Works	
Q8-1:	Yes, we need technical training/ manual. • For smooth operation. • For proper maintenance. • For smooth functioning of the organization.
Q8-2:	No, I have mobile phone. I can use my mobile phone if it's necessary to communicate. A certain amount of money (500 Taka per Month) for balance of mobile is needed.
Q8-3:	Yes, some equipment should be provided. Spade- for canal excavation and embankment repair, Shovel- for removing debris in front of gate, Wrench- for maintenance works, Water leave gauge- for observation of water level, Grease gun- to apply grease
Q8-4:	Yes, we need some financial assistant from the government for participating in O&M works. We are not able to bear the total O&M cost due to our poverty. We agree to provide some percentage of O&M cost.
Q8-5:	Yes, it viable organization should be in place. All the beneficiaries will be member of the committee for better functioning of the organization and there will be a core committee to supervise the organization.
Q8-6:	Yes, other types of members (like women, service holders) should be participated in O&M works. Involvement of women will increase the work capacity of the organization. Service holders can contribute financially for O&M works.
Q8-7:	From Kalni river to regulator 1.5 km and from regulator to the beel another 1 km canal need to be excavated. Blocks are also need to be repaired. Proper monitoring is necessary from both BWDB and local administrative officials with regulator committee for smooth running the project.

## Interview Result: Bashira River Re-excavation Sub-project

1. Basic Information on Interview	
Date of interview	28.08.2013
Location	District: Habiganj Upazila: Baniachong Village: Islampur
Name of interviewee	M.d. Dolon Mia
Organization	Poilarikandi Union Parishad
Position	UP Member
Name of interviewer	Muhammad Alamgir Hossain
2. Basic Information on Sub-project	
Sub-project name	Bashira River Re-excavation Sub-project
Location	District: Habiganj Upazila: Baniachong Village: Islampur
Regulator	Reg-2: Islampur Reg., L 6.25m x W 4.75m, 2vents, Not functioning
Full embankment	Length - km, Crest width - m, Crest elev. - to - El.m
Submergible embankment	Length -15 km, Crest width - 3.5 m, Crest elev. - to - El.m
Canal	Bashira River, L 20.0km, Bed Width 3 m, Top Width 40 m.
3. Your Personal Experience in O&M Works	
Q3-1:	My major income source is cultivation and small business.
Q3-2:	The structure (Regulator) was built about 30 years ago and it was wooden plated. After one year the embankment was built. The water current and pressure was so high that 300m embankment was washed away immediate after construction. So embankment was not completed and the regulator was not operated even a single time.
Q3-3:	Maintenance of embankment, Maintenance of drainage canal
Q3-4:	Islampur regulator is about 400m away from my house and takes 15-20 minutes to reach the regulator site by walking.
Q3-5:	I pass over the regulator once a week on foot.
Q3-6:	No, I do not belong to any local community groups.
Q3-7:	I have no official contract with BWDB.
4. Current Status of Your Organization	
Q4-1:	There was no special organization/ committee at all for O&M works in the sub-project. The water current and pressure was so high that 300m embankment was washed away immediate after construction. So embankment was not completed and the regulator was not operated even a single time. There is a village committee named "Islampur village committee." The village committee does various activities for peace and happiness of the village including arraigning the auction for irrigation scheme before cultivation.
Q4-2:	All the villagers are in the organization/ committee. Most of them are farmers.
Q4-3:	The villagers are very cooperative among themselves.
Q4-4:	There is no funding source for the organization/ committee. The villagers constructed embankment at every year by their own cost for protecting crops from flood. The embankment has been being constructed by has been BWDB for last 3/4 years.
Q4-5:	No, the organization/ committee does not receive any O&M cost from BWDB. The embankment has been being constructed by has been BWDB for last 3/4 years
Q4-6:	Maintenance of embankment, Maintenance of drainage canal
Q4-7:	The villagers constructed embankment at every year by their own cost for protecting crops from flood. The embankment has been being constructed by has been BWDB for last 3/4 years.
Q4-8:	There are some cooperative societies among the fishermen in the sub-project area to develop their fishery.
Q4-9:	No, the BWDB officers do not regularly come to the field for inspection. They come here occasionally, like once a year for estimate the O&M allocation. The position of the BWDB officer may be Sectional Officer (SO).
Q4-10:	No, I communicate occasionally with BWDB offices over mobile-phone.
Q4-11:	Yes, I have thin relationship with BWDB officials.
5. Issues on Operation Works	
Q5-1:	There is no rule/ technical manual/ standard. There were no gates the regulator was not operated even a single time.
Q5-2:	No, there were no gates and the regulator was not operated even a single time.
Q5-3:	No, There were no gates the regulator was not operated even a single time.
Q5-4:	Skip.
Q5-5:	The water current and pressure was so high that 300m embankment was washed away immediate after construction.
Q5-6:	Yes, the canal is silted up and the farmers don't get sufficient irrigation water from the river.
Q5-7:	There is no complaint.
Q5-8:	There is no conflict between different groups, for instance, farmers and fisheries because fishermen also have cultivable land in the project area and they also produce crops with us. All the decisions were taken by the villagers together.
Q5-9:	No specific issues in operation works is there.
6. Issues on Maintenance Works	
Q6-1:	11. No operation committee, 16. Erosion by river flow, 19. Overtopping, 21. Sedimentation
Q6-2:	Request BWDB to repair
Q6-3:	The embankment has been being constructed by has been BWDB for last 3/4 years. Cultivation has been by traditional way. The villagers gather in a meeting for an open auction. The seniors are presided over the meeting. They who give lowest price will get the contact. The contactor use deep-tube well for irrigation.
Q6-4:	All the structures (regulator & embankment) are submergible.
Q6-5:	Bashira River Re-excavation is very essential to save the sub-project.
7. Technical Capacities	
Q7-1:	No guidance/ trainings on O&M works have been provided.
Q7-2:	No guidance/ trainings on O&M works have been provided. Details guidance/ training are essential for proper operation and maintenance works.
Q7-3:	No equipments, materials and transportation for O&M works have been provided.
Q7-4:	Skip.
Q7-5:	There is no difficulty in accessing to the field. It is accessible on foot.
Q7-6:	25. Sedimentation
8. Needs for Future O&M Works	
Q8-1:	Yes, we need technical training/ manual. • For smooth operation. • For proper maintenance. • For smooth functioning of the organization.
Q8-2:	No, I have mobile phone. I can use my mobile phone if it's necessary to communicate. A certain amount of money (500 Taka per Month) for balance of mobile is needed.
Q8-3:	Yes, some equipment should be provided. Spade- for canal excavation and embankment repair, Shovel- for removing debris in front of gate, Wrench- for maintenance works, Water leave gauge- for observation of water level, Grease gun- to apply grease
Q8-4:	Yes, we need some financial assistant from the government for participating in O&M works. We are not able to bear the total O&M cost due to our poverty. We agree to provide some percentage of O&M cost.
Q8-5:	Yes, it viable organization should be in place. All the beneficiaries will be member of the committee for better functioning of the organization and there will be a core committee to supervise the organization.
Q8-6:	Yes, other types of members (like women, service holders) should be participated in O&M works. Involvement of women will increase the work capacity of the organization. Service holders can contribute financially for O&M works.
Q8-7:	Bashira River Re-excavation is very essential to save the sub-project. Intake canal excavation is also required for drainage and irrigation. There is another ancient canal which is more wide and deep 1 km away from the regulator. More water can pass through the deep and wide canal. The regulator was constructed on a new cut canal which bed level is higher than the bed level of existing canal. If the regulator was constructed on the existing deep and wide canal, it would be better. Proper monitoring is necessary from both BWDB and local administrative officials with regulator committee for smooth running the project.

Interview Result: Aralia khal Sub-project

<b>1. Basic Information on Interview</b>	
Date of interview	28.08.2013
Location	District: Habiganj Upazila: Baniachong Village: Shotomukha
Name of interviewee	Haji Taher Mia
Organization	-
Position	Operator of Shotomukha Regulator.
Name of interviewer	Muhammad Alamgir Hossain
<b>2. Basic Information on Sub-project</b>	
Sub-project name	Aralia khal Sub-project
Location	District: Habiganj Upazila: Baniachong Village: Shotomukha
Regulator	Reg-2: Shotomukha Reg., L 3.1 x W 6.0m, 2vents, Partially functioning
Full embankment	Length - km, Crest width - m, Crest elev. - to - El.m
Submergible embankment	Length - km, Crest width - m, Crest elev. - to - El.m
Canal	Shotomukha Khal, L 2.39km, Bed Width 3 m, Top Width 30 m.
<b>3. Your Personal Experience in O&amp;M Works</b>	
Q3-1:	My major income source is cultivation and I am also a guard of Shujatpur rest house of BWDB. Boro paddy (Irri) is cultivated here once a year.
Q3-2:	I have about 20 years experience in O&M works from time of regulator construction.
Q3-3:	Operation of regulator
Q3-4:	Shotomukha regulator is about 400m away from my house and takes 15-20 minutes to reach the regulator site by walking.
Q3-5:	I pass over the regulator every day because it is on the main access road of the village. I notice the regulator twice a week on foot.
Q3-6:	Yes, I belong to the "Shotomukha village committee." The committee plays a vital role to keep peace and regulation in the village. They also arrange the auction for irrigation scheme.
Q3-7:	I have no official contract with BWDB.
<b>4. Current Status of Your Organization</b>	
Q4-1:	Now a days there is no special organization/ committee for O&M works in the sub-project. "Shotomukha village committee." arrange the auction for irrigation scheme before cultivation.
Q4-2:	All the villagers are in the organization/ committee. Most of them are farmers.
Q4-3:	The villagers are very cooperative among themselves.
Q4-4:	There is no funding source for the organization/ committee. The contractor provides all O&M cost regarding to the irrigation.
Q4-5:	No, the organization/ committee does not receive any O&M cost from BWDB.
Q4-6:	Operation of regulator
Q4-7:	BWDB has all responsibilities. We just have the handle and we operate the gate according to our needs depending on water level.
Q4-8:	There are some cooperative societies among the fishermen in the sub-project area to develop their fishery.
Q4-9:	No, the BWDB officers do not regularly come to the field for inspection. They come here occasionally, like once a year for estimate the O&M allocation. The position of the BWDB officer may be Sectional Officer (SO).
Q4-10:	Yes, I communicate regularly with BWDB offices over mobile-phone.
Q4-11:	Yes, I have a proper contact with BWDB officials.
<b>5. Issues on Operation Works</b>	
Q5-1:	There is no rule/ technical manual/ standard. The gates are operated according to our needs depending on water level.
Q5-2:	No, the gates are operated according to our needs depending on water level.
Q5-3:	If we follow seasonal fixed operating schedule then will be some problems because flash flood does not follow the seasonal fixed operating schedule. We have to operate the regulator according to water level by close monitoring during early flood.
Q5-4:	One gear box has been stolen. There is some leakage due to damage of rubber seal.
Q5-5:	Yes, 5/6 years ago flash flood could not be prevented for very short time though the gates of the regulator were closed due to combined effect of heavy rainfall and spring tide.
Q5-6:	Yes, the canal is silted up and the farmers don't get sufficient irrigation water from the river. In dry season water level of river goes more than 1m down to the regulator sill level and Low Lift Pump (LLP) is used for irrigation. Cost of cultivation is more due to use of LLP.
Q5-7:	There is no complaint.
Q5-8:	There is no conflict between different groups, for instance, farmers and fisheries because fishermen also have cultivable land in the project area and they also produce crops with us. All the decisions were taken by the villagers together.
Q5-9:	No specific issues in operation works is there. A formal operator is required for sound operation of the regulator.
<b>6. Issues on Maintenance Works</b>	
Q6-1:	1. Lack of grease, 3. Damage of gear box, 4. Theft of gear box, 5. Damage of hoist rod, 8. Damage of rubber seal, 11. No operation committee, 21. Sedimentation
Q6-2:	Request BWDB to repair
Q6-3:	One gear box has been stolen and a police case has been filed. No measure has been taken to the above failures due to lack of manpower and budget limitation of BWDB. Cultivation has been by traditional way. The villagers gather in a meeting for an open auction. The seniors are presided over the meeting. They who give lowest price will get the contact. The contractor has the responsibility of gate operation also.
Q6-4:	The regulator is non- submergible.
Q6-5:	Canal excavation is required. Gear box should be repaired.
<b>7. Technical Capacities</b>	
Q7-1:	After the construction of the regulator a simple demonstration was given at the very beginning. After that no guidance/ trainings on O&M works have been provided.
Q7-2:	It is not enough. Details guidance/ training are essential for proper operation and maintenance works.
Q7-3:	Only the handle of the regulator has been provided about 20 years ago.
Q7-4:	It is insufficient. It was used only for gate operation. We have no equipment for small scale maintenance works.
Q7-5:	There is no difficulty in accessing to the field. It is accessible on foot.
Q7-6:	1. Lack of grease, 3. Damage of gear box, 4. Theft of gear box, 5. Damage of hoist rod, 8. Damage of rubber seal, 25. Sedimentation
<b>8. Needs for Future O&amp;M Works</b>	
Q8-1:	Yes, we need technical training/ manual. • For smooth operation. • For proper maintenance. • For smooth functioning of the organization.
Q8-2:	No, I have mobile phone. I can use my mobile phone if it's necessary to communicate. A certain amount of money (500 Taka per Month) for balance of mobile is needed.
Q8-3:	Yes, some equipments should be provided. Spade- for canal excavation and embankment repair, Shovel- for removing debris in front of gate, Wrench- for maintenance works, Water leave gauge- for observation of water level, Grease gun- to apply grease
Q8-4:	Yes, we need some financial assistant from the government for participating in O&M works. We are not able to bear the total O&M cost due to our poverty. We agree to provide some percentage of O&M cost.
Q8-5:	Yes, it viable organization should be in place. All the beneficiaries will be member of the committee for better functioning of the organization and there will be a core committee to supervise the organization.
Q8-6:	Yes, other types of members (like women, service holders) should be participated in O&M works. Involvement of women will increase the work capacity of the organization. Service holders can contribute financially for O&M works.
Q8-7:	If the sill level of the structure was another 1m down, it would be better because lift of water wouldn't require and cost of irrigation would be half. There is another small canal on the opposite side of the project area. The villagers of nearby that canal construct an embankment on the canal in every year to prevent entering early flood water into the polder. They take money from us. A regulator is required on that canal prevent entering early flood water into the polder. Proper monitoring is necessary from both BWDB and local administrative officials with regulator committee for smooth functioning the project.

## Interview Result: Chandal beel Sub-project

<b>1. Basic Information on Interview</b>	
Date of interview	27.08.2013 Time: 12:00 pm to 1:30 pm.
Location	District: Brahmanbaria Upazila: Bancharampur Village: Domrakandi
Name of interviewee	Shree Bazendra Chandra Das
Organization	-
Position	Brother of Raymohan Chandra Das who was the operator of Mullukbari Regulator
Name of interviewer	Muhammad Alamgir Hossain
<b>2. Basic Information on Sub-project</b>	
Sub-project name	Chandal Beel Sub-project
Location	District: Brahmanbaria Upazila: Bancharampur Village: Mirpur
Regulator	Reg-2: Mullukbari Reg., L 4.27m x W 4.4m, 2vents, Not functioning
Full embankment	Length 2.74 km, Crest width 3.66 m, Crest elev. - to - Elm
Submergible embankment	Length - km, Crest width - m, Crest elev. - to - Elm
Canal	Mullukbari Khal, L 1.5 km, Bed Width 5 m, Top Width 25 m.
<b>3. Your Personal Experience in O&amp;M Works</b>	
Q3-1:	My major income source is Boating. Boro paddy (Irri) is cultivated here once a year.
Q3-2:	Regulator was constructed in about 1989. One day Mr. Gani Mia, UP chairman called my brother and gave the responsibilities of gate operation. I have about 25 years experience in O&M works.
Q3-3:	Operation of regulator
Q3-4:	Mullukbari regulator is about 250m away from my house and takes 10-15 minutes to reach the regulator site by walking.
Q3-5:	My brother went to the regulator site twice a week on foot.
Q3-6:	No, I only belong to Mr. Gani Mia who is continuously 5 times elected chairman of Sayfullakandi Union Parishad. I do not belong to any local community groups.
Q3-7:	I don't know whether Mr. Gani Mia has any official contact with BWDB. I have no official contact with BWDB. I maintain a relation only with Mr. Gani Mia, UP chairman.
<b>4. Current Status of Your Organization</b>	
Q4-1:	Now a days there is no special organization/ committee for O&M works in the sub-project. I don't know whether a committee was there. Mr. Gani Mia, UP chairman is all in all here. Mr. Gani Mia, UP chairman is all in all here. One day he called my brother and gave the responsibilities of gate operation. His decision was to close one gate and open another one. Since then one gate of the regulator is remaining close and another one is remaining open.
Q4-2:	I don't know about the committee. Mr. Gani Mia, UP chairman is all in all here.
Q4-3:	Mr. Gani Mia, UP chairman is all in all here.
Q4-4:	There is no funding source for the organization/ committee.
Q4-5:	No, the organization/ committee does not receive any O&M cost from BWDB.
Q4-6:	Operation of regulator
Q4-7:	BWDB has all responsibilities. We just have the handle.
Q4-8:	There are some private/ individual irrigation schemes in the sub-project area. The owners of the irrigation scheme take paddy the farmers who received water from the respective irrigation scheme. There are also some cooperative societies among the fishermen in the regulator area to develop their fishery.
Q4-9:	No, the BWDB officers do not regularly come to the field for inspection. They never come. Last year some people came here to collect information about the regulator.
Q4-10:	I don't regularly communicate with BWDB offices. I maintain a relation only with Mr. Gani Mia, UP chairman.
Q4-11:	I have no relationship with BWDB officials.
<b>5. Issues on Operation Works</b>	
Q5-1:	The regulator was operated only one season (Two times at the first year). Then chairman took his historical decision to keeping one gate open and one gate close. There is no rule/ technical manual/ standard.
Q5-2:	Skip.
Q5-3:	The regulator was operated on any one season. Then chairman took his historical decision to keeping one gate open and one gate close. If we follow seasonal fixed operating schedule then will be some problems because flash flood does not follow the seasonal fixed operating schedule. We have to operate the regulator according to water level by close monitoring during early flood.
Q5-4:	No, I don't have any expedience like that. The regulator was operated on any one season. Then chairman took his historical decision to keeping one gate open and one gate close.
Q5-5:	No, I don't have any expedience like that. The regulator was operated on any one season. After then one gate of the regulator is remaining close and another one is remaining open.
Q5-6:	Small amount of water passes through the regulator because the canal (both drainage and intake) is silted up. There is another ancient canal which is more wide and deep 1 km away from the regulator. More water passes through the deep and wide canal. If the regulator was constructed on the existing deep and wide canal, it would be better.
Q5-7:	At first both gates of the regulator were closed. In flood season the fishermen complained to the chairman that water was not coming to the polder and water inside the polder was being polluted due to obstacles of the gates. Then chairman took his historical decision to keeping one gate open and one gate close.
Q5-8:	At first both gates of the regulator were closed. In flood season the fishermen complained to the chairman that water was not coming to the polder and water inside the polder was being polluted due to obstacles of the gates. Then chairman took his historical decision to keeping one gate open and one gate close. An artificial cut has also been made near the regulator by the boatmen for navigation purpose.
Q5-9:	No specific issues in operation works is there. A formal operator is required for sound operation of the regulator.
<b>6. Issues on Maintenance Works</b>	
Q6-1:	1. Lack of grease, 5. Damage of hoist rod, 7. Lost of gate, 9. Damage of structure, 11. No operation committee, 13. Artificial cut, 19. Overtopping, 21. Sedimentation
Q6-2:	Request BWDB to repair
Q6-3:	No measure has been taken to the above failures due to lack of manpower and budget limitation of BWDB. Cultivation has been by traditional way. There were some private irrigation schemes in the sub-project area Irrigation is done by three different ways depending on position and elevation of the land. • Some scheme use the river water for irrigation • Some scheme use the beel water for irrigation • Some scheme use ground water for irrigation
Q6-4:	All structures (regulator & embankment) are submergible.
Q6-5:	Canal excavation is required for both old one and new one.
<b>7. Technical Capacities</b>	
Q7-1:	After the construction of the regulator a demonstration was given at the very beginning. After one year the regulator was out of order. No of guidance/ trainings on O&M works have been provided.
Q7-2:	It is not enough. Details guidance/ training are essential for proper operation and maintenance works.
Q7-3:	Only the handle of the regulator has been provided about 25 years ago.
Q7-4:	It is insufficient. It was used only for gate operation. We have no equipment for small scale maintenance works.
Q7-5:	There is no difficulty in accessing to the field. It is accessible on foot.
Q7-6:	They have no experience in the inspection of the structure.
<b>8. Needs for Future O&amp;M Works</b>	
Q8-1:	We need technical training/ manual for smooth operation, for proper maintenance and for smooth functioning of the organization.
Q8-2:	A mobile phone is require for communicate to the O&M committee as well as BWDB official. A certain amount of money (500 Taka per Month) for balance of mobile is also required.
Q8-3:	Yes, some equipments should be provided. Spade- for excavation of the 2 km, Shovel- for removing debris in front of gate, Wrench- for maintenance works, Water leave gauge- for observation of water level, Grease gun- to apply grease
Q8-4:	Yes, we need some financial assistant from the government for participating in O&M works. We are not able to bear the total O&M cost due to our poverty. We agree to provide some percentage of O&M cost. If the length of the canal is small and volume of the excavation is less then we will do the excavation work by ourselves.
Q8-5:	Yes, it viable organization should be in place. All the beneficiaries will be member of the committee for better functioning of the organization and there will be a core committee to supervise the organization.
Q8-6:	Yes, other types of members (like women, service holders) should be participated in O&M works. Involvement of women will increase the work capacity of the organization. Service holders can contribute financially for O&M works. service holders: Job Holder (Both private organization or government organization), Employee of both private organization or government organization.
Q8-7:	Canal lining and LLP (Low Lift Pump) is required to increase irrigation facilities in the field. Proper monitoring is necessary from both BWDB and local administrative officials with regulator committee for smooth functioning the project.



Interview Result: Satdona Beel Scheme

1. Basic Information on Interview	
Date of interview	26.08.2013
Location	District: Brahmanbaria Upazila: Bancharampur Village: Mirpur
Name of interviewee	Mukhles Mia
Organization	11 No. Salimabad Union Parishad
Position	UP Member
Name of interviewer	Muhammad Alamgir Hossain
2. Basic Information on Sub-project	
Sub-project name	Satdona Beel Scheme
Location	District: Brahmanbaria Upazila: Bancharampur Village: Mirpur
Regulator	Reg-2: Mirpur Reg., L 4.27m x W 4.27m, 2vents, Not functioning
Full embankment	Length - km, Crest width - m, Crest elev. - to - El.m
Submergible embankment	Length - km, Crest width - m, Crest elev. - to - El.m
Canal	Nil
3. Your Personal Experience in O&M Works	
Q3-1:	My major income source is Cultivation. Boro paddy (Irri) is cultivated here once a year.
Q3-2:	It was constructed in about 1989. In next year, near the regulator about 100m embankment was washed away due to heavy current and huge pressure of the flood water. Since then it has been unused.
Q3-3:	Operation of regulator
Q3-4:	Mirpur regulator is about 200m away from my house and takes 10minutes to reach the regulator site by walking.
Q3-5:	I go to the regulator site once a week on foot.
Q3-6:	No, I do not belong to any local community groups.
Q3-7:	I don't know whether Mr. Saidur Rahman had any official contract with BWDB. At present there is no official contact with BWDB.
4. Current Status of Your Organization	
Q4-1:	At present there is no special organization/ committee for O&M works in the sub-project. There was a committee named Mirpur Sluice Committee formed by Mr. Saidur Rahman, key person of the committee. He gave the responsibility of gate operation for the regulator to Mr. Kasem.
Q4-2:	11 people were there in that committee. Among them Mr. Kasem was the responsible person for the operation of the regulator.
Q4-3:	Cooperation of members is not enough. Mr. Saidur Rahman, the key person of the committee was very influential person among the local community. He gave the responsibility of gate operation for the regulator to Mr. Kasem.
Q4-4:	There is no funding source for the organization/ committee. They thought that BWDB will take all responsibilities. The organization/ committee did not take any responsibility. We just have the handle.
Q4-5:	No, the organization/ committee does not receive any O&M cost from BWDB.
Q4-6:	Operation of regulator
Q4-7:	BWDB has all responsibilities. We just have the handle.
Q4-8:	There is a private/ individual irrigation schemes named Aubul Kashem Irrigation Scheme in the sub-project area. The owner of the irrigation scheme takes paddy the farmers who received water from the irrigation scheme.
Q4-9:	No, the BWDB officers do not regularly come to the field for inspection. They come occasionally, like once a year for estimate the O&M allocation. The position of the BWDB officer may be Sectional Officer (SO).
Q4-10:	I don't regularly communicate with BWDB offices. Sometimes they communicate with me over mobile phone.
Q4-11:	I have a thin relationship with BWDB officials.
5. Issues on Operation Works	
Q5-1:	After the construction of the regulator a demonstration was given at the very beginning. After one year the regulator was out of order and there was no rule/ technical manual/ standard. The gate was operated to prevent entering the early flash flood into the polder at least 15 days so that farmers can harvest their crops. There is no water level gauge and they use their experience for gate operation.
Q5-2:	Skip.
Q5-3:	After one year the regulator was out of order and no operation was done.
Q5-4:	After one year the regulator was out of order and no operation was done. At present regulator is not operated & gates are open.
Q5-5:	The gates of the regulator were closed for the first time. In next year, near the regulator about 100m embankment was washed away due to heavy current and huge pressure of the flood water.
Q5-6:	Out fall the canal is silted up. So draining water from polder is slow.
Q5-7:	The regulator was not operated after one year. So no complaint was there.
Q5-8:	There was no conflict between different groups, for instance, farmers and fisheries because gates were closed for only 15 days.
Q5-9:	No specific issues in operation works is there. A formal operator is required for sound operation of the regulator.
6. Issues on Maintenance Works	
Q6-1:	1. Lack of grease, 3. Damage of gear box, 5. Damage of hoist rod, 11. No operation committee, 19. Overtopping, 21. Sedimentation
Q6-2:	Request BWDB to repair
Q6-3:	No measure has been taken to the above failures due to lack of manpower and budget limitation of BWDB.
Q6-4:	All the structures (regulator & embankment) are submergible.
Q6-5:	Drainage congestion is occurred because the outfall of the canal is silted up. 2 km canal excavation is required.
7. Technical Capacities	
Q7-1:	After the construction of the regulator a demonstration was given at the very beginning. After one year the regulator was out of order. No guidance/ trainings on O&M works have been provided
Q7-2:	It is not enough. Details guidance/ training are essential for proper operation and maintenance works.
Q7-3:	Only the handle of the regulator has been provided 23 years ago.
Q7-4:	It is insufficient. It was used only for gate operation. We have no equipment for small scale maintenance works.
Q7-5:	There is no difficulty in accessing to the field. It is accessible on foot.
Q7-6:	They have no experience in the inspection of the structure.
8. Needs for Future O&M Works	
Q8-1:	We need technical training/ manual. • For operation. • For maintenance. • For smooth functioning of the organization.
Q8-2:	I have mobile phone. I can use my mobile phone if it's necessary to communicate with the committee and BWDB. I just need the amount of money (500 Taka per Month) for balance of mobile. A bicycle is necessary to increase mobilization for O&M works
Q8-3:	Yes, some equipments should be provided. Spade- for canal excavation and embankment repair, Shovel- for removing debris in front of gate, Wrench- for maintenance works, Water level gauge- for observation of water level, Grease gun- to apply grease
Q8-4:	Yes, we need some financial assistant from the government for participating in O&M works. We are not able to bear the total O&M cost due to our poverty. We agree to provide some percentage of O&M cost. If the length of the canal is small and volume of the excavation is less then we will do the excavation work by ourselves.
Q8-5:	Yes, it viable organization should be in place. All the beneficiaries will be member of the committee for better functioning of the organization and there will be a core committee to supervise the organization.
Q8-6:	Yes, other types of members (like women, service holders) should be participated in O&M works. Involvement of women will increase the work capacity of the organization. Service holders can contribute financially for O&M works.
Q8-7:	Canal lining and LLP (Low Lift Pump) is required to increase irrigation facilities in the field.

## Interview Result: Gangajuri Sub-project

1. Basic Information on Interview	
Date of interview	30.08.2013
Location	District: Habiganj Upazila: Habiganj Sadar Village: Noyakhla
Name of interviewee	Abu Saleh
Organization	Female UP Member
Position	Husband of Female UP Member
Name of interviewer	Muhammad Alamgir Hossain
2. Basic Information on Sub-project	
Sub-project name	Gangajuri Sub-project
Location	District: Habiganj Upazila: Habiganj Sadar Village: Shikarpur
Regulator	Reg-1: Shikarpur Reg., L 14.21m x W 22.87m, 7vents, Not functioning
Full embankment	Length -46 km, Crest width -4.27 m, Crest elev. - to - ELm
Submergible embankment	Length - km, Crest width - m, Crest elev. - to - ELm
Canal	Gangajuri khal, L 4.5 km, Bed Width 2 m, Top Width 40 m.
3. Your Personal Experience in O&M Works	
Q3-1:	My major income source is cultivation. My wife is a member of Union Parishad
Q3-2:	The regulator was constructed about 22 years ago. Mr. Janab Ali who is dead was the operator of the regulator for about 17 years. After that the responsibility is given to me by the chairman as my wife is a member of Tegharia Union Parishad. I have 5 years experience.
Q3-3:	Operation of regulator
Q3-4:	Korcha regulator is about 2.5 km away from my house and takes 40-45 minutes to reach the regulator site by walking.
Q3-5:	In rainy season I go to the regulator site at 2 days interval by waking through the field. During heavy rainfall I go to the regulator daily.
Q3-6:	Yes, I belong to the "Noyakhala-Shikarpur village committee." The committee plays a vital role to keep peace and regulation in the village and arrange various religious events. They also arrange the auction for irrigation scheme.
Q3-7:	I have no official contract with BWDB.
4. Current Status of Your Organization	
Q4-1:	There is no special organization/ committee at all for O&M works in the sub-project. There is a village committee named "Noyakhala-Shikarpur village committee." The village committee does various activities for peace and happiness of the village including arraigning various religious events and open auction for irrigation scheme before cultivation.
Q4-2:	All the villagers are in the organization/ committee. 4-6/village senior citizens control the entire committee. Most of them are farmers.
Q4-3:	The villagers are very cooperative among themselves.
Q4-4:	There is no funding source for O&M activities of the organization/ committee. Some parts of damaged embankment have been being repaired by BWDB at every year.
Q4-5:	No, the organization/ committee does not receive any O&M cost from BWDB. Some parts of damaged embankment have been being repaired by BWDB at every year.
Q4-6:	Operation of regulator
Q4-7:	We just have the handle and we operate the gate according to our needs depending on flash flood caused by rainfall. Some parts of damaged embankment have been being repaired by BWDB at every year.
Q4-8:	There are some cooperative societies among the fishermen in the sub-project area to develop their fishery.
Q4-9:	No, the BWDB officers do not regularly come to the field for inspection. They come here occasionally, like twice a year for estimate the O&M allocation. The position of the BWDB officer may be Sectional Officer (SO).
Q4-10:	Yes, I communicate regularly with BWDB over mobile. Sometimes I visit the BWDB office when I go to district headquarters for other purposes.
Q4-11:	Yes, I have proper contact with BWDB officials. We operate the gate according to our needs depending on rainfall and water level. We take decision all together.
5. Issues on Operation Works	
Q5-1:	There is no rule/ technical manual/ standard. We operate the gate according to our needs depending on rainfall and water level. We take decision all together.
Q5-2:	No, We operate the gate according to our needs depending on rainfall and water level. We take decision all together.
Q5-3:	If we follow seasonal fixed operating schedule then will be some problems because flash flood does not follow the seasonal fixed operating schedule. We have to operate the regulator according to rainfall and water level by close monitoring during early flood. During heavy rainfall gate is opened to draining the water.
Q5-4:	Gearbox damaged. Gate-1 hoisting rod is damaged.
Q5-5:	Yes, small amount of rain water can pass through the regulator because it was constructed on higher land over a new cut canal. The canal is also silted up and sufficient water cannot pass through the regulator.
Q5-6:	Yes, the canal is silted up and the farmers don't get sufficient irrigation water from the river and sufficient water cannot pass through the regulator. Small amount of rain water can pass through the regulator because it was constructed on higher land over a new cut canal.
Q5-7:	No, We operate the gate according to our needs depending on rainfall and water level. We take decision all together.
Q5-8:	There is no conflict between different groups, for instance, farmers and fisheries because fishermen also have cultivable land in the project area and they also produce crops with us. All the decisions are taken by the villagers together. Fishermen cut the embankment during flood season for fishing and boating.
Q5-9:	No other specific issues are there.
6. Issues on Maintenance Works	
Q6-1:	3. Damage of gear box, 5. Damage of hoist rod, 11. No operation committee, 21. Sedimentation
Q6-2:	Request BWDB to repair
Q6-3:	Proper measure has not been taken to the above failures due to lack of manpower and budget limitation of BWDB. Some portion of damaged embankment have been being repaired by BWDB at every year. Cultivation has been by traditional way. The villagers gather in a meeting for an open auction. The seniors are presided over the meeting. They who give lowest price will get the contact. After irrigation contractor takes 1.5 to 2 'Mon' rice per Kani (30 Decimal Land).
Q6-4:	All the structures (regulator & embankment) are non-submergible.
Q6-5:	There is an ancient canal which is more wide and deep 1 km away from the regulator. Canal excavation is required for both old one and new one.
7. Technical Capacities	
Q7-1:	No guidance/ trainings on O&M works have been provided.
Q7-2:	No. Details guidance/ training are essential for proper operation and maintenance works.
Q7-3:	Only handle was provided about 22 years ago. No other equipments, materials and transportation for O&M works have been provided.
Q7-4:	Only handle is insufficient for sound operation of the regulator. It was used only for gate operation. We have no equipment for small scale maintenance works.
Q7-5:	There is no difficulty in accessing to the field. It is accessible on foot.
Q7-6:	3. Damage of gear box, 5. Damage of hoist rod, 25. Sedimentation
8. Needs for Future O&M Works	
Q8-1:	Yes, we need technical training/ manual for smooth operation, for proper maintenance and for smooth functioning of the organization.
Q8-2:	No, I have mobile phone. I can use my mobile phone if it's necessary to communicate. A certain amount of money (500 Taka per Month) for balance of mobile is needed.
Q8-3:	Yes, some equipment should be provided. Spade- for canal excavation and embankment repair, Shovel- for removing debris in front of gate, Wrench- for maintenance works, Water leave gauge- for observation of water level, Grease gun- to apply grease
Q8-4:	Yes, we need some financial assistant from the government for participating in O&M works. We are not able to bear the total O&M cost due to our poverty. We agree to provide some percentage of O&M cost.
Q8-5:	Yes, it viable organization should be in place. All the beneficiaries will be member of the committee for better functioning of the organization and there will be a core committee to supervise the organization.
Q8-6:	Yes, other types of members (like women, service holders) should be participated in O&M works. Involvement of women will increase the work capacity of the organization. Service holders can contribute financially for O&M works.
Q8-7:	The existing old canal is more useful than the regulator canal. Sometimes the existing old canal is closed to retain water for irrigation. Then the canal is cut to draining the rain water. The canal is again closed to prevent flood water from the river. The Shikarpur regulator is less useful. If the regulator was built on the existing old canal then it would be more useful. Proper monitoring is necessary from both BWDB and local administrative officials with regulator committee for smooth running the project.

Interview Result: Khaliajuri FCD Polder-2

<b>1. Basic Information on Interview</b>	
Date of interview	29 Aug 2013; Time: 09:30 AM to 12:05 PM
Location	District: Netrokona Upazila: Khaliajuri Village: Shantinagari
Name of interviewee	Md. Razu Miah
Organization	Shantinagar Sluice Committee
Position	Chairman of the Committee
Name of interviewer	Md. Moniruzzaman P Eng
<b>2. Basic Information on Sub-project</b>	
Sub-project name	Khaliajuri FCD Polder-2
Location	District: Netrokona Upazila: Khalajuri
Regulator	Reg-1:Shantinagar Regulator
	Reg-2:
Full embankment	Length:5.30 km, Crest width:3.0 m, Crest elev. x to x ELm
Submergible embankment	Length: 52.1km, Crest width: 2.96 m, Crest elev. x to x ELm
Canal	Can-1:Lipsar Canal; Length:2.50 km; Bed width:5.0 m, Top width: 50.0 m
	Can-2:
<b>3. Your Personal Experience in O&amp;M Works</b>	
Q3-1:	Agricultural Activities
Q3-2:	About 16 years
Q3-3:	Periodical inspection of flood management structures, Operation of regulator, Maintenance of embankment, Maintenance of drainage canal, Repair of structures
Q3-4:	Within 7.0 km radius (appx.); and it takes about 2/3 hours of walking.
Q3-5:	Twice in a week; travel on foot (in dry season) and by boat (during wet season).
Q3-6:	No, I do not belong to any other organization
Q3-7:	No, this is an informal relationship. At times BWDB staffs give me something as lump sum; no contractual agreement. I work for them and in lieu thereof I approach for some assistance. Some times they give me some money and some times not.
<b>4. Current Status of Your Organization</b>	
Q4-1:	Yes, there exists Sluice Committees- one for each regulator to look after the O&M works. This Sluice Committee was formed in 1997; BWDB patronized; Its name is Shantinagar Sluice Committee.
Q4-2:	This is an old committee; there are 05 nos. of members. All of them are farmers; major income source is agricultural farming.
Q4-3:	No, cooperation among the committee members is poor. The other 4 members hardly respond to any call. I have to move alone. They are annoyed with BWDB's silence and not taking necessary action in time.
Q4-4:	The committee has no source of funding. Whatever little expenditure are incurred for O&M of the structure I have to manage fund for all those for from my own. Also at times I try to collect some money from the affluent farmers/land owners.
Q4-5:	No. We get no money for cost of O&M works from BWDB.
Q4-6:	Periodical inspection of flood management structures, Operation of regulator, Maintenance of embankment, Maintenance of drainage canal, Repair of structures
Q4-7:	I do not know as to what extent BWDB will do and how much the Sluice Committee will have to take care of.
Q4-8:	No, there is no other community group in this polder.
Q4-9:	Yes, only in the dry season ( i.e November to April), Sectional Officer, Sub-divisional Engineer and also Executive Engineer come here to visit. The Superintending Engineer, Mymensingh Circle also comes here once in a year. Work Assistant visits as and when required.
Q4-10:	Yes, very often. BWDB staffs come to my place for information and also I send letters to BWDB offices at Modon and Netrokona stating various problems faced in the field.
Q4-11:	Yes, Sectional Officer of Netrokona Division Office.
<b>5. Issues on Operation Works</b>	
Q5-1:	Yes, BWDB's Work Assistant and Sectional Officer has taught me informally about what to do on gate operation and also for maintenance.
Q5-2:	No such situation happened.
Q5-3:	I did never face any such problems.
Q5-4:	Yes, this was the problem of overtopping the embankment due to sudden on-rush of flood water. It happened 3 times, such as in 2004, 2006 and 2012.
Q5-5:	Yes. As stated above. Simply due to sudden high rise of stages in the river.
Q5-6:	Yes, it happened once in these 16 years of operation by me. The gates used to remain closed according to our agricultural needs. One Fisheries Group backed by some influential people wanted to stop opening of the gates to save their fish products. But I opened the gate instantaneously to save the embankment from breaching.
Q5-7:	No.
Q5-8:	Yes, it happened once. I have stated this in reply to Q5.6
Q5-9:	This is concerning the Gate Operation: Very difficult to lift the gate manually. It is not possible to operate by one man; at least 02 (two) strong labors are needed and it takes about ¾ hours to complete lifting the gates. I strongly draw the attention of authority to do some thing that may ease this hard laborious job.
<b>6. Issues on Maintenance Works</b>	
Q6-1:	1. Lack of grease, 2. Lost or loose of bolt, 3. Damage of gear box, 4. Theft of gear box, 8. Damage of rubber seal, 10. Debris in front of gate, 13. Artificial cut, 17. Wheel truck, 18. Shortage of height, 19. Overtopping, 21. Sedimentation, 22. Land degradation
Q6-2:	Repair by y our own manpower, Purchase any missing parts, Request BWDB to repair
Q6-3:	Only when I become helpless, I refrain from doing anything. Everything is not within the reach of mankind-this becomes the consolation.
Q6-4:	All structures, embankment and canals in this polder are submergible. I have no idea about the non-submergible ones. However I face difficulties in the maintenance of submergible structures here; rusting and corrosion are really problematic.
Q6-5:	If regular patrolling along the embankment can be assured (in dry season), then preventive maintenance will be ensured. It will require community sub-groups to take part voluntarily. There should have plantation of Kalmi (locally called Thal kolmi) on the slopes/berms of the embankment. Also Hijol (aparticular species of plant that survives in deep water) trees on the toe will protect the embankment from waves. The concept of cooperative societies / participatory approach etc. is obsolete here, according to my opinion. There are plunders and corrupt people here. This will not work.
<b>7. Technical Capacities</b>	
Q7-1:	Yes, I received training on O&M works. It was organized by BWDB twice at Mymensingh. Training topics included- how to operate, how to maintain and other relevant issues.
Q7-2:	Yes. I learnt many things.
Q7-3:	Only the handle to operate the gates.
Q7-4:	No. We need some more tools/ equipment.
Q7-5:	Yes, it is accessible to some extent. However another submergible road should be constructed inside the polder. It will ease the transportation of harvests and connectivity will be improved. This is – from Shantinagar to Uchabajuar; about 09 km long.
Q7-6:	1. Lack of grease, 2. Lost or loose of bolt, 3. Damage of gear box, 4. Theft of gear box, 5. Damage of hoist rod, 6. Theft of hoist rod, 7. Lost of gate, 8. Damage of rubber seal, 9. Damage of steel structure, 10. Crack of concrete, 11. Degradation of concrete, 12. Settlement of structure, 13. Debris in front of gate, 15. Artificial cut, 16. Erosion by rainfall, 17. Erosion by wave, 18. Erosion by river flow, 19. Wheel truck, 20. Shortage of height, 21. Crack, 22. Wet condition, 23. Uncovering
<b>8. Needs for Future O&amp;M Works</b>	
Q8-1:	Yes. There should have rules and procedures for O&M. We need technical training on O&M – for better performance in O&M. This can be taught in the training program.
Q8-2:	A communication tool is really helpful. I want Mobile phone and Bi-Cycle to make quick communication.
Q8-3:	Yes. I think the following equipment are essential: Chain Pulley - to lift the flap gates; Wrench Box- to attend minor repairing jobs; Grease Gun – to apply grease to moving parts; and Brushes – for periodical painting.
Q8-4:	It is not possible to collect fund from beneficiaries for maintenance works- very difficult indeed. So Government / BWDB's assistance is needed.
Q8-5:	No, I think increasing of members in the committee will create hazards.
Q8-6:	Yes, it should be broad-based, taking all categories of beneficiaries.
Q8-7:	Immediate restoration of the gates and accomplishment of other maintenance works are vital at this stage.

## Interview Result: Khaliajuri FCD Polder-4

1. Basic Information on Interview	
Date of interview	30 Aug. 2013; Time: 10.15 AM to 12.30 PM
Location	District: Netrokona Upazila: Khaliajuri Village: Pasch Hat
Name of interviewee	M.d. Masud Rana
Organization	Kumaria Sluice Committee
Position	Chairman of the Committee
Name of interviewer	M.d. Moniruzzaman P Eng
2. Basic Information on Sub-project	
Sub-project name	Khaliajuri FCD Polder-4
Location	District: Netrokona Upazila: Khaliajuri
Regulator	Reg-1: Kumaria Regulator Reg-2:
Full embankment	Length: km, Crest width: m, Crest elev. to ELm
Submergible embankment	Length: 47.0 km, Crest width: 2.96 m, Crest elev.: NA ELm
Canal	Can-1: Tummir Canal; Length: 2.50 km; Bed width: 7.0 m, Top width: 20.0 m Can-2: Kamalpur Canal; Length: 3.00 km; Bed width: 6.0 m, Top width: 18.0 m
3. Your Personal Experience in O&M Works	
Q3-1:	Agricultural farming
Q3-2:	About 03 years
Q3-3:	Periodical inspection of flood management structures, Operation of regulator, Maintenance of embankment
Q3-4:	Regulator: about 1.0 km away; Water Gauge: same as above Embankment: within 1.0 km radius. It takes normally 2.00 hours to visit all these by walking on foot.
Q3-5:	I need not to go now because the regulator has gone out of order for long. For the embankment, other committee members undertake the responsibilities of minor repairing as and when required.
Q3-6:	Yes, I belong to the Local Govt. Institute as Chairman; Name: Gazipur Union Council; Purpose: The Union Council looks after the local administration of the Govt.
Q3-7:	No, I have no such experiences of doing O&M works individually. I have no official contract with BWDB.
4. Current Status of Your Organization	
Q4-1:	Yes, every Regulator has its own Sluice Committee for the O&M works; Kumaria Sluice Committee is responsible for O&M works of Kumaria Regulator and adjoining places. It was formed in 1997. BWDB asked to form. Name: Kumaria Sluice Committee.
Q4-2:	It is the 11-member committee. They are predominantly farmers; some of them have some subsidiary trading enterprises.
Q4-3:	Yes, the members are very much cooperative. Since all the members are farmers, they have a common interest of agricultural farming; and they take interests in water management issues.
Q4-4:	The sluice committee has no such funds. Whenever we need money to complete any maintenance work for the structure, embankment or for canal we raise it through instantaneous collection from the committee members and affluent farmers.
Q4-5:	No. BWDB has never paid any sum of money to the Sluice Committee for O&M works.
Q4-6:	Periodical inspection of flood management structures, Operation of regulator, Maintenance of embankment, Repair of structures
Q4-7:	We do not know about the responsibilities of BWDB- to what extent they will play their roles. But we have to do all what is possible for us; it is the question of our subsistence/livelihood.
Q4-8:	There is no such community based organizations in the sub-project area. This is a remote place; development efforts become apparent at late.
Q4-9:	Yes. The Sectional Officer and Work Assistant from Netrokona and Modon visit here only in the dry season.
Q4-10:	No, it is not regularly. We inform them only when we face problems in O&M works. Also when BWDB men approaches us and ask for any information, we provide it verbally and also in writing.
Q4-11:	No, we have no such contact.
5. Issues on Operation Works	
Q5-1:	Yes, there is a rule of its own set by the Sluice Committee as a whole for opening and closing of the gates. Currently for about last 3/4 years, the Regulator is lying idle; no operation and hence no question of following the rules.
Q5-2:	No, we did not have such situation.
Q5-3:	No comments.
Q5-4:	The regulator is not functioning. So I can simply say - No Comments.
Q5-5:	No, there was no failure in preventing the flash flood (during the period when the regulator used to function properly).
Q5-6:	No, this situation did not happen. As long as the regulator was in operation we had no difficulties in entering water inside or draining outside.
Q5-7:	No, there has not been any complaint.
Q5-8:	No fisheries cultivation scope exists inside the polder; agriculture is the main business. That is why no such conflict grew here in the past and at present the regulator does not function.
Q5-9:	Operation of gates will become effective, if all maintenance needs can be attended to in time. The regulator, embankment and other infrastructures will have to be rehabilitated first; at the same time sluice Committee should also undergo some reform measures with training and other support to run the business smoothly. If the above noted situation can be achieved, a participatory approach in O&M of the sub-project may be possible.
6. Issues on Maintenance Works	
Q6-1:	1. Lack of grease, 2. Lost or loose of bolt, 4. Theft of gear box, 8. Damage of rubber seal, 9. Damage of structure, 10. Debris in front of gate, 14. Erosion by rainfall, 16. Erosion by river flow, 21. Sedimentation
Q6-2:	Repair by your own manpower, Request BWDB to repair
Q6-3:	Normally the committee fails to undertake measures for restoration of the system due to lack of money and administrative/official support. They become simply helpless.
Q6-4:	All infrastructures here are of the submergible type. We have no idea of the required maintenance for non- submergible ones.
Q6-5:	Following issues may be considered: Regular patrolling to watch over the infrastructures has no alternative. This needs engaging a special gang of labors from among the community. The Committee should be given necessary powers and authority to raise fund for O&M works. The Local Govt. Institutions should have some controlling power over the Sluice Committees.
7. Technical Capacities	
Q7-1:	No guidance /training was given; BWDB gave only one operating handle for manual operation of the gates and at that time they demonstrated the use of the handle for opening and closing of the gates. Nothing else.
Q7-2:	No, this is not sufficient enough; there are many issues involved in O&M of this kind of sub-projects. BWDB Govt. should help us to become self reliant, otherwise we can not spend any money for O&M from our end.
Q7-3:	As stated earlier, only one operating handle for manual lifting/closing of the gates.
Q7-4:	No. Gate opening and closing (manually) is a very laborious job. Lifting of Flap Gate needs 2/4 nos. of men for 4/5 hours Besides, there are also other difficulties that needs tools/equipment.
Q7-5:	Yes, we need more connectivity facilities for easy access to the field. The embankment and canal banks alignment should be made clean and free from jungles/bushes at all time.
Q7-6:	1. Lack of grease, 2. Lost or loose of bolt, 3. Damage of gear box, 4. Theft of gear box, 5. Damage of hoist rod, 6. Theft of hoist rod, 7. Lost of gate, 8. Damage of rubber seal, 9. Damage of steel structure, 10. Crack of concrete, 11. Degradation of concrete, 12. Settlement of structure, 13. Debris in front of gate, 15. Artificial cut, 16. Erosion by rainfall, 17. Erosion by wave, 18. Erosion by river flow, 19. Wheel truck, 20. Shortage of height, 21. Crack, 22. Wet condition, 23. Uncovering
8. Needs for Future O&M Works	
Q8-1:	Yes, the committee as well as the local beneficiaries should be given training on: O&M issues – both technical and socio-economic aspects. This will improve the O&M works and bring in sustainability. Institution Building for Organizational Support: To increase local level capabilities.
Q8-2:	Nothing in particular.
Q8-3:	Yes. We need following equipment: Chain Pulley- to lift gates; Wrench Box- to undertake repairing of moving parts; Grease Gun – to apply grease to moving parts; and Painting Brushes –to apply paints periodically.
Q8-4:	It is required because our people consider this sub-project, its all infrastructures, and their proper O&M etc. as "Public Good"; and the Govt./BWDB should do all what is required to ensure benefits for the people.
Q8-5:	In my opinion it should be a 21-member committee to increase involvement of many people in the community.
Q8-6:	I think it should be broad-based and more participatory; but it is really difficult to draw in other types/categories of people in the committee/organization. These are: Absentee land owners; Peoples of different trades including Fishermen; Boatmen, Weavers and All who live inside the Sub-project area.
Q8-7:	I think mobilizing the beneficiaries to take part in O&M activities in real life situation is the right answer. This will require motivational campaigns to be undertaken at a massive scale.

**Appendix 7.8 Proposed Manpower of BWDB for O&M Works****Division Office**

Name of Post	Netrokona			Kishoreganj			Habiganj			Brahmanbaria			Sunamganj		
	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed
Executive Engineer	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Revenue Officer	0	0		0	0		0	0		1	0		0	0	
Assistant Engineer	1	0	1	1	0	1	1	0	1	0	0	1	1	0	1
Assistant Extension Officer (AEO)	1	0	2	0	0	2	0	0	2	0	0	2	0	0	2
Sub-assistant Engineer/Estimator	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1
U.D. Assistant	1	0	1	1	1	1	1	0	1	0	0		1	0	1
Assistant Accountant	1	0	1	0	0	1	1	0	1	0	0		1	0	1
Senior Accounts Assistant	1	1	1	1	0	1	1	0	1	0	0		1	0	1
Accounts Clerk	1	0	1	0	0	1	1	1	1	0	0		1	1	1
Senior Clerk	0	0		0	0		0	0		1	0	1	0	0	
L.D. Assistant cum Typist/DEO	3	1	3	0	0	3	3	1	3	0	0		0	0	
DEO	0	0		1	0		0	0		1	0	1	3	0	3
Revenue Surveyor	1	0	1	1	0	1	1	0	1	0	0	1	1	0	1
DMO	1	0	1	1	0	1	1	0	1	0	0	1	1	0	1
Driver	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1
Speed Boat Driver	0	0	1	1	0	1	0	0	1	0	0	1	0	0	1
Tracer	1	0	1	0	0	1	1	0	1	0	0	1	1	0	1
MLSS	4	2	4	2	2	4	4	2	4	2	0	2	4	0	4
Chowkidar (Guard)	1	0	1	2	0	1	1	0	1	1	0	1	1	0	1
Sweeper	0	0		1	0		0	0		0	0		0	0	
Mali (Gardener)	1	0	1	0	0	1	1	0	1	0	0		1	0	1
Total	21	7	23	15	6	23	20	7	23	9	1	15	20	4	23

**Sub-division Office (SDO)**

Name of Post	Netrokona			Kishoreganj			Habiganj			Brahmanbaria			Sunamganj		
	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed
Sub-divisional Engineer	1	0	1	1	1	2	1	0	1	1	0	1	1	0	1
LD Assistant cum Typist/DEO	1	1	1	1	0	2	1	1	1	1	0	1	1	1	1
Account Clerk	1	0	1	1	1	2	1	0	1	0	0		1	0	1
Surveyor (Engineering)	1	1	1	1	0	2	1	0	1	1	0	1	1	1	1
Extension Overseers (EO)			22			26			10			4			6
Driver	1	0	1	1	0	2	1	0	1	1	0	1	1	0	0
Speed Boat Driver	1	0	1	1	1	2	1	0	1	0	0		1	1	1
MLSS	2	1	2	2	1	4	2	1	2	1	0	1	2	1	2
Pump Operator	1	0	1	0	0		1	1	1	0	0		0	0	
Chowkidar (Guard)	1	0	1	1	1	2	1	1	1	1	0	1	1	1	1
Assistant Cook	1	0	1	0	0		1	1	1	0	0		1	0	1
Electrician	0	0		0	0		0	0		0	0		1	0	1
Bearer	1	1	1	1	1	2	1	0	1	0	0		1	0	1
Imam (Religious Leader)	0	0		0	0		1	0	1	0	0		0	0	
Total	12	4	34	10	6	46	13	5	23	6	0	10	11	5	17

**Sub-division Office (SDO)**

Name of Post	Mohongang SDO			Bhairab SDO			Habiganj-2 SDO			Sunamganj-2 SDO		
	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed
Sub-divisional Engineer	1	1	1	1	1	1	1	1	1			1
LD Assistant cum Typist	1	1	1	1	0	1	1	0	1			1
Account Clerk	1	0	1	1	0	1	1	0	1			1
Surveyor (Engineering)	1	0	1	1	1	1	1	0	1			1
Extension Overseers (EO)			8			9			13			8
Driver	1	0	1	1	0	1	1	0	1			0
Speed Boat Driver	1	0	1	1	0	1	1	0	0			1
MLSS	2	0	2	2	0	2	2	1	2			2
Pump Operator	0	0		0	0		0	0				0
Chowkidar (Guard)	1	0	1	1	0	1	1	0	1			1
Assistant Cook	1	0	1	0	0		0	0				0
Electrician	0	0		0	0		0	0				0
Bearer	1	0	1	1	0	1	0	0				0
Imam (Religious Leader)	0	0		0	0		0	0	0			0
Total	11	2	19	10	2	19	8	2	21			8

**Section Office (SO)**

Name of Post	5 section offices			5 + new 3 section offices			6 section offices			3 section offices			6 section offices		
	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed
Sub-assistant Engineer/ S.O.	5	4	5	5	5	8	6	4	6	3	0	3	6	6	6
Work Assistant	10	5	10	10	3	16	8	5	8	3	0	3	12	4	12
MLSS	5	1	5	5	1	8	6	0	6	3	0	3	6	0	6
Total	20	10	20	20	9	32	20	9	20	9	0	9	24	10	24

Source: JICA Survey Team based on discussion with BWDB

Note: \*1 The existing Kishoreganj sub-division office will be divided into 2 offices. The numbers of manpower show the total for 2 offices.

## *Appendixes 8.1 to 8.5*

<Appendix 8.1 :Environmental Clearance Process in DoE >

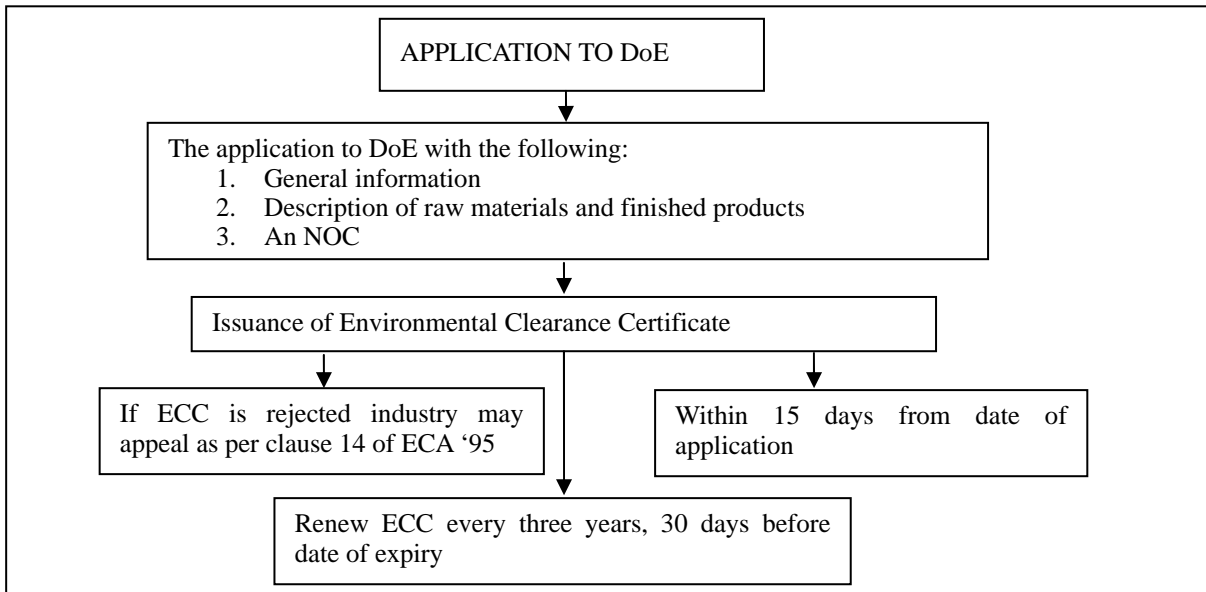


Figure A.8.1 Process in the Green category

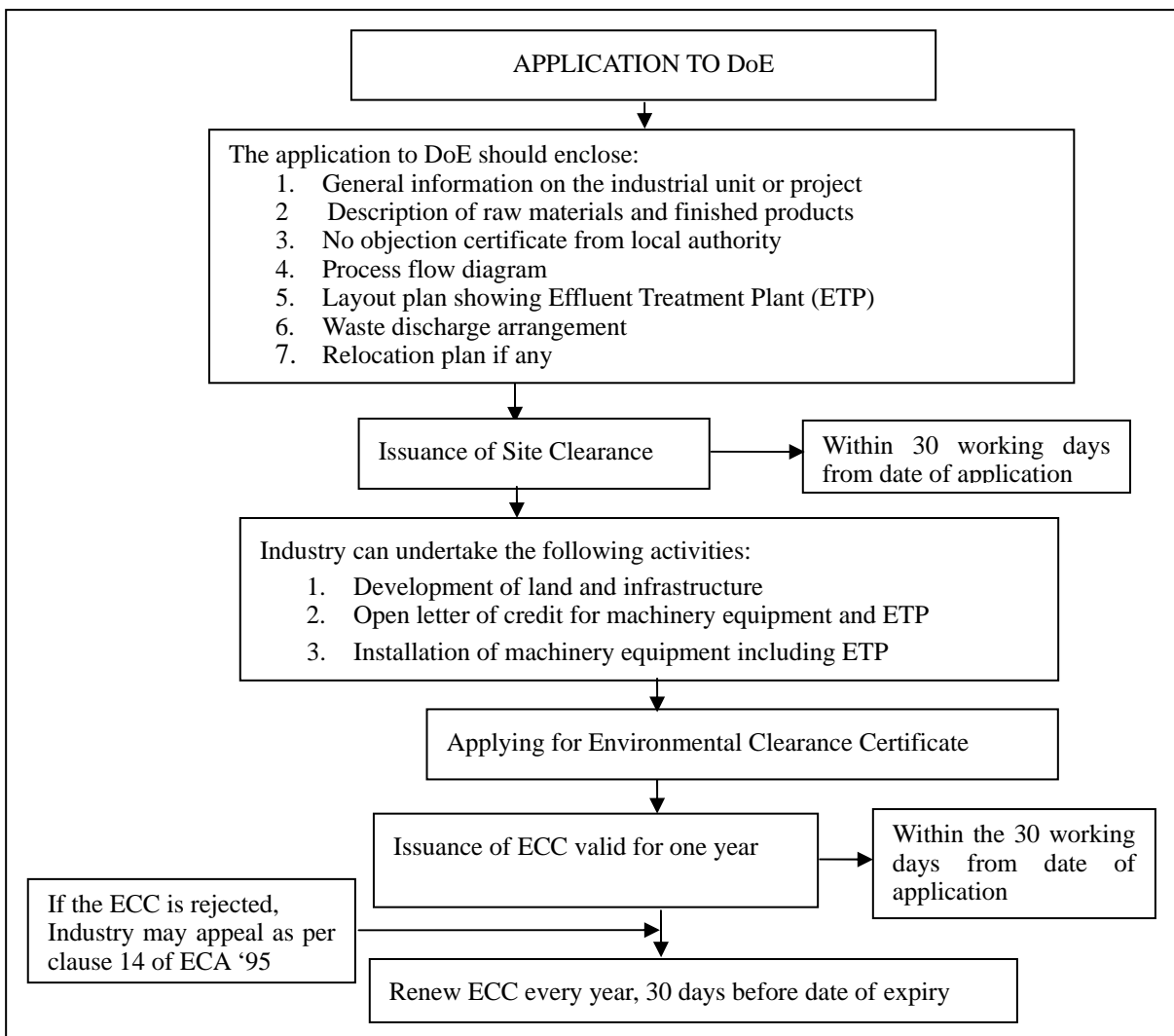


Figure A.8.2 Process in the Orange A category

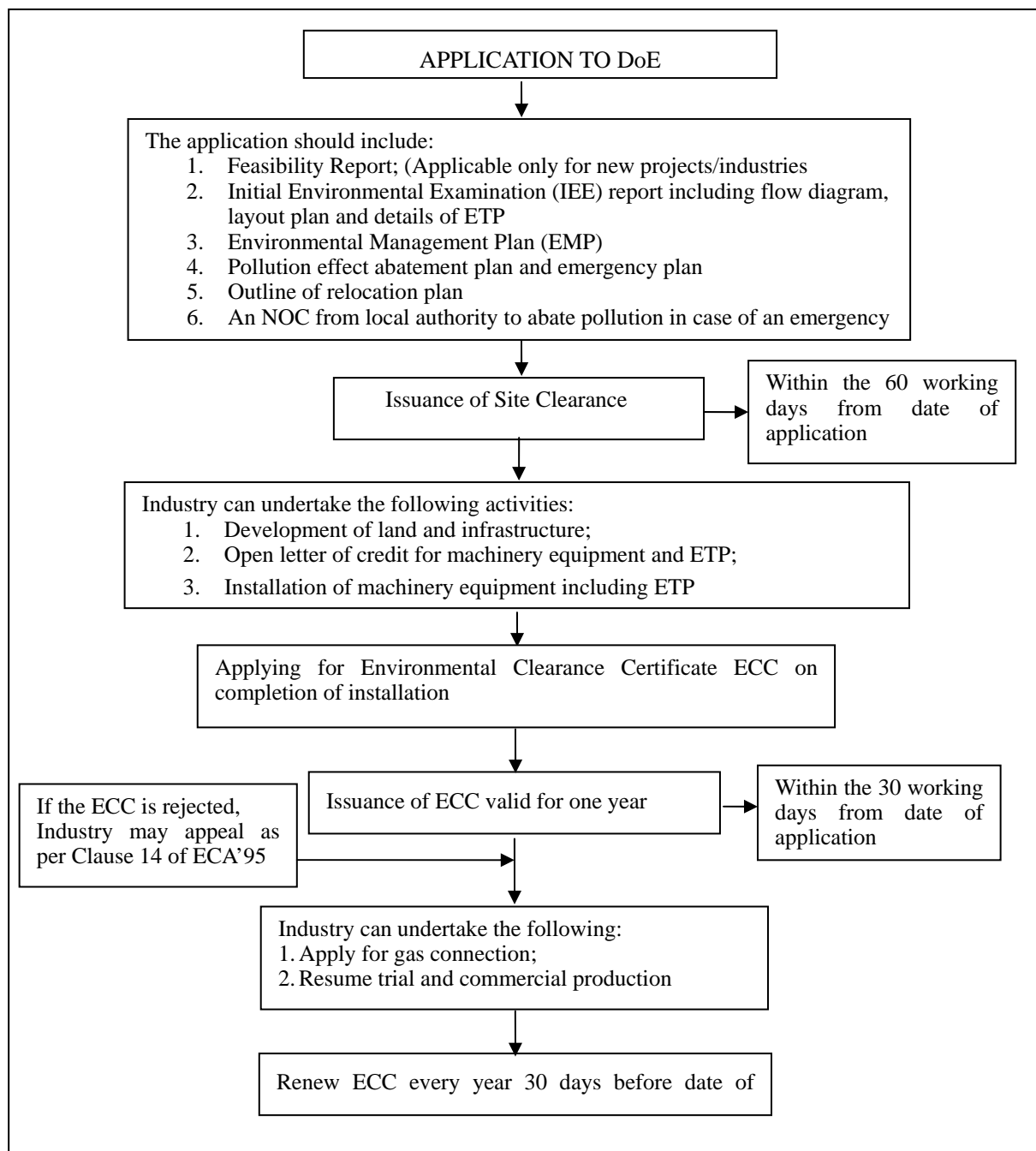


Figure A.8.3 Process in the Orange B category



## &lt;Appendix 8.2 Tentative Categorization in ECR 1997&gt;

Table-A.8.1 Tentative Categorization in ECR 1997 for Rehabilitation Subprojects by BWDB (Component 1)

No.	Name of Project	Location	Component	Category in BD.	Description of categorization	Remarks
R-1	Dampara Water Management Scheme	Netrakona district Upazila : Purbodhola	Resection of Embankment=200m(Full), 460m (Submergible) Replacement of Gearbox=4nos. Replacement of Rubber Seal = 3nos. Re-excavation of Canal=12km (Kalihor Khal) Pipe cleaning=3locations Sluice gate (0.6mx0.6m)=23nos. Maintenance equipments = 1no.	Red	The project includes reconstruction activities as resectioning of 200m of full and 460m of submergible embankments which categorized in 66. Construction/reconstruction /expansion of flood control embankment, polder, dike, etc. in ECR1997. The resectioning work does not require any additional land.	IEE is required for the other cases in rehabilitation.
R-2	Kangsa River Scheme	Netrakona district Upazila: Netrokona Sadar, Purbodhola	Resection of Embankment=40m(Full) Fully replacement of Gate with related mechanical equipments=1no. Replacement of Gearbox=10nos. Replacement of rubber seal=1no. Maintenance equipments = 1no.	Red	The project includes reconstruction activities as resectioning of 40m of full embankments which categorized in 66. Construction/reconstruction /expansion of flood control embankment, polder, dike, etc. in ECR1997. The resectioning work does not require any additional land.	The resectioning work does not require any additional land..
R-3	Singer Beel Scheme	Netrakona district Upazila: Barhatta	Resection of Embankment=100m(Full),125m (Submergible) Replacement of Gearbox=2nos. Re-excavation of Canal=2km (1km+1km) Installation of Sluice Gate (1.5mx1.8m)=1no. Pipe cleaning=2locations	Red	The project includes reconstruction activities as resectioning of 100m of full and 125m of submergible embankments which categorized in 66. Construction/reconstruction /expansion of flood control embankment, polder, dike, etc. in ECR1997. The resectioning work does not require any additional land.	The resectioning work does not require any additional land.
R-4	Baraikhali Khal Scheme	Kishoreganj district Upazila: Hossainpur, Kishoreganj Sadar  Mymensingh district Upazala: Nandail	Resection of Embankment=10m(Full) Re-excavation of Canal=24.5km Installation of flap gate (0.5m x 0.5m)=2nos. Pipe cleaning=2locations Maintenance equipments = 1no.	Red	The project includes reconstruction activities as resectioning of 10m of full embankments which categorized in 66. Construction/reconstruction /expansion of flood control embankment, polder, dike, etc. in ECR1997. The resectioning work does not require any additional land.	The resectioning work does not require any additional land.
R-5	Alalia-Bahadia Scheme	Kishoreganj district Upazila: Katiadi, Pakundia	Re-excavation of Canal=8km (5km+3km)	N/A	No any activities listed in ECR1997.	

No.	Name of Project	Location	Component	Category in BD.	Description of categorization	Remarks
R-6	Modkhola Bhairagirchar sub-project Scheme	Kishoreganj district Upazila: Pakundia, Katiadi	Resection of Embankment=50m(Full)	Red	The project includes reconstruction activities as resectioning of 50m of full embankments which categorized in 66. Construction/reconstruction /expansion of flood control embankment, polder, dike, etc. in ECR1997. The resectioning work does not require any additional land.	New land may be required. The resectioning work does not require any additional land.
R-7	Ganakkhalli Sub-scheme	Kishoreganj district Upazila: Kuliarchar	Fully replacement of Gate (1.5mx1.8m) with related mechanical equipments=3nos. Maintenance equipments = 1no.	N/A	No any activities listed in ECR1997.	
R-8	Kairdhala Ratna Scheme	Habiganj district Upazila: Ajmiriganj, Baniachong	Resection of Embankment=60m(Submergible) Replacement of Gearbox=5nos. Replacement of rubber seal=1no. Maintenance equipments = 1no.	Red	The project includes reconstruction activities as resectioning of 60m of submergible embankment which categorized in 66. Construction/reconstruction /expansion of flood control embankment, polder, dike, etc. in ECR1997. The resectioning work does not require any additional land.	The resectioning work does not require any additional land.
R-9	Bahira River Scheme	Habiganj district Upazila: Ajmiriganj, Baniachong	Resection of Embankment=6,000m(Submergible) Installation of Gate (1.5mx1.8m) with related mechanical equipments=4nos. Re-excavation of Canal=20km Maintenance equipments = 1no.	Red	The project includes reconstruction activities as resectioning of 6,000m of submergible embankment which categorized in 66. Construction/reconstruction /expansion of flood control embankment, polder, dike, etc. in ECR1997. The resectioning work does not require any additional land.	The resectioning work does not require any additional land.
R-10	Aralia Khal Scheme	Habiganj district Upazila: Baniachong	Reinstallation of Gearbox=4nos. Re-excavation of Canal=2.4km Maintenance equipments = 1no.	N/A	No any activities listed in ECR1997.	To be confirmed DoE
R-11	Chandal Beel Scheme	Brammanbaria district Upazila: Bancharampur	Resection of Embankment=100m(Full) Fully replacement of Gate with related mechanical equipments=2nos. Re-excavation of Canal=1.5km Maintenance equipments = 1no.	Red	The project includes reconstruction activities as resectioning of 100m of full embankment which categorized in 66. Construction/reconstruction /expansion of flood control embankment, polder, dike, etc. in ECR1997. The resectioning work does not require any additional land.	The resectioning work does not require any additional land.

No.	Name of Project	Location	Component	Category in BD.	Description of categorization	Remarks
R-12	Satdona Beel Scheme	Brammanbari a district Upazila: Bancharampur	Installation of Stoplogs =2sets Fully replacement of Gate with related mechanical equipments=2nos. Maintenance equipments = 1no.	N/A	No any activities listed in ECR1997.	To be confirmed DoE
R-13	Gangajuri FCD sub-project	Habiganj district Upazila: Bahubol,Baniachong& Sadar	Embankment =600m (Full)Replacement of Gearbox=19nos.Replacement of hoist rod = 1no.Re-excavation of canal =4.5km	Red	The project embankment includes reconstruction activities as 600m of full embankment which categorized in 66. Construction/reconstruction /expansion of flood control embankment, polder, dike, etc. in ECR1997. The resectioning work does not require any additional land.	The project only for rehabilitation and not involves new land acquisition.
R-14	Kaliajuri polder #02 scheme	Netrakona district Upazila: Kaliajuri	Embankment = 810m (Submergible) Replacement of Gearbox =19nos	Red	The project embankment includes reconstruction activities as 810m of submergible embankment which categorized in 66. Construction/reconstruction /expansion of flood control embankment, polder, dike, etc. in ECR1997. The resectioning work does not require any additional land.	The project only for rehabilitation and not involves new land acquisition.
R-15	Kaliajuri polder #04 scheme	Netrakona district Upazila: Kaliajuri	Embankment = 630m (Submergible) Fully replacement of Gate with related mechanical equipments=2nos. Replacement of Gearbox=1no.	Red	The project embankment includes reconstruction activities as 630m of submergible embankment which categorized in 66. Construction/reconstruction /expansion of flood control embankment, polder, dike, etc. in ECR1997. The resectioning work does not require any additional land.	The project only for rehabilitation and not involves new land acquisition.

Note: Screening of Category in Bangladesh is conducted by the survey team tentatively referring the ECR 1997. All project are subject to the categorization by DoE.

**Table A.8.2 Tentative Categorization in ECR 1997 for New Submergible Embankment Subprojects by BWDB (Component 1)**

No.	Name of Project	Location	Component	Category in BD.	Description of categorization	Remarks
N-1	Boro Haor Project (Nikli)	Kishorganj district Upazila: Karimganj, Katiadi, Kishoreganj Sadar, Nikli	Embankment (Submergible) =10.3km Re-excavation of canal = 10km 9-vent Regulator = 2nos. 3-vent Regulator = 1 no.	Red	The project includes construction activities of 10.3km of submergible embankments which categorized in 66. Construction/reconstruction /expansion of flood control embankment, polder, dike, etc. in ECR1997.	New land may be required.
N-2	Naogaon Haor Project	Kishorganj district Upazila: Itna, Karimganj, Mithamain, Nikli	Embankment (Submergible) =31.2km Re-excavation of canal = 20km 9-vent Regulator = 2nos. 8-vent Regulator = 1 no. 4-vent Regulator = 1 no.	Red	The project includes construction activities of 31.2km of submergible embankments which categorized in 66. Construction/reconstruction /expansion of flood control embankment, polder, dike, etc. in ECR1997.	New land may be required.
N-3	Jaliar Haor Project	Sunamganj district Upazila: Chhatak	Embankment (Submergible) =12.4km Re-excavation of canal = 8km 2-vent Regulator = 1 no. 2-vent Regulator = 1 no.	Red	The project includes construction activities of 12.4km of submergible embankments which categorized in 66. Construction/reconstruction /expansion of flood control embankment, polder, dike, etc. in ECR1997.	New land may be required.
N-4	Dharmapasha Rui Beel Project	Sunamganj district Upazila: Dharampasha Netrokona district Upazila: Barhatta, Kalmakanda, Mohanganj Thana	Embankment (Submergible) =54.3km Re-excavation of canal = 5km 9-vent Regulator = 3nos. 8-vent Regulator = 2nos. 6-vent Regulator = 1 no. 3-vent Regulator = 1 no.	Red	The project includes construction activities of 54.3km of submergible embankments which categorized in 66. Construction/reconstruction /expansion of flood control embankment, polder, dike, etc. in ECR1997.	New land may be required.
N-5	Chandpur Haor Project	Kishorganj district Upazila: Katiadi, Nikli	Embankment (Submergible) =2.2km Re-excavation of canal = 5km 4-vent Regulator = 1 no. 1-vent Regulator = 1 no.	Red	The project includes construction activities of 2.2km of submergible embankments which categorized in 66. Construction/reconstruction /expansion of flood control embankment, polder, dike, etc. in ECR1997.	New land may be required.
N-6	Suniar Haor Project	Kishorganj district Upazila: Tarail Netrokona district Upazila: Kendua	Embankment (Submergible) =15.4km Re-excavation of canal = 25km 4-vent Regulator = 1 no. 1-vent Regulator = 1 no.	Red	The project includes construction activities of 15.4km of submergible embankments which categorized in 66. Construction/reconstruction /expansion of flood control embankment, polder, dike, etc. in ECR1997.	New land may be required.

No.	Name of Project	Location	Component	Category in BD.	Description of categorization	Remarks
N-7	Badla Haor Project	Kishoreganj district Upazila: Itna, Karimganj, Tarail	Embankment (Submergible) =9.7km Re-excavation of canal = 2km 2-vent Regulator = 2nos.	Red	The project includes construction activities of 9.7km of submergible embankments which categorized in 66. Construction/reconstruction /expansion of flood control embankment, polder, dike, etc. in ECR1997.	New land may be required.
N-8	Nunnir Haor Project	Kishoreganj district Upazila: Bajitpur, Kariadi, Nikli	Embankment (Submergible) =23.2km Re-excavation of canal = 20km 5-vent Regulator = 1no. 2-vent Regulator = 2nos.	Red	The project includes construction activities of 23.2km of submergible embankments which categorized in 66. Construction/reconstruction /expansion of flood control embankment, polder, dike, etc. in ECR1997.	New land may be required.
N-9	Dakhshiner Haor Project	Kishoreganj district Upazila: Ajmirganj, Itna, Mithamain	Embankment (Submergible) =16.8km Re-excavation of canal = 10km 6-vent Regulator = 1no. 3-vent Regulator = 1no.	Red	The project includes construction activities of 16.8km of submergible embankments which categorized in 66. Construction/reconstruction /expansion of flood control embankment, polder, dike, etc. in ECR1997.	New land may be required.
N-10	Chatal Haor Project	Kishoreganj district Upazila: Tarail, Itna, Madan	Embankment (Submergible) =5.8km Re-excavation of canal = 11km 1-vent Regulator = 2nos.	Red	The project includes construction activities of 5.8km of submergible embankments which categorized in 66. Construction/reconstruction /expansion of flood control embankment, polder, dike, etc. in ECR1997.	New land may be required.
N-11	Ganesh Haor Project	Netrokona district Upazila: Madan, Atpara	Embankment (Submergible) =19.4km Re-excavation of canal = 3km 3-vent Regulator = 1no. 2-vent Regulator = 1no.	Red	The project includes construction activities of 19.4km of submergible embankments which categorized in 66. Construction/reconstruction /expansion of flood control embankment, polder, dike, etc. in ECR1997.	New land may be required.
N-12	Dhakua Haor Project	Sunamganj district Upazila: Dakshin, Sunamganj, Jamalganj, Sunamganj Sadar	Embankment (Submergible) =32.9km Re-excavation of canal = 30km 5-vent Regulator = 1no. 3-vent Regulator = 1no. 1-vent Regulator = 1no.	Red	The project includes construction activities of 32.9km of submergible embankments which categorized in 66. Construction/reconstruction /expansion of flood control embankment, polder, dike, etc. in ECR1997.	New land may be required.

No.	Name of Project	Location	Component	Category in BD.	Description of categorization	Remarks
N-13	Mokhar Haor Project	Habiganj district Upazila: Habiganj Sadar, Baniachanpur, Ajmirganj	Embankment (Submergible) =28.4km Re-excavation of canal = 110km 5-vent Regulator = 1no. 4-vent Regulator = 2nos. 3-vent Regulator = 2nos.	Red	The project includes construction activities of 28.4km of submergible embankments which categorized in 66. Construction/reconstruction /expansion of flood control embankment, polder, dike, etc. in ECR1997.	New land may be required.
N-14	Noapara Haor Project	Kishorganj district Upazila: Austagram, Karimganj, Nikli	Embankment (Submergible) =23.3km Re-excavation of canal = 7km 3-vent Regulator = 1no. 2-vent Regulator = 1no. 1-vent Regulator = 1no.	Red	The project includes construction activities of 23.3km of submergible embankments which categorized in 66. Construction/reconstruction /expansion of flood control embankment, polder, dike, etc. in ECR1997.	New land may be required.

Note: Screening of Category in Bangladesh is conducted by the survey team tentatively referring the ECR 1997. All project are subject to the categorization by DoE.

**Table A.8.3 Tentative Categorization in ECR 1997 for Component 2 subprojects in the Rehabilitation haor area(Tentative)**

No.	Name of Project site	Location	Component	Category in BD.	Description of works	Remarks
R-1	Dampara Water Management Scheme	Netrakona district Upazila : Purbodhola	Road improvement (2 Union Road : 9.36km, and 2 Village Road : 6.20km):4 nos = 15.56km Bridge: 1=60meter Hat construction: 2 locations Ghat: New construction: 3 locations	OrangeB	Approx.15km of the road improvement with bridges which are less than 100m and it can be categorized as; 63. Construction, re-construction and extension of road (feeder road, local road). And 64. Construction, re-construction and extension of bridge (length below 100 meters).	
R-2	Kangsa River Scheme	Netrakona district Upazila: Netrokona Sadar, Purbodhola	Road improvement(1 Village Road: 3.0km): 1=3.0km Hat/Bazar: Village Bazar improvement: 1no Ghat: Improvement of Jaria ghat: 1no	OrangeB	Approx. 3km of local road improvement and it can be categorized; 63. Construction, re-construction and extension of road (feeder road, local road).	
R-3	Singer Beel Scheme	Netrakona district Upazila: Barhatta	No any activities	N/A	-	
R-4	Baraikhali Khal Scheme	Kishoreganj district Upazila: Hossainpur, Kishoreganj Sadar  Mymensingh district Upazila: Nandail	Road improvement(2 Village Roads: 9.53km , 4 Union Roads: 13.53km): 6no=23.06km Hat/Bazar: Village bazaar improvement: 3no Ghat: Bazar ghat improvement: 2no	OrangeB	Approx. 23km of local road improvement and it can be categorized; 63. Construction, re-construction and extension of road (feeder road, local road).	

R-5	Alalia-Bahadia Scheme	Kishoreganj district Upazila: Katiadi, Pakundia	Road improvement(3 Union Roads : 30.20km): 3no=30.20km Hat/Bazar: Village bazaar improvement: 1no	OrangeB	Approx. 30km of local road improvement and it can be categorized as: 63. Construction, re-construction and extension of road (feeder road, local road).
R-6	Modkhola Bhairagirchar sub-project Scheme	Kishoreganj district Upazila: Pakundia, Katiadi	Road improvement(1Union Road: 2.1km): 1no: 2.10km	OrangeB	Approx. 2 km of local road improvement and it can be categorized as: 63. Construction, re-construction and extension of road (feeder road, local road).
R-7	Ganakkhalli Sub-scheme	Kishoreganj district Upazila: Kuliarchar	Road improvement( 1 Union Road: 4.97km): 1no=4.97km Ghat: Improvement of Kacharighat: 1no	OrangeB	Approx. 5 km of local road improvement and it can be categorized as: 63. Construction, re-construction and extension of road (feeder road, local road).
R-8	Kairdhala Ratna Scheme	Habiganj district Upazila: Ajmiriganj, Baniachong	Road improvement(3 Upazila Road: 20.9km , 1 Union Road: 8.45km, 10Village Road: 30.6km): 14no=60.0km Ghat: Improvement of Boalia ghat: 1no Hat/Bbazaar: Improvement of Bbadhalpur Bazar: 1no Culvert: Improvement: 12no=123.2meter Bridge: Improvement: 2no=70meter	OrangeB	Approx. 60km of local road improvement and it can be categorized as: 63. Construction, re-construction and extension of road (feeder road, local road).
R-9	Bahira River Scheme	Habiganj district Upazila: Ajmiriganj, Baniachong	Road improvement(1 Union Road: 5.38km, 4 Village Road: 8.9km ): 5no=14.28km Culvert: Improvement: 4no=18.5meter Bridge: Improvement: 1no=55meter Ghat: Improvement: 2no Hat Bazar: Village Bazar improvement: 2no	OrangeB	Approx. 14 km of local road improvement with 55m of bridges and it can be categorized as: 63. Construction, re-construction and extension of road (feeder road, local road). And 64. Construction, re-construction and extension of bridge (length below 100 meters).
R-10	Aralia Khal Scheme	Habiganj district Upazila: Baniachong	Road improvement(1 Union Road: 3.0km): 1no=3km Bridge: Improvement: 1no=100meter Culvert: Improvement: 1no=30meter Ghat: Improvement of Sujatpur bazaar ghat: 1no Hat Bazar: Improvement of Sujatpur bazaar: 1no	OrangeB	Approx. 3 km of local road improvement with 100m of total bridge lengths (less than 100m each) and it can be categorized as: 63. Construction, re-construction and extension of road (feeder road, local road). 64. Construction, re-construction and extension of bridge (length below 100 meters).

R-11	Chandal Beel Scheme	Brammanbaria district Upazila: Bancharampur	No any activities	N/A		
R-12	Satdona Beel Scheme	Brammanbaria district Upazila: Bancharampur	No any activities	N/A		
R-13	Gangajuri FCD sub-project	Habiganj district Upazila: Bahubol,Baniachong & Sadar	Road improvement (1 Upazila Road:7.02km, 2 Union Road : 11.9km & 7 Village Roads: : 28.13km): 10no=47.05km Bridge: Improvement: 3no=70meter Culvert: Improvement: 8no=260meter Hat bazar: Improvement of Bazar: 4 no Ghat: Bazar ghat improvement: 2no	OrangeB	Approx. 74 km of local road improvement with 61m of total bridge lengths (less than 100m each) and it can be categorized as: 63. Construction, re-construction and extension of road (feeder road, local road). 64. Construction, re-construction and extension of bridge (length below 100 meters).	
R-14	Kaliajuri polder #02 scheme	Netrakona district Upazila: Kaliajuri	Hat/Bazar: Improvement: 2no Ghat: Improvement of Bazar ghat: 3no	N/A		
R-15	Kaliakjuri polder #04 scheme	Netrakona district Upazila: Kaliajuri	Road improvement(3 Union Road : 31.64km & 1 Village Road: 5.0km): 4no=36.64km Bridge: Improvement: 3no=464meter Culvert: Improvement: 3no=42meter Hat/Bazar: Improvement: 2no	OrangeB	Approx. 37 km of local road improvement with 464 m of total bridge lengths (less than 100m each) and it can be categorized as: 63. Construction, re-construction and extension of road (feeder road, local road). 64. Construction, re-construction and extension of bridge (length below 100 meters).	

Note: Screening of Category in Bangladesh is conducted by the survey team tentatively referring the ECR 1997. All projects are subject to the categorization by DoE.

**Table A.8.4 Tentative Categorization in ECR 1997 for Component 2 subprojects in the new construction haor area**

No.	Name of Project	Location	Component	Category in BD.	Description of works	Remarks
N-1	Boro Haor Project (Nikli)	Kishorganj district Upazila: Karimganj, Katiadi, Kishoreganj Sadar, Nikli	Road improvement (1 Union Road:2.61km, 1Village Road: 2.0km) : 2no=4.61km Hat/bazaar (2Rural Markets and 1 Growth Center): 3no Ghat: New construction: 3no	OrangeB	Approx. 5 km of local road improvement and it can be categorized as: 63. Construction, re-construction and extension of road (feeder road, local road).	



N-2	Naogaon Haor Project	Kishorganj district Upazila: Itna, Karimganj, Mithamain, Nikli	Road improvement (1 Upazila Road: 10.0km ,1Union Road: 9.59km, 1Village Road: 3.0km): 3no=22.59km Ghat: New construction: 1no Hat/bazaar( New village market construction): 1no	OrangeB	Approx. 23 km of local road improvement and it can be categorized as: 63. Construction, re-construction and extension of road (feeder road, local road).
N-3	Jaliar Haor Project	Sunamganj district Upazila: Chhatak	No any activities	N/A	-
N-4	Dharmapasha Rui Beel Project	Sunamganj district Upazila: Dharampasha  Netrokona district Upazila: Barhatta, Kalmakanda, Mohanganj Thana	Road improvement (1 Upazila Road: 17.46km, 1Union Road: 8.00km): 2no=25.46km Culvert :New construction: 2no=150meter Hat/bazaar( New village market construction): 1no	OrangeB	Approx. 25 km of local road improvement and it can be categorized as: 63. Construction, re-construction and extension of road (feeder road, local road).
N-5	Chandpur Haor Project	Kishorganj district Upazila: Katiadi, Nikli	Road improvement(1 Upazila Road: 6.24 km , 1Union Road: 6.47km, 1 Village Road: 4.39km ): 3no=17.10km Bridge: New construction: 1no=10meter Culvert: New construction: 1no=10meter Growth C/ Chandrapur: 1	OrangeB	Approx. 22 km of local road improvement with 8 m of total bridge lengths and it can be categorized as: 63. Construction, re-construction and extension of road (feeder road, local road). 64. Construction, re-construction and extension of bridge (length below 100 meters).
N-6	Suniar Haor Project	Kishorganj district Upazila: Tarail  Netrokona district Upazila: Kendua	Road improvement (1 Upazila Road: 10.20km , 3Union Road: 24.21km) : 4no=34.21km Market: New Bazar construction: 1no	OrangeB	Approx. 36 km of local road improvement and it can be categorized as: 63. Construction, re-construction and extension of road (feeder road, local road).
N-7	Badla Haor Project	Kishoreganj district Upazila: Itna, Karimganj, Tarail	Road improvement (2Union Road: 6.54km, 1Village Road: 3.0km ) : 3no=9.54km Ghat: New construction: 1no=Bashikura bazaar ghat	OrangeB	Approx. 10 km of local road improvement and it can be categorized as: 63. Construction, re-construction and extension of road (feeder road, local road).
N-8	Nunnir Haor Project	Kishorganj district Upazila: Bajitpur, Kariadi, Nikli	Road improvement (1Union Road: 7.06km, 1Village Road: 0.64km): : 2no=7.70km	OrangeB	Approx. 8 km of local road improvement and it can be categorized as: 63. Construction, re-construction and extension of road (feeder road, local road).
N-9	Dakhshiner Haor Project	Kishorganj district Upazila: Ajmirganj, Itna, Mithamain	Road improvement(2Upazila Road: 26.27km):: 2no=26.27km Hat:New Bazar construction: 1no	OrangeB	Approx. 26 km of local road improvement and it can be categorized as: 63. Construction, re-construction and extension of road (feeder road, local road).

N-10	Chatal Haor Project	Kishorganj district Upazila: Tarail, Itna, Madan	NA	N/A		
N-11	Ganesh Haor Project	Netrokona district Upazila: Madan, Atpara	Road improvement (3Village Road: 5.25km): 3no=5.25km	OrangeB	Approx. 5 km of local road improvement and it can be categorized as: 63. Construction, re-construction and extension of road (feeder road, local road).	
N-12	Dhakua Haor Project	Sunamganj district Upazila: Dakshin, Sunamganj, Jamalganj, Sunamganj Sadar	Road improvement(3 Upazila Road: 23.58 km, 1Union Road: 7.7 km, 8 Village Road: 23.35km): 12no=54.63km Culvert: New construction: 7no=140meter Bridge: New construction: 3no=230meter Hat: Growth center: New construction: 1no Ghat: New Bazar ghat construction: 3no	OrangeB	Approx. 71 km of local road improvement with 390 m of total bridge lengths (less than 100m each) and it can be categorized as: 63. Construction, re-construction and extension of road (feeder road, local road). 64. Construction, re-construction and extension of bridge (length below 100 meters).	
N-13	Mokhar Haor Project	Habiganj district Upazila: Habiganj Sadar, Baniachanpur, Ajmirganj	Road improvement(1Village Road: 3.00km ): 1no=3.00km Culvert: New construction: 1no= 10meter	OrangeB	Approx. 3 km of local road improvement and it can be categorized as: 63. Construction, re-construction and extension of road (feeder road, local road).	
N-14	Noapara Haor Project	Kishorganj district Upazila: Austagram, Karimganj, Nikli	No any activities	N/A	-	

Note: Screening of Category in Bangladesh is conducted by the survey team tentatively referring the ECR 1997. All projects are subject to the categorization by DoE.

## &lt;Appendix 8.3 Tentative Environmental Checklist &gt;

Table A.8.5 Tentative Environmental Checklist Related to Environmental Consideration for Component 1

Category	Environmental Item	Main Check Items	Yes: Y No : N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
1 Permits and Explanation	(1) EIA and Environmental Permits	(a) Have EIA reports been already prepared in official process? (b) Have EIA reports been approved by authorities of the host country's government? (c) Have EIA reports been unconditionally approved? If conditions are imposed on the approval of EIA reports, are the conditions satisfied? (d) In addition to the above approvals, have other required environmental permits been obtained from the appropriate regulatory authorities of the host country's government?	(a) N (b) N (c) N (d) Y	(a) Official process should be conducted by implementing agencies after the JICA survey. Preliminary study is ongoing under the survey. (b) -same- (c) -same- (d) Related to EIA process, the proponent should obtain "certificate of no objection for the project" from local government.
	(2) Explanation to the Local Stakeholders	(a) Have contents of the project and the potential impacts been adequately explained to the Local stakeholders based on appropriate procedures, including information disclosure? Is understanding obtained from the Local stakeholders? (b) Have the comment from the stakeholders (such as local residents) been reflected to the project design?	(a) Y (b) Y	(a) At the process in Haor Master Plan, range of the stake holder meeting were held. And 2 public consultation meeting at haor level are under implementation in the JICA preparatory survey. (b) The Master Plan was prepared in participatory way consulting local residents. Also, result of the PCM in the JICA preparatory survey will be shared among the implementation agencies.
	(3) Examination of Alternatives	(a) Have alternative plans of the project been examined with social and environmental considerations?	(a) Y	(a) With/Without project are compared.
2 Pollution Control	(1) Water Quality	(a) Is there a possibility that changes in river flow downstream (mainly water level drawdown) due to the project will cause areas that do not comply with the country's ambient water quality standards?	(a) N	(a) At the subproject selection process in the data collection survey, the water flow was studied and it does not affect the water flow in the area.
	(2) Wastes	(a) In the case of that large volumes of excavated/dredged materials are generated, are the excavated/dredged materials properly treated and disposed of in accordance with the country's standards?	(a) Y	(a) The detail plan is not available at the moment. But the soil excavation/spoiled material treatment should be conducted proper way not causing serious erosion.
	(3) Subsidence	(a) Is there a possibility that the excavation of waterways will cause groundwater level drawdown or subsidence? Are adequate measures taken, if necessary?	(a) N	(a) The excavation will be only existing water way to remove sediment from the upper stream, as dredging and it not affect ground water flow seriously.
3 Natural Environment	(1) Protected Areas	(a) Is the project site located in protected areas designated by the country's laws or international treaties and conventions? Is there a possibility that the project will affect the protected areas?	(a) N	(a) There is no protected area in the proposed area.

	(2) Ecosystem	<p>(a) Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g., coral reefs, mangroves, or tidal flats)?</p> <p>(b) Does the project site encompass the protected habitats of endangered species designated by the country's laws or international treaties and conventions?</p> <p>(c) If significant ecological impacts are anticipated, are adequate protection measures taken to reduce the impacts on the ecosystem?</p> <p>(d) Is there a possibility that hydrologic changes, such as reduction of the river flow, and seawater intrusion up the river will adversely affect downstream aquatic organisms, animals, vegetation, and ecosystems?</p> <p>(e) Is there a possibility that the changes in water flows due to the project will adversely affect aquatic environments in the river? Are adequate measures taken to reduce the impacts on aquatic environments, such as aquatic organisms?</p>	<p>(a) N</p> <p>(b) N</p> <p>(c) N</p> <p>(d) N</p> <p>(e) N</p>	<p>(a) No any primeval forests, tropical rain forests, ecologically valuable habitats may be involved because the new embankment are planned to construct submergible embankment on farm land and rehabilitation works are planned improvement of existing embankment in seasonal flood area in haor.</p> <p>(b) No any protected habitats of endangered species may be involved because the plan only focus the improvement of existing road.</p> <p>(c) Not particular habitats for endangered species have been identified.</p> <p>Fish species in the area includes some protected species.</p> <p>(d) The embankment should be designed not to disturb the current natural flow.</p> <p>(e) No any large destruction of the ecosystem, because water-gates will be installed at current natural flow at embankment.</p> <p>(f) No large impact is expected to the natural environment. At the subproject selection process in the data collection survey, the water flow was studied and it does not affect the water flow in the area. Also, water-gates will be installed at current natural flow at embankment.</p>
3 Natural Environment	(3) Hydrology	(a) Is there a possibility that hydrologic changes due to the project will adversely affect surface water and groundwater flows?	(a) N	(a) At the subproject selection process in the data collection survey, the water flow was studied and it does not affect the water flow in the area.
	(4) Topography and Geology	(a) Is there a possibility that excavation of rivers and channels will cause a large-scale alteration of the topographic features and geologic structures in the surrounding areas?	(a) N	(a) No large topographic change is anticipated.
5 Others 6 Note	(1) Impacts during Construction	<p>(a) Are adequate measures considered to reduce impacts during construction (e.g., noise, vibrations, turbid water, dust, exhaust gases, and wastes)?</p> <p>(b) If construction activities adversely affect the natural environment (ecosystem), are adequate measures considered to reduce impacts?</p> <p>(c) If construction activities adversely affect the social environment, are adequate measures considered to reduce impacts?</p>	<p>(a) Y</p> <p>(b) Y</p> <p>(c) Y</p>	<p>(a) Management Plan should be developed based on the environmental study.</p> <p>(b) Impact to natural should be reduced, if it will be found.</p> <p>(c) Adequate compensation will be considered within the Resettlement Frame Work.</p>
	(2) Monitoring	<p>(a) Does the proponent develop and implement monitoring program for the environmental items that are considered to have potential impacts?</p> <p>(b) What are the items, methods and frequencies of the monitoring program?</p> <p>(c) Does the proponent establish an adequate monitoring framework (organization, personnel, equipment, and adequate budget to sustain the monitoring framework)?</p> <p>(d) Are any regulatory requirements</p>	<p>(a) Y</p> <p>(b) -</p> <p>(c) Y</p> <p>(d) N</p>	<p>(a) The proponent should follow the management plan prepared in the preliminary EIA.</p> <p>(b) Permission process at the designing stage and grievance from PAPs should be monitored adequately.</p> <p>(c) The framework should develop the adequately at the process of the Environmental clearance in GOB.</p> <p>(d) No particular regulation has been identified.</p>

		pertaining to the monitoring report system identified, such as the format and frequency of reports from the proponent to the regulatory authorities?		
Reference to Checklist of Other Sectors		(a) Where necessary, pertinent items described in the Forestry checklist should also be checked.	(a) Y	(a) Project involves other activities besides embankment construction such as rural infrastructure, agriculture and fishery.
Note on Using Environmental Checklist		(a) If necessary, the impacts to transboundary or global issues should be confirmed (e.g., the project includes factors that may cause problems, such as transboundary waste treatment, acid rain, destruction of the ozone layer, or global warming).	(a) N/A	(a) No any particular involvement.

Source: JICA Survey Team

**Table A.8.6 Tentative Environmental Checklist Related to Environmental Consideration for Component2 & 3**

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
1 Permits and Explanation	(1) EIA and Environmental Permits	(a) Have EIA reports been already prepared in official process? (b) Have EIA reports been approved by authorities of the host country's government? (c) Have EIA reports been unconditionally approved? If conditions are imposed on the approval of EIA reports, are the conditions satisfied? (d) In addition to the above approvals, have other required environmental permits been obtained from the appropriate regulatory authorities of the host country's government?	(a) N (b) N (c) N (d) Y	(a) Official process should be conducted by implementing agencies after the JICA preparatory survey. Preliminary study is ongoing under the survey. (b) -same- (c) -same- (d) Related to EIA process, the proponent should obtain "certificate of no objection for the project" from local government.
	(2) Explanation to the Local Stakeholders	(a) Have contents of the project and the potential impacts been adequately explained to the Local stakeholders based on appropriate procedures, including information disclosure? Is understanding obtained from the Local stakeholders? (b) Have the comment from the stakeholders (such as local residents) been reflected to the project design?	(a) Y (b) Y	(a) At the process in Haor Master Plan, range of the stake holder meeting were held. And 2 public consultation meeting at haor level are under implementation in the JICA preparatory survey. (b) The Master Plan was prepared in participatory way consulting local residents. Also, result of the PCM in the JICA preparatory survey will be shared among the implementation agencies.
	(3) Examination of Alternatives	(a) Have alternative plans of the project been examined with social and environmental considerations?	(a) Y	(a) With/Without project are compared.
2 Pollution Control	(1) Air Quality	(a) Is there a possibility that air pollutants emitted from the project related sources, such as vehicles traffic will affect ambient air quality? Does ambient air quality comply with the country's air quality standards? Are any mitigating measures taken? (b) Where industrial areas already exist near the route, is there a possibility that the project will make air pollution worse?	(a) N (b) N	(a) The plan basically contains improvement of existing road condition in the rural condition based on the request of residents. No any additional pollutant emission is predicted. (b) The road improvement is for improving local environment to enhance connectivity between communities and not related to the large scale development at the time.

	(2) Water Quality	(a) Is there a possibility that soil runoff from the bare lands resulting from earthmoving activities, such as cutting and filling will cause water quality degradation in downstream water areas? (b) Is there a possibility that surface runoff from roads will contaminate water sources, such as groundwater? (c) Do effluents from various facilities, such as parking areas/service areas comply with the country's effluent standards and ambient water quality standards? Is there a possibility that the effluents will cause areas not to comply with the country's ambient water quality standards?	(a) N (b) N (c) N	(a) Some soil erosion may be occurred on the road slope during flood season. Also, during construction, some water turbidity may increase. (b) The construction site is located in the seasonal flood area. No particular water source are anticipated to be contaminated. (c) The project is only focusing the improvement of existing rural road and no any additional facilities are planned at the moment.
	(3) Wastes	(a) Are wastes generated from the project facilities, such as parking areas/service areas, properly treated and disposed of in accordance with the country's regulations?	(a) Y	(a) The activities include only rural road improvement for altering living condition and particular additional facilities are not planned.
	(4) Noise and Vibration	(a) Do noise and vibrations from the vehicle and train traffic comply with the country's standards?	(a) Y	(a) No particular impact.
3 Natural Environment	(1) Protected Areas	(a) Is the project site located in protected areas designated by the country's laws or international treaties and conventions? Is there a possibility that the project will affect the protected areas?	(a) N	(a) No any protected areas are found within the currently proposed project Ares(37 subproject areas).
	(2) Ecosystem	(a) Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g., coral reefs, mangroves, or tidal flats)? (b) Does the project site encompass the protected habitats of endangered species designated by the country's laws or international treaties and conventions? (c) If significant ecological impacts are anticipated, are adequate protection measures taken to reduce the impacts on the ecosystem? (d) Are adequate protection measures taken to prevent impacts, such as disruption of migration routes, habitat fragmentation, and traffic accident of wildlife and livestock? (e) Is there a possibility that installation of roads will cause impacts, such as destruction of forest, poaching, desertification, reduction in wetland areas, and disturbance of ecosystems due to introduction of exotic (non-native invasive) species and pests? Are adequate measures for preventing such impacts considered? (f) In cases the project site is located at undeveloped areas, is there a possibility that the new development will result in extensive loss of natural environments?	(a) N (b) N (c) Y (d) Y (e) N (f) N	(a) No any primeval forests, tropical rain forests, ecologically valuable habitats may be involved because the plan only focus the improvement of existing road. (b) No any protected habitats of endangered species may be involved because the plan only focus the improvement of existing road. (c) Not particular habitats for endangered species have been identified. Fish species in the area includes some protected species. (d) The road should be designed not to disturb the current natural flow. (e) No any large destruction of the ecosystem, because the plan only focus the improvement of existing road. (f) Because the plan only focus the improvement of existing road, no large impact is expected to the natural environment.
	(3) Hydrology	(a) Is there a possibility that alteration of topographic features and installation of structures, such as tunnels will adversely affect surface water and groundwater flows?	(a) N	(a) Hydrological impact was studied for the screening of the project site within the flood control management at data collection survey.

	(4) Topography and Geology	(a) Is there any soft ground on the route that may cause slope failures or landslides? Are adequate measures considered to prevent slope failures or landslides, where needed? (b) Is there a possibility that civil works, such as cutting and filling will cause slope failures or landslides? Are adequate measures considered to prevent slope failures or landslides? (c) Is there a possibility that soil runoff will result from cut and fill areas, waste soil disposal sites, and borrow sites? Are adequate measures taken to prevent soil runoff?	(a) N (b) N (c) N	(a) No information available. However, the area is generally flood area not requires high embankment. (b) The area is flood low land and may not cause serious land failure. (c) Should be considered.
5 Others	(1) Impacts during Construction	(a) Are adequate measures considered to reduce impacts during construction (e.g., noise, vibrations, turbid water, dust, exhaust gases, and wastes)? (b) If construction activities adversely affect the natural environment (ecosystem), are adequate measures considered to reduce impacts? (c) If construction activities adversely affect the social environment, are adequate measures considered to reduce impacts?	(a) Y (b) Y (c) Y	(a) The impact should be minimized using available way even the project scale are small. (b) The construction may involve local resident who are relying on the natural resources. But no big impact is anticipated because of the scale of the project. (c) Adequate compensation are considered for the land as most large impact for the society. But no big impact is anticipated because of the scale of the project.
	(2) Monitoring	(a) Does the proponent develop and implement monitoring program for the environmental items that are considered to have potential impacts? (b) What are the items, methods and frequencies of the monitoring program? (c) Does the proponent establish an adequate monitoring framework (organization, personnel, equipment, and adequate budget to sustain the monitoring framework)? (d) Are any regulatory requirements pertaining to the monitoring report system identified, such as the format and frequency of reports from the proponent to the regulatory authorities?	(a) Y (b) - (c) Y (d) N	(a) The proponent should follow the management plan prepared in the preliminary EIA. (b) Permission process at the designing stage and grievance from PAPs at construction & operation should be monitored adequately. Also, RAP & LAP process should be monitored if require. (c) The proponent should develop the adequate monitoring plan based on the preliminary EIA result conducted under preparatory survey. (d) No particular regulation has been identified.
6 Note	Reference to Checklist of Other Sectors	(a) Where necessary, pertinent items described in the Forestry Projects checklist should also be checked (e.g., projects including large areas of deforestation).(b) Where necessary, pertinent items described in the Power Transmission and Distribution Lines checklist should also be checked (e.g., projects including installation of power transmission lines and/or electric distribution facilities).	(a) N(b) N	(a) No any particular involvement.(b) No any particular involvement.
	Note on Using Environmental Checklist	(a) If necessary, the impacts to transboundary or global issues should be confirmed, if necessary (e.g., the project includes factors that may cause problems, such as transboundary waste treatment, acid rain, destruction of the ozone layer, or global warming).	(a) N/A	(a) The road development here is only focusing the local transport improvement in the seasonal wet area, Haor in Bangladesh. No particular impacts on the transboundary issues are involved.

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## &lt;Appendix 8.4 Environmental Monitoring Form&gt;

**Form 1: Environmental Process Monitoring Form during Planning/Design Stage**a) Monitoring Period From     Date    Month    Year    To     Date    Month    Year    

S.N.	Items	Check Point	Evaluation or Mitigation status Y: Good / Yes N: Poor / No	Remark And Signature by Checker
1	Environmental License	Have Environmental Licenses been obtained?	<input type="checkbox"/> Y / <input type="checkbox"/> N	Photocopy of the license and relevant documents, such as EIA reports include EMP & EMoP. Signature by Checker
		Are there any conditions for obtaining the license?	<input type="checkbox"/> Y / <input type="checkbox"/> N	Conditions and its countermeasures
2	Documentation of EIA report	Have EIA/IEE reports been already prepared in official process?	<input type="checkbox"/> Y / <input type="checkbox"/> N	. Confirmation of environmental critical areas . Confirmation of exclusion of significant natural environment (forest/endangered species, etc.) . Confirmation of resettlement status
3	Information disclosure to the local residents	Have the project been explained to the general public?	<input type="checkbox"/> Y / <input type="checkbox"/> N	PCM Report
4	Approval of EIA report	Have EIA reports been approved by authorities of the host country's government?	<input type="checkbox"/> Y / <input type="checkbox"/> N	Approved Environmental Management Plan and Monitoring Plan
		Have updated monitoring plan based on approved EMP & EMoP?	<input type="checkbox"/> Y / <input type="checkbox"/> N	Updated monitoring plan

Source: JICA Survey Team



**Form2: Social items Monitoring Form during Planning/Design Stage**

a) Monitoring Period From      Date      Month      Year     

To      Date      Month      Year     

SN	Items	Check Point	Evaluation or Mitigation status Y: Good / Yes N: Poor / No	Remark And Signature by Checker
1	Documentation	(a) Has RAP & LAP Framework been prepared?  (b) Have RAP & LAP been prepared?  (c) Has the Project specific compensation policy been prepared?  (d) Has the entitlement matrix been prepared?	<input type="checkbox"/> Y / <input type="checkbox"/> N  <input type="checkbox"/> Y / <input type="checkbox"/> N  <input type="checkbox"/> Y / <input type="checkbox"/> N  <input type="checkbox"/> Y / <input type="checkbox"/> N	
2	Approval	(a) Has RAP & LAP Framework been approved?  (b) Have RAP & LAP been approved?	<input type="checkbox"/> Y / <input type="checkbox"/> N  <input type="checkbox"/> Y / <input type="checkbox"/> N	
3	Disclosure and consultation	(a) Has Project related and LAP/RAP related information been disclosed to the residents?  (b) Has consultation during RAP preparation been conducted?  (c) Has consultation after entitlement been conducted?	<input type="checkbox"/> Y / <input type="checkbox"/> N  <input type="checkbox"/> Y / <input type="checkbox"/> N  <input type="checkbox"/> Y / <input type="checkbox"/> N	

SN	Items	Check Point	Evaluation or Mitigation status Y: Good / Yes N: Poor / No	Remark And Signature by Checker
4	Grievance redress	(a) Has the grievance redress mechanism been prepared?  (b) Has the Grievance Committee been formed?	<input type="checkbox"/> Y / <input type="checkbox"/> N  <input type="checkbox"/> Y / <input type="checkbox"/> N	
5	Implementation arrangement	(a) Has the implementation arrangement been prepared?  (b) Have the relevant committees been formed?	<input type="checkbox"/> Y / <input type="checkbox"/> N  <input type="checkbox"/> Y / <input type="checkbox"/> N	
6	Cost and budget	(a) Has the implementation cost been prepared?  (b) Has the budget been approved?  (c) Has the budget management mechanism been prepared?	<input type="checkbox"/> Y / <input type="checkbox"/> N  <input type="checkbox"/> Y / <input type="checkbox"/> N  <input type="checkbox"/> Y / <input type="checkbox"/> N	
7	Schedule	Has the implementation schedule been prepared?	<input type="checkbox"/> Y / <input type="checkbox"/> N	
8	Monitoring	(a) Has the implementation monitoring plan been prepared?  (b) Has the external monitoring plan been prepared?	<input type="checkbox"/> Y / <input type="checkbox"/> N  <input type="checkbox"/> Y / <input type="checkbox"/> N	

Source: JICA Survey Team

**Form 3: Environmental Process Monitoring Form during Construction Stage**

a) Monitoring Period From     Date         Month         Year    

To     Date         Month         Year    

S.N.	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,

Source: JICA Survey Team

**Form 4: Environmental Process Monitoring Form after Construction Stage**a) Monitoring Period From     Date    Month    Year    To     Date    Month    Year    

S.N.	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

Source: JICA Survey Team

**Table-A.8.7 Sample Checklist for environmental monitoring summary in Subprojects by BWDB (Component 1)**

No.	Name of Project	No of Resettlement & progress of RAP	Area of Land acquisition & progress of LAP	Identified negative impact & its countermeasure in EIA
R-1	Dampara Water Management Scheme			
R-2	Kangsa River Scheme			
R-3	Singer Beel Scheme			
R-4	Baraikhali Khal Scheme			
R-5	Alalia-Bahadia Scheme			
R-6	Modkhola Bhairagirchar sub-project Scheme			
R-7	Ganakkhalli Sub-scheme			
R-8	Kairdhala Ratna Scheme			
R-9	Bahira River Scheme			
R-10	Aralia Khal Scheme			
R-11	Chandal Beel Scheme			
R-12	Satdona Beel Scheme			
R-13	Gangajuri FCD sub-project			
R-14	Kaliajuri polder #02 scheme			
R-15	Kaliajuri polder #04 scheme			

No.	Name of Project	No of Resettlement & progress of RAP	Area of Land acquisition & progress of LAP	Identified negative impact & its countermeasure in EIA
N-1	Boro Haor Project (Nikli)			
N-2	Naogaon Haor Project			
N-3	Jaliar Haor Project			
N-4	Dharmapasha Rui Beel Project			
N-5	Chandpur Haor Project			
N-6	Suniar Haor Project			
N-7	Badla Haor Project			
N-8	Nunnir Haor Project			
N-9	Dakhshiner Haor Project			
N-10	Chatal Haor Project			
N-11	Ganesh Haor Project			
N-12	Dhakua Haor Project			
N-13	Mokhar Haor Project			
N-14	Noapara Haor Project			

Source: JICA Preparatory Survey Team

Note: This list is presented as an example to summarize monitoring situation and the contents should be modified with the project progress.

**Table-A.8.8 Sample Checklist for environmental monitoring summary in Subprojects by LGED (Component 2)**

No.	Name of Project Area	No of Resettlement & progress of RAP	Area of Land acquisition & progress of LAP	Identified negative impact & its countermeasure in EIA
R-1	Dampara Water Management Scheme Road improvement = 15.56km (Bridge=60m) Hat construction: 2 locations Ghat: New construction: 3 locations			
R-2	Kangsa River Scheme Road improvement: 1=3.0km Hat/Bazar: Village Bazar improvement: 1no Ghat: Improvement of Jaria ghat: 1no			
R-3	Singer Beel Scheme (N/A)			
R-4	Baraikhali Khal Scheme Road improvement=23.06km Hat/Bazar: Village bazaar improvement: 3no Ghat: Bazar ghat improvement: 2no			
R-5	Alalia-Bahadia Scheme Road improvement=30.20km Hat/Bazar: Village bazaar improvement: 1no			
R-6	Modkhola Bhairagirchar sub-project Scheme Road improvement=2.10km			
R-7	Ganakkhali Sub-scheme Road improvement=4.97km Ghat: Improvement of Kacharighat: 1no			
R-8	Kairdhala Ratna Scheme Road improvement=60.0km(Culvert=123.2m,Bridge =70m) Ghat: Improvement of Boalia ghat: 1no Hat/Bbazaar: Improvement of Bbadhalpur Bazar: 1no			
R-9	Bahira River Scheme Road improvement=14.28km(Culvert=18.5m,Bridge=55m) Ghat: Improvement: 2no Hat Bazar: Village Bazar improvement: 2no			
R-10	Aralia Khal Scheme Road improvement=3km(Bridge=100m,Culvert=30m) Ghat: Improvement of Sujatpur bazaar ghat: 1no Hat Bazar: Improvement of Sujatpur bazaar: 1no			
R-11	Chandal Beel Scheme			
R-12	Satdona Beel Scheme			
R-13	Gangajuri FCD sub-project Road improvement =47.05km(Bridge=70m, Culvert=260m) Hat bazar: Improvement of Bazar: 4 no Ghat: Bazar ghat improvement: 2no			
R-14	Kaliajuri polder #02 scheme Hat/Bazar: Improvement: 2no Ghat: Improvement of Bazar ghat: 3no			
R-15	Kaliakjuri polder #04 scheme Road improvement=36.64km(Bridge=464m, Culvert=42m) Hat/Bazar: Improvement: 2no			

No.	Name of Project Area	No of Resettlement & progress of RAP	Area of Land acquisition & progress of LAP	Identified negative impact & its countermeasure in EIA
N-1	Boro Haor Project (Nikli) Road improvement =4.61km Hat/bazaar(2Rural Markets and 1 Growth Center): 3no Ghat: New construction: 3no			
N-2	Naogaon Haor Project Road improvement =22.59km Ghat: New construction: 1no Hat/bazaar( New village market construction):1no			
N-3	Jaliar Haor Project			
N-4	Dharmapasha Rui Beel Project Road improvement =25.46km(Culvert=150m) Hat/bazaar( New village market construction):1no			
N-5	Chandpur Haor Project Road improvement=17.10km(Bridge=10m, Culvert=10m) Growth C/ Chandrapur: 1			
N-6	Suniar Haor Project Road improvement =34.21km Market: New Bazar construction: 1no			
N-7	Badla Haor Project Road improvement =9.54km Ghat: New construction: 1no=Bashikura bazaar ghat			
N-8	Nunnir Haor Project Road improvement =7.70km			
N-9	Dakhshiner Haor Project Road improvement=26.27km Hat:New Bazar construction: 1no			
N-10	Chatal Haor Project			
N-11	Ganesh Haor Project Road improvement =5.25km			
N-12	Dhakua Haor Project Road improvement=54.63km(Culvert=140m,Bridge=230m) Hat: Growth center: New construction: 1no Ghat: New Bazar ghat construction: 3no			
N-13	Mokhar Haor Project Road improvement=3.00km(Culvert= 10m)			
N-14	Noapara Haor Project			

Source: JICA Preparatory Survey Team

Note: This list is presented as an example to summarize monitoring situation and the contents should be modified with the project progress.



### <Appendix 8.5 TOR for the EIA study in BWDB/LGED >

This draft Terms of Reference (TOR) for the EIA Study has been prepared based on the results of the Initial Environmental Examination (IEE) and subsequently considering the environmental scoping as represented in the previous sections of this chapter. Public Consultation Meeting will be arranged at the project affected areas as per JICA and Bangladesh Government Environmental guidelines. After the Public Consultation Meeting (PCM), the draft TOR will be finalized based on the outcomes of the PCM.

#### **A.8.5.1 Objective of the EIA Study**

The main objective of the EIA study is to identify the significant environmental impacts for New Submergible Embankment Subprojects to be implemented by Bangladesh Water Development Board (BWDB) along with mitigation measures as per JICA and the Government of Bangladesh's EIA guidelines and rules. A preliminary EMP should also be prepared.

#### **A.8.5.2 Scope of the EIA Study**

The scope of the EIA study is based upon the requirements of the environmental guidelines of JICA and GoB. The scopes of work include:

- (1) Organizing Public Consultation Meetings for EIA
- (2) Update of the EIA TOR as per the outcomes of Public Consultation Meeting
- (3) Review of all relevant environmental reports including monitoring
- (4) Project description from environmental aspect
- (5) Supplementary secondary & primary data collection
- (6) Data analysis to describe the natural environment, social environment and environmental pollution, especially for the negative impacts identified in the IEE
- (7) Environmental quality survey on water (surface & ground)
- (8) Input from Preparation of Preliminary Abbreviated Resettlement plan (ARP)
- (9) In depth Survey on Flora and Fauna in the project affected areas
- (10) Meeting and consultation with stakeholders particularly Public Consultation Meeting (PCM)
- (11) Analysis of environmental impacts
- (12) Identification of mitigation measures
- (13) Preparation of Preliminary EMP to reduce or eliminate significant environmental impacts
- (14) Environmental Monitoring Plan (EMoP)
- (15) Preparation of Environmental Impact Assessment (EIA) report

### A.8.5.3 Project Components and Study Area

#### Study Item for BWDB Scheme

The EIA study is to be carried for two (2) New Submergible Embankment Subprojects to be implemented by Bangladesh Water Development Board (BWDB). The major features of the projects are new Submergible Embankments, Re-excavation of Canals and regulators. The detail of the project area to be covered and the major project features for which EIA studies need to be conducted are shown in the Overall IEE study :

The EIA study will be carried out on the following environmental parameters.

#### Natural Environment

(1). Topography, (2). Soil Erosion and Siltation, (3). Regional Hydrology (Flooding, Drainage Congestion and Water Logging), (4). Landscape and Land use and (5). Sand Carpeting

#### Agriculture

(1). Crop Production, (2). Crop Damage and (3). Irrigated Area

#### Ecological Parameters

(1). Fisheries, (2). Wildlife, (3). Forest / Tree / Crop loss, (4). Wetlands eco-system/ Bio diversity and (5). Endangered Species

#### Environmental Pollution

(1). Air Pollution, (2). Ground & Surface Water Pollution, (3). Noise and Vibration, (4). Soil Contamination, and (5). Waste Disposal

#### Social Environment

(1). Land acquisition and/or resettlement, (2). Homestead Loss, (3). Income Loss, (4). Income gain, (5). Employment, (6). Food Intake, (7). Historical and Cultural Loss, (8). Occupational Health and Safety, (9). Accidents, (10). Ethnic Minorities and Indigenous People and (11). Hazards(Risks) infectious disease such as HIV/AIDS

#### Study Item for LGED Scheme

The EIA study is to be carried for the projects under LGED Scheme. The activities are construction/reconstruction of upazilla, union and village level roads, construction of landing ghats at rural water ways, construction of growth centers and markets. LGED is responsible to implement these projects within the haor areas as shown in the Overall IEE study.

The EIA study will be carried out on the following environmental parameters.

#### Natural Environment

- (1). Topography

#### Agriculture

- (1). Crop Transportation, (2). Marketing of crops

#### Ecological Parameters

- (1). Fisheries, (2). Wildlife, (3). Forest / Tree / Crop loss and (4). Endangered Species

#### Environmental Pollution

- (1). Air Pollution, (2). Ground & Surface Water Pollution, (3). Noise and Vibration, (4). Soil Contamination, and (5). Waste Disposal

#### Social Environment

- (1). Land acquisition and/or resettlement, (2). Homestead Loss, (3). Employment, (4). Historical and Cultural Loss, (5). Occupational Health and Safety, (6). Accidents, (7). Ethnic Minorities and Indigenous People and (8). Hazards(Risks) infectious disease such as HIV/AIDS

#### **A.8.5.4 Examination of Environmental and Social Impact**

Based on results of Secondary data, field reconnaissance survey and detail field surveys for the environmental and social impact items as stated in the above section should be studied deeply and all conceivable impacts should be examined as quantitatively as possible to consider required measures to avoid or minimize the impacts in planning, construction, and operation phases of the project.

#### **A.8.5.5 Preparation of Mitigation Measures, Environmental Management Plan and Environmental Monitoring Plans**

Based on result of examination on environmental and social impacts, measures to avoid or minimize the impacts shall be proposed, especially for the environmental and social items which would be affected significantly. Based on the proposed measures, an Environmental Management Plan shall be prepared to implement such measures adequately, considering detailed implementation method. In addition, an Environmental Monitoring Plan shall be prepared to check effect of the measures and unexpected impact after the operation of the project. The Environmental Monitoring Plan includes monitoring items, period, frequency and location.

***Appendixes 10.1 to 10.11***

**Appendix 10 Economic and Financial Analysis****Appendix 10.1: Economic Price of Boro Rice**

	Import Parity		
	Estimation	US\$/ton	BDT/Kg
1. Price Forecast of rice, Bangkok, Thailand, f.o.b.		*1) 400.0	
2. Quality Adjustment (damaged rice 90%)		380.0	
3. Insurance, freight, etc.		40.0	
4. Forecast 2013 c.i.f. price of rice, Chittagong		420.0	
Currency exchange *2)			32.7
5. Port handling, storage and losses	5% +		1.6
6. Transportation (port to wholesaler)	+		1.7
7. Ex-wholesaler price			36.0
8. Marketing Margin	10% -		3.6
9. Local transportation (village to wholesaler)	-		0.5
10. Value of Milled Rice			31.9
11. Conversion of Paddy	68%		21.7
12. Milling Cost	-		0.8
13. Local transportation (farm to village)	-		0.5
<b>14. Economic farm gate price</b>			<b>20.4</b>

\*1) Thai 5% broken rice, price forecast in nominal US\$ in 2025, converted to 2013 constant price

- Projection in 2025                   480 US\$/ton

- MUV index 2013 – 2025 (July/2013)   1.20

- Projection in 2025 by constant price in 2013   400 US\$/ton

\*2) 1US\$=77.8 BDT

**Appendix 10.2: AADT (Annual Average Daily Traffic) data provided by LGED (1/2)**

Ranking	No.	District	Upazila	Road Code	Road Name	AADT									Total (1000 TK/year)
						Motorized					Non-motorized				
						Truck	Bus	Utility/Jeep	Car/Taxi	Auto Ricksh	Motor Cycle	Bicycle	Rickshaw/van	Cart	
					<b>Difference of Economic VOC between IRI 4 and 16 (TK/km)</b>	<b>14.34</b>	<b>26.11</b>	<b>16.55</b>	<b>10.26</b>	<b>2.06</b>	<b>0.96</b>	<b>2.22</b>	<b>3.32</b>	<b>8.68</b>	
1	4-103	Habiganj	Baniachang	636113013	Subidpur Up office-Aowar Mohal Bazar Via Kabirpur, Niamat pur										
2	4-7	Habiganj	Sadar	636444065	Bohula 2no word Pirbari - Paschim Haor Road										
3	1-44	Kishoreganj	Karimganj	348422008	Niamatpur-Gundhar GC Road via Fazilkhali Bazar	146	160	55	28	242	267	173	180	17	<b>3,414</b>
4	2-4	Netrokona	Purbadhala	372833012	Ghagra UP (Kapashia)-Jaria Bazar road via Katwari	0	0	0	0	0	16	79	51	0	<b>131</b>
5	3-64	Sunamganj	Sunamganj-Sadar	690892009	R&H (Rabarbar)-Baishber-Joynagar GC	0	0	28	0	36	70	144	209	0	<b>591</b>
6	4-100	Habiganj	Baniachang	636112007	Kadir Gonj Ge-Paharpur Ge Via Karcha	0	0	0	0	5	30	158	162	75	<b>576</b>
7	4-105	Habiganj	Baniachang	636113017	Bitihangal Ge-Hobigonj - Sujathpur Road Via Monduri Up office ,										
8	4-55	Habiganj	Azmiriganj	636024002	Pirojpur Lanchghat-Jalsuka bazar Rd.	0	0	0	0	0	0	12	0	4	<b>22</b>
9	2-19	Netrokona	Khailajuri	372384012	Hayatpur-Chanpur via Khusalpur										
10	3-99	Sunamganj	Dakhin Sunamganj.	690932011	Santiganj bazar (UZ HQ.)-Rajanganj bazar( Patharia GC) via Dugri	128	8	166	38	412	350	395	569	30	<b>3,428</b>
11	1-21	Kishoreganj	Austagram	348022002	Austagram-Mitamoim Road	0	0	66	0	70	37	38	64	53	<b>741</b>
12	1-3	Kishoreganj	Pakundia	348793006	Hossendi UP-Ashutia old bazer Rd via Mongalbaria and Thutarja	60	3	14	3	50	145	308	58	5	<b>863</b>
13	1-4	Kishoreganj	Pakundia	348793007	Pakundia UP-Mosua hat via Saluadi	38	1	44	4	3	66	126	142	11	<b>824</b>
14	1-9	Kishoreganj	Itna	348332004	Itna-Kakailchew Road	8	0	0	0	20	25	27	41	77	<b>381</b>
15	1-15	Kishoreganj	Sadar	348494052	Baratopa-Thadapara Bazer Road										
16	1-18	Kishoreganj	Nikli	348764005	Jariatala UP office-Chetra Road										
17	1-29	Kishoreganj	Hossainpur	348274038	Gangahatia bazar-Janata bazarvia Abdul Aziz H/S road										
18	1-35	Kishoreganj	Mithamoim	348593001	Mithamoim Noya hati-Dhaki UP Office Rd.	0	0	0	0	0	20	42	11	16	<b>105</b>
19	1-26	Kishoreganj	Hossainpur	348273007	Char Pundi bazar-Pundi UP H/Q Road	43	0	0	6	12	55	139	77	0	<b>482</b>
20	4-54	Habiganj	Azmiriganj	636025034	Anandopur Ghat - Anadopur Village	0	0	0	0	0	0	0	0	0	<b>-</b>
21	1-22	Kishoreganj	Austagram	348023004	Austagram-Badha ghat-Kalma UP office road	0	0	0	0	51	40	31	36	29	<b>213</b>
22	1-28	Kishoreganj	Hossainpur	348273010	Gobindapur UP H/Q-Janata bazar Road	31	0	0	3	19	57	139	132	0	<b>480</b>
23	1-48	Kishoreganj	Kuliarchar	348543006	Dumrakanda Bazar-Ramdi UP Office Rd.	5	29	40	50	114	96	135	261	0	<b>1,276</b>
24	3-67	Sunamganj	Sunamganj-Sadar	690893001	R&H road Janigaon-Joynagar Bazar Road (Laxmansree/Mohanpur)	0	0	0	0	43	63	71	76	0	<b>204</b>
25	4-47	Habiganj	Azmiriganj	636022003	Azmiriganj - Paharpur road.	2	0	10	0	16	209	366	59	1	<b>527</b>
26	1-23	Kishoreganj	Austagram	348023005	Austagram-Mohishertilla-Gagra UP office Rd	0	0	0	0	47	33	24	47	41	<b>253</b>
27	4-49	Habiganj	Azmiriganj	636022005	Paharpur - Baniachong Via Jhilsuk.	0	0	5	0	14	79	131	21	0	<b>200</b>
28	1-5	Kishoreganj	Bajitpur	348063001	Ujanchar bazar-Halimpur UP Rd.	34	0	67	40	39	158	402	219	40	<b>1,535</b>
29	1-8	Kishoreganj	Itna	348335041	Mowra-Chandrapur hat Rd.	0	0	0	0	0	5	34	0	55	<b>204</b>
30	1-34	Kishoreganj	Mithamoim	348592002	Mithamoim Sadar-Karimganj Boardar Balikhola Road	0	0	0	0	13	59	142	50	0	<b>206</b>
31	1-36	Kishoreganj	Mithamoim	348594001	Singua Ferry ghat-Bagadia Bazar Rd.										
32	1-37	Kishoreganj	Tarail	348923004	Thana H.Q-Dhamiha Bazer	26	5	27	6	80	81	301	312	16	<b>1,131</b>
33	3-47	Sunamganj	Derai	690292004	Derai Bazar-Dhol-Marculi Road	22	26	65	18	92	116	86	695	0	<b>1,845</b>
34	4-8	Habiganj	Bahubal	636053004	Satkanpur UP Office (Chalitalalo)-Bakterpur via Shoia bazar Rd	3	0	14	12	335	89	359	589	0	<b>1,433</b>
35	4-109	Habiganj	Baniachang	636114049	Pakra Up office -Kandipura village Riad Via Darowa, Sathgran High										
36	1-10	Kishoreganj	Itna	348333007	Badla UP-Barshikura Hat Road	0	0	0	0	0	0	35	0	72	<b>256</b>
37	1-39	Kishoreganj	Tarail	348923010	Jawer UP-Dhamiha UP via Echapasahar	5	4	5	3	47	34	141	72	0	<b>354</b>
38	1-47	Kishoreganj	Kuliarchar	348543002	Chhay suti UP Office[R&H]-Paltia Bazar via Madhobdi, Pailanpur	28	42	89	135	144	267	261	100	0	<b>2,125</b>
39	2-3	Netrokona	Purbadhala	372833002	Purbadhala (Kalduar)-Ghagra UP (Kapashia) road via Ghagra bazar	136	30	117	36	382	728	544	738	22	<b>3,786</b>
40	4-53	Habiganj	Azmiriganj	636025035	Solori - Shibpasha.	0	0	0	0	0	0	0	0	0	<b>-</b>
41	4-106	Habiganj	Baniachang	636114013	Habigonj-Baniyachong RHD to Sunaru vill										
42	4-107	Habiganj	Baniachang	636114019	Shibgonj Bazar to halderpur Chilori road	0	0	0	0	0	141	226	174	34	<b>551</b>
43	4-58	Habiganj	Azmiriganj	636025026	Kamulpur Ghat - Kamulpur Pry School.										
44	1-2	Kishoreganj	Pakundia	348793005	Hossendi UP-Motkhola GC Via Alamdi	33	5	15	3	52	47	186	61	5	<b>618</b>
45	1-19	Kishoreganj	Nikli	348765009	Guroi UP office-Chapirchar Rd										
46	1-25	Kishoreganj	Hossainpur	348273005	Gobindapur Chowrasta bazar-Gobindapur UP H/Q Road	218	103	63	73	139	166	246	190	0	<b>3,369</b>
47	1-27	Kishoreganj	Hossainpur	348273009	Adu Master bazar-Shahedal UP H/Q Road	51	0	0	16	34	64	140	171	0	<b>696</b>
48	1-32	Kishoreganj	Katiadi	348453007	Achmita UP H/Q.-Pong Masua bazar Rd.	14	6	0	13	42	95	217	69	18	<b>560</b>
49	2-6	Netrokona	Purbadhala	372834065	Kalihor R&H-Dampara via Chandler Bazar										
50	2-7	Netrokona	Purbadhala	372835039	Shahala-Hatkhala Bazar										
51	2-20	Netrokona	Barhatta	372092007	Amtala-Samaj GC Road (Barhatta Portion)	58	0	57	2	53	55	70	31	0	<b>809</b>
52	3-73	Sunamganj	Sunamganj-Sadar	690894005	Tokerghat-Bahadurpur Rd.(Laxmansree)	0	0	0	0	0	15	52	57	0	<b>116</b>
53	4-10	Habiganj	Bahubal	636054079	Guharua Pry. School - Panchparia Road Via Stuce gate Durga pur .										
54	4-48	Habiganj	Azmiriganj	636023001	Pashchimbag - Azmiriganj Road.	0	0	0	0	52	175	106	16	0	<b>206</b>
55	4-59	Habiganj	Azmiriganj	636025012	G C C Road - Ronia Road.	0	0	0	0	0	0	0	0	0	<b>-</b>
56	4-57	Habiganj	Azmiriganj	636025008	Pituarandi Ghat - Shalla Highschool.	0	0	0	0	0	0	0	0	0	<b>-</b>
57	4-52	Habiganj	Azmiriganj	636025027	Kakilsow Bazar - Rahala Rd.										
58	1-11	Kishoreganj	Sadar	348493009	Danapatuli UP-Jalia bazar	18	0	39	0	82	719	477	313	0	<b>1,409</b>
59	2-11	Netrokona	Atpara	372045037	Sukari Badirakola										
60	3-60	Sunamganj	Derai	690294018	Nagergaon Ferry ghat-Nasimbazar	0	0	0	0	0	23	51	23	0	<b>77</b>
61	3-61	Sunamganj	Derai	690294019	Akilha Bazar-Nagergaon via Kulanje	0	0	0	0	5	27	47	16	0	<b>71</b>
62	3-62	Sunamganj	Derai	690294020	Akilha Bazar-Nasni Bazar	0	0	0	0	10	36	50	0	0	<b>61</b>
63	4-4	Habiganj	Sadar	636444035	Poil-Pachparia Rd.	0	0	0	0	2	18	29	13	0	<b>47</b>
64	4-15	Habiganj	Bahubal	636055058	Shuayabazar-Ruyail										
65	4-56	Habiganj	Azmiriganj	636025006	Bong rd - Paddy land Rd	0	0	11	0	0	0	0	7	0	<b>75</b>
66	2-28	Netrokona	Barhatta	372094015	Rambhadrapur FRB-Nahati Bazar Rd	0	19	12	32	176	284	386	316	110	<b>1,649</b>
67	3-107	Sunamganj	Dakhin Sunamganj.	690934021	Ganiganj RHD-Jibdara Road.	0	0	21	0	158	291	342	69	0	<b>708</b>
68	4-12	Habiganj	Bahubal	636054010	Khagaura Bagdair Road										
69	4-51	Habiganj	Azmiriganj	636025023	Kakilsow GCCR - Rosulpur.										
70	2-5	Netrokona	Purbadhala	372835052	Jaria Purbopara-Jaria Switch Gate via RPSchool Rd.										

**Appendix 10.3: AADT (Annual Average Daily Traffic) data provided by LGED (2/2)**

Ranking	No.	District	Upazila	Road Code	Road Name	AADT									Total (1000 TK/year)		
						Motorized						Non-motorized					
						Truck	Bus	Utility/Jeep	Car/Taxi	Auto Ricksh	Motor Cycle	Bicycle	Rickshaw/van	Cart			
71	2-9	Netrokona	Atpara	372045034	Ukrakhal Road												
72	2-10	Netrokona	Atpara	372045036	Duaz bazar road												
73	2-16	Netrokona	Khailajuri	372383009	Upazila HQ - Gazipur UP office rd.	0	0	0	0	0	38	64	111	10			231
74	2-25	Netrokona	Barhatta	372093004	Barhatta Ferry ghat (UP)-Horiatola bazar.	0	0	0	0	24	39	52	60	12			185
75	3-57	Sunamganj	Derai	690294012	Tarapasa-Tongor	0	0	0	0	0	22	28	0	0			30
76	3-59	Sunamganj	Derai	690294017	Boalia Bazar-Bhaitgaon	11	0	78	71	57	101	58	33	0			960
77	3-72	Sunamganj	Sunamganj-Sadar	690894022	RHD(Haluargoan)-Islampur.(Laxmansree)												
78	3-76	Sunamganj	Sunamganj-Sadar	690894073	Bahaderpur RHD to Nurulla Village Road.(Laxmansree/Mohanpur)												
79	3-83	Sunamganj	Sunamganj-Sadar	690895111	Katair joy nagar GC road (Noagaon)-Kandigoan village road.(Katair)												
80	3-93	Sunamganj	Sunamganj-Sadar	690895038	Katair-Joy nagar Road to Narkila GPS.(Mohanpur)												
81	3-115	Sunamganj	Dakhin Sunamganj.	690934048	Ashammura Pry. School-Puran -Kandigoan Road.	0	0	0	38	95	207	250	107	0			619
82	4-6	Habiganj	Sadar	636444064	Boro Bohula Ino word Care Road - Moiltarpar Road												
83	4-9	Habiganj	Bahubal	636053005	Snanghat UP Office-Bagdair bazar	14	0	24	3	160	50	100	431	0			971
84	4-11	Habiganj	Bahubal	636055015	Khagaura Alghati-Noayahati via Primary school												
85	4-13	Habiganj	Bahubal	636054012	Amrita-Barchar Road												
86	4-17	Habiganj	Bahubal	636054080	Digambar bazar-Noawai Road												
87	4-60	Habiganj	Azmiriganj	636025002	R&H Road - Morolbari Road	0	0	14	0	0	6	11	6	0			103
88	3-109	Sunamganj	Dakhin Sunamganj.	690934030	Derai RHD - Sreenathpur via Jahanpur -Madrasa Road.	0	0	0	0	0	11	34	49	0			91
89	4-16	Habiganj	Bahubal	636055044	Raisgong Rd-Barkadabad												
90	2-18	Netrokona	Khailajuri	372383011	Khailajuri UP office - Panchhat bazar rd.	0	0	0	0	0	20	43	39	3			99
91	3-117	Sunamganj	Dakhin Sunamganj.	690934086	Kandagaon LGED UZR Road to Nowakhali - Bhimkhali UZR via Rd	0	0	32	0	51	141	264	33	0			535
92	4-14	Habiganj	Bahubal	636055017	Fotehpur-Shampur Road												
93	2-8	Netrokona	Atpara	372045016	Gopalarasram-Madukal												
94	2-13	Netrokona	Atpara	372045068	Sunajur bazar												
95	2-17	Netrokona	Khailajuri	372383010	Gazipur UP office-Panchhat bazar rd.	0	0	0	0	0	12	59	69	7			158
96	2-21	Netrokona	Barhatta	372092009	Aitpur Bazar (R&H)-Chandrapur Bazar via Huzrabari, Dariapur,	35	0	5	0	47	60	86	59	7			433
97	4-90	Habiganj	Chunarughat	636264009	Durgapur Bazar - Sreerampur Road.	11	0	21	0	0	10	62	81	15			384
98	2-12	Netrokona	Atpara	372045066	Chargati GPS road												
99	3-82	Sunamganj	Sunamganj-Sadar	690895092	Jalalpur-Dakher hawore road.												
100	3-94	Sunamganj	Sunamganj-Sadar	690895070	RHD, Ahsampara Bridge-Jogiinpur road.												
101	3-95	Sunamganj	Sunamganj-Sadar	690895039	Katair Joy nagar Road to Noagaon GPS.(Mohanpur)												
102	4-78	Habiganj	Chunarughat	636264008	Ware House Ubahata-Sakir Mohammad Road.												
103	2-33	Netrokona	Kendua	372475053	Batta - Kachari road	0	0	0	0	0	0	0	0	0			-
104	2-32	Netrokona	Kendua	372475010	Muzarfarpur Pacca road (Gogda Bazar) - Sunai Beel.	0	0	0	0	0	0	0	0	0			-
105	3-102	Sunamganj	Dakhin Sunamganj.	690933008	Shimilbak UP office - Mukhtakhai - Joy nagar via Chandpur GPS Road	0	0	41	0	98	102	206	157	0			714
106	4-79	Habiganj	Chunarughat	636265044	Ulukani govt.Pry. School - Assian Highway link road.												
107	5-40	Brahmanbai	Sarail	412945098	Dewra-Charuhati Road												
108	5-41	Brahmanbai	Sarail	412945145	Shahajadapur-Dhauria Road												
109	4-45	Habiganj	Nabigonj	636775068	Muktahar brdge-Shakua bazar road												

**Appendix 10.4: Sensitivity of Economic VOC of Vehicles to Road Roughness in 2009 price**

(unit: BDT/km)

IRI (International Roughness Index)	Auto Rickshaw	Car	large Bus	Bus Mini	Medium Truck	Bus Light	Motor Cycle	Truck Small	Utility	Animal Cart	Rickshaw	Bicycle
4	4.78	16.09	68.40	28.21	21.42	15.17	3.18	11.34	15.95	8.02	2.32	1.61
5	4.99	16.96	71.65	29.74	22.80	15.96	3.23	11.96	16.27	8.34	2.44	1.68
6	5.09	17.54	73.46	30.71	23.75	16.44	3.28	12.10	17.39	8.71	2.57	1.77
7	5.16	17.69	73.33	30.96	24.16	16.52	3.32	12.68	17.49	9.19	2.75	1.83
8	5.70	17.91	74.62	31.68	24.28	15.74	3.32	12.78	18.28	10.06	3.07	2.03
9	5.86	19.02	77.20	33.39	26.19	17.71	3.34	14.37	20.57	10.16	3.47	2.14
10	5.88	21.14	81.78	37.10	29.10	19.68	3.41	15.97	22.85	10.23	3.67	2.44
11	6.00	23.25	82.36	40.82	30.01	21.64	3.51	16.57	25.14	11.51	3.77	2.54
12	6.12	23.36	82.94	41.53	31.92	21.91	3.54	16.66	26.42	11.96	3.99	2.61
13	6.19	23.46	83.40	42.41	32.41	22.45	3.66	16.83	26.95	12.62	4.03	2.74
14	6.25	23.58	84.13	43.44	32.68	22.63	3.73	17.37	27.41	14.23	4.99	3.01
15	6.31	24.60	84.63	44.80	32.91	22.82	3.84	17.77	27.92	15.23	5.08	3.46
16	6.51	24.67	90.23	45.67	33.41	23.49	3.98	17.87	29.79	15.28	5.09	3.47
Difference (IRI = 16 - 4)	<b>1.73</b>	<b>8.58</b>	<b>21.83</b>	17.46	<b>11.99</b>	8.32	<b>0.80</b>	6.53	<b>13.84</b>	<b>7.26</b>	<b>2.77</b>	<b>1.86</b>

Source: Rural Infrastructure Improvement Project (RIIP) RDP-25, Road User Cost Study for LGED Roads, Final Report (August 2009, GTZ)

**Appendix 10.5: Sensitivity of Economic VOC of Vehicles to Road Roughness**

(unit: BDT/km)

IRI (International Roughness Index)	Auto Rickshaw	Car	large Bus	Bus Mini	Medium Truck	Bus Light	Motor Cycle	Truck Small	Utility	Animal Cart	Rickshaw	Bicycle
4	5.72	19.24	81.79	33.73	25.61	18.14	3.80	13.56	19.07	9.59	2.77	1.93
5	5.97	20.28	85.68	35.56	27.26	19.09	3.86	14.30	19.46	9.97	2.92	2.01
6	6.09	20.97	87.84	36.72	28.40	19.66	3.92	14.47	20.80	10.42	3.07	2.12
7	6.17	21.15	87.69	37.02	28.89	19.75	3.97	15.16	20.91	10.99	3.29	2.19
8	6.82	21.42	89.23	37.88	29.03	18.82	3.97	15.28	21.86	12.03	3.67	2.43
9	7.01	22.74	92.32	39.93	31.32	21.18	3.99	17.18	24.60	12.15	4.15	2.56
10	7.03	25.28	97.79	44.36	34.80	23.53	4.08	19.10	27.32	12.23	4.39	2.92
11	7.17	27.80	98.49	48.81	35.89	25.88	4.20	19.81	30.06	13.76	4.51	3.04
12	7.32	27.93	99.18	49.66	38.17	26.20	4.23	19.92	31.59	14.30	4.77	3.12
13	7.40	28.05	99.73	50.71	38.76	26.85	4.38	20.13	32.23	15.09	4.82	3.28
14	7.47	28.20	100.60	51.95	39.08	27.06	4.46	20.77	32.78	17.02	5.97	3.60
15	7.55	29.42	101.20	53.57	39.35	27.29	4.59	21.25	33.39	18.21	6.07	4.14
16	7.78	29.50	107.90	54.61	39.95	28.09	4.76	21.37	35.62	18.27	6.09	4.15
Difference (IRI = 16 - 4)	<b>2.06</b>	<b>10.26</b>	<b>26.11</b>	20.88	<b>14.34</b>	9.95	<b>0.96</b>	7.81	<b>16.55</b>	<b>8.68</b>	<b>3.32</b>	<b>2.22</b>

Source: Rural Infrastructure Improvement Project (RIIP) RDP-25, Road User Cost Study for LGED Roads, Final Report (August 2009, GTZ)



**Appendix 10.6: Benefit Estimation of Net Pen Culture**

Items	Units	WoP	WP						
			Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8-23
Number of Net-Pen installation annually	Number	-	2	2	3	3	0	0	0
Incremental number of net pen installed	Number	-	2	4	7	10	10	10	10
Incremental area covered by Net-Pen	Acres	-	40	80	140	200	200	200	200
Investment cost (400,000 Tk/Net Pen)	Tk	-	800,000	800,000	1,200,000	1,200,000	-	-	-
Operating cost (Tk 517,000) borne by Project	Tk	-	1,034,000	1,034,000	1,551,000	1,551,000	-	-	-
Operating cost (Tk 517,000) borne by Group	Tk	-	0	1,034,000	2,068,000	3,619,000	5,170,000	5,170,000	5,170,000
Fish catch (kg/acre)	kg/acre	70	70	600	630	662	695	695	695
Incremental Fish catch (kg/acre)	kg/acre	-	70	530	560	592	625	625	625
Total fish catch	kg	-	2,800	21,200	44,800	82,810	124,915	124,915	124,915
Fish catch value (Tk/kg)	110 Tk	-	308,000	2,332,000	4,928,000	9,109,100	13,740,650	13,740,650	13,740,650

## Remarks:

- Number of Net-Pen = 10 units (2 units/district); 10 units will be installed in 4 years as pilots.
- Approximate Area size per unit = 20 acres; total area is about 200 acres. (Size of net pen may vary from location to location).
- Fish catch (kg/acre) = 600 kg/acre (WP); 70 kg/acre (WoP)
- Investment cost borne by project
- From 2nd year after installation, the users group will maintain & operate; all cost borne by the user groups.
- Stocking size of fingerlings is 5" to 6" (selective fish species of high market value).

**Appendix 10.7: Benefit Estimation of Cage Culture (Individual Cages and Joint Cages)****- Individual Cages**

Items	Units	WoP	WP						
			Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8-23
Number of sets (individual cage) installed annually	Sets	-	2	2	1	0	0	0	0
Incremental number of sets (individual cages) installed	Sets	-	2	4	5	0	0	0	0
Total number of cages	Number	-	40	80	100	100	100	100	100
Investment cost (80,000 Tk/set)	Tk	-	160,000	160,000	80,000	-	-	-	-
Operating cost (Tk 20,000) borne by Project	Tk	-	40,000	40,000	20,000	-	-	-	-
Operating cost (Tk 20,000) borne by Group	Tk	-	0	40,000	80,000	100,000	100,000	100,000	100,000
Fish catch (kg/acre)	15 kg/cage	-	0	15	15	15	15	15	15
Total fish catch	kg	-	0	600	1,200	1,500	1,500	1,500	1,500
Fish catch value (Tk/kg)	110 Tk	-	-	66,000	132,000	165,000	165,000	165,000	165,000

## Remarks:

- Number of small separate cages per set = 20 small cages (each cage is 1 cubic meter); (1 set/district); 5 sets will be installed in 3 years as pilots.
- Fish catch (kg/cage) = 15 kg/cage
- Investment cost borne by project
- From 2nd year after installation, the users group will maintain & operate; all cost borne by the user groups.
- Stocking size of fingerlings is 5" to 6" (selective fish species of high market value).

**- Joint Cages**

Items	Units	WoP	WP						
			Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8-23
Number of sets (joint-cage) installed annually	Sets	-	2	2	1	0	0	0	0
Incremental number of sets (joint-cages) installed	Sets	-	2	4	5	0	0	0	0
Number of Cages established	Number	-	20	40	50	100	100	100	100
Investment cost (180,000 Tk/set)	Tk	-	160,000	160,000	80,000	-	-	-	-
Operating cost (Tk 220,000) borne by Project	Tk	-	440,000	440,000	220,000	-	-	-	-
Operating cost (Tk 220,000) borne by Group	Tk	-	0	440,000	880,000	1,100,000	1,100,000	1,100,000	1,100,000
Fish catch (kg/cage)	350 kg/cage	-	0	350	350	350	350	350	350
Total fish catch	kg	-	0	7,000	14,000	17,500	35,000	35,000	35,000
Fish catch value (Tk/kg)	110 Tk	-	-	770,000	1,540,000	1,925,000	3,850,000	3,850,000	3,850,000

## Remarks:

- Number of joint-cages per set = 10 cage; (1 set/district); 5 sets will be installed in 3 years as pilots.
- One set is 25 CuM
- Fish catch (kg/cage) = 350 kg/cage
- Investment cost borne by project
- From 2nd year after installation, the users group will maintain & operate; all cost borne by the user groups.
- Stocking size of fingerlings is 5" to 6" (selective fish species of high market value).

### Appendix 10.8: Benefit Estimation of Backyard Pond Culture

Items	Units	WoP	WP						
			Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8-23
Number of groups organised for culture annually	Groups	-	4	4	2	0	0	0	0
Incremental number of groups	Groups	-	4	8	10				
Incremental area of ponds prepared & developed	Acres	-	10	20	25	25	25	25	25
Investment cost (380,000 Tk/group or 2.5 acres of ponds)	Tk	-	1,520,000	1,520,000	760,000	-	-	-	-
Operating cost (70,000 Tk) borne by Project	Tk	-	280,000	280,000	140,000	-	-	-	-
Operating cost (70,000 Tk) borne by Group	Tk	-	0	280,000	560,000	700,000	700,000	700,000	700,000
Fish cultured or produced (kg/acre)	1,000 kg/acre	-	0	1,000	1,050	1,103	1,213	1,213	1,213
Total fish cultured	kg	-	-	10,000	21,000	27,563	30,319	30,319	30,319
Fish value (Tk/kg)	110 Tk	-	-	1,100,000	2,310,000	3,031,875	3,335,063	3,335,063	3,335,063

Remarks:

- Number of ponds vary (5- 10 ponds) per group; approximate area size of ponds per group = 2.5 acres (4 groups/district); total 10 groups will be organized in 3 years as model groups.
- Pond preparation and maintenance will be group-work, thus no maintenance and wage cost.
- Investment cost borne by project
- From 2nd year onwards all cost are borne by the groups.
- Stocking size of fingerlings is 5" to 6" (selective fish species of high market value).
- Fish production = 1,000 kg/acre (expected to improve production thru pond management)

### Appendix 10.9: Benefit Estimation of Seasonal Floodplain Aquaculture - Daudkandi Model

Items	Units	WoP	WP						
			Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8-23
Number of model area prepared & developed	Number	-	1	1	0	0	0	0	0
Incremental model area prepared & developed	Acres	-	25	50	50	50	50	50	50
Investment cost (500,000 Tk/model site or 25 acres)	Tk	-	500,000	500,000	-	-	-	-	-
Operating cost (500,000 Tk) borne by Project	Tk	-	500,000	500,000	-	-	-	-	-
Operating cost (500,000 Tk) borne by Group	Tk	-	0	500,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Fish cultured or produced (kg/acre)	650 kg/acre	-	0	650	715	787	865	865	865
Total fish cultured	kg	-	-	16,250	35,750	39,325	43,258	43,258	43,258
Fish value (Tk/kg)	110 Tk	-	-	1,787,500	3,932,500	4,325,750	4,758,325	4,758,325	4,758,325

Remarks:

- Daudkandi model aquaculture will be established at 2 suitable sites in the 5 districts. One model area size is about 10 ha (25 acres); total 2 model sites to be located suitably within the 5 districts.
- Each model site area is about 10 ha (25 acres); low water depth area will be selected that grow paddy during dry months and fishing during wet months.
- Normally the land that grows one crop of paddy and remains idle in winter months (wet months) will be selected.
- One group (consisting of members of HHs, farmers, fishers) will be formed for each model site.
- Investment cost borne by project
- From 2nd year onwards all cost are borne by the groups.
- Stocking size of fingerlings is 5" to 6" (selective fish species of high market value).

**Appendix 10.10: Anticipated Generated Income by SIGS****1. Floating Bed Vegetable Culture Scheme**

Annual Estimated Net Return per Bed (unit BDT)			
Item	1st Year	2nd Year	3rd Year
Gross Return	3,150 - 4,200	3,150 - 4,200	3,150 - 4,200
Production Cost 1/	(3,000)	1,020	1,020
Net Return	3,150 - 4,200	2,130 - 3,180	2,130 - 3,180

1/: In 1st year, production cost (except family labour cost) born by the sub-project

## Program description

- Floating bed size per beneficiary: 12m<sup>2</sup>
- Cropping: 3 times per year (6 months in rainy season)
- Target crops: 5 crops/time
  - Country beans, sweet gourd, brinjal, bitter gourd, cucumber
- Production cost: 1st year BDT 3,000, 2nd year & on BDT 1,020
- Production: 30 - 40kg/2months x 3 times = 90 - 120 kg/year
- Gross return: average unit price BDT 35/kg  
90 - 120kg x BDT 35/kg = BDT 3,150 - 4,200.-

Anticipated generated income (per year/beneficiary):

1st year: 3,150 - 4,200, 2nd & 3rd year: 2,130 - 3,180 BDT

**2. Small-scale Vegetable Production Support Scheme**

Annual Estimated Net Return per Plot (unit BDT)			
Item	1st Year	2nd Year	3rd Year
Gross Return	4,200 - 7,000	4,200 - 7,000	4,200 - 7,000
Production Cost 1/	(3,200)	2,500	2,500
Net Return	4,200 - 7,000	1,700 - 4,500	1,700 - 4,500

1/: In 1st year, production cost (except family labour cost) born by the sub-project

## Program description

- Vegetable plot size per beneficiary: 40m<sup>2</sup>
- Cropping: 3 times per year
- Target crops: 5 crops/time
  - Rabi crop: cauliflower, tomato, sweet gourd, brinjal, spinach
  - Kharif 1 crop: amaranths, okra, white gourd, long beans, bitter gourd
  - Kharif 2 crop: red amaranths, radish, cucumber, sweet gourd, ladies finger
- Production: 150 - 250kg/3 croppings
- Gross return: 150 - 250kg x @BDT 28/kg = BDT 4,200 - 7,000.-

Anticipated generated income (per year/beneficiary):

1st year: 4,200 - 7,000, 2nd & 3rd year: 1,700 - 4,500 BDT

**3. Fruit Production Support Scheme**

Annual Estimated Net Return per 15 Fruit Trees (unit BDT)			
Item	1st Year	2nd Year	3rd Year
Gross Return	0	0	2,500 - 6,000
Production Cost 1/	(2,769)	2,500	2,500
Net Return	0	-2,500	0 - 3,500
Item	4th Year	5th Year	
Gross Return	4,500 - 11,500	7,000 - 15,000	
Production Cost	2,500	2,500	
Net Return	2,000 - 9,000	4,500 - 12,500	

1/: In 1st year, production cost (except family labour cost) born by the sub-project

## Program description

- No. of saplings/beneficiaries: 15 saplings (3 kinds of fruit tree)
- Target fruit: litchi, jujube, guava
- Production: 3rd year: 25 - 60kg, 4th year: 45 - 115kg, 5th year 70 - 150kg
- Gross return: @ BDT 100/kg; 3rd year: BDT 2,500 - 6,000, 4th year: BDT 4,500 - 11,500, 5th year: BDT 7,000 - 15,000

Anticipated generated income (per year/beneficiary):

3rd year: BDT 0 - 3,500, 4th year: BDT 2,000 - 9,000, 5th year BBDO 4,500 - 12,500

**4. Micro Poultry Raising Scheme**

Annual Estimated Net Return (10 hens/beneficiary, unit BDT)			
Item	1st Year	2nd Year	3rd Year
Gross Return	16,000 - 24,000	16,000 - 24,000	16,000 - 24,000
Production Cost 1/	(17,000)	13,000	13,000
Net Return	16,000 - 24,000	13,000 - 11,000	13,000 - 11,000

1/: In 1st year, production cost (except family labour cost) born by the sub-project

## 2/: Sale of egg &amp; old hens

## Program description

- No. of hen (3 months old Sonali Breed)/beneficiary: 10 hens
- Production cycle: 6 months/cycle
- Investment Cost:
  - Hen: 10 hens x BDT 300 = BDT 3,000.-
  - Temporary poultry shed materials: BDT 1,000.-
  - Feed: 35kg/month/hen x 10 hens x BDT 37/kg = BDT 13,000.-
  - Egg prod./year: 200 - 300 pcs./bird x 10 birds = 2,000 - 3,000pcs.
  - Gross return: @BDT 8/pc.; BDT 16,000 - 24,000/year

Anticipated generated income (per year/beneficiary):

1st year: BDT 16,000 - 24,000, 2nd/3rd year: BDT 13,000 - 11,000

**5. Small-scale Mushroom Culture Scheme**

Annual Estimated Net Return (12 shelves/beneficiary; unit BDT)			
Item	1st Year	2nd Year	3rd Year
Gross Return	7,200 - 14,400	10,200 - 20,400	10,200 - 20,400
Production Cost 1/	(4,500)	4,000	4,000
Net Return	7,200 - 14,400	6,200 - 16,400	6,200 - 16,400

1/: In 1st year, production cost (except family labour cost) born by the sub-project

## Program description

- No. of mushroom shelves/beneficiary: 12 shelves
- No. of mushroom spoons/beneficiary: 400 ready spoons
- Production cycle: 2 months; 6 harvests per year
- Production: 1st year 60 - 120kg, 2nd & 3rd year 85 - 170kg/year
- Gross return: @BDT 120/kg;
  - 1st year 60 - 120kg x BDT 120/kg = BDT 7,200 - 14,400, , 2nd & 3rd year 85 - 170kg x BDT 120/kg = 10,200 - 20,400

Anticipated generated income (per year/beneficiary):

1st year: BDT 7,200 - 14,400, , 2nd/3rd year: BDT 6,200 - 16,400

### Appendix 10.11: Calculation of Damage Rate of Rice

Damage rate of rice by flood inundation is presented in Table 13.4.1 in the Main Report. This damage rate was calculated from the estimated rice production influenced by probable floods which was calculated in the feasibility study report of the Kalni-Kushiyara River Management Project (KKRMP, 1998). The same flooded rice production was applied in this survey, since the study area of the KKRMP had been also extended in the haor area. The F/S of KKRMP determined the yield of rice in the damage free land (inundation depth < 0.3 m) and flood damaged land (inundation depth > 0.3 m), referring to past surveys such as NERP Farm Household Survey (1996), NERP Land Use Survey (1995 – 1996), K-K Farm Monitoring Survey (1995 – 1996), Kalni-Kushiyara Pre-F/S (1994), National Minor Development Project (1994) and information of Bangladesh Bureau of Statistics published in 1991 and 1993. The rice production was calculated from these yields of rice and inundation areas for the floods of 2, 5 and 10-year probabilities as shown in the table below.

**Damage Rate for 2-year flood**

Crop		Flood Year (2-year)			No Flood Year		
		Cultivated area (ha)	Yield (ton/ha)	Production (ton)	Cultivated area (ha)	Yield (ton/ha)	Production (ton)
HYV Boro	Damage Free	169,239	4.69	793,731	193,752	4.69	908,697
	Damaged	24,513	2.9	71,088			
Local Boro	Damage Free	25,710	3.11	79,958	43,010	3.11	133,761
	Damaged	17,300	1.6	27,680			
B. Aus	Damage Free	7,384	1.1	8,122	7,446	1.10	8,191
	Damaged	62	1.04	64			
DW Aman	Damage Free	21,245	1.93	41,003	25,297	1.93	48,823
	Damaged	4,052	1.5	6,078			
Loc T. Aman	Damage Free	36	2.15	77	36	2.15	77
	Damaged	0	1.75	0			
HYV T. Aman	Damage Free	7,430	3.2	23,776	7,518	3.20	24,058
	Damaged	88	2.24	197			
<b>Total Production</b>				<b>1,051,774</b>			<b>1,123,607</b>
Loss due to Flood		1,123,607	-	1,051,774	= 71,833 ton		
<b>Damage Rate</b>		71,833	/	1,051,774.0	= <b>6.4 %</b>		

**Damage Rate for 5-year flood**

Crop		Flood Year (5-year)			No Flood Year		
		Cultivated area (ha)	Yield (ton/ha)	Production (ton)	Cultivated area (ha)	Yield (ton/ha)	Production (ton)
HYV Boro	Damage Free	61,411	4.69	288,018	193,752	4.69	908,697
	Damaged	132,341	2.9	387,759			
Local Boro	Damage Free	9,329	3.11	29,013	43,010	3.11	133,761
	Damaged	33,681	1.6	53,890			
B. Aus	Damage Free	2,679	1.1	2,947	7,446	1.10	8,191
	Damaged	4,767	1.04	4,958			
DW Aman	Damage Free	7,709	1.93	14,878	25,297	1.93	48,823
	Damaged	17,588	1.5	26,382			
Loc T. Aman	Damage Free	13	2.15	28	36	2.15	77
	Damaged	23	1.75	40			
HYV T. Aman	Damage Free	2,696	3.2	8,627	7,518	3.20	24,058
	Damaged	4,822	2.24	10,801			
<b>Total Production</b>				<b>827,341</b>			<b>1,123,607</b>
Loss due to Flood		1,123,607	-	827,341	= 296,266 ton		
<b>Damage Rate</b>		296,266	/	827,341.0	= <b>26.4 %</b>		

**Damage Rate for 10-year flood**

Crop		Flood Year (10-year)			No Flood Year		
		Cultivated area (ha)	Yield (ton/ha)	Production (ton)	Cultivated area (ha)	Yield (ton/ha)	Production (ton)
HYV Boro	Damage Free	9,217	4.69	43,228	193,752	4.69	908,697
	Damaged	184,535	2.9	540,688			
Local Boro	Damage Free	1,400	3.11	4,354	43,010	3.11	133,761
	Damaged	41,610	1.6	66,576			
B. Aus	Damage Free	402	1.1	442	7,446	1.10	8,191
	Damaged	7,044	1.04	7,326			
DW Aman	Damage Free	1,157	1.93	2,233	25,297	1.93	48,823
	Damaged	24,140	1.5	36,210			
Loc T. Aman	Damage Free	2	2.15	4	36	2.15	77
	Damaged	34	1.75	60			
HYV T. Aman	Damage Free	405	3.2	1,296	7,518	3.20	24,058
	Damaged	7,113	2.24	15,933			
<b>Total Production</b>				<b>718,350</b>			<b>1,123,607</b>
Loss due to Flood		1,123,607	-	718,350	= 405,257 ton		
<b>Damage Rate</b>		405,257	/	718,350.0	= <b>36.1 %</b>		