

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)

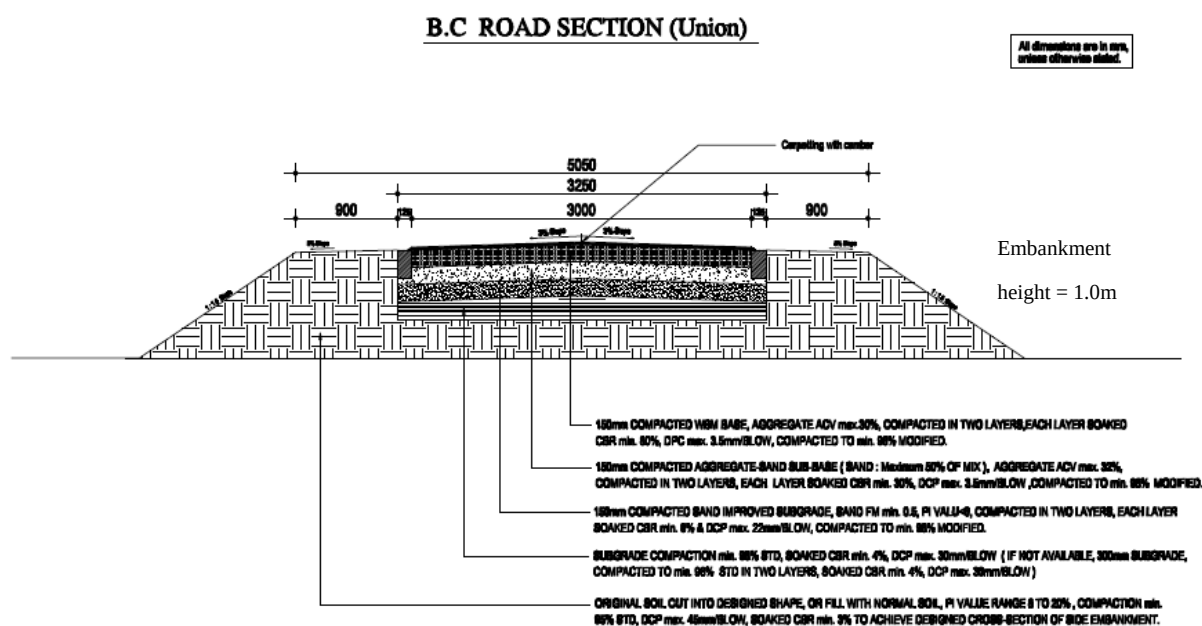


Figure 1 B.C Road Section (Non-submerged) (Union Road)

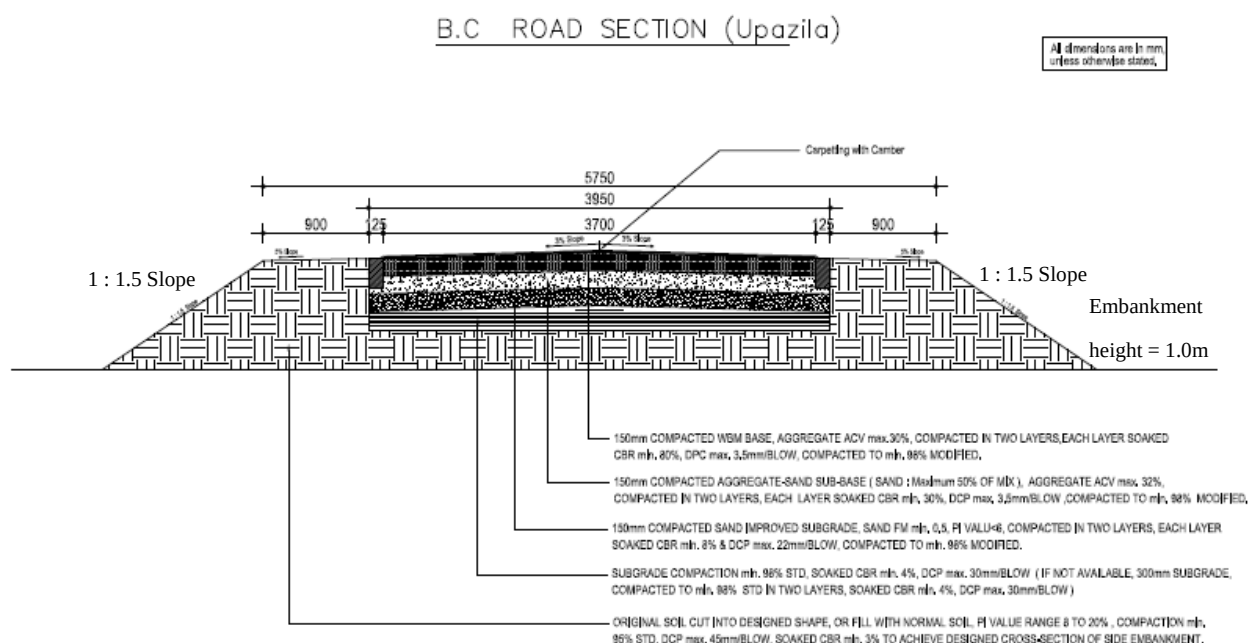


Figure 2 B.C Road Section (Non-submerged) (Upazila Road)

RCC ROAD SECTION (Union)

All dimensions are in mm, unless otherwise stated.

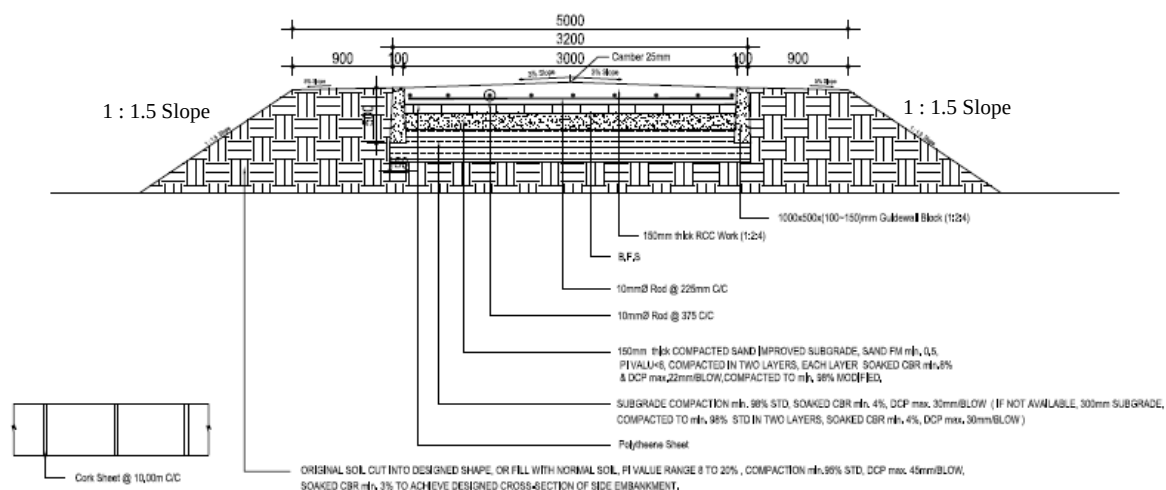


Figure 3 RCC Road Section (Submerged) (Union Road)

RCC ROAD SECTION (Upazila)

All dimensions are in mm, unless otherwise stated.

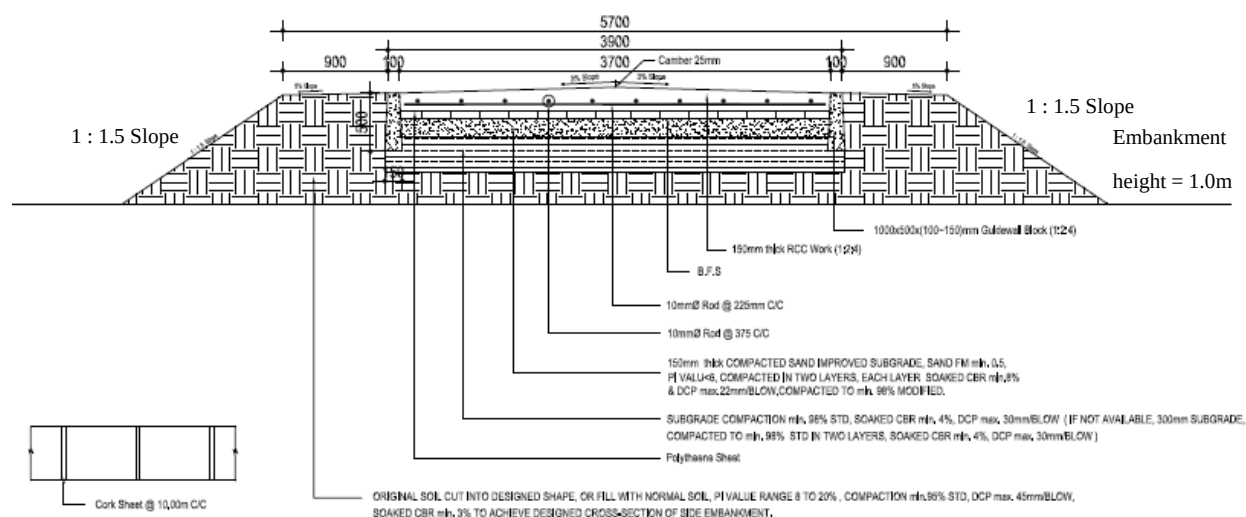


Figure 4 RCC Road Section (Submerged) (Upazila Road)

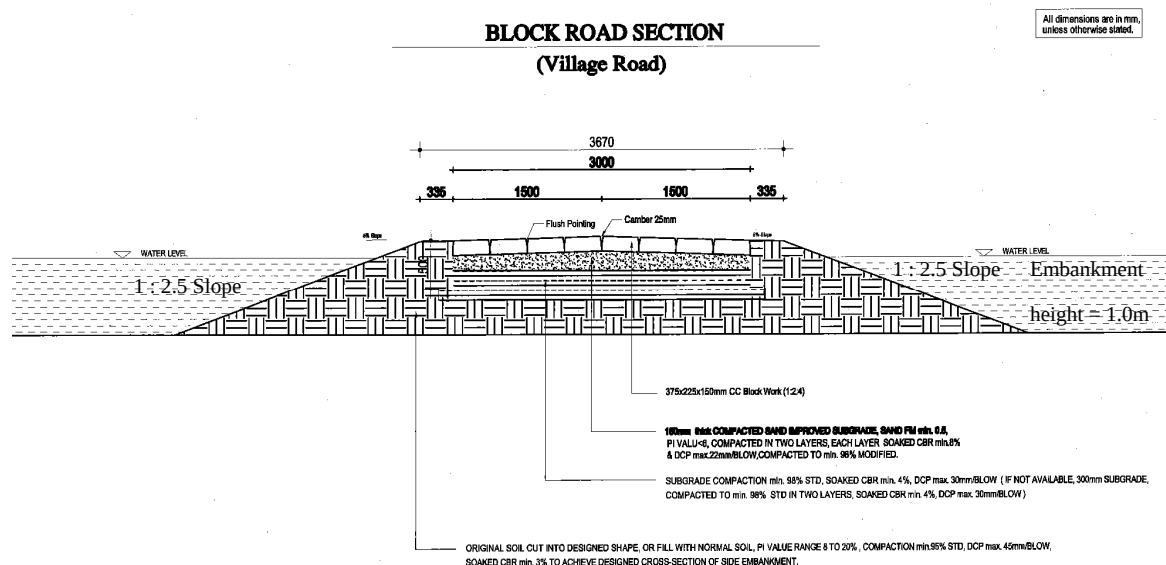


Figure 5 Block Road Section (Non-submerged) (Village Road)

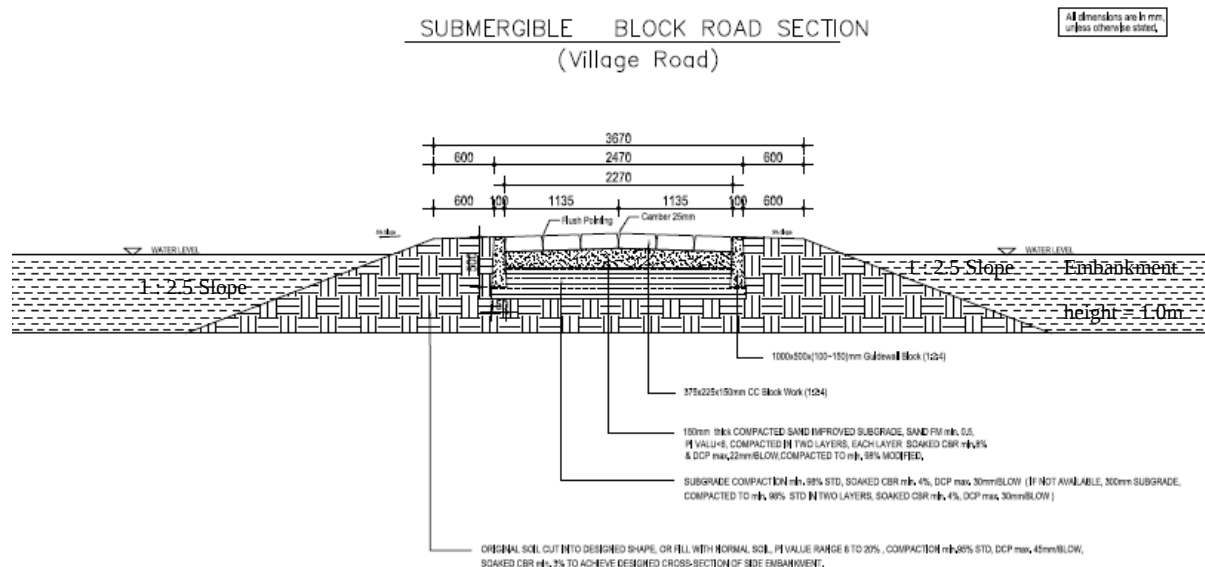
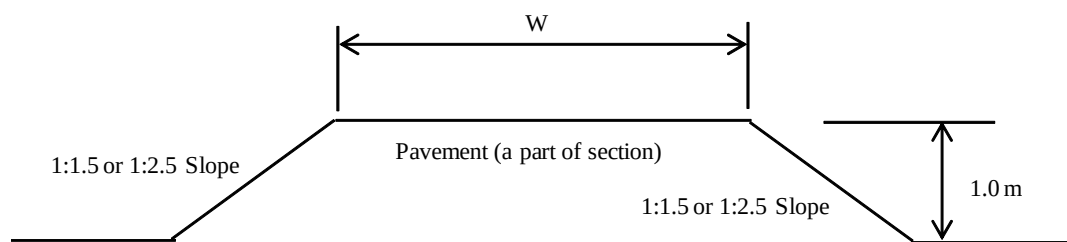


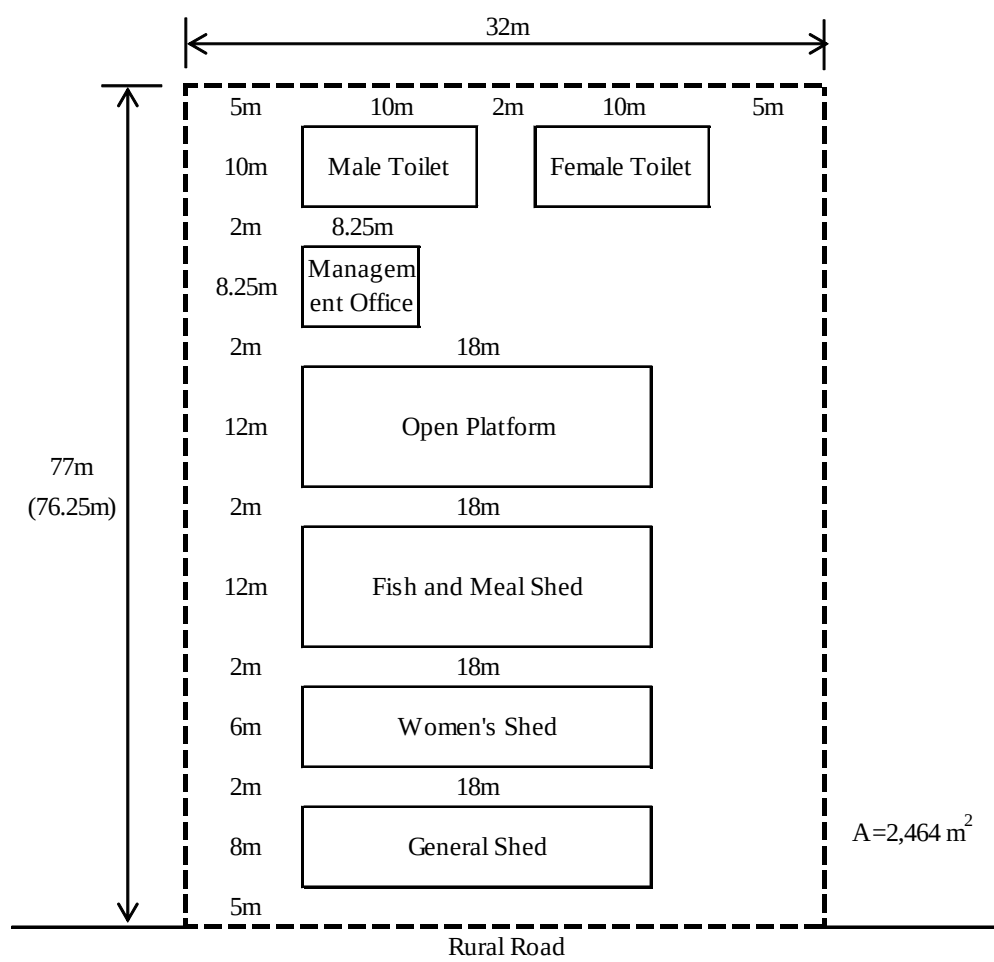
Figure 6 Block Road Section (Submerged) (Village Road)



Average crest width (W)

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

Figure 7 Existing Road Cross-scetion



Item	Dimension	Area (m ²)
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		
Total		952

Figure 8 Hat (Market) Layout Plan

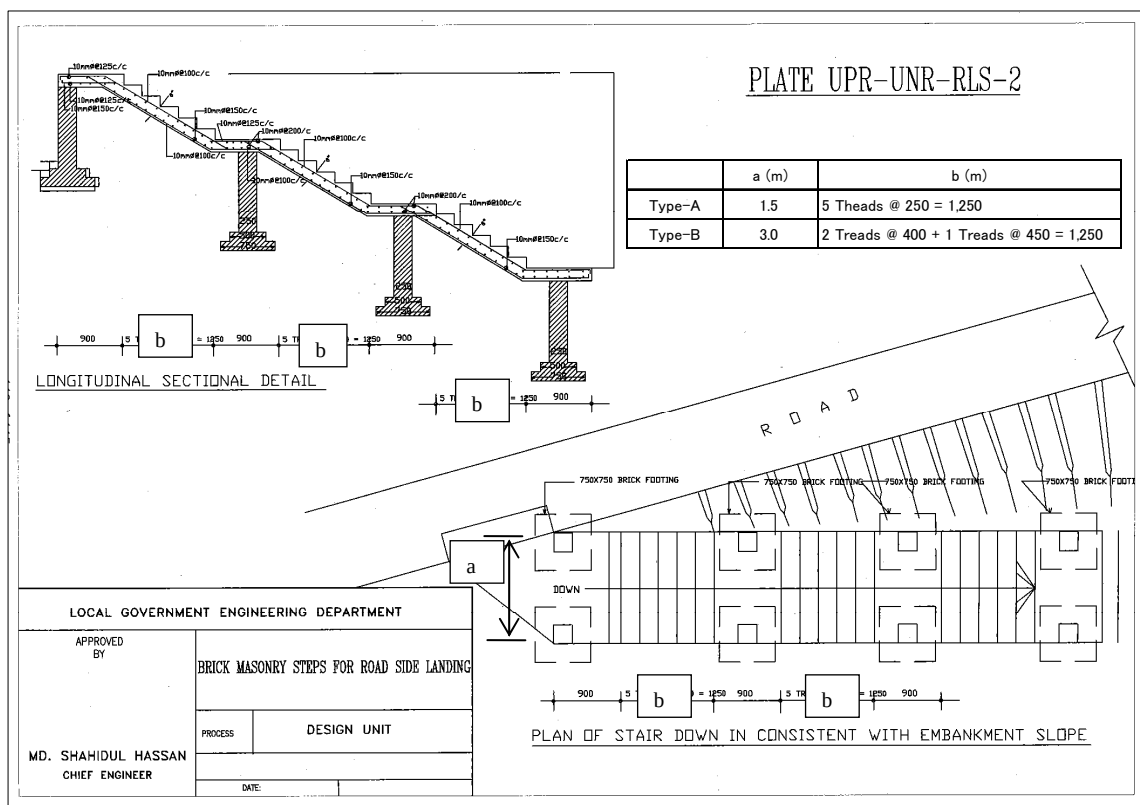


Figure 9 Ghat (Boat landing Facility)

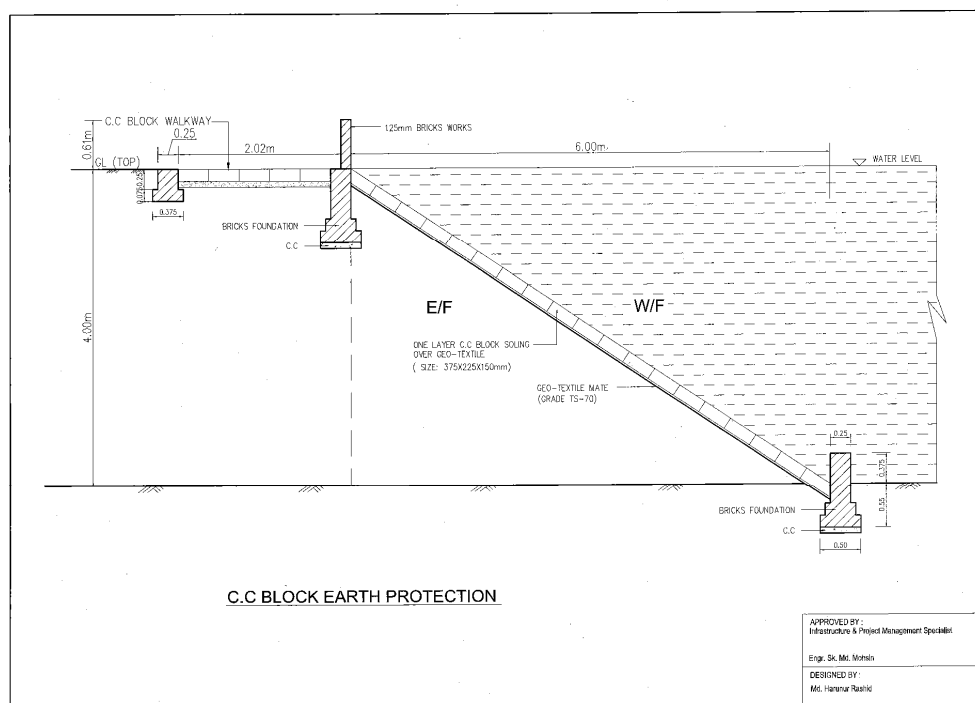


Figure 10 Hat and Ghat Protection

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 Governance Improvement Project Final Report 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, Unioni Road) for 1.0 km

SN No.	Item Code	Layers	Description in Brief	Cacculation	Unit	Quantity	No.1
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	$\pi(1/2*(5.05+8.05)*1.0-1/2*(3.7+6.7)*1.0)*1000$	m ³	1,350.00	
3	2.1.08.01		Manual Compaction of earth in 150 mm thick compacted		m ³	1,350.00	
4	3.1.04	End Protection	Earth work in box cutting		m ²	3,250.00	
5	3.2.15.02		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		Sand(FM 0.50) filling (ISG)		m ³	813.00	
9	3.2.02.03	Improved Subgrade	Providing Compacted aggregate sand(AS) Sub-base Course.....		m ³	463.00	
10	5.02		Single layer brick flat soling with 1st class or picked jhama.....		m ²	0.00	
11	3.2.02.02	Base Course	Providing laying, spreading and compacting 38mm down graded aggregates		m ³	450.00	
12	3.2.25		Prime coat with cut back bitumen.....		m ²	3,000.00	
13	3.2.29.1		25mm thick(compact) pre-mixed bitumenous carpeting to be prepared using 20mm down-stone chips.....		m ²	3,000.00	
14	3.2.24.04		Providing tack coat with 60/70 or 80/100 penetration grade.....		m ²	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 ²	3,000.00	
16	4.2.03.01.1		Reinforcement cement Concrete(RCC) works in.....		m ³	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 ²	0.00	
19	5.028		Providing polyrene sheet (0.18mm thick) on floor....		m ²	0.00	
20	5.103.04		Flush pointing to CC Block laying for pavement.....		m ²	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

SN No.	Item Code	Layers	Description in Brief	Cacculation	Unit	No.2 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 ³	1,750.00
3	2.1.08.01		Manual Compaction of earth in 150 mm thick compacted		m ³	1,750.00
4	3.1.04	End Protection	Earth work in box cutting		m ²	3,950.00
5	3.2.15.02		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	Improved Subgrade	CC Block on end edging (375mm across) with cc blocks		m	
8	3.1.06.02		Sand (FM 0.50) filling (ISG)		m ³	988.00
9	3.2.02.03		Providing Compacted aggregate sand (AS) Sub-base Course		m ³	568.00
10	5.02	Base Course	Single layer brick flat soling with 1st class or picked jhama		m ²	0.00
11	3.2.02.02		Providing laying, spreading and compacting 38mm down graded aggregates		m ³	555.00
12	3.2.25		Prime coat with cut back bitumen		m ²	3,700.00
13	3.2.29.1		25mm thick (compacted) pre-mixed bituminous carpeting to be prepared using 20mm down-stone chips		m ²	3,700.00
14	3.2.24.04		Providing tack coat with 60/70 or 80/100 penetration grade		m ²	3,700.00
15	3.2.34		7mm thick (compacted) pre-mixed bituminous seal coat to be prepared using 6.33mm down pea gravel or crush stone		m ²	3,700.00
16	4.2.03.01.1		Reinforcement cement Concrete (RCC) works in		m ³	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 ²	0.00
19	5.028		Providing polytene sheet (0.18mm thick) on floor		m ²	0.00
20	5.103.04		Flush pointing to CC Block laying for pavement		m ²	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

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

SN No.	Item Code	Layers	Description in Brief	Calculation	Unit	No.4	
						Quantity	1.00
1	2.1.02	Bed preparation	Cleaning by removal and disposal		LS		
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 ³	1,750.00	
3	2.1.08.01		Manual Compaction of earth in 150 mm thick compacted		m ³	1,750.00	
4	3.1.04	End Protection	Earth work in box cutting		m ²	3,900.00	
5	3.2.15.02		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	Improved Subgrade	CC Block on end edging (375mm across) with cc blocks		m	2,000.00	
8	3.1.06.02		Sand (FM 0.50) filling (ISG)		m ³	555.00	
9	3.2.02.03		Providing Compacted aggregate sand (AS) Sub-base Course		m ³	0.00	
10	5.02	Base Course	Single layer brick flat soling with 1st class or picked jhama		m ²	3,700.00	
11	3.2.02.02		Providing laying, spreading and compacting 38mm down graded aggregates		m ³	0.00	
12	3.2.25		Prime coat with cut back bitumen		m ²	0.00	
13	3.2.29.1		25mm thick (compacted) pre-mixed bituminous carpeting to be prepared using 20mm down-stone chips		m ²	0.00	
14	3.2.24.04		Providing tack coat with 60/70 or 80/100 penetration grade		m ²	0.00	
15	3.2.34		7mm thick (compacted) pre-mixed bituminous seal coat to be prepared using 6.33mm down pea gravel or crush stone		m ²	0.00	
16	4.2.03.01.1		Reinforcement cement Concrete (RCC) works in		m ³	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 ²	0.00	
19	5.028		Providing polythene sheet (0.18mm thick) on floor		m ²	3,700.00	
20	5.103.04		Flush pointing to CC Block laying for pavement		m ²	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

SN No.	Item Code	Layers	Description in Brief	Cacculation	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 ³	1,070.00
3	2.1.08.01		Manual Compaction of earth in 150 mm thick compacted		m ³	1,070.00
4	3.1.04	End Protection	Earth work in box cutting	$= 2.47 * 1000$	m ²	2,470.00
5	3.2.15.02		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	Improved Subgrade	CC Block on end edging (375mm across) with cc blocks		m	0.00
8	3.1.06.02		Sand (FM 0.50) filling (ISG)	$= 2.47 * 0.15 * 1000$	m ³	371.00
9	3.2.02.03		Providing Compacted aggregate sand (AS) Sub-base Course		m ³	0.00
10	5.02	Base Course	Single layer brick flat soling with 1st class or picked jhana		m ²	0.00
11	3.2.02.02		Providing laying, spreading and compacting 38mm down graded aggregates		m ³	0.00
12	3.2.25		Prime coat with cut back bitumen		m ²	0.00
13	3.2.29.1		25mm thick (compacted) pre-mixed bituminous carpeting to be prepared using 20mm down-stone chips		m ²	0.00
14	3.2.24.04		Providing tack coat with 60/70 or 80/100 penetration grade		m ²	0.00
15	3.2.34		7mm thick (compacted) pre-mixed bituminous seal coat to be prepared using 6.33mm down pea gravel or crush stone		m ²	0.00
16	4.2.03.01.1		Reinforcement cement Concrete (RCC) works in		m ³	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 ²	2,270.00
19	5.028		Providing polytene sheet (0.18mm thick) on floor		m ²	0.00
20	5.103.04		Flush pointing to CC Block laying for pavement	$= 2.470 * 1000$	m ²	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	Caculation	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 ³	1,070.00
3	2.1.08.01			Manual Compaction of earth in 150 mm thick compacted		m ³	1,070.00
4	3.1.04		End Protection	Earth work in box cutting	$= 2.47 * 1000$	m ²	2,470.00
5	3.2.15.02			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			Sand (FM 0.50) filling (ISG)	$= 2.47 * 0.15 * 1000$	m ³	371.00
9	3.2.02.03		Improved Subgrade	Providing Compacted aggregate sand (AS) Sub-base Course		m ³	0.00
10	5.02		Base Course	Single layer brick flat soling with 1st class or picked jhana		m ²	0.00
11	3.2.02.02			Providing laying, spreading and compacting 38mm down graded aggregates		m ³	0.00
12	3.2.25			Prime coat with cut back bitumen		m ²	0.00
13	3.2.29.1			25mm thick (compacted) pre-mixed bituminous carpeting to be prepared using 20mm down-stone chips		m ²	0.00
14	3.2.24.04			Providing tack coat with 60/70 or 80/100 penetration grade		m ²	0.00
15	3.2.34			7mm thick (compacted) pre-mixed bituminous seal coat to be prepared using 6.33mm down pea gravel or crush stone		m ²	0.00
16	4.2.03.01.1			Reinforcement cement Concrete (RCC) works in		m ³	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 ²	2,270.00
19	5.028			Providing polyene sheet (0.18mm thick) on floor ...		m ²	0.00
20	5.103.04			Flush pointing to CC Block laying for pavement	$= 2.470 * 1000$	m ²	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)

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

[illegible]

No.22

[illegible]

Appendix 4.8 Land Acquisition

RURAL ROAD LAND ACQUISITION					[Finalized List of Subproject]							
Rank	No.	District	Upazila	Road Code	Road Name	Road Class	Crest Width (m)		Land Acquisition		Area (m2) ⑤=③×⑥	Haor Project(29)
							Existing	Plan	Ares (m2m)	Length (km)		
							①	②	③=②×①	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	Bobula 2no word Pirbari - Paschim Haor Road	VRB	2.00	3.670	1.670	3.00	5.010	R13
3	1-44	Kishoreganj	Karimganj	348422008	Niamsapur-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)-Jarria Bazar road via Katwari	UNR	3.20	5.050	1.850	6.00	11.100	R1
5	3-123	Sunamganj	SUNAMG	690892009	R&H (Rabarban)-Baishber-Joyanagar GC Road (Laxmansree/Mohanpur)	UZR	3.00	5.750	2.750	8.30	22.825	N12
6	4-100	Habiganj	Baniachang	636112007	Kadir Goni Ge-Paharpur Ge 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	Shin Sunamg	690932011	Santiganj bazar (UZ HQ)-Rajanganj 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-Mitmanin Road	UZR	5.50	5.750	0.250	10.20	2.550	N6
12	1-3	Kishoreganj	Pakundia	348793006	Hosendi UP-Ashuita old bazar 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-Kakalichew Road	UZR	4.48	5.750	1.270	13.37	16.980	N9
15	1-15	Kishoreganj	Sadar	348494052	Baratapa-Thadepara Bazar Road	VRA	3.00	3.670	0.670	4.66	3.122	R4
16	1-18	Kishoreganj	Nikli	348764005	Jaritala 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 bazarvia 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 hat-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	Anandapur Chhat - Anadapur 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	Kuliarbar	348543006	Dumrakanda Bazar-Randi UP Office Rd	UNR	4.88	5.050	0.170	5.38	915	R9
24	3-126	Sunamganj	SUNAMG	690893001	R&H road Janigan-Joyanagar Bazar Road (Laxmansree/Mohanpur)	UNR	2.50	5.050	2.550	7.70	19.635	N12
25	4-47	Habiganj	Azmiriganj	636022003	Azmiriganj - 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 Jhulsuk.	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-Dhamila Bazar	UNR	3.00	5.050	2.050	3.54	7,237	N7
33	3-89	Sunamganj	Derai	690292004	Derai Bazar-Dhol-Marcuti Road	UZR	3.70	5.750	2.050	1.84	3,772	R8
34	4-8	Habiganj	Bahubal	636053004	Saikapan UP Office (Chalitatala)-Bakterpur via Shoala bazar Rd	UNR	4.00	5.050	1.050	4.50	4,725	R13
35	4-109	Habiganj	Baniachang	636114049	Pakra 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

Rank	No.	District	Upazila	Road Code	Road Name	Road Class	Crest Width (m)		Plan	Land Acquisition		Area (m ²)	Haor Project(29)
							Existing	①	②	Ares (m ² /m)	Length (km)	③=②×⑤	
1	4-103	Habiganj	Baniachang	636113013	Subidpur Up office-Aowar Mohal Bazar Via Kahirpur, Niamat pur	UNR	2.30	2.30	5.050	2.750	7.40	20,350	R13
2	4-7	Habiganj	Sadar	636444065	Bomla 2no word Pirbati - Paschim Haor Road	VRB	2.00	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	7.32	5.750	-1.570	12.90		N9
4	2-4	Netrokona	Purbadhala	372833012	Ghagra UP (Kaphasia)-Jaria Bazar road via Katwari	UNR	3.20	3.20	5.050	1.850	6.00	11,100	R1
36	1-10	Kishoreganj	Ina	348333007	Badia UP-Barshikura Hat Road	UNR	3.60	3.60	5.050	1.450	3.00	4,350	N7
37	1-39	Kishoreganj	Tarail	348973010	Jawar UP-Dhamila UP via Echapashar	UNR	3.10	3.10	5.050	1.950	3.31	6,455	N6
38	1-47	Kishoreganj	Kuliachar	348543002	Chhaysuti UP Office[R&H]-Palta Bazar via Madhobdi, Pailanpur R	UNR	4.88	4.88	5.050	0.170	4.97	845	R7
39	2-3	Netrokona	Purbadhala	372833002	Purbadhala (Kaldhar)-Ghagra UP (Kaphasia) road via Ghagra bazar	UNR	4.67	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	5.50	5.750	0.250	0.15	38	N12
41	4-53	Habiganj	Azmiriganj	636025035	Soloni - Shibpasha.	VRB	2.50	2.50	3.670	1.170	8.50	9,945	R8
42	4-106	Habiganj	Baniachang	636114013	Habiganj-Baniyachong RHD to Sunari vill	VRA	2.00	2.00	3.670	1.670	1.00	1,670	R13
43	4-107	Habiganj	Baniachang	636114019	Shibiganj Bazar to halderpur Chitori road	VRA	1.50	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	2.25	3.670	1.420	2.75	3,905	R9
45	3-47	Sunamganj	Dharmapasha	690322007	Joystree-Moddhanagar Via Ramdiga Road.	UZR	3.70	3.70	5.750	2.050	17.46	35,793	N4
46	1-2	Kishoreganj	Pakundia	348793005	Hossendi UP-Molkhola GC Via Alandi	UNR	4.60	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	3.65	3.670	0.020	0.64	13	N8
48	1-25	Kishoreganj	Hossainpur	348273005	Gobindpur Chowrasta bazar-Gobindapur UP H/Q Road	UNR	3.90	3.90	5.050	1.150	2.08	2,392	R4
49	1-27	Kishoreganj	Hossainpur	348273009	Adu Master bazar-Shahedai UP H/Q Road	UNR	4.50	4.50	5.050	0.550	3.00	1,650	R4
50	1-52	Kishoreganj	Katiadi	348453007	Achmita UP H/Q-Pong Masua bazar Rd.	UNR	3.65	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	3.00	3.670	0.670	3.00	2,010	R1
52	2-7	Netrokona	Purbadhala	372835039	Shahala-Hatikhala Bazar	VRB	2.75	2.75	3.670	0.920	3.20	2,944	R1
53	2-20	Netrokona	Barhatta	372092007	Antala-Samaj GC Road (Barhatta Portion)	UZR	4.40	4.40	5.750	1.350	6.24	8,424	N5
54	3-132	Sunamganj	SUNAMG	690894005	Tokerghat-Bahadurpur Rd.(Laxmansree)	VRA	2.00	2.00	3.670	1.670	3.60	6,012	N12
55	4-10	Habiganj	Bahubal	636054079	Gultaria Pry. School - Panchparia Road Via Sluice gate Durga pur .	VRA	3.75	3.75	3.670	-0.080	5.00		R13
56	4-48	Habiganj	Azmiriganj	636023001	Pashchimbag - Azmiriganj Road	UNR	2.50	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	3.00	3.670	0.670	2.10	1,407	R8
58	4-57	Habiganj	Azmiriganj	636025008	Pituarandi Ghat - Shalla Highschool.	VRB	3.50	3.50	3.670	0.170	3.65	621	R8
59	4-52	Habiganj	Azmiriganj	636025027	Kakilsow Bazar - Rahala Rd.	VRB	2.80	2.80	3.670	0.870	2.25	1,958	R9
60	1-11	Kishoreganj	Sadar	348493009	Danepetuli UP-Jalia bazar	UNR	4.88	4.88	5.050	0.170	2.61	444	N1
61	2-11	Netrokona	Atpara	372045037	Sukari Badrakola	VRB	2.00	2.00	3.670	1.670	2.00	3,340	N11
62	3-102	Sunamganj	Dera	690294018	Nagergaon Ferryghat-Nasubazar	VRA	2.50	2.50	3.670	1.170	2.00	2,340	R8
63	3-103	Sunamganj	Dera	690294019	Akitha Bazar-Nagergaon via Kulanje	VRA	3.00	3.00	3.670	0.670	2.00	1,340	R8
64	3-104	Sunamganj	Dera	690294020	Akitha Bazar-Nasib Bazar	VRA	2.50	2.50	3.670	1.170	1.25	1,463	R8
65	4-4	Habiganj	Sadar	636444035	Poil-Pachparia Rd.	VRA	3.50	3.50	3.670	0.170	4.20	714	R13
66	4-15	Habiganj	Bahubal	636055058	Shuayabazar-Ruyail	VRB	3.00	3.00	3.670	0.670	6.00	4,020	R13

RURAL ROAD LAND ACQUISITION

[Finalized List of Subproject]

Rank	No.	District	Upazilla	Road Code	Road Name	Road Class	Crest Width (m) Existing	Plan	Land Acquisition Area (m ² /m)	Length (km)	Area (m ²)	Haor Project(29)
							①	②	③=②×①	⑤	⑥=③×⑤	
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	Kartiganj	348422008	Niamalpur-Gandhar 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	shin Sunamgi	690934021	Ganiganj RHD-Jhirdara 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	690322505	Modhayanganagar bazar-Golha Rd.	UNR	3.00	5.050	2.050	8.00	16,400	N4
73	2-5	Netrokona	Purbadhala	372833052	Jaria Purbopara-Jaria Switch Gate via RPSchoot 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-Bhailgaon	VRA	2.50	3.670	1.170	2.00	2,340	R8
81	3-131	Sunamganj	SUNAMG	690894022	RHD(Haluaigaon)-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 joynagar GC road (Noagaon)-Kandigaon 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	shin Sunamgi	690934048	Ashammura Pry. School-Puran -Kandigaon Road.	VRA	3.70	3.670	-0.030	3.81		N12
TOTAL											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
N1								4,928	
8	1-32	Kishoreganj	"	Gopdighi	Bogadia	RM	New	2,464	N2
N2								2,464	
N3								0	
19	3-16	Sunamganj	Dhamapasha	Selborash	Badshagonj	RM	New	2,464	N4
N4								2,464	
N5								0	
N6								0	
N7								0	
N8								0	
2	1-4	Kishoreganj	Itna	Joysiddhi	Mudirgaon	RM	New	2,464	N9
N9								2,464	
N10								0	
N11								0	
20	3-45	Sunamganj	Sunamganji Sadar	Mohanpur	Joynagar	GC	Rehabilitation		N12
N12								0	
N13								0	
N14								0	
11	2-5	Netrokona	"	Hogla	Patra Bazar	RM	New	2,464	R1
12	2-6	Netrokona	"	Ghagra	Ghagra Bazar	RM	New	2,464	R1
R1								4,928	
R2								0	
R3								0	
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
R4								7,392	
1	1-1	Kishoreganj	Pakundia	Agarosindur	Bahahadia	RM	New	2,464	R5
R5								2,464	
R6								0	
R7								0	
24	4-10	Habiganj	AZMIRIGANJ	Badolpur	Paharpur	GC	Rehabilitation		R8
R8								0	
25	4-11	Habiganj	AZMIRIGANJ	Kakailsew	Nischintopur	RM	New	2,464	R9
28	4-20	Habiganj	Baniachong	Muradpur	Muradpur Bazar	RM	New	2,464	R9
R9								4,928	
27	4-19	Habiganj	Baniachong	Sujatpur	Sujatpur Bazar	GC	Rehabilitation		R10
R10								0	
R11								0	
R12								0	
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	Shoaia Bazer	RM	New	2,464	R13
26	4-17	Habiganj	Baniachong	Pukra	Aowar Mohal Bazar	RM	New	2,464	R13
R13								7,392	
R14								0	
16	2-13	Netrokona	"	MENDIPUR	Satgoan Bazar	RM	New	2,464	R15
R15								2,464	
TOTAL								41,888	

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
N1					36	
7	1-27	Kishoreganj	Sadar	Olua	12	N2
N2					12	
N3					0	
N4					0	
N5					0	
N6					0	
1	1-3	Kishoreganj	Itna	Bashikura bazar	12	N7
N7					12	
N8					0	
N9					0	
N10					0	
N11					0	
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
N12					36	
N13					0	
N14					0	
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
R1					36	
R2					0	
R3					0	
4	1-18	Kishoreganj	Sadar	Char Pumdi bazar Ghat	12	R4
5	1-19	Kishoreganj	Sadar	Rampur bazar Ghat	12	R4
R4					24	
R5					0	
R6					0	
8	1-30	Kishoreganj	Sadar	Kacharighat	12	R7
R7					12	
18	3-37	Sunamganj	Derai	Boalia	12	R8
R8					12	
2	1-4	Kishoreganj	Itna	Joysiddhi bazar	12	R9
6	1-24	Kishoreganj	Sadar	Char Katkhal	12	R9
R9					24	
24	4-11	Habiganj	Baniachonj	Sujath pur Bazar	12	R10
R10					12	
R11					0	
R12					0	
22	4-2	Habiganj	HABIGANJ-S	Purbo Poil Bazar Ghat	12	R13
23	4-3	Habiganj	HABIGANJ-S	Poil Natun Bazar Ghat	12	R13
R13					24	
17	3-9	Sunamganj	Sulla	Rahutola Bazar Ghat	12	R14
R14					12	
R15					0	
TOTAL					252	

Appendix 4.9 Resettlement

Rural Road Resettlement (1/2)

[Finalized List of Subproject]																				29	
Rural Road Resettlement				Plan																	
Ranking	No.	District	Upazila	Road Code	Road Name	Resettlement number	Beneficiary	Existing			Strech Type (km)			Rigid	Length (km)		Road Class	Culvert (m)	Hnor Project(29)		
								Cross Width (m)	Earthan	Flexibla	Bric	Summable Length	Total								
1	4-103	Habiganj	Banachang	636113013	Subdipur Up office-Aowar Mohar Bazar Via Kaborpur, Niamat pur	0	350,000	2.30	8.20	0.00	0.00	0.00	0.00	0.00	0.00	7.40	7.40	VRB	30	R13	
2	4-7	Habiganj	Sadar	636444065	Behula 2no ward Pritan - Paschim Haor Road	0	120,000	2.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	3.00	VRB	0	R13	
3	1-44	Kishoreganj	Kanaganj	348422048	Srimangar-Gundhar GC Road via Faridhat Bazar	2	50,000	7.32	10.60	2.30	0.00	0.00	0.00	0.00	0.00	12.90	12.90	UZR	0	N9	
4	1-44	Kishoreganj	Purbadiala	372835012	Chagra UP (Kapashia)-Jaria Bazar road via Kaveri	5	50,000	3.20	6.00	0.00	0.00	0.00	0.00	0.00	0.00	6.00	6.00	VRB	0	R1	
5	3-123	Sunamganj	SUNAMGANJ	690892009	R&H (Rajangan)-Basther-Joyrangar GC Road (Laxmanstee/Mohampur)	0	50,000	3.00	6.20	0.00	0.00	0.00	0.00	0.00	0.00	8.30	8.30	UZR	0	N12	
6	4-109	Habiganj	Banachang	636112007	Kadir Gaj-Gaj-Paharpur Via Karcha	0	50,000	3.00	6.50	0.00	0.00	0.00	0.00	0.00	0.00	5.00	5.00	VRB	30	R10	
7	4-105	Habiganj	Banachang	636113017	Birhangal (Ge-Habiganj) - Sutidpur Road Via Monduri Up office - Bijoypur,	0	50,000	2.11	11.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	VRB	0	R8	
8	4-55	Habiganj	Banachang	636024002	Projpur Larehghat-Jaluka Bazar Rd	0	46,200	3.00	2.40	0.00	0.00	0.00	0.00	0.00	0.00	5.00	5.00	VRB	0	R15	
9	2-19	Netrokona	Khalajuri	372384012	Havtapur-Champur via Khosajpur	0	45,000	3.00	5.00	2.88	0.00	0.00	0.00	0.00	0.00	15.13	15.13	UZR	185	N12	
10	3-158	Sunamganj	adhin Sunamganj	690532011	Santiganj Bazar (UZ HO - Rajangan) Bazar (Padaria GC) via Durgara Road	0	45,000	5.50	8.57	3.71	2.50	0.00	0.00	0.00	0.00	10.20	10.20	UZR	0	N6	
11	1-21	Kishoreganj	Austagram	348022002	Austagram-Miranor Road	1	40,200	5.50	9.84	0.00	0.00	0.00	0.00	0.00	0.00	11.93	11.93	VRB	0	R5	
12	1-3	Kishoreganj	Pakanda	348793006	Hosendi UP-Ashuda old bazar Rd via Mongheria and Thutaria	5	40,000	3.66	8.53	3.10	0.30	0.00	0.00	0.00	0.00	9.97	9.97	VRB	0	R5	
13	1-4	Kishoreganj	Pakanda	348793007	Pakanda UP-Mosia hat Via Salahi	5	40,000	2.90	9.02	0.00	0.00	0.00	0.00	0.00	0.00	13.37	13.37	UZR	0	N9	
14	1-0	Kishoreganj	Ima	348323004	Ima-Kakulchew Road	1	40,000	4.48	9.07	0.00	0.00	0.00	0.00	0.00	0.00	2.33	2.33	VRB	0	R4	
15	1-15	Kishoreganj	Sadar	348494052	Banachang-Thadipara Bazar Road	3	40,000	3.00	4.66	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	VRB	0	R1	
16	1-18	Kishoreganj	Nikli	348746005	Jaradila UP office-Chern Road	2	40,000	2.44	2.00	0.00	0.00	0.00	0.00	0.00	0.00	4.87	4.87	VRB	0	R4	
17	1-20	Kishoreganj	Hossainpur	348274038	Ganghaila Bazar-Jaradila Bazar via Akbar Azad HS road	4	40,000	3.00	2.95	1.92	0.00	0.00	0.00	0.00	0.00	9.59	9.59	VRB	0	N2	
18	1-35	Kishoreganj	Milmanon	348592001	Milmanon Nova hat-Dhaki UP Office Rd	2	40,000	3.60	9.12	0.00	0.00	0.00	0.00	0.00	0.00	4.45	4.45	VRB	0	R4	
19	1-26	Kishoreganj	Hossainpur	348273007	Char Pandi Bazar-Pandi UP HQ Road	3	38,000	4.00	2.82	1.63	0.00	0.00	0.00	0.00	0.00	1.80	0.00	1.80	VRB	55	R9
20	2-454	Habiganj	Azmiriganj	636025034	Avandapur Ghat - Avandapur Village	0	56,000	2.50	1.80	0.00	0.00	0.00	0.00	0.00	0.00	9.53	9.53	VRB	0	N6	
21	1-22	Kishoreganj	Austagram	348023004	Austagram-Badga ghat-Kalua UP office road	1	35,000	3.66	9.55	0.00	0.00	0.00	0.00	0.00	0.00	4.00	4.00	VRB	0	R4	
22	1-28	Kishoreganj	Hossainpur	348230010	Gobindpur UP HQ-Jaradila Bazar Road	4	35,000	4.80	1.88	2.12	0.00	0.00	0.00	0.00	0.00	5.38	5.38	VRB	0	R9	
23	1-48	Kishoreganj	Kulachar	348543006	Dumkanda Bazar-Randi UP Office Rd	5	35,000	4.88	4.38	1.00	0.00	0.00	0.00	0.00	0.00	3.85	3.85	VRB	0	N12	
24	3-126	Sunamganj	SUNAMGANJ	690893001	R&H road Janggon-Joyrangar Bazar Road (Laxmanstee/Mohampur)	0	35,000	2.50	4.12	1.00	0.58	0.00	0.00	0.00	0.00	14.06	14.06	UZR	0	R8	
25	4-47	Habiganj	Azmiriganj	636022003	Azmiriganj - Paharpur road	0	35,000	7.32	16.06	0.00	0.00	0.00	0.00	0.00	0.00	11.37	11.37	VRB	0	N6	
26	1-23	Kishoreganj	Austagram	348023005	Austagram-Moharhatilla-Gajra UP office Rd	2	34,000	2.66	7.80	0.00	0.00	0.00	0.00	0.00	0.00	7.02	7.02	UZR	0	R13	
27	4-49	Habiganj	Azmiriganj	636022005	Paharpur - Banachang Via Jhikuli	0	31,200	2.50	9.02	0.00	0.00	0.00	0.00	0.00	0.00	7.06	7.06	VRB	0	N8	
28	1-5	Kishoreganj	Balipur	348063001	Umdar Bazar-Halimpur UP Rd	4	30,000	2.75	2.86	4.20	0.00	0.00	0.00	0.00	0.00	3.00	3.00	VRB	0	N7	
29	1-8	Kishoreganj	Ima	348335001	Movra-Chandpur hat Rd	1	30,000	3.66	1.95	0.00	0.00	1.05	0.00	0.00	0.00	3.00	3.00	VRB	0	N2	
30	1-34	Kishoreganj	Milmanon	348592002	Milmanon Sadar-Kanaganj Boudhar Bullehat Road	2	30,000	5.00	6.51	0.00	1.22	0.00	0.00	0.00	0.00	10.00	10.00	UZR	0	N2	
31	1-38	Kishoreganj	Milmanon	348594001	Sagar Ferry ghat-Bagadia Bazar Rd	3	30,000	3.30	3.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	3.00	VRB	0	N7	
32	1-37	Kishoreganj	Tarail	348923004	Thana H O-Dhanish Bazar	4	30,000	3.00	3.54	0.00	0.00	0.00	0.00	0.00	0.00	3.54	3.54	VRB	0	N7	
33	3-89	Sunamganj	Derai	690292004	Derai Bazar-Dhol-Marechi Road	0	30,000	3.70	1.84	0.00	0.00	0.00	0.00	0.00	0.00	0.92	0.92	UZR	0	R8	
34	4-8	Habiganj	Bihubul	636053004	Sarkapur UP Office (Chalantala)-Bakurpur via Shean Bazar Rd	0	30,000	4.00	4.50	8.17	0.00	0.00	0.00	0.00	0.00	4.50	4.50	VRB	0	R13	
35	4-109	Habiganj	Banachang	636114040	Patra Up office-Kandipura Village Road Via Darawa, Sathgam High School	0	30,000	2.50	3.13	0.00	0.00	0.00	0.00	0.00	0.00	3.13	3.13	VRB	0	R13	
36	1-10	Kishoreganj	Ima	348333007	Badia UP-Bushkura Hat Road	2	25,000	3.60	3.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	3.00	VRB	0	N7	
37	1-39	Kishoreganj	Tarail	348023010	Javer UP-Dhanish UP via Edhpasbar	5	25,000	3.10	3.31	0.00	0.00	0.00	0.00	0.00	0.00	3.31	3.31	VRB	0	N6	
38	1-47	Kishoreganj	Kulachar	348543002	Chayanti UP Office(R&H)-Palia Bazar via Madhabhat, Palampur R	6	25,000	4.88	2.47	1.99	0.51	0.00	0.00	0.00	0.00	4.97	4.97	VRB	0	R7	
39	2-3	Netrokona	Purbadiala	372835002	Paradiala (Kadur)-Chagra UP (Kapashia) road via Chagra Bazar	8	25,000	4.67	3.36	11.64	0.00	0.00	0.00	0.00	0.00	0.15	0.15	UZR	20	N12	
40	3-70	Sunamganj	Jamalganj	690502004	Sachina Bazar - Beleh GC - Taterpur	0	25,000	3.50	0.50	0.00	0.00	8.00	0.00	0.00	0.00	8.50	8.50	VRB	0	R8	
41	4-53	Habiganj	Azmiriganj	636025035	Solair - Shibpasha	0	25,000	2.50	2.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	VRB	30	R13	
42	4-106	Habiganj	Banachang	636114013	Habiganj-Banachang RHD to Sunara vill	0	25,000	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	3.00	VRB	0	N13	
43	4-57	Habiganj	Banachang	636114019	Shingon Bazar to halderpur Chiter road	0	25,000	1.50	3.90	0.00	0.00	0.00	0.00	0.00	0.00	2.75	2.75	VRB	0	R9	
44	4-48	Habiganj	Azmiriganj	636025026	Kamulpur Ghat - Kamulpur Pys School	0	21,900	2.25	2.75	0.00	0.00	0.00	0.00	0.00	0.00	8.73	8.73	UZR	0	N4	
45	3-47	Sunamganj	Dharmapasha	690322007	Joyseer-Modhanagar Via Randiga Road	0	20,400	3.70	16.56	0.00	0.00	1.55	0.00	0.00	0.00	8.30	8.30	VRB	0	R5	
46	1-2	Kishoreganj	Pakanda	348793005	Hosendi UP-Moshola GC Via Alandi	3	20,000	4.60	3.90	4.40	0.00	0.00	0.00	0.00	0.00	8.30	8.30	VRB	0	N4	

Rural Road Resettlement (2/2)

29

[Finalized List of Subproject]																	
Rural Road Resettlement				Road Name		Resettlement number	Existing				Plan		Culvert (m)	Bridge (m)	Hour Project(29) No.		
Ranking	No	District	Upazila	Road Code	Beneficiary		Crest Width (ft)	Surface Type (km)			Length (km)					Road Class	
							Earthen	Flexible	Bric	Rigid	Submerge/high-submerge	Total					
47	1-19	Kishoreganj	Nikli	348763009	Gari UP office-Chandbar Rd	4	20,000	3.65	0.64	0.00	0.00	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	2.08	VRB	0	0	R4	
49	1-27	Kishoreganj	Hossainpur	348273009	Ain Master bazar-Shahdol UP HQ Road	5	20,000	4.50	1.00	2.00	0.00	3.00	VRB	0	0	R4	
50	1-32	Kishoreganj	Kutail	348453007	Akshita UP HQ-Pong Masur bazar Rd	6	20,000	3.65	1.00	1.10	0.00	2.10	VRB	0	0	R6	
51	2-6	Netrokona	Purbachala	372833005	Kailhor R&H-Dampara via Chander Bazar	5	20,000	3.00	3.00	0.00	0.00	3.00	VRB	60	0	R1	
52	2-7	Netrokona	Purbachala	372833039	Shahdol-Tinkhata Bazar	6	20,000	2.75	3.20	0.00	0.00	3.20	VRB	0	0	R1	
53	2-20	Netrokona	Barhatta	372992007	Amala-Sumai GC Road (Barhatta Portion)	0	20,000	4.40	6.24	4.70	0.00	6.24	VRB	0	0	N5	
54	3-132	Sunamganj	SUNAMGANJ	690894005	Takerghat-Bahadpur Rd (Laxmansree)	0	20,000	2.00	2.60	1.00	0.00	3.60	VRB	0	10	N12	
55	4-10	Habiganj	Bahubal	636054079	Gulharia Pk. School - Panchpara Road Via Sluice gate Durgapur	0	20,000	3.75	5.00	0.00	0.00	5.00	VRB	0	20	R3	
56	4-48	Habiganj	Aznirganj	636023001	Pashchimnagar - Aznirganj Road	0	19,200	2.50	7.25	1.20	0.00	4.23	VRB	0	50	R3	
57	4-59	Habiganj	Aznirganj	636025012	G C C Road - Ronia Road	0	18,300	3.00	2.10	0.00	0.00	2.10	VRB	0	10	R8	
58	4-57	Habiganj	Aznirganj	636025008	Pirankandi Chat - Shalla Highschool.	0	17,600	3.50	3.65	0.00	0.00	3.65	VRB	0	10	R8	
59	4-52	Habiganj	Aznirganj	636025027	Kakilsow Bazar - Bahala Rd	0	16,300	2.80	2.25	0.00	0.00	2.25	VRB	0	10	R9	
60	1-11	Kishoreganj	Sadar	348493009	Dampara UP-Jala bazar	5	15,000	4.88	1.11	1.50	0.00	2.61	VRB	0	0	N1	
61	2-11	Netrokona	Alpara	372045037	Silanti Badrakola	0	15,000	2.00	2.50	0.00	0.00	2.00	VRB	0	0	N11	
62	3-102	Sunamganj	Darsi	690294018	Nagerganj Ferryghat-Namibazar	0	15,000	2.50	4.50	0.00	0.00	2.00	VRB	0	0	R8	
63	3-103	Sunamganj	Darsi	690294019	Akshita Bazar-Nagerganj via Kulijamje	0	15,000	3.00	2.31	0.00	0.00	2.00	VRB	0	40	R8	
64	3-104	Sunamganj	Darsi	690294020	Akshita Bazar-Nam Bazar	0	15,000	2.50	2.25	0.00	0.00	2.00	VRB	20	20	R8	
65	4-4	Habiganj	Sadar	636444035	Poll-Pachipara Rd	0	15,000	3.50	4.20	1.70	0.00	4.20	VRB	0	0	R13	
66	4-15	Habiganj	Bahubal	636053038	Shuayabazar-Ruvail	0	15,000	3.00	6.00	0.00	0.00	6.00	VRB	10	100	R13	
67	4-56	Habiganj	Aznirganj	636025005	Bong rd - Paddy land Rd	0	13,400	3.00	5.10	0.00	0.00	5.10	VRB	0	10	R8	
68	2-28	Netrokona	Barhatta	372094015	Rambhadrapur FRB-Nahati Bazar Rd	11	13,000	2.92	4.39	2.01	0.00	4.39	VRB	0	0	N5	
69	3-166	Sunamganj	aktin Sunamganj	690934021	Ganiganj RHD-Jibara Road	0	12,000	3.70	4.70	0.00	0.00	4.70	VRB	0	19	N12	
70	4-12	Habiganj	Bahubal	636054010	Khagura Bagdar Road	0	12,000	3.00	5.80	0.00	0.00	5.80	VRB	0	10	R13	
71	4-51	Habiganj	Aznirganj	636025021	Kakilsow G C R - Rosulpur	0	11,250	3.00	2.10	0.00	0.00	2.10	VRB	0	10	R9	
72	3-50	Sunamganj	Dharmapasha	690323005	Medhyanagar bazar-Golla Rd	0	10,500	3.00	8.00	0.00	0.00	8.00	VRB	0	42	N4	
73	2-5	Netrokona	Purbachala	372833052	Jana Purbopara-Jaria Switch Gate via RPSchool Rd	0	10,000	2.50	3.00	0.00	0.00	3.00	VRB	0	0	R2	
74	2-9	Netrokona	Alpara	372045034	Ukrishal Road	2	10,000	2.00	1.75	0.00	0.00	1.75	VRB	0	0	N11	
75	2-10	Netrokona	Alpara	372045036	Duar bazar road	3	10,000	2.50	1.50	0.00	0.00	1.50	VRB	0	0	N11	
76	2-16	Netrokona	Khatijuri	372383009	Upazila HQ - Garpur (P office rd	7	10,000	5.00	6.60	1.90	0.00	4.25	VRB	450	20	R15	
78	3-79	Sunamganj	Jamiganj	690505037	Sukdepur - Rudanagar Road	0	10,000	3.70	1.00	0.00	0.00	0.00	0.00	VRB	20	10	N12
79	3-99	Sunamganj	Darsi	690294012	Turapata-Tonger	0	10,000	3.00	2.25	0.00	0.00	2.00	VRB	0	0	R8	
80	3-101	Sunamganj	Darsi	690294017	Badia Bazar-Bhatigan	0	10,000	2.50	3.35	0.00	0.00	2.00	VRB	0	0	R8	
81	3-131	Sunamganj	SUNAMGANJ	690894022	RUDH(Haungon)Islampur (Laxmansree)	0	10,000	2.00	3.20	0.00	0.00	2.20	VRB	0	0	N12	
82	3-133	Sunamganj	SUNAMGANJ	690894073	Bahadpur RHD to Nurulla Village Road (Laxmansree,Mohampur)	0	10,000	2.00	3.75	0.00	0.00	4.00	VRB	0	0	N12	
83	3-142	Sunamganj	SUNAMGANJ	690895111	Kasari Jyagor GC road (Noagan)-Kandigan village road (Kasari)	0	10,000	2.00	3.00	0.00	0.00	3.00	VRB	0	0	N12	
84	3-152	Sunamganj	SUNAMGANJ	690895038	Kasari-Jyagor Road to Narkila GPS (Mohampur)	0	10,000	1.50	2.60	0.00	0.00	2.00	VRB	0	0	N12	
85	3-174	Sunamganj	aktin Sunamganj	690934048	Ashammura Pk. School-Puran-Kandigan Road	0	10,000	3.70	1.90	0.00	0.00	3.81	VRB	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	Nineukhali 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	Dhamapasha	CHAKUA	Lipsa Bazar	250	GC	R14
14	2-11	Netrokona	Dhamapasha	KHAILAJURI	khailajuri Bazar	210	GC	R14
15	2-12	Netrokona	Khailajuri	GAZIPUR	Panchhat Bazar	21	RM	R15
16	2-13	Netrokona	Khailajuri	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	Dhamapasha	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 Pundi 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)

ANNEX 4.10 Unit Cost (LGED Portion)**(1) Approach**

Approach of Unit Cost Estimate is shown as below.

- Unit cost is estimated based on “Schedule of Rate July 2012 (Mymnsingh Region)”.
- Unit cost by contractors is same as unit const by LCS (labor contracting society).

(2) Unit Cost

The following tables present unit cost of each facility.

Summary of Unit Cost

No.	Title		Unit cost	Details
1	B.C Road Section	(Non-submerged)		
	B.C Road Section	(Non-submerged)	5,616,121	tk/km
	Road Safety Measures		75,644	tk/km
	Tree Plantation		81,400	tk/km
	Total		5,773,165	tk/km
2	B.C Road Section	(Non-submerged)		
	B.C Road Section	(Non-submerged)	6,846,528	tk/km
	Road Safety Measures		75,644	tk/km
	Tree Plantation		81,400	tk/km
	Total		7,003,572	tk/km
3	RCC Road Section	(Submerged)		
	RCC Road Section	(Submerged)	8,953,371	tk/km
	Road Safety Measures		75,644	tk/km
	Tree Plantation		81,400	tk/km
	Total		9,110,415	tk/km
4	RCC Road Section	(Submerged)		
	RCC Road Section	(Submerged)	10,708,884	tk/km
	Road Safety Measures		75,644	tk/km
	Tree Plantation		81,400	tk/km
	Total		10,865,928	tk/km
5	Block Road Section	(Non-submerged)		
	Block Road Section	(Non-submerged)	4,404,808	tk/km
	Road Safety Measures		75,644	tk/km
	Tree Plantation		81,400	tk/km
	Total		4,561,852	tk/km
6	Block Road Section	(Submerged)		
	Block Road Section	(Submerged)	5,309,128	tk/km
	Road Safety Measures		75,644	tk/km
	Tree Plantation		81,400	tk/km
	Total		5,466,172	tk/km

Summary of Unit Cost

No.	Title	Unit cost	Details
7	Culverts (double lane) on Upazila Road	386,187	tk/m No.07
	Total	386,187	tk/m
8	Culverts (single lane) on Union Road and Village Road	300,594	tk/m No.08
	Total	300,594	tk/m
9	RCC bridge (double lane) on Upazila Road	512,862	tk/m No.09-1
	Total	512,862	tk/m
10	RCC bridge (single lane) on Union and Village Road	399,194	tk/m No.09-2
	Total	399,194	tk/m
11	Hat		
	Fish and Meat Shed	1,910,522	tk/nos No.12
	General Shed without Platform	1,354,735	tk/nos No.14
	Open Sales Platform	265,325	tk/nos No.15
	Women's Shed	1,891,606	tk/nos No.16
	Market Management Committee Office	966,308	tk/nos No.17
	Male Toilet	782,303	tk/nos No.18
	Female Toilet	526,937	tk/nos No.19
	Tube Well	58,371	tk/nos No.20
	Dust Bins	20,769	tk/nos No.21
	Hat Protection (150m/no)	3,182,202	tk/nos No.23
	Total	10,959,077	tk/nos
12	Ghat		
	Boat Landing Step	174,151	tk/nos No.22
	Ghat Protection (50m/no)	1,060,734	tk/nos No.23
	Total	1,234,885	tk/nos

Unit Cost of B.C Road Section (Non- submerged, Unioni Road) for 1.0 km

SN No.	Item Code	Layers	Description in Brief	Unit	Quantity	Rates	Amount
1	2.1.02	Bed preparation	Cleaning by removal and disposal	LS	1.00	30,000.00	30,000
2	2.1.04.02.3		Earth filling with works with specified soil in type	m ³	1,350.00	121.75	164,363
3	2.1.08.01		Manual Compaction of earth in 150 mm thick	m ³	1,350.00	30.99	41,837
4	3.1.04		Earth work in boxcutting	m ²	3,250.00	52.54	170,755
5	3.2.15.02	End Protection	Brick on the edging(125mm across) with 1st	m	2,000.00	142.28	284,560
6	3.2.15.03		CC Block on end edging (375mm across) with cc blocks (375mm x100mmx25mm)	m	0.00	267.38	0
7	3.2.15.04		CC Block on end edging (375mm across) with cc blocks (L:1000mm XH:500mmxW (100+125mm)	m	0.00	719.54	0
8	3.1.06.02	Improved Subgrade	Sand(FM 0.50) filling (ISG).....	m ³	813.00	558.98	454,451
9	3.2.02.05		Providing Compacted aggregate sand(AS) Sub-base Course.....	m3	463.00	2,552.39	1,181,757
10	5.03.01		Single layer brick flat soling with 1st class or picked jhama.....	m ²	0.00	317.63	0
11	3.2.02.02		Providing laying, sprding and compacting 38mm down graded aggregates.....	m3	450.00	2,573.00	1,157,850
12	3.2.25.02	Base Course	Prime coat with cut back bitumen.....	m ²	3,000.00	110.99	332,970
13	3.2.29.1		25mm thick(compact) pre-mixed bitumenous carpeting to be prepared using 20mm down-stone	m ²	3,000.00	388.70	1,166,100
14	3.2.24.04		Providing tack coat with 60/70 or 80/100 penetration grade.....	m2	3,000.00	75.89	227,670
15	3.2.34		7mmthick(compact) pre-mixed bitumenous seal coat to be prepared using 6.33mm down pea gravel or crush stone.....	m2	3,000.00	133.77	401,310
16	4.2.03.01.1		Reinforcement cement Concrete(RCC) works in...	m3	0.00	9,687.18	0
17	4.2.06.01		Supply and fabrication of MS high strength	kg	0.00	81.86	0
18	3.2.11.03		Single layer CC Block soling with CC	m2	0.00	1,385.22	0
19	5.03.10		Providing polytene sheet (0.18mm thick) on floor	m ²	0.00	18.36	0
20	5.12.07		Flush pointing to CC Block laying for pavement...	m ²	0.00	77.94	0
21	5.20		Supplying, fittings sign board (6'-0" x 4'-0") fitted with strong bambo.....	No	1.00	2,500.00	2,500
Cost per km							5,616,121

Unit Cost : Schedule of Rate July 2012 (Myrnsingh Region)

Unit Cost of B.C Road Section (Non- submerged, Upazi Road) for 1.0 km

SN No.	Item Code	Layers	Description in Brief	Unit	Quantity	Rate	Amount
1	2.1.02	Bed preparation	Cleaning by removal and disposal	LS	1.00	30,000.00	30,000
2	2.1.04.02.3		Earth filling with works with specified soil in type	m ³	1,750.00	121.75	213,063
3	2.1.08.01		Manual Compaction of earth in 150 mm thick	m ³	1,750.00	30.99	54,233
4	3.1.04		Earth work in box cutting	m ²	3,950.00	52.54	207,533
5	3.2.15.02	End Protection	Brick on the edging(125mm across) with 1st	m	2,000.00	142.28	284,560
6	3.2.15.03		CC Block on end edging (375mm across) with cc	m	0.00	267.38	0
7	3.2.25.04	Improved Subgrade	CC Block on end edging (375mm across) with cc	m	0	719.54	0
8	3.1.06.02		Sand(FM 0.50) filling (ISG)	m ³	988.00	558.98	552,272
9	3.2.02.05		Providing Compacted aggregate sand(AS) Sub-	m3	568.00	2,552.39	1,449,758
10	5.03.01		Single layer brick flat soling with 1st class or	m ²	0.00	317.63	0
11	3.2.02.02	Base Course	Providing laying, spreading and compacting 38mm	m3	555.00	2,573.00	1,428,015
12	3.2.25.02		Prime coat with cut back bitumen	m ²	3,700.00	110.99	410,663
13	3.2.29.1		25mm thick(compact) pre-mixed bitumenous	m ²	3,700.00	388.70	1,438,190
14	3.2.24.04		Providing tack coat with 60/70 or 80/100	m2	3,700.00	75.89	280,793
15	3.2.34		7mm thick(compact) pre-mixed bitumenous seal	m2	3,700.00	133.77	494,949
16	4.2.03.01.1		Reinforcement cement Concrete(RCC) works in...	m3	0.00	9,687.18	0
17	4.2.06.01		Supply and fabrication of MS high strength	kg	0.00	81.86	0
18	3.2.11.03		Single layer CC Block soling with CC	m2	0.00	1,385.22	0
19	5.03.10	Providing polytene sheet (0.18mm thick) on floor	m ²	0.00	18.36	0	
20	5.12.07	Flush pointing to CC Block laying for pavement...	m ²	0.00	77.94	0	
21	5.20	Supplying, fittings sign board (6'-0" x 4'-0") fitted	No	1.00	2,500.00	2,500	
Cost per km							6,846,528

Unit Cost : Schedule of Rate July 2012 (Mymensingh Region)

Unit Cost of RCC Road Section (submerged, Union Road) for 1.0 km

SN No.		Item Code	Layers	Description in Brief	Unit	Quantity	Rates	Amount	No.03
1	2.1.02	2.1.04.02.3 2.1.08.01 3.1.04	Bed preparation	Cleaning by removal and disposal	LS	1.00	30,000.00	30,000	
2				Earth filling with works with specified soil in type	m ³	1,350.00	121.75	164,363	
3				Manual Compaction of earth in 150 mm thick	m ³	1,350.00	30.99	41,837	
4				Earth work in box cutting	m ²	3,200.00	52.54	168,128	
5	3.2.15.02	3.2.15.03	End Protection	Brick on the edging(125mm across) with 1st	m	0.00	142.28	0	
6				CC Block on end edging (375mm across) with cc	m	0.00	267.38	0	
7	3.2.15.04	3.1.06.02 3.2.02.05 5.03.01	Improved Subgrade	CC Block on end edging (375mm across) with cc	m	2,000.00	719.54	1,439,080	
8				Sand(FM 0.50) filling (ISG)	m ³	450.00	558.98	251,541	
9				Providing Compacted aggregate sand(AS) Sub-	m3	0.00	2,552.39	0	
10				Single layer brick flat soling with 1st class or	m ²	3,000.00	317.63	952,890	
11	3.2.02.02	3.2.25.02 3.2.29.1 3.2.24.04 3.2.34	Base Course	Providing laying, spreading and compacting 38mm	m3	0.00	2,573.00	0	
12				Prime coat with cut back bitumen	m ²	0.00	110.99	0	
13				25mm thick(compact) pre-mixed bitumenous	m ²	0.00	388.70	0	
14				Providing tack coat with 60/70 or 80/100	m2	0.00	75.89	0	
15				7mm thick(compact) pre-mixed bitumenous seal	m2	0.00	133.77	0	
16	4.2.03.01.1			Reinforcement cement Concrete(RCC) works in...	m3	489.00	9,687.18	4,737,031	
17	4.2.06.01			Supply and fabrication of MS high strength	kg	13,571.00	81.86	1,110,922	
18	3.2.11.03			Single layer CC Block soling with CC	m2	0.00	1,385.22	0	
19	5.03.10	5.12.07 5.2	Providing polytene sheet (0.18mm thick) on floor Flush pointing to CC Block laying for pavement... Supplying, fittings sign board (6'-0" x 4'-0") fitted	Providing polytene sheet (0.18mm thick) on floor	m ²	3,000.00	18.36	55,080	
20				Flush pointing to CC Block laying for pavement...	m ²	0.00	77.94	0	
21				Supplying, fittings sign board (6'-0" x 4'-0") fitted	No	1.00	2,500.00	2,500	
Cost per km									8,953,371

Unit Cost : Schedule of Rate July 2012 (Mymensingh Region)

Unit Cost of RCC Road Section (submerged, Upazi Road) for 1.0 km

No.04

SN No.	Item Code	Layers	Description in Brief	Unit	Quantity	Rates	Amount
1	2.1.02	Bed preparation	Cleaning by removal and disposal	LS	1.00	30,000.00	30,000
2	2.1.04.02.3		Earth filling with works with specified soil in type	m ³	1,750.00	121.75	213,063
3	2.1.08.01		Manual Compaction of earth in 150 mm thick	m ³	1,750.00	30.99	54,233
4	3.1.04		Earth work in box cutting	m ²	3,900.00	52.54	204,906
5	3.2.15.02	End Protection	Brick on the edging(125mm across) with 1st	m	0.00	142.28	0
6	3.2.15.03		CC Block on end edging (375mm across) with cc	m	0.00	267.38	0
7	3.2.15.04	Improved Subgrade	CC Block on end edging (375mm across) with cc	m	2,000.00	719.54	1,439,080
8	3.1.06.02		Sand(FM 0.50) filling (ISG).....	m ³	555.00	558.98	310,234
9	3.2.02.05		Providing Compacted aggregate sand(AS) Sub-	m3	0.00	2,552.39	0
10	5.03.01		Single layer brick flat soling with 1st class or	m ²	3,700.00	317.63	1,175,231
11	3.2.02.02	Base Course	Providing laying, spreading and compacting 38mm	m3	0.00	2,573.00	0
12	3.2.25.02		Prime coat with cut back bitumen.....	m ²	0.00	110.99	0
13	3.2.29.1		25mm thick(compact) pre-mixed bitumenous	m ²	0.00	388.70	0
14	3.2.24.04		Providing tack coat with 60/70 or 80/100	m2	0.00	75.89	0
15	3.2.34		7mm thick(compact) pre-mixed bitumenous seal	m2	0.00	133.77	0
16	4.2.03.01.1		Reinforcement cement Concrete(RCC) works in...	m3	603.00	9,687.18	5,841,370
17	4.2.06.01		Supply and fabrication of MS high strength	kg	16,740.00	81.86	1,370,336
18	3.2.11.03		Single layer CC Block soling with CC	m2	0.00	1,385.22	0
19	5.03.10		Providing polytene sheet (0.18mm thick) on floor	m ²	3,700.00	18.36	67,932
20	5.12.07		Flush pointing to CC Block laying for pavement...	m ²	0.00	77.94	0
21	5.2		Supplying, fittings sign board (6'-0" x 4'-0") fitted	No	1.00	2,500.00	2,500
Cost per km							10,708,884

Unit Cost : Schedule of Rate July 2012 (Mymensingh Region)

Unit Cost of Block Road Section (Non- submerged, Village Road) for 1.0 km

No0.5

SN No.	Item Code	Layers	Description in Brief	Unit	Quantity	Rate	Amount
1	2.1.02	Bed preparation	Cleaning by removal and disposal	LS	1.00	30,000.00	30,000
2	2.1.04.02.3		Earth filling with works with specified soil in type	m ³	1,070.00	121.75	130,273
3	2.1.08.01		Manual Compaction of earth in 150 mm thick	m ³	1,070.00	30.99	33,159
4	3.1.04		Earth work in box cutting	m ²	2,470.00	52.54	129,774
5	3.2.15.02	End Protection	Brick on the edging(125mm across) with 1st	m	0.00	142.28	0
6	3.2.15.03		CC Block on end edging (375mm across) with cc	m	2,000.00	267.38	534,760
7	3.2.15.04	Improved Subgrade	CC Block on end edging (375mm across) with cc	m	0.00	719.54	0
8	3.1.06.02		Sand(FM 0.50) filling (ISG).....	m ³	371.00	558.98	207,382
9	3.2.02.05		Providing Compacted aggregate sand(AS) Sub-	m3	0.00	2,552.39	0
10	5.03.01		Single layer brick flat soling with 1st class or	m ²	0.00	317.63	0
11	3.2.02.02	Base Course	Providing laying, spreading and compacting 38mm	m3	0.00	2,573.00	0
12	3.2.25		Prime coat with cut back bitumen.....	m ²	0.00	110.99	0
13	3.2.29.1		25mm thick(compact) pre-mixed bitumenous	m ²	0.00	388.70	0
14	3.2.24.04		Providing tack coat with 60/70 or 80/100	m2	0.00	75.89	0
15	3.2.34		7mm thick(compact) pre-mixed bitumenous seal	m2	0.00	133.77	0
16	4.2.03.01.1		Reinforcement cement Concrete(RCC) works in...	m3	0.00	9,687.18	0
17	4.2.06.01	5.20	Supply and fabrication of MS high strength	kg	0.00	81.86	0
18	3.2.11.03		Single layer CC Block soling with CC	m2	2,270.00	1,385.22	3,144,449
19	5.03.10		Providing polytene sheet (0.18mm thick) on floor	m ²	0.00	18.36	0
20	5.03.04		Flush pointing to CC Block laying for pavement...	m ²	2,470.00	77.94	192,512
21	5.20		Supplying, fittings sign board (6'-0" x 4'-0") fitted	No	1.00	2,500.00	2,500
Cost per km							4,404,808

Unit Cost : Schedule of Rate July 2012 (Mymensingh Region)

Unit Cost of Block Road Section (submerged, Village Road) for 1.0 km

No.06							
SN No.	Item Code	Layers	Description in Brief	Unit	Quantity	Rate	Amount
1	2.1.02	Bed preparation	Cleaning by removal and disposal	LS	1.00	30,000.00	30,000
2	2.1.04.02.3		Earth filling with works with specified soil in type	m ³	1,070.00	121.75	130,273
3	2.1.08.01		Manual Compaction of earth in 150 mm thick	m ³	1,070.00	30.99	33,159
4	3.1.04		Earth work in box cutting	m ²	2,470.00	52.54	129,774
5	3.2.15.02	End Protection	Brick on the edging(125mm across) with 1st	m	0.00	142.28	0
6	3.2.15.03		CC Block on end edging (375mm across) with cc	m	0.00	267.38	0
7	3.2.15.04	Improved Subgrade	CC Block on end edging (375mm across) with cc	m	2,000.00	719.54	1,439,080
8	3.1.06.02		Sand(FM 0.50) filling (ISG).....	m ³	371.00	558.98	207,382
9	3.2.02.05		Providing Compacted aggregate sand(AS) Sub-	m3	0.00	2,552.39	0
10	5.03.01		Single layer brick flat soling with 1st class or	m ²	0.00	317.63	0
11	3.2.02.02	Base Course	Providing laying, spreading and compacting 38mm	m3	0.00	2,573.00	0
12	3.2.25.02		Prime coat with cut back bitumen.....	m ²	0.00	110.99	0
13	3.2.29.1		25mm thick(compact) pre-mixed bitumenous	m ²	0.00	388.70	0
14	3.2.24.04		Providing tack coat with 60/70 or 80/100	m2	0.00	75.89	0
15	3.2.34		7mm thick(compact) pre-mixed bitumenous seal	m2	0.00	133.77	0
16	4.2.03.01.1		Reinforcement cement Concrete(RCC) works in...	m3	0.00	9,687.18	0
17	4.2.06.01		Supply and fabrication of MS high strength	kg	0.00	81.86	0
18	3.2.11.03		Single layer CC Block soling with CC	m2	2,270.00	1,385.22	3,144,449
19	5.03.10		Providing polytene sheet (0.18mm thick) on floor	m ²	0.00	18.36	0
20	5.12.07		Flush pointing to CC Block laying for pavement...	m ²	2,470.00	77.94	192,512
21	5.2		Supplying, fittings sign board (6'-0" x 4'-0") fitted	No	1.00	2,500.00	2,500
Cost per km							5,309,128

Unit Cost : Schedule of Rate July 2012 (Mymensingh Region)

Unit Cost of Culverts (double lane, L=15.0m) on Upazila road for 1.0 meter**No0.7**

SL No.	Item Code	Item of Works	Unit	Quantity	Rate	Amount
1	4.1.03	Excavation of foundation for structure	m ³	596.10	105.38	62,817
2	4.1.09	Single layer brick flat soling	m ²	169.85	317.26	53,887
3	4.1.10.01.2	Cement concrete work in foundation	m ³	12.74	7,964.98	101,474
4	4.2.06.01	Fabrication of MS deformed Bar	kg	34,464.00	81.86	2,821,223
5	4.2.01.01	RCC work in vertical member of abutments & wing wall	m ³	79.34	10,933.02	867,426
6	4.2.01.03	RCC work in cut of wall	m ³	11.29	12,350.81	139,441
7	4.2.03.01.1	RCC work in bottom slab	m ³	74.71	9,687.18	723,729
8	4.2.03.01.2.1	Rcc work in top slab	m ³	48.03	11,850.33	569,171
9	4.2.05.01	RCC work in railing & rail post	m ³	3.67	13,554.27	49,744
10	4.2.09	Wearing course	m ³	4.53	9,664.51	43,780
11	2.3.06	E/W in approach road	m ³	756.54	192.41	145,566
12	2.1.08.02	Mechanical compaction of embankment	m ³	756.54	36.66	27,735
13	4.3.14	Backfilling of abutment with 50:50 brick khoa & sand	m ³	53.36	1,544.18	82,397
14	7.08.05.04	Rain water down pipe	m	5.70	375.91	2,143
15	4.3.22	Weep hoe	m	45.40	315.03	14,302
16	4.3.04	Nosing	kg	134.00	157.95	21,165
17	5.02.02	Sand filling(FM=1.0) under base	m ³	76.43	874.04	66,803
Total for 15.0 m						5,792,803
Cost per m						386,187

Unit Cost : Schedule of Rate July 2012 (Mymensingh Region)

Unit Cost of Culverts (single lane, L=15.0m) on Union and Village road for 1.0 meter

No.08

SL No.	Item Code	Item of Works	Unit	Quantity	Rate	Amount
1	4.1.03	Excavation of foundation for structure	m ³	469.60	105.38	49,486
2	4.1.09	Single layer brick flat soling	m ²	120.40	317.26	38,198
3	4.1.10.01.2	Cement concrete work in foundation	m ³	9.03	7,964.98	71,924
4	4.2.06.01	Fabrication of MS deformed Bar	kg	27,346.00	81.86	2,238,544
5	4.2.01.01	RCC work in vertical member of abutments & wing wall	m ³	62.78	10,933.02	686,375
6	4.2.01.03	RCC work in cut of wall	m ³	11.29	12,350.81	139,441
7	4.2.03.01.1	RCC work in bottom slab	m ³	52.96	9,687.18	513,033
8	4.2.03.01.2.1	Rcc work in top slab	m ³	33.93	11,850.33	402,082
9	4.2.05.01	RCC work in railing & rail post	m ³	3.67	13,554.27	49,744
10	4.2.09	Wearing course	m ³	2.79	9,665.00	26,965
11	2.3.06	E/W in approach road	m ³	647.80	192.41	124,643
12	2.1.08.02	Mechanical compaction of embankment	m ³	647.80	36.66	23,748
13	4.3.14	Backfilling of abutment with 50:50 brick khoa & sand	m ³	43.22	1,544.18	66,739
14	4.3.01.03	Rain water down pipe	m	5.70	155.85	888
15	4.3.22	Weep hoe	m	37.40	315.03	11,782
16	4.3.04	Nosing	kg	88.00	157.95	13,900
17	5.02.02	Sand filling(FM=1.0) under base	m ³	54.18	949.04	51,419
Total for 15.0 m						4,508,912
Cost per m						300,594

Unit Cost : Schedule of Rate July 2012 (Mymmsingh Region)

Unit Cost of RCC bridge (double lane) on Upazila Road for 1.0 meter

No.09-1

Unit Cost of Culverts (double lane, L=15.0m) on Upazila road	(A)	386,187 (tk/m)
Unit Cost of Culverts (single lane, L=15.0m) on Union and Village road	(B)	300,594 (tk/m)
Proportion	(C=A/B)	1.28
Unit Cost of RCC bridge (single lane) of 20m span on Union and Village road	(D)	399,194 (tk/m)
Unit Cost of RCC bridge (double lane) on Upazila Road	(E=C*D)	512,862 (tk/m)

Unit Cost of RCC bridge (single lane) of 20m span on Union and Village road for 1.0 meter

No.09-2

SL No.	Item Code	Item of Works	Unit	Quantity	Rate	Amount
1	4.1.03	Excavation of foundation for structure	m ³	475.20	105.38	50,076.58
2	4.1.09	Single layer brick flat soling	m ²	69.30	317.26	21,986.12
3	4.1.10.01.2	Cement concrete work in foundation	m ³	5.20	7,964.98	41,417.90
4	4.2.06.01	Fabrication of MS deformed Bar	kg	43,144.00	81.86	3,531,767.84
5	5.23.03.01.01	Boring of RCC cast-in-situ piles	m	360.00	1,076.85	387,666.00
6	5.23.03.02	Concreting of cast-in-situ piles	m ³	101.74	11,028.50	1,122,039.59
7	4.1.10.02.01	RCC work in pile caps of abutment & pier	m ³	69.30	10,252.42	710,492.71
8	4.2.01.01	RCC work in vertical member of abutments & wing wall	m ³	55.19	10,933.02	603,393.37
9	4.2.05.01	RCC work in railing & rail post	m ³	4.35	13,554.27	58,961.07
10	4.2.04.01	RCC work in deck slab, side wall	m ³	22.82	12,399.46	282,955.68
11	4.2.02.01.04	RCC work girder & cross girder	m ³	21.35	14,090.97	300,842.21
12	4.2.09	Wearing course	m ³	3.70	9,664.51	35,758.69
13	2.3.06	E/W in approach road	m ³	1,643.60	192.41	316,245.08
14	2.1.08.02	Mechanical compaction of embankment	m ³	1,643.60	36.66	60,254.38
15	4.3.14	Backfilling of abutment with 50:50 brick khoa & sand	m ³	49.65	1,544.18	76,668.54
16	4.1.27.1.2	Load test	no.	1.00	102,368.55	102,368.55
17	4.1.27.8.1	Integrity test	no.	2.00	26,035.36	52,070.72
18	4.3.06.2	Bridge bearing	no.	5.00	18,562.47	92,812.35
19	4.3.05	Expansion joint	kg	222.00	172.56	38,308.32
20	4.3.04	Nosing	kg	76.00	157.95	12,004.20
21	4.3.22	Weep hoe	m	34.00	315.03	10,711.02
22	4.3.21.01	Spot welding	each	8,000.00	2.99	23,920.00
23	4.3.21.02	Lapping welding	each	144.00	22.72	3,271.68
24	4.3.01.04	Rain water down pipe	m	4.20	254.56	1,069.15
25	5.23.04	Breaking of pile head	m ³	3.39	4,959.12	16,811.42
26	4.1.02	Making earthen ring/cross bundh	LS	1.00	6,000.00	6,000.00
27	4.1.01.01	Soil bore hole	no.	4.00	6,000.00	24,000.00
Total for 20.0 m						7,983,873
Cost per m						399,194

Unit Cost : Schedule of Rate July 2012 (Mymensingh Region)

Unit Cost of Road safety measures (guard post & sign board) for 2.0 km**No.10**

SL No.	Item Code	Item of Works	Unit	Quantity	Rates	Amount
1	3.2.68	Supply and installation of guard post (10 guard post per	no.	40.00	1,382.18	55,287
2	LGED Standard	Supply and installation of sign board	no.	16.00	6,000.00	96,000
Total for 2.0 km						151,287
Cost per km						75,644

Unit Cost : Schedule of Rate July 2012 (Mymensingh Region)

Unit Cost of Tree Plantation of rural road for 1.0 km**No.11**

SL No.	Item Code	Item of Works	Unit	Quantity	Rate	Amount
1		Seeding	no.	1,000.00	40.00	40,000
2		Pigeon peas	LS	1.00	2,400.00	2,400
3		Bamboo stick and jute rope	no.	1,000.00	12.00	12,000
4		Fertilizer	no.	1,000.00	12.00	12,000
5		Labor charge	no.	1,000.00	15.00	15,000
Total for 1.0 km						81,400
Cost per km						81,400

Unit Cost : Schedule of Rate July 2012 (Mymensingh Region)

Unit Cost of Fish and Meat Shed (18m X 12m)

SL No.	Item Code	Item of Works	Unit	Quantity	Rate	Amount	No.12
1	5.02.01	Excavate foundation of all kind of soil	m ³	43.00	105.38	4,531	
2	2.1.04.01	Backfill in foundation trenches	m ³	14.00	121.75	1,705	
3	5.02.02	Sand filling in foundation trenches	m ³	96.00	874.04	83,908	
4	3.2.11.01	Single layer brick flat soling	m ²	257.00	317.63	81,631	
5	4.1.10.01.2	Cement concrete work in foundation, floor	m ³	21.00	7,964.98	167,265	
6		Reinforced cement concrete work(1:2:4)					
	5.05.01.01	a. Footing in column	m ³	4.00	8,649.89	34,600	
	5.05.02	b. RCC work in column	m ³	7.00	12,334.10	86,339	
	5.05.03	c. RCC work in Grid beam & tie beam	m ³	15.00	10,732.27	160,984	
7	5.04.02	Brick work with first class brick(1:4)	m ³	25.00	5,931.23	148,281	
8	5.06.01.02	Supply fabricate and fix in position of M/S	kg	3,072.00	81.86	251,474	
9	5.06.02	Mild steel work in roof truss	kg	5,011.00	116.72	584,884	
10	5.09.01.01	Supply fitting and fixing for roofing	m ²	295.00	707.64	208,754	
11	5.09.01.02	0.46-mm galvanized iron plain sheet ridding	m	45.00	225.35	10,141	
12	5.13.01	25-mm thick artificial patent stone floor	m ²	205.00	294.51	60,375	
13	5.12.02	12-mm thickness cement plaster (1:6)	m ²	44.00	184.02	8,097	
14	5.12.03	Minimum 6-mm thick cement plaster (1:4)	m ²	69.00	162.50	11,213	
15	5.16.01.01	White washing three coats	m ²	69.00	19.83	1,368	
16	5.03.10	Providing polythene sheet	m ²	271.00	18.36	4,976	
Total						1,910,522	

Unit Cost : Schedule of Rate July 2012 (Mymensingh Region)

Unit Cost of Multipurpose Shed (18m X 8m)

SL No.	Item Code	Item of Works	Unit	Quantity	Rate	Amount
1	5.02.01	Excavate foundation of all kinds of soil	m ³	28.49	105.38	3,002
2	2.1.04.01	Backfill in foundations including compaction	m ³	9.50	121.75	1,157
3	5.02.02	Sand filling in foundation trenches and inside plinth with sand (minimum F.M. 0.80)	m ³	41.27	874.04	36,072
4	5.03.01	Single layer brick flat soling with 1st class or picked jhama kiln burnt bricks	m ²	155.39	317.63	49,357
5	5.03.04.01	Cement concrete work in foundation, floor	m ³	12.30	6,612.97	81,340
6	5.05.01.01	a. RCC in footing	m ³	3.96	8,649.89	34,254
7	5.05.02.01	b. RCC work in column	m ³	3.74	12,334.10	46,130
8	5.05.03.01	c. RCC work in the beam & lintel	m ³	6.94	10,732.27	74,482
9	5.04.02	Brick work with 1st class bricks as per design & drawing	m ³	4.00	5,931.23	23,725
10	5.06.01	Supply fabricate and fix in position reinforcement mild steel deformed bars	kg	1,730.00	81.86	141,618
11	5.06.02	Mild steel work in roof truss	kg	3,700.00	116.72	431,864
12	5.09.01.01	Supply fitting and fixing for roofing 0.45-mm thick galvanized iron plan sheet	m ²	183.00	707.64	129,498
13	5.09.01.02	0.45-mm thick colored of the brand and color as of roofing material iron plan sheet	m	38.00	225.35	8,563
14	5.13.01	25-mm thick artificial patent stone floor (1:2:4)	m ²	144.00	294.51	42,409
15	5.12.02	12-mm thickness cement plaster (1:6) to wall both inner and outer	m ²	2.76	184.02	508
16	5.12.03.01	Minimum 6-mm thick cement plaster (1:4) to RCC columns	m ²	48.30	162.50	7,849
17	5.16.01.01	White washing three coats over a coat of priming	m ²	48.30	19.83	958
18	5.03.10	Providing polythene sheet (0.18-mm thick)	m ²	162.00	18.36	2,974
Total						1,115,758

Unit Cost : Schedule of Rate July 2012 (Mymensingh Region)

Unit Cost of General Shed without Platform (18m X 8m)

SL No.	Item Code	Item of Works	Unit	Quantity	Rate	Amount
1	5.02.01	Excavate foundation of all kind of soil	m ³	28.00	105.38	2,951
2	2.1.04.01	Backfill in foundation	m ³	10.00	121.75	1,218
3	3.1.06.01	Sand filling in foundation (FM 0.80)	m ³	41.00	594.63	24,380
4	5.03.01	Single layer brick flat soling	m ²	155.00	317.63	49,233
5	5.03.05.01	Cement concrete work in foundation, floor (1:2:4)	m ³	12.00	7,880.87	94,570
6		Reinforced cement concrete work(1:2:4)				
	5.05.01.01	a. Footing in column	m ³	4.00	8,649.89	34,600
	5.05.02.01	b. RCC work in column	m ³	6.00	12,334.10	74,005
	5.05.03.01	c. RCC work in Grid beam & tie beam	m ³	12.00	10,732.37	128,788
7	5.04.02	Brick work with first class brick(1:4)	m ³	4.00	5,931.23	23,725
8	5.06.01.02	Supply fabricate and fix in position of M/S	kg	2,627.00	81.86	215,046
9	5.06.02	Mild steel work in roof truss	kg	4,379.00	116.72	511,117
10	5.09.01.01	Supply fitting and fixing for roofing	m ²	183.00	707.64	129,498
11	5.09.01.02	0.45-mm thick colored of the brand and color	m	38.00	225.35	8,563
12	5.13.01	25-mm thick artificial patent stone floor (1:2:4)	m ²	144.00	294.51	42,409
13	5.12.02	12-mm thickness cement plaster (1:6)	m ²	3.00	184.02	552
14	5.12.03	Minimum 6-mm thick cement plaster (1:4)	m ²	62.00	162.50	10,075
15	5.16.01.01	White washing three coats	m ²	52.00	19.83	1,031
16	5.03.10	Providing polythene sheet	m ²	162.00	18.36	2,974
Total						1,354,735

Unit Cost : Schedule of Rate July 2012 (Mymmsingh Region)

Unit Cost of Open Sales Platform (18m X 12m)

SL No.	Item Code	Item of Works	Unit	Quantity	Rate	Amount
1	3.1.03	Earth wor in box cutting	m ³	223.00	46.49	10,367
2	3.1.06.01	Sand (FM 0.80) filling 450-mm thick	m ³	97.00	594.63	57,679
3	3.2.13.01	Brick on edge pavement in single layer of Herring Bone Bond	m ²	216.00	540.92	116,839
4	5.04.02	Brick work with 1st class brick as per design & drawing in cement(1:4)	m ³	12.00	5,931.23	71,175
5	5.12.02	12-mm thick cement plaster (1:6) to wall outside	m ²	27.00	184.02	4,969
6	5.03.10	Providing polythene sheet (0.18-mm thick)	m ²	234.00	18.36	4,296
Total						265,325

Unit Cost : Schedule of Rate July 2012 (Mymmsingh Region)

Unit Cost of Women's shed (18m x 12m)

SL. No.	Item Code	Item of Works	No.16		
			Unit	Quantity	rate
1	5.02.01	Earth work in excavation foundation	m ³	38.72	105.38
2	2.1.04.01	Backfill in foundation	m ³	12.91	121.75
3	5.02.02	Sand filling in foundation (F.M 0.8)	m ³	26.96	874.04
4	5.03.01	Single layer brick flat soling with 1st class	m ²	153.58	317.63
5	5.03.04.01	Cement concrete work (1:2:4)	m ³	11.52	6612.97
6		Reinforced cement concrete work (1:2:4)			
	5.05.01.01	a. Footing in column	m ³	4.03	8649.89
	5.05.02.01	b. RCC work in column	m ³	5.96	12334.1
	5.05.03.01	c. RCC work in Tie beam, Grade beam & lintel	m ³	10.66	10732.27
7	5.04.02	Brick work with first class brick	m ³	10.84	5931.23
8	5.04.10.01	125-mm brick work with 1st class bricks in cement mortar (1:4)	m ²	203.18	838.52
9	5.03.08	38-mm thick Damp Proof Course (DPC) with cement concrete (1:1.5:3)	m ²	16.76	408.05
10	5.06.01.02	Supply, fabricate and fix in position reinforcement MS deformed bars	kg	2,431.00	81.86
11	5.06.02	Mild steel work in roof truss, supplying and fabrication of mild steel	kg	4,004.00	116.72
12	5.09.01.01	Supply, fitting and fixing for roofing 0.45-mm thick galvanized iron	m ²	148.00	707.64
13	5.09.01.02	0.45-mm thick colored roofing ridging	m	35.00	225.35
14	5.13.01	25-mm thick artificial patent stone floor (1:2:4)	m ²	108.00	294.51
15	5.12.02.01	12-mm thickness cement plaster (1:6)	m ²	267.00	184.02
16	5.12.03	Minimum 6-mm thick cement plaster (1:4)	m ²	62.10	162.5
17	5.12.01	Minimum 12-mm thick cement plaster (1:4) to skirting, dado	m ²	42.30	229.09
18	5.16.01.01	White washing three coats over a coat of priming with slacked	m ²	329.00	19.83
19	5.03.10	Providing Polythene sheet (0.18-mm thick) on floor in ground	m ²	154.00	18.36
20	5.18.07	Supplying, fitting and fixing of rolling shutter made of 24 SWG	m ²	45.00	5509.09
21	5.10.03	Supplying, fitting and fixing in women shed grill	m ²	16.10	2617.59
22		Supplying, fitting and fixing main/sub-main switches with fuse			
	8.01.01.01	(a) 500-volt ICTP, i) 200amps	no.	1.00	8247.01
	8.01.02.01	(b) 250-volt ICTP, i) 30amps	no.	5.00	1677.42
23	8.02.01	Supplying, fitting and fixing fuse distribution board, i) 4way	no.	5.00	3829.28
24		Supplying, fitting and fixing every meter with cutout teak			
	8.03.01.01	500-volt 3-phase 200 amps	no.	1.00	17419.05
25	8.06.07.02	Supplying, fitting and fixing PVC insulated	m	50.00	241.78
26	8.09.02	Supplying, fitting and fixing 20-mm thick switch board, i) 250mm x 350mm	nos	5.00	325.44
27	8.07.03	25-mm (1") thick wooden cupboard	each	1.00	1106.5
28	8.12	Supplying, fitting and fixing meter board i) 30 amps.	m ²	1.00	529.82
29	8.24	Supplying, fitting and fixing 5 amps 2-pin socket with switch	nos	5.00	609.18
30	8.21.03	Supplying, fitting and fixing and 250 volts capacitor type ceiling fan	nos.	5.00	2617.05
31	8.41.03.05	Supplying, fitting and fixing the following energy saving lamp 20 watt	each	10.00	345.41
32	8.23.05	Supplying, fitting and fixing teak wood battens minimum 20-mm thick	m	50.00	118.33
Total					1,891,606

Unit Cost : Schedule of Rate July 2012 (Mymensingh Region)

Unit Cost of Market Management Committee Office (18m x 6m)

SL No.	Item Code	Item of Works	Unit	Quantity	Rate	No.17	
						Amount	Amount
1	5.02.01	Earth work in excavation foundation	m ³	14.00	105.38		1,475
2	2.1.04.01	Backfill in foundation including compaction	m ³	5.00	121.75		609
3	5.02.02	Sand filling in foundation (F.M 0.8)	m ³	27.00	874.04		23,599
4	5.03.01	Single layer brick flat soling with 1st class	m ²	22.00	317.63		6,988
5	5.03.04.01	Cement concrete work in foundation, floor	m ³	2.00	6,753.63		13,507
6		Reinforced cement concrete work					
	5.05.11	a) RCC in grade beam, roof beam & intel. Minimum concrete cylinder strength 21 MPa(N/mm ²) after 28 days curing	m ³	1.00	12,299.05		12,299
	5.05.13.01	b) RCC work in roof slab. Minimum concrete cylinder strength 21 MPa(N/mm ²) after 28 days curing	m ³	6.00	12,122.09		72,733
7	5.04.02	Brick work with first class brick (1:4)	m ³	4.00	5,931.23		23,725
8	5.06.02	Mild steel work in roof truss	kg	751.00	116.72		87,657
9	5.04.03	250-mm brick work with 1st class bricks in cement	m ³	5.00	5,788.53		28,943
10	5.04.10.01	125-mm brick work with 1st class bricks in cement mortar (1:4)	m ²	21.00	838.52		17,609
11	5.03.07	25-mm thick Damp Proof Course (DPC) with cement concrete (1:1.5:3) with portland cement	m ²	3.00	279.7		839
12	5.13.04	38-mm thick artificial patent stone floor (1:2:4) with portland cement	m ²	30.00	466.22		13,987
13	5.07.01.07	Supplying and making door and window frames with seasoned wood of required size from B.F.I.D.C	m ³	0.40	127,182.73		50,873
14	5.08.01.01	Supplying, fitting and fixing 38-mm thick well matured seasoned wood from B.F.I.D.C flush door shutter	m ²	12.00	7124.09		85,489
15	5.10.03	Supplying, fitting and fixing in women shed grill	m ²	2.00	2617.59		5,235
16	5.16.10.01	Painting to door and window frames and shutters in two coats with synthetic enamel paint	m ²	4.00	178.19		713
17	5.16.02.01	Color wash with yellow ochre in two coats over a coats	m ²	28.00	21.1		591
18	5.12.02.01	12-mm thickness cement plaster (1:6) to wall both inner and outer	m ²	21.00	184.02		3,864
19	5.12.03	Minimum 6-mm thick cement plaster (1:4) to RCC column	m ²	72.00	162.5		11,700
20	5.12.01	Minimum 12-mm thick cement plaster (1:4) to skirting, dado	m ²	46.00	229.09		10,538
21	5.16.01.01	White washing three coats over a coat of priming with slacked	m ²	11.00	19.83		218
22	7.08.05.04	100-mm diameter rain water PVC/B class pipe	m	119.00	375.91		44,733
23	7.01.04.01	Supplying, fitting and fixing, Bangladesh pattern "BISF STANDARD" long pan (Model-313, Size-520mm x	each	11.00	6127.09		67,398
24	7.08.17	Supplying, fitting and fixing 100-mm diameter C.I. Trap (Siphon trap or 'p' trap)	each	2.00	441.86		884
25	7.08.05.01	Supplying, fitting and laying PVC pipe	each	2.00	1283.06		2,566
26	7.11.05.03	Construction of soak well with 250-mm thick solid brick work (1:6)	each	1.00	85,995.43		85,995
27	7.10.02.01	Supplying, placing and fixing with all necessary fittings 500-litre best quality plastic tank for storing water in	each	2.00	6477.44		12,955
28	7.07.02.01	Supplying, fittings and fixing toilet paper holder (150mm x 150mm)	each	1.00	663.28		663
29	7.07.03.01	Supplying, fitting glass plate shelf (600mm x 125mm)	each	2.00	632.91		1,266
30	7.04.01.01	Supplying, fitting "BISF STANDARD" hand basin	each	2.00	3541.04		7,082
31	7.08.09.01	Supplying, fitting and fixing PVC vent pipe Electrical work	each	1.00	2023.82		2,024
32	8.02.01	Sub distribution board	no.	1.00	3829.28		3,829
33	8.09.01	Switch board	no.	1.00	390.53		391
34	8.41.02.03	100-watt Mounted light fitting	no.	4.00	51.15		205
35	8.31	40-watt fluorescent tube light fitting	no.	4.00	872.14		3,489
36	8.21.01	56"- diameter sweep ceiling fan (national tong)	no.	2.00	3869.23		7,738
37	8.24	2 pin 5A switch socket	no.	2.00	609.18		1,218
38	8.25	3 pin 5A switch socket	no.	4.00	707.26		2,829
39	8.06.09.01	Conceal Conduit wiring (BRB cable) (6 x 60)	m	4.00	191.24		765
40	8.06.09.02	Conceal Conduit wiring (BRB cable) (6 x 60)	m	100.00	260.23		26,023
41	8.03.01.05	fitting, fixing of meter with cut-out teak wood	no.	20.00	11003.19		220,064
42	8.35.01	metal timber switch (6 x4)	no.	1.00	310.31		310
43	8.17.02	25-mm PVC pipe (7 x 6)	m	6.00	115.05		690
Total							966,308

Unit Cost : Schedule of Rate July 2012 (Mymensingh Region)

Unit Cost of Male toilet (18m x 12m)

No.18

SL No.	Item Code	Item of Works	Unit	Quantity	Rate	Amount
1	5.02.01	Excavate foundation in all kinds of soil to the required width	m ³	4.01	105.38	423
2	2.1.04.01	Backfill in foundation including compaction	m ³	10.27	121.75	1,250
3	5.03.01	Single layer brick flat soling with 1st class or picked jhama kiln	m ²	33.75	317.63	10,720
4	5.03.04.01	Cement concrete work in foundation, floor (1:2:4)	m ³	3.43	7880.87	27,031
5		Reinforced cement concrete work(1:2:4)				
	5.05.01.01	a. Footing in column	m ³	0.91	8649.89	7,871
	5.05.02.01	b. RCC work in column	m ³	1.71	12334.10	21,091
	5.05.03.01	c. RCC work in grade beam & lintel.	m ³	2.21	10732.27	23,718
	5.05.07.01	d. RCC work in sun shed(parapet)	m ²	16.22	1211.23	19,646
	5.05.05	e. RCC work in roof slab	m ³	6.30	11212.82	70,641
	5.05.04.01	f. RCC work in roof beam	m ³	1.23	11373	13,989
6	5.06.01.02	Supply, fabricate and fix in position of MS rod	kg	2,252.00	81.86	184,349
7	5.04.02	Brick work with first class brick (1:4)	m ³	2.24	5931.23	13,286
8	5.04.10.01	125-mm brick work with 1st class bricks in cemen mortar(1:4)	m ²	71.89	838.52	60,281
9	5.03.08	38-mm thick Damp Proof Course (DPC) with cement concrete(1:1.5:3)	m ²	3.97	408.05	1,620
10	5.13.01	25-mm thick artificial patent stone floor(1:2:4)	m ²	59.53	294.51	17,532
11	5.12.02.01	12-mm thickness cement plaster (16)	m ²	70.40	184.02	12,955
12	5.12.03	Minimum 6-mm thick cement plaster (1:4)	m ²	104.96	162.5	17,056
13	5.12.01	Minimum 12-mm thick cement plaster (1:4)	m ²	77.52	229.09	17,759
14	5.16.01.01	White washing three coats over a coat	m ²	175.37	19.83	3,478
15	5.07.01.07	Supplying and making door frames ith seasoned wood, jack wood	m ³	0.39	127183	49,601
16	5.08.01.01	Supplying, fitting and fixing 38-mm thick well matured season solid wood door shutters	m ²	11.81	7124.09	84,136
17	5.16.10.01	Painting to door frames and shutters in two coats	m ²	31.47	178.19	5,608
18	5.03.10	Providing polythene sheet	m ²	46.00	18.36	845
19	7.08.05	Supplying, fitting, fixing and laying 150-mm diameter PVC" B" class pipe	m	33.00	1283.06	42,341
20	7.11.01.01	Construction of masonry inspection pit	each	3.00	3312.54	9,938
21	7.12.01.01	Manufacturing and supplying of RCC ring	each	60.00	370.82	22,249
22	7.01.04.01	Supplying, fitting and fixing long span	each	7.00	6127.09	42,890
Total						782,303

Unit Cost : Schedule of Rate July 2012 (Mymensingh Region)

Unit Cost of Female toilet

		No.19			
SL No.	Item Code	Item of Works	Unit	Quantity	rate
1	5.02.01	Excavate foundation in all kind of soil	m ³	5.00	105.38
2	2.1.04.01	Backfill in foundation and filling in floor	m ³	7.00	121.75
3	5.03.01	Single layer brick flat soling with 1st class	m ²	22.00	317.63
4	5.03.04.01	Cement concrete work in foundation, floor (1:2:4)	m ³	2.00	7880.87
5		Reinforced cement concrete work(1:2:4)			15,762
	5.05.01.01	a. Footing in column	m ³	1.00	8649.89
	5.05.02.01	b. RCC work in column	m ³	2.00	12334.1
	5.05.03.01	c. RCC work in grade beam & lintel.	m ³	1.00	10732.27
	5.05.07.01	d. RCC work in sun shed(parapet)	m ²	13.00	1211.23
	5.05.05	e. RCC work in roof slab	m ³	3.00	11212.82
	5.05.04.01	f. RCC work in roof beam	m ³	1.00	11373
6	5.06.01.02	Supply, fabricate and fix in position of M/S	kg	1,187.00	81.86
7	5.04.02	Brick work with first class brick	m ³	2.00	5931.23
8	5.04.10.01	125-mm brick work with 1st class bricks in cement mortar(1:4)	m ²	52.00	838.52
9	5.03.08	38-mm thick Damp Proof Course (DPC) with cement concrete(1:1.5:3)	m ²	3.00	408.05
10	5.13.01	25-mm thick artificial patent stone floor(1:2:4)	m ²	36.00	294.51
11	5.12.02.01	12-mm thickness cement plaster (1:6)	m ²	48.00	184.02
12	5.12.03	Minimum 6-mm thick cement plaster (1:4)	m ²	71.00	162.5
13	5.12.01	Minimum 12-mm thick cement plaster (1:4)	m ²	50.00	229.09
14	5.16.01.01	White washing three coats over a coat	m ²	120.00	19.83
15	5.07.01.07	Supplying and making door frames with seasoned wood, jack wood	m ³	0.30	127182.73
16	5.08.01.01	Supplying, fitting and fixing flush door shutters	m ²	10.00	7124.09
17	5.16.10.01	Painting to door frames and shutters in two coats	m ²	25.00	178.19
18	5.03.10	Providing polythene sheet (0.18-mm thick) on door	m ²	31.00	18.36
19	7.11.01.01	Construction of masonry inspection pit	each	3.00	3312.54
20	7.08.05	Supplying, fitting, fixing and laying 150-mm diameter PVC"B" class pipe	m	23.00	1283.06
21	7.12.01.01	Manufacturing and supplying of RCC ring of .04 mwall	each	40.00	370.82
22	7.01.04.01	Supplying, fitting and fixing, Bangladesh pattern "BISF STANDARD" long span (Model-313, Size:	each	5.00	6127.09
Total					526,937

Unit Cost : Schedule of Rate July 2012 (Mymensingh Region)

Unit Cost of Tube well

SL No.	Item Code	Item of Works	Unit	Quantity	Rate	No.20	
						Amount	Amount
1	10.01	Mobilization	LS	1.00	5,000	5,000	5,000
2	10.02.01	Boring by using 100-mm diameter cutter and 38-mm diameter G.I Pipe (0-50m)	m	50.00	123.98	6,199	6,199
3	10.02.02	Boring by using 100-mm diameter cutter and 38-mm diameter G.I Pipe (50-100m)	m	50.00	136.38	6,819	6,819
4	10.02.03	Boring by using 100-mm diameter cutter and 38-mm diameter G.I Pipe (100-150m) Supplying and lowering	m	50.00	150.01	7,501	7,501
5	10.03.01	a) Hand pump No. 6 complete set(EPL/RFL)	each	3.00	2501.63	7,505	7,505
6	10.03.02	b) 38-mm diameter G.I pipe	m	3.00	630.47	1,891	1,891
7	10.03.03	c) 38-mm PVC pipe	m	140.00	135.98	19,037	19,037
8	10.03.04	d) 38-mm diameter water graded PVC stainer	m	6.00	209.53	1,257	1,257
9	10.03.05	e) 38-mm diameter socket adapter	each	23.00	16.5	380	380
10	10.03.06	Best quality 38-mm diameter PVC cap	each	1.00	60.01	60	60
11	10.08	Construction of platform	each	1.00	2721.89	2,722	2,722
Total						58,371	58,371

Unit Cost : Schedule of Rate July 2012 (Mymensingh Region)

Unit Cost of Dust basin(2 nos)

		No.21			
SL No.	Item Code	Item of Works	Unit	Quantity	rate
1	5.03.01	single layer brick flat soling with 1st class	m ²	3.00	317.63
2	5.05.01.01	Reinforce cement concrete works	m ³	1.00	8649.89
3	5.06.01.02	Supply, fabricate and fix in position reinforcement mild steel 10-mm diameter 150-mm C/C deformed bars	kg	100.00	81.86
4	5.12.03	Minimum 6-mm thick cement plaster with net cement finishing (1:4)	m ²	18.00	162.5
5	5.03.10	Providing polythene sheet (0.18-mm thick)	m ²	3.00	18.36
		Total			
					20,769

Unit Cost : Schedule of Rate July 2012 (Mymensingh Region)

Ghat

		No.22			
SL No.	Item Code	Item of Works	Unit	Quantity	rate
1	2.1.02	Clearing by . . .	LS	1.00	100,000
2	2.2.03	Earth work inexcavation of	m ²	32.24	26.35
3	4.1.10.02.	Reinforce cement concrete works	m ³	7.26	8505.12
3	2.1.05.02	Earth filling work with	m ³	200.00	57.77
				Total	174,151

Unit Cost of Ghat and Hat Protection

No.23

SL No.	Item Code	Description in Brief	Unit	Quantity	Rate	Amount
1	2.2.01	Earth work excavation of canals/ponds, drains, etc., ...	cum	100	105.38	10,538
2	2.1.04.02.3	Earth filling with works with specified soil in type of embankment	cum	600.00	121.75	73,050
3	2.1.08.01	Manual compaction of earth in 150mm thick compacted	cum	600.00	30.99	18,594
4	5.02.02	Sand filling in foundation trenches (FM 0.80) and inside....	cum	46.363	874.04	40,523
5	5.03.01	Single layer brick flat soling with 1st class.....	sqm	1.90		0
6	3.2.55.01	Supplying and placing including embedment along the toe line	sqm	721.00	143.69	103,600
7	3.2.11.03	Single layer C.C Block soling with	sqm	721.00	1385.22	998,744
8	5.04.02	Brick work with 1st class brick in cement mortar (1:4) in foundation	cum	57.95	5931.23	343,715
9	5.04.10	125mm brick work with 1st class brick in cement mortar (1:4).....	sqm	61.00	838.52	51,150
10	5.03.04.01	Mass concrete work in foundation (1:3:6) with.....	cum	10.00	6612.97	66,130
11	5.12.02	Minimum 12mm thick cement plaster (1:6)....	sqm	122.00	184.02	22,450
12	5.12.07	Flush pointing to CC Block laying for pavement..	sqm	721.00	77.94	56,195
		Sub Total				1,784,689
13		Walkway (CC Block)				220,262
14		U-Drain works				116,517
				Ground Total (per 100m)		2,121,468
				Ground Total (per 150m)		3,182,202
				Ground Total (per 50m)		1,060,734

Source : Haor Infrastructure and Livelihood Improvement Project (HILIP)

Appendixes 5.1 to 5.26

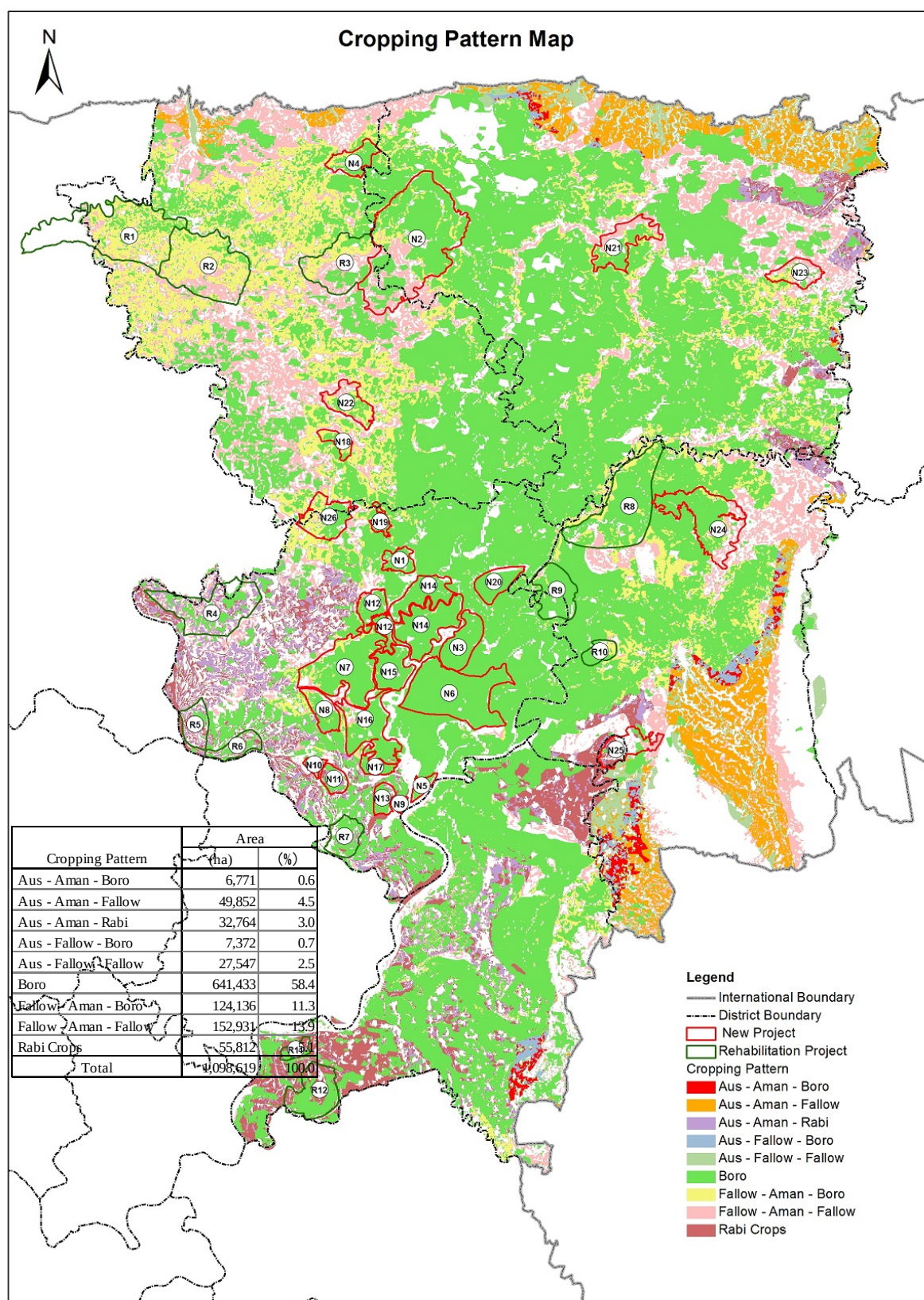
Appendix 5.1

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

ID		Rehabilitation Project	Land Use of the Sub-project Areas (ha)				Area by Land Type of the Sub-project Areas (ha)									
			Agriculture Land	Settlement	Water Body	Forest	Total	Highland	Medium Highland	Medium Land	Lowland	Very Lowland		Others	Total	
												F0	F1			F2
ID		Rehabilitation Sub-project														
R-1	Dampara Water Management Scheme	11,069	3,305	630		15,004		1,927	13,077							15,004
R-2	Kangsa River Scheme	8,477	2,461	399		11,337		740	10,359	238						11,337
R-3	Singer Beel Scheme	5,842	1,144	214		7,200		313	1,141	4,639	1,107					7,200
R-4	Baralkhali Khal Scheme	4,719	3,826	123		8,667			6,433	2,234						8,667
R-5	Aladia-Bahadia Scheme	1,128	1,115	220		2,464		566	1,898							2,464
R-6	Modkhola Bainagrighar Sub-project Scheme	1,213	829	17		2,060			2,008					52		2,060
R-7	Ganakkhali Sub-scheme	1,807	814	31		2,652			2,627	25						2,652
R-8	Kairdihala Ratna Scheme	11,205	405	291		11,900				4,601	7,136			164		11,900
R-9	Bashira River Scheme	4,061	260	201		4,521				1,071	3,442			7		4,521
R-10	Arulia Khal Scheme	1,406	95			1,501				713	788					1,501
R-11	Chandal Beel Scheme	841	89	82		1,012				1,012						1,012
R-12	Sardona Beel Scheme	4,153	640	255		5,049				5,049						5,049
R-13	Gangajuri FCD Sub-Project	17,418	2,903	120		20,441		7,518		108	12,815					20,441
R-14	Khalajuri Polder #02 Scheme	6,200	126	285		6,611					6,517			93		6,611
R-15	Khalajuri Polder #04 Scheme	6,866	80	255		7,201					7,201					7,201
Rehabilitation Sub-project Total		86,406	18,091	3,124	0	107,621		11,065	37,543	19,690	39,006	0	316		107,621	
New Construction Sub-project																
N-1	Boro Haor Project (Nikli)	8,347	705	93		9,146					9,146					9,146
N-2	Naogon Haor Project	8,643	223	239		9,104					8,985		119			9,104
N-3	Jalar Haor Project	2,191	271	3		2,466					540	1,925				2,466
N-4	Dharmapasha Rui Beel Project	19,096	1,644	823		21,563				2,862	18,043	658				21,563
N-5	Chandpur Haor Project	2,022	135	153		2,311			134		2,177					2,311
N-6	Sunair Haor Project	3,293	558	44		3,894				454	3,440					3,894
N-7	Badia Haor Project	1,314	107	83		1,504					1,486		18			1,504
N-8	Nunir Haor Project	5,309	416	86		5,810			116	53	5,622		20			5,810
N-9	Dakshiner Haor Project	2,320	56	107		2,482				369	2,101		12			2,482
N-10	Charal Haor Project	786	23	8		816					816					816
N-11	Ganesh Haor Project	2,806	137	146		3,090				3,083	6					3,090
N-12	Dhakua Haor Project	3,742	296	387		4,425					4,425					4,425
N-13	Mokhar Haor Project	7,253	616	195		8,064				3,956	4,108					8,064
N-14	Noapara Haor Project	2,864	195	120		3,180					3,122		58			3,180
New Construction Sub-project Total		69,986	5,381	2,487	0	77,855		0	249	10,778	64,018	2,583	227		77,855	
Overall Project		156,392	23,473	5,611	0	185,476		11,065	37,792	30,468	103,024	2,583	543		185,476	
%		84.3	12.7	3.0	0	100		6.0	20.4	16.4	55.5	1.4	0.3		100	

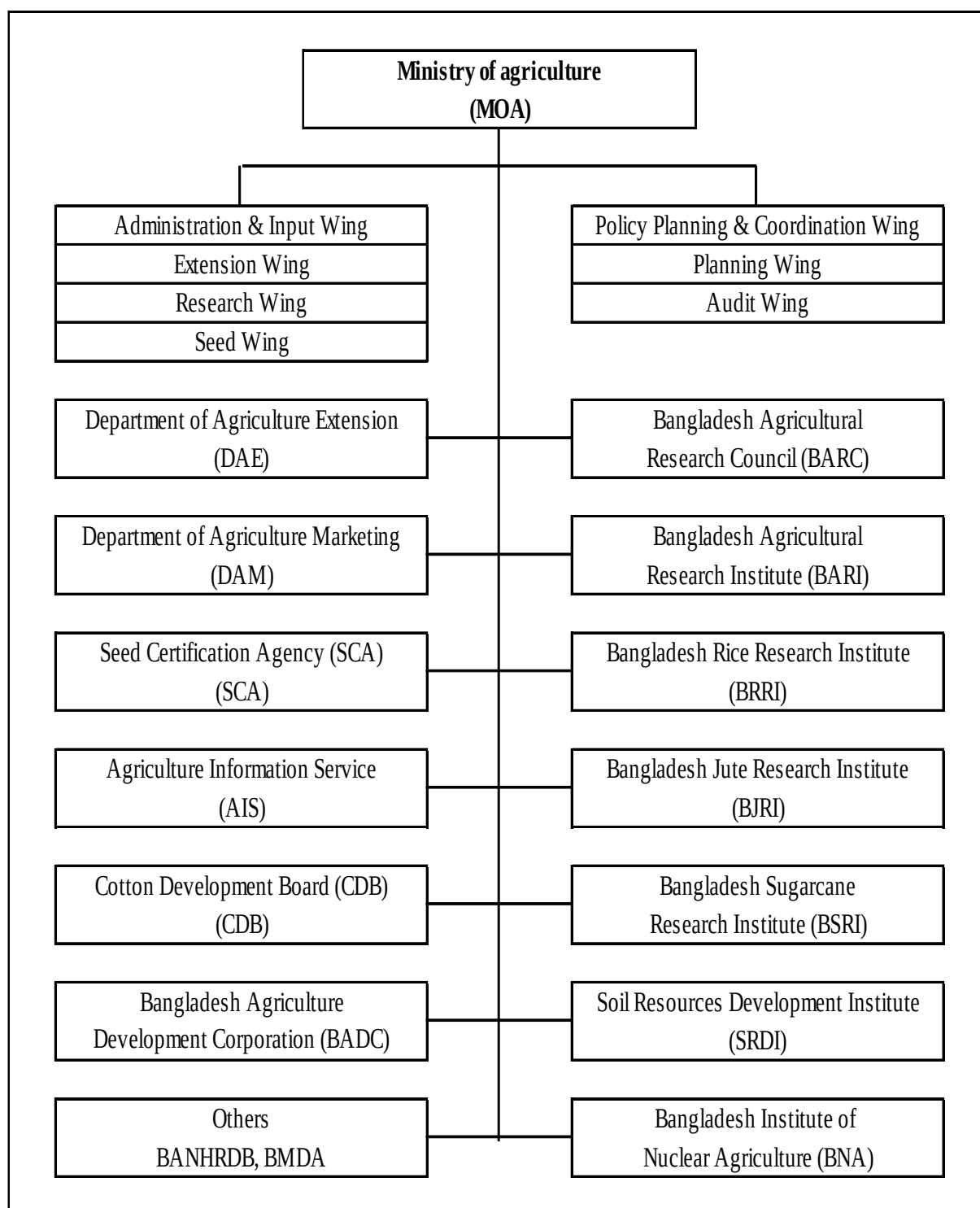
Source: GIS data, Master plan of Haor, 2012, CEGIS

Appendix 5.2



Source: MP Annex 2 Agriculture

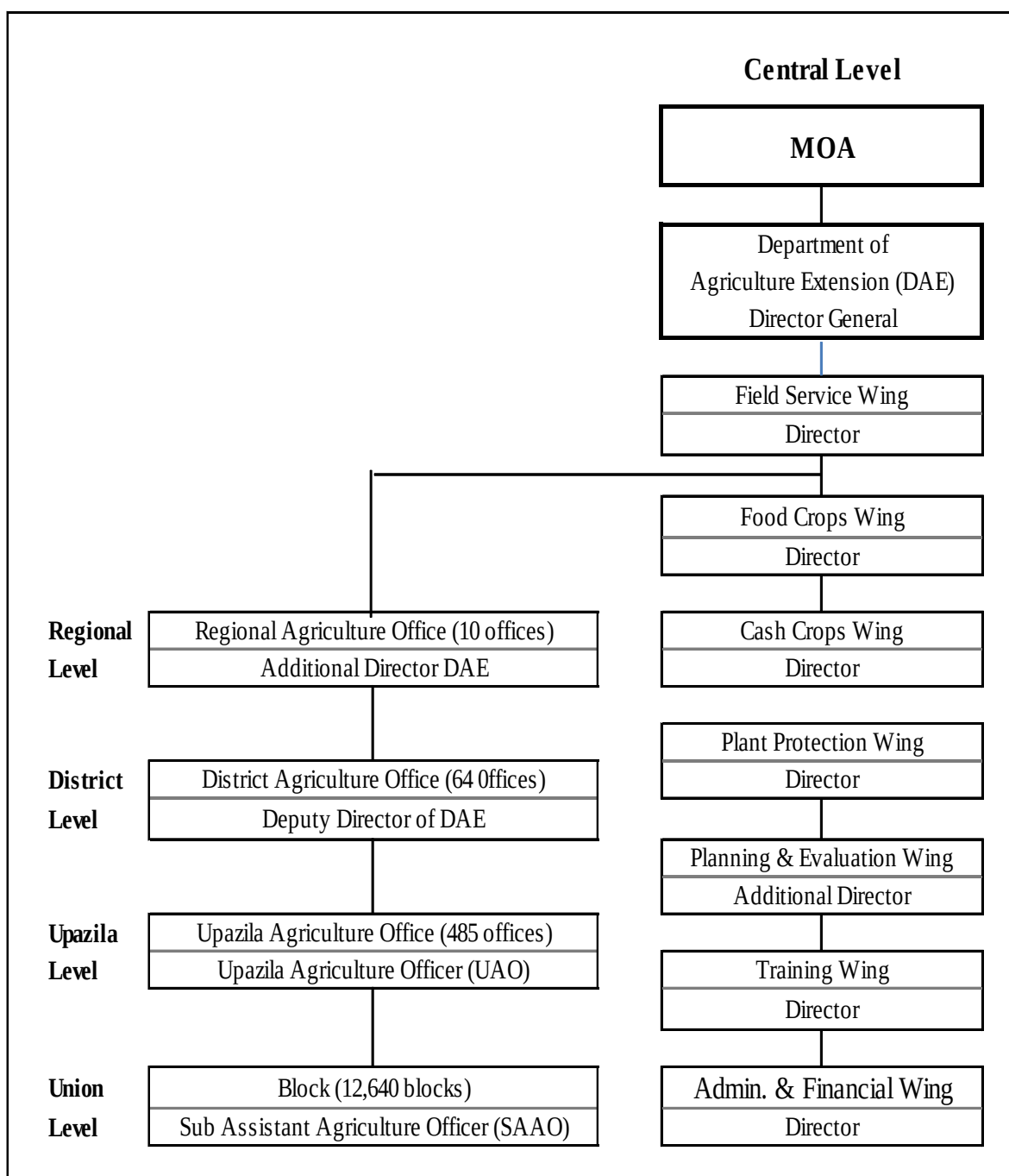
Figure Cropping Pattern Map of the Project Districts

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)

Appendix 5.5

Table Major On-going Development Projects of DAE

Project	Donor	RADP Allocation		
		Project Aid (RPA)	GOB	Total
1. Integrated Agricultural Productivity Project	IDA	130.0	80.0	210.0
2. Greater Rangpur Agriculture & Rural Development Project	IDA	26.0	5.3	31.3
3. Agriculture Sector Program Support, 2nd Phase	DANIDA	113.9	28.9	142.8
4. Emergency 2007 Cyclone Recovery & Restoration Project	DANIDA	165.0	0	165.0
5. Establishment of Krishbid Institution of Bangladesh	-	-	360.2	360.2
6. Integrated Pest Management, 2nd phase	-	-	80.0	80.0
7. Integrated Quality Horticulture Development Project	-	-	170.0	170.0
8. 2nd Crop Diversification Project	ADB	138.0	100.0	238.0
9. Minimizing Rice Yield Gap Project	-	-	63.0	63.0
10. Farmers Training at Upazila Level for Transfer of Technology	-	-	346.0	346.0
11. National Agriculture Technology Project	IBRD	422.4	25.0	447.4

Source: Planning Wing, DAE

Table Annual Development Program (ADP) Budget of MOA & DAE

Unit: million BTK

Ministry/Department	Fiscal Year	ADP Budget		
		Project Aid	GOB Fund	Total Allocation
Ministry of Agriculture (MOA)	2013 -2014	12,193.8	25,018.0	37,211.8
DAE	2013 -2014	2,134.0	993.1	3,127.1
	2012 -2013	1,079.4	1,614.0	2,693.4
	2011- 2012	895.3	1,966.2	2,861.5
	2010- 2011	646.0	1,836.2	2,482.2
Average		1,188.7	1,602.4	2,791.1

Source: Annual Development Program Book, 2013

Table ADP Budget of DAE, Fiscal Year '11/12 - '13/14

Unit: million BTK

Fiscal Year	RADP 1/ Allocation	GOB Fund	Project Aid
2012/13	2,693.4	1,614.0	1,079.4
2011/12	2,861.5	1,966.2	895.3
2010/11	2,482.2	1,836.2	646.0

1/: RADP - Revised Annual Development Programme

Source: Planning Wing, DAE

Appendix 5.6

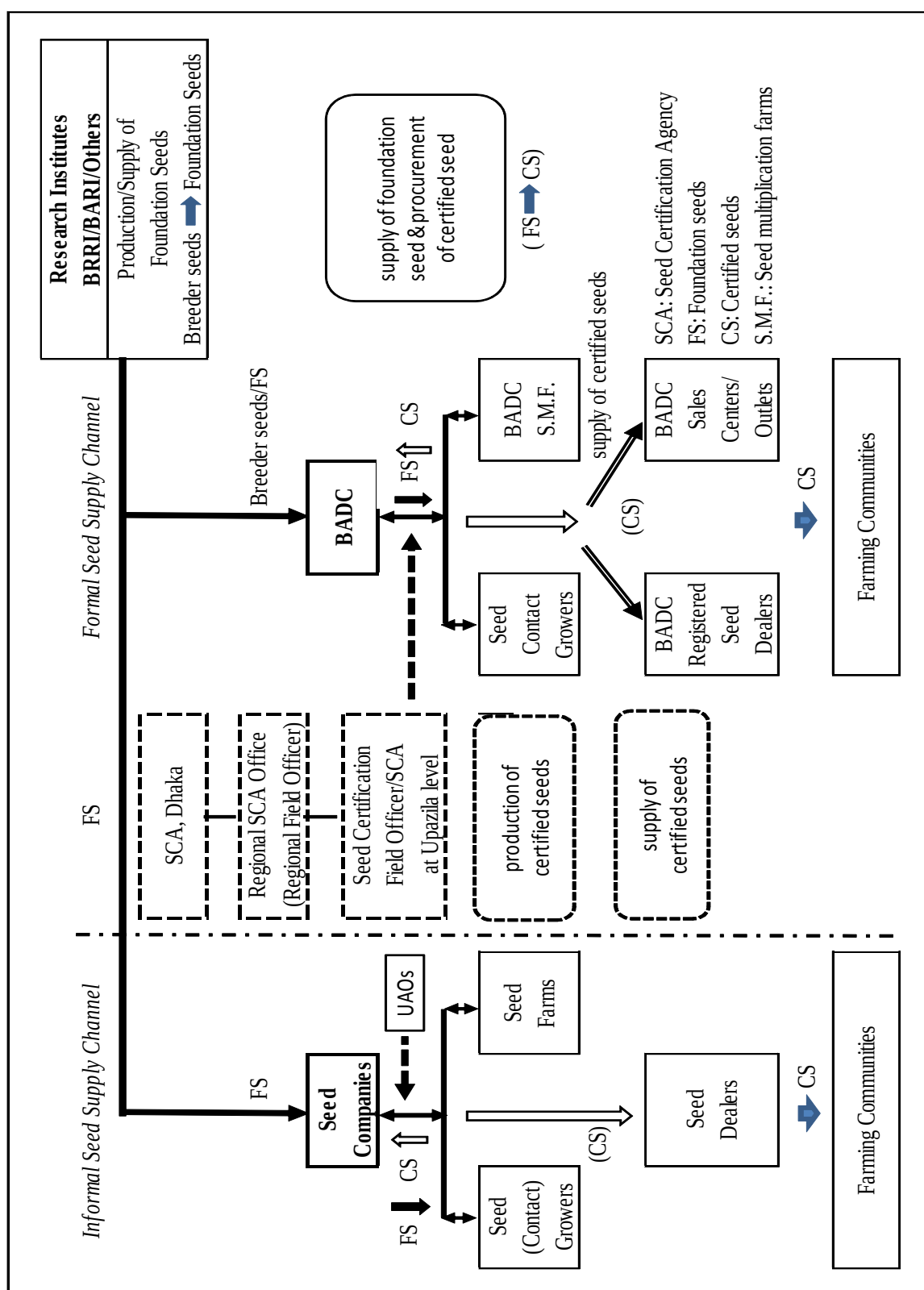
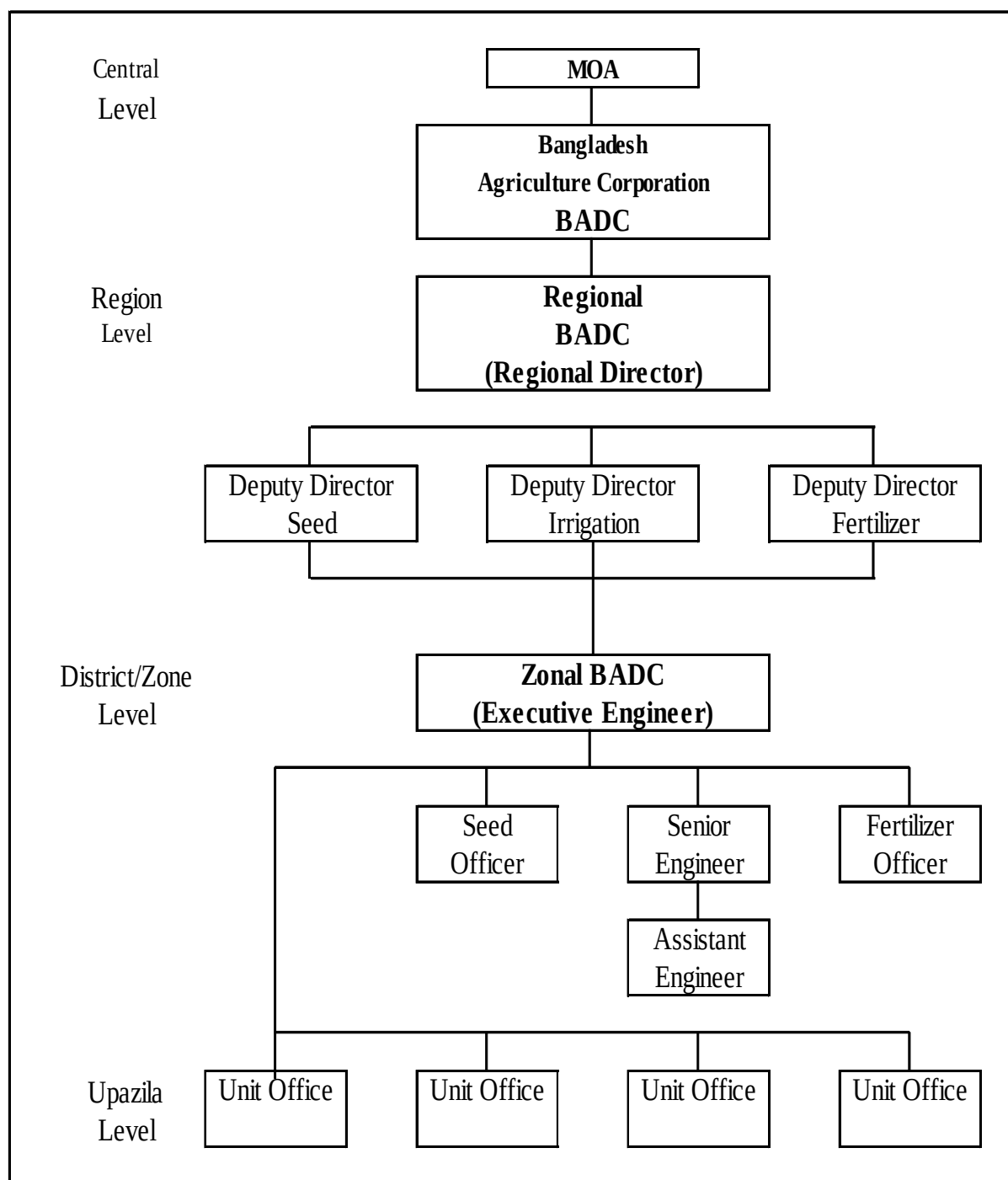


Figure Seed Production & Distribution Systems in Bangladesh

Appendix 5.7



Source: Prepared by the JICA Survey Team

Figure Organization Structure of Bangladesh Agriculture Development Corporation (BADC)

Appendix 5.8

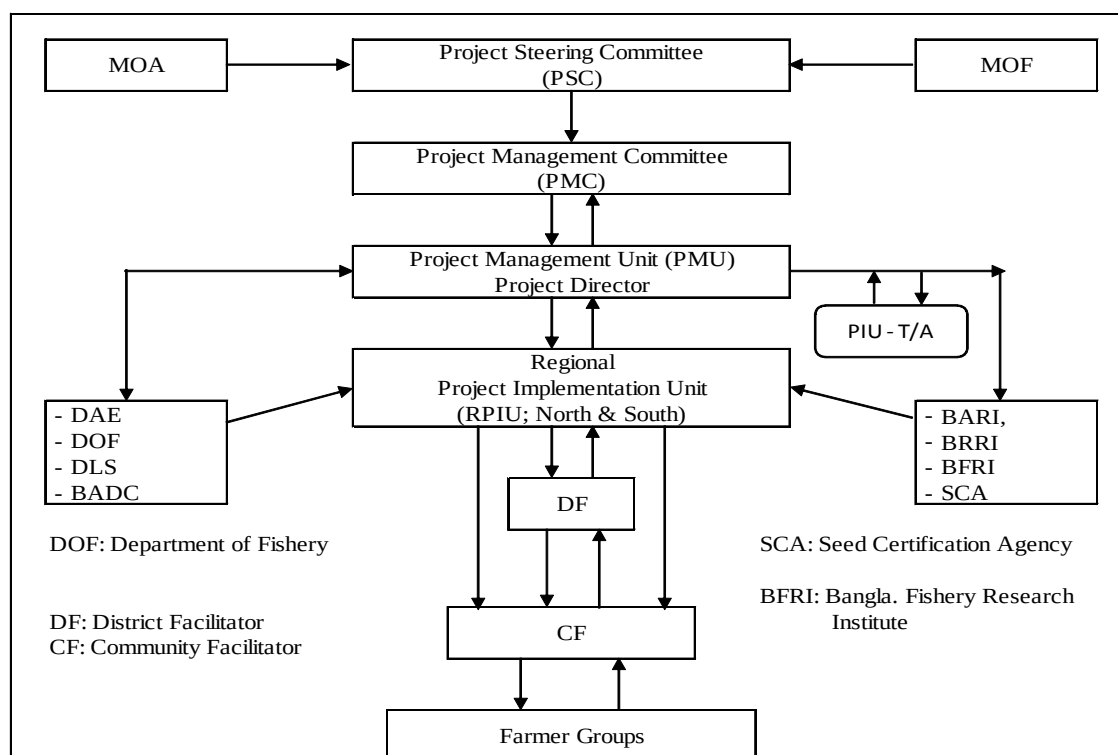


Figure Organization Structure for Implementation of IAPP

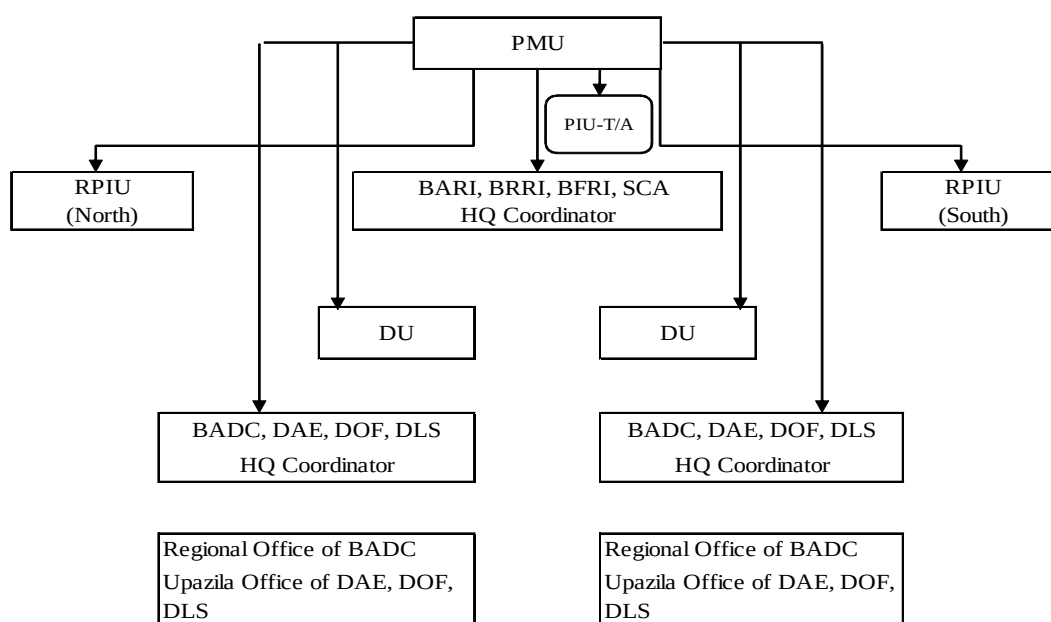


Figure Financial Management Set-up of IAPP

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

Figure Implementation Arrangements for IAPP

Appendix 5.9

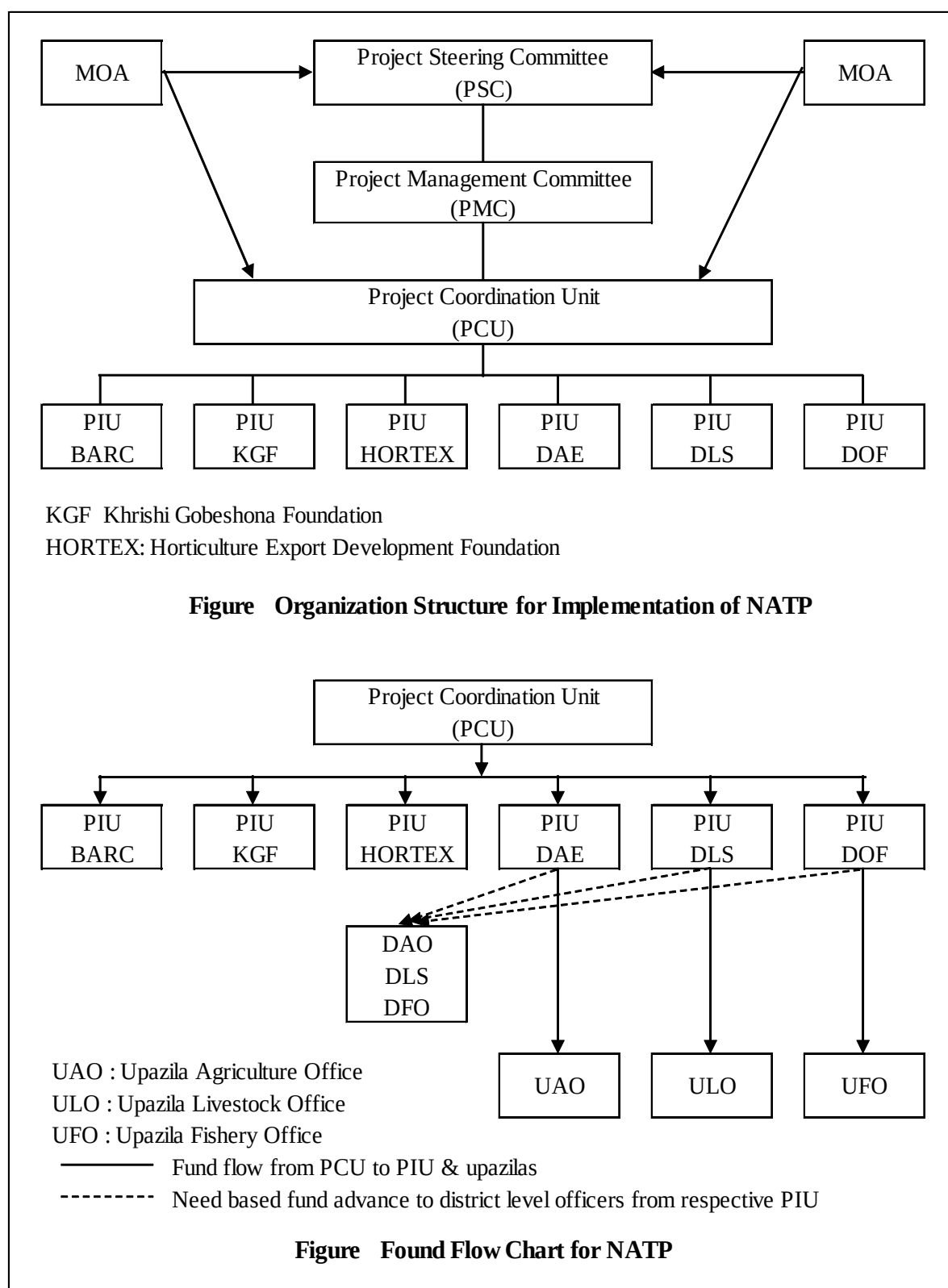
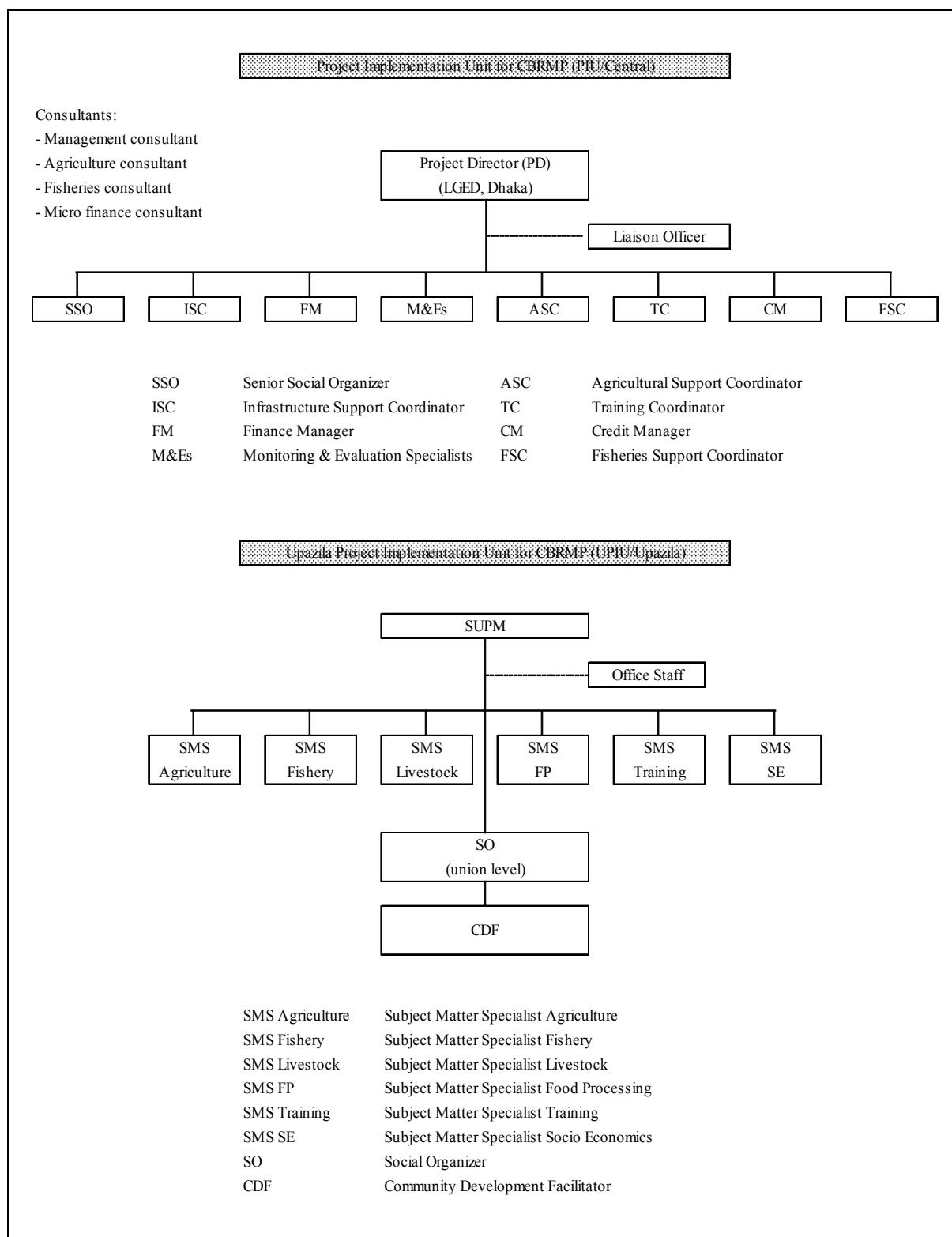


Figure Implementation Arrangements for NATP

Appendix 5.10



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

Appendix 5.11

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

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

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

Appendix 5.12-1

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

Problems/Constraints				Suggestions to Solve Problems/Constraints															
Responses/Constraints				Responses															
				No. of Respondents Reported Subject Response				No. of Respondents Reported Subject Response											
Kangsa River Scheme	Dhanu River	Dharmapasha Rui Beel	Kairdhala Ratna	Charigram Project	Boro Haor (Nikli)	Boro Haor (Austagram)	Saidona Beel Scheme	Overall											
1. Irrigation Issues				1. Irrigation Issues															
- Irrigation issues in general	28	25	44	35	28	19	3	1	183	- Electricity/fuel supply, low fuel price or electric pump	22	22	34	11	5	13	0	0	107
- High irrigation cost/charge,	9	23	38	8	1	15	2	0	96	- Improvement of irrigation system	0	1	1	22	2	1	1	0	28
- Water Shortage	12	0	4	8	3	4	0	0	31	- DTW	1	0	1	1	0	5	0	0	2
- No electricity, for pumping	5	1	0	0	0	0	0	0	6	- Development of (surface) irrigation	3	0	2	0	0	0	2	0	7
- Fuel supply problem/high fuel cost	0	0	0	0	0	0	0	0	0	- Construction/rehabilitation of canal	0	0	0	0	2	1	3	0	1
- No irrigation	1	0	0	1	0	0	0	0	2	sub-total	26	23	38	35	13	17	3	3	158
2. Farm Inputs Supply Issues				2. Farm Inputs Supply Issues															
- Farm inputs issues in general	6	21	48	22	6	0	3	1	107	- Reduce inputs prices	3	17	24	1	2	16	0	1	64
- High farm input cost	3	20	31	1	3	14	0	1	73	- Improvement of inputs supply	3	0	14	32	1	0	0	0	50
- Farm input supply problems	2	0	16	16	1	0	3	0	38	- Provision quality seeds	1	5	1	2	4	0	0	0	13
- Availability of quality seeds	3	5	2	1	3	0	0	0	14	- Provision of inputs	0	2	3	0	0	1	0	0	6
Sub-total	14	46	97	40	13	14	6	2	232	sub-total	7	24	42	35	7	17	0	1	133
3. Flash Flood/Heavy Rain				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	0	2	15	sub-total	22	1	8	17	46	3	22	25	144
4. Road Construction/Improvement				4. Road Construction/Improvement															
- Farmer training	6	0	1	3	1	2	0	0	13	- Agonomic Issues	2	0	4	24	0	3	22	0	55
- Appropriate chemical use	0	0	0	8	0	0	0	0	8	- Farmer training	6	0	1	3	1	2	0	0	13
- Productivity improvement	0	0	0	1	0	3	0	0	4	- Insect/pest management	0	0	0	8	0	0	0	0	8
- Insect/pest management training	3	0	0	0	0	0	0	0	3	- Insect/pest management training	3	0	0	0	0	0	0	0	3
- Use of compost	0	0	0	0	0	1	0	0	1	- 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	- 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	- 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	- Reduction of production cost	0	0	0	0	0	1	0	0	1
sub-total	9	0	1	12	2	8	1	0	33	sub-total	9	0	1	12	2	8	1	0	33
6. Labour/Machinery Shortage				6. Labour/Machinery Shortage															
- Reducing hiring cost	0	13	1	11	0	0	0	0	25	- 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	- 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	- Reduce labour cost	0	0	0	0	0	2	1	0	3
sub-total	0	13	2	12	5	3	2	0	37	sub-total	0	13	2	12	5	3	2	0	37
7. Farming Capital Issue				7. Farming Capital Issue															
- Improvement of access to credit/interest free credit	0	1	9	4	6	0	1	3	24	- Improvement of access to credit/interest free credit	0	1	9	4	6	0	1	3	24
8. Higher/fixed/ fair price of paddy				8. Higher/fixed/ fair price of paddy															
- Higher/fixed/ fair price of paddy	1	3	14	0	4	0	3	13	10	- Higher/fixed/ fair price of paddy	1	3	14	0	4	0	3	13	10
9. Others				9. Others															
- Others	0	0	3	0	0	0	0	3	29	- Others	0	0	3	0	0	0	0	3	29
Total				Total															
90	103	246	184	86	73	76	37	895	635										

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

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

Appendix 5.12-2

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

Immediate Needs for Agriculture Promotion												Future Aspirations											
Responses						Subject Response						Responses						Subject Response					
No. of Respondents Reported						No. of Respondents Reported						No. of Respondents Reported						No. of Respondents Reported					
Kangsa River Scheme						Dhanu River						Dharmapasha Rul Beel						Katrishala Raina					
Boro Haor (Austagram)						Boro Haor (Nikli)						Charigram Project						Boro Haor (Nikli)					
Sardona Beel Scheme						Overall						Overall						Sardona Beel Scheme					
Overall																							
1. Irrigation Issues						1. Irrigation Issues						1. Irrigation Issues						1. Irrigation Issues					
- Irrigation water supply						- Irrigation water supply						- Irrigation water supply						- Irrigation water supply					
- Motor pump installation						- Motor pump installation						- Motor pump installation						- Motor pump installation					
- Electricity supply						- Electricity supply						- Electricity supply						- Electricity supply					
- Reduction of fuel cost,						- Reduction of fuel cost,						- Reduction of fuel cost,						- Reduction of fuel cost,					
- Installation of DTW,						- Installation of DTW,						- Installation of DTW,						- Installation of DTW,					
- Irrigation canal rehabilitation						- Irrigation canal rehabilitation						- Irrigation canal rehabilitation						- Irrigation canal rehabilitation					
- Low cost irrigation						- Low cost irrigation						- Low cost irrigation						- Low cost irrigation					
sub-total						sub-total						sub-total						sub-total					
2. Farm Inputs Supply Issues						2. Farm Inputs Supply Issues						2. Farm Inputs Supply Issues						2. Farm Inputs Supply Issues					
- Fertilizer/chemicals/seed supply,						- Fertilizer/chemicals/seed supply,						- Fertilizer/chemicals/seed supply,						- Fertilizer/chemicals/seed supply,					
- Quality seeds supply						- Quality seeds supply						- Quality seeds supply						- Quality seeds supply					
- Provision of low cost fertilizer/seed/chemical,						- Provision of low cost fertilizer/seed/chemical,						- Provision of low cost fertilizer/seed/chemical,						- Provision of low cost fertilizer/seed/chemical,					
sub-total						sub-total						sub-total						sub-total					
3. Flood Management						3. Flood Management						3. Flood Management						3. Flood Management					
- Embankment						- Embankment						- Embankment						- Embankment					
- River dredging						- River dredging						- River dredging						- River dredging					
- Culvert construction						- Culvert construction						- Culvert construction						- Culvert construction					
sub-total						sub-total						sub-total						sub-total					
4. Road Construction/Improvement						4. Road Construction/Improvement						4. Road Construction/Improvement						4. Road Construction/Improvement					
5. Agronomic Issues						5. Agronomic Issues						5. Agronomic Issues						5. Agronomic Issues					
- Training/extension services						- Training/extension services						- Training/extension services						- Training/extension services					
- Introduction of double cropping						- Introduction of double cropping						- Introduction of double cropping						- Introduction of double cropping					
- Reduction of production cost						- Reduction of production cost						- Reduction of production cost						- Reduction of production cost					
sub-total						sub-total						sub-total						sub-total					
6. Labour/Machinery Shortage						6. Labour/Machinery Shortage						6. Labour/Machinery Shortage						6. Labour/Machinery Shortage					
- Provision of machinery/hiring services & power tiller						- Provision of machinery/hiring services & power tiller						- Provision of machinery/hiring services & power tiller						- Provision of machinery/hiring services & power tiller					
- Reducing machinery hiring cost						- Reducing machinery hiring cost						- Reducing machinery hiring cost						- Reducing machinery hiring cost					
sub-total						sub-total						sub-total						sub-total					
7. Farming Capital Issue						7. Farming Capital Issue						7. Farming Capital Issue						7. Farming Capital Issue					
- Improving access to credit/interest free credit						- Improving access to credit/interest free credit						- Improving access to credit/interest free credit						- Improving access to credit/interest free credit					
8. Marketing Issues						8. Marketing Issues						8. Marketing Issues						8. Marketing Issues					
- Higher/fixed/fair price of paddy						- Higher/fixed/fair price of paddy						- Higher/fixed/fair price of paddy						- Higher/fixed/fair price of paddy					
9. Others						9. Others						9. Others						9. Others					
sub-total						sub-total						sub-total						sub-total					
Total						Total						Total						Total					
66	67	113	155	67	35	80	40	623				37	84	88	160	74	35	64	37	579			

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

Appendix 5.13

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

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	57	1. Veterinary Services Issues	73	1. Veterinary Services Issues	69	1. Veterinary Services Issues	48
- Insufficient veterinary services (especially in rainy season)/high cost of treatment		- Veterinary services strengthening		- Veterinary services		- Veterinary services	
- Disease	32	2. Land Issues	25	2. Land Issues	18	2. Land Issues	21
	89	- Grazing land		- Higher land for cattle raising		- Land for cattle raising	
		- Flood free grazing land	23	- Cattle shed in rainy season	13	3. Farming Capital & Cost Issues	
2. Land Issues	31		48		31	- Provision of loan for livestock	43
- Shortage of grazing land & grasses due to inundation		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
		- Low cost feed	23	- Feed/low cost feed	52	- Access to fodder/Feed/fodder production	25
	62		53		132		81
3. Farming Capital & Cost Issues	18	4. Husbandry Issue		4. Husbandry Issue		5. Others	
- Insufficient capital		- 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
	38	- Others	21	- No need	18	- Start cattle farming	4
4. Husbandry Issue	10	- No response	174	- No response	112	- Not interest in livestock	1
- Poor raising practices/lack of knowledge/no training			204		143	- Others	22
5. Others						- No aspiration	17
- Flooding (to evacuate cattle)	1					- No response	119
- Heavy rain fall	5						204
- Low selling price	4						
- Others	1						
- No problem	31						
- No response	154						
	196						
Total	395	Total	402	Total	446	Total	397

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 5.14-1

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

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

1.2 Satisfied with Extension Services Provided							Chart 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 & 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 5.14-2

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 Town 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 5.15

Table Policy Overview

Policy/Plan & Overview
Draft National Agriculture Policy, 2010 Research and development (R&D), NAP-2010 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 & D activities overall accountability. Governance of Research Institutions, NAP-2010 Develop measures to strengthen coordination, planning, priority-setting, and monitoring & 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< 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. Transfer of Technology, NAP-2010 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. Human Resource Development, NAP-2010 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. Seeds and planting Materials, NAP-2010 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. Fertilizer, NAP-2010 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. Irrigation, NAP-2010 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. Mechanization in Agriculture, NAP-2010 Develop research, manufacturing of agricultural machinery and equipment, support and incentives and training. Agricultural Marketing, NAP-2010 Develop market infrastructure, market intelligence and extension services, and export and market promotion; create market regulation and facilitation and agri-business Women in Agriculture, NAP-2010 Empowerment of women, participation in production and marketing, income generation and ensure budgetary allocation Natural Resource Management, NAP-2010 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. Agri-business Opportunity for Private Sector, NAP-2010 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. Programme for Agro-ecologically Disadvantaged Regions, NAP-2010 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 Livestock Policy and Action Plan, 2005 Improvement of small scale poultry and dairy farming replicating CLDDP, reform of DLS, enforcement of low 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 National Food Policy, 2004 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 Agriculture and Rural Development section, PRSP, 2005 – 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 & vegetable). – Development of non-crop enterprises (i.e. livestock, fishery, poultry), and promotion of rural non-farm economy, and outlining a policy matrix on future actions New Agricultural Extension Policy (NAEP), 1996 Provision of efficient decentralized & demand led extension services to all types of farmers, training extension workers, strengthening research-extension linkage and helping environmental protection. DAE-Strategic Plan, 1999-2002 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. Seed policy, 1993 – 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 & commercial purposes. – Provision of training and technical supports in seed production, processing & storage monitor, control and regulate quality and quantity of seeds. Seed Rules 1997 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.

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

Appendix 5.16-1

Table Program Description of APSS & SIGS - 1/4

Program	Objectives/Description	Target Area/Group	Technical Specifications	Basis for Estimation of Activity Requirement (tentative)
LAPSS 1 Field Program - 1/2 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

Appendix 5.16-2

Table Program Description of APSS & SIGS – 2/4

Program	Objectives/Description	Target Area/Group	Technical Specifications	Basis for Estimation of Activity Requirement (tentative)
1 Field Program - 2/2 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 $\approx$ 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 $\approx$ 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 $\approx$ 0.1ha (0.25 acre) - 25 farmers x 0.1ha = 2.5 ha/unit - 1 day inception training - Field inspection by SA staff for 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
2. Farmer Training Program - 1/2 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, WMCs & other CBOs in whole Project Area	- 25 participants/tour - 1 day	- 4 units/Project x 5 years = 40 units
2. Farmer Training Program - 2/2 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 $\approx$ 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 Sunamganj, Habiganj, Netrakona, Kishoregonj) - Fair held for 3 days in a district HQ	- 2 units/year x 6 years = 12 times

Appendix 5.16-3

Table Program Description of APSS & SIGS – 3/4

Program	Objectives/Description	Target Area/Group	Technical Specifications	Basis for Estimation of Activity Requirement (tentative)
2. Farmer Training Program - 2/2 2.2. Empowerment of Existing Farmer Organizations (FO)	- To provide guidance to representatives of existing farmer organizations and to assist them in activation of their organizations - Training of executive members on group management, leadership, financial issues, marketing, etc. - Provision of continues guidance & monitoring	- Non-HILIP upazila - Executive members of existing farmer organizations - 5 executive members x 5 FOs = 25 participants - Training subject: group management, book keeping, group marketing/purchasing, cooperatives etc.	- Operated by NGO facilitators - 1 course 25 participants - Training: 5 days (25 participants) - Follow-up guidance 1 day x 10 times - Training subject: group management, book keeping, group marketing/purchasing, cooperatives etc.	- 1 unit/600 ha of rice fields
2.3. Formation & Empowerment of Farmer Organizations (FO)	- To support formation of farmer organizations and to assist activation of the organizations through continuous guidance - Training of executive members on group management, leadership, financial issues, marketing, etc. - Provision of continues guidance & monitoring	- Non-HILIP upazila - Target organization: formation of 5 new FOs - 5 executive members x 5 FOs = 25 participants - Training subject: group management, book keeping, group marketing/purchasing, cooperatives etc.	- Operated by NGO facilitators - 1 course 25 participants - Training: 5 days (25 participants) - Follow-up guidance 1 day x 10 times - Training subject: group management, book keeping, group marketing/purchasing, cooperatives etc.	- 1 unit/600 ha of rice fields
3. Field Staff Empowerment Program				
3.1. Induction Training of Field Staff	- Induction training of project field staff & related field staff (SAAOs etc.) on the agriculture promotion & livelihood improvement sub-component of the Project	- Field staff deployed in the Project Area	- 1 course 25 field staff - 5 days per course - Training held at district HQ	- 9 unit/1st year
3.2. Refresher Training of Field Staff	- Induction training of project field staff & related field staff (SAAOs etc.) on the agriculture promotion & livelihood improvement sub-component of the Project	- Field staff deployed in the Project Area	- 1 course 25 field staff - 3 days per course - Training held at district HQ	- 9 unit/year x 5 years = 45 units
3.3. 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.	- Field staff deployed in the Project Area	- 25 participants/four - 3 days	- 1 unit/year x 6 years = 6 units
4. Farm Machinery & Facility Support				
4.1. Farm Machinery Hiring Services	- 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 - Formation of machinery hiring service group (MHSG) - Training of group members - Provision of machinery at subsidized rate - Provision of machinery hiring services by MHSCs - Pilot operation for the initial 3 years	- All sub-project areas - Project upazilas where mechanization of land preparation & threshing is still limited. - Machinery Hiring Services Group (MHSG) 5 members (1 leader + 4 members)	- 2 MHSCs/unit - Basic allocation of machinery/MHSG Power tiller 5 units & power thresher 5 units - Group training: 2 weeks - Training subject: Operation & maintenance, book & record keeping, hiring services management, group management, etc.	- Based on preliminary need assessment of project upazilas conducted by survey Team 3/ - 1st priority upazila: 1 unit/2,000ha - 1nd priority upazila: 1 unit/4,000ha
4.2. Construction of Community Drying Floor & Seed Storage Facility	- Construction of seed drying floor & storage facility in farm land area for community use to support quality seed preservation for next cropping - Primary users of the facilities are marginal farm households - Drying floor is for drying paddy preserved for seed only	- All sub-project areas - Project upazilas where elevated community land for the subject facility is available in the project benefitted farmland area	- Scale depending on availability of elevated land free from seasonal flood - Drying floor 50m² & storage 20m²	- 1 unit/3,000 ha of rice fields
5. Technology Development Program				
5.1. Field Trial on New Rice Varieties	- Simple trial on new rice varieties prior to adaptive trial implemented by research institute - Primary target crop:boro rice - Operation supported by UAOs/SAAOs 2/	- Typical haor areas - 2 trial sites in the Project Area - 1 site each for: - Lowland & very lowland	- Specification of trial site - located close to all-weathered road - 5 years	- 2 trial sites - 1st year: site selection/operation - 2nd to 6th year: operation
5.2. Field Trial on Non-rice Crops	- Simple trial on non-rice crops prior to adaptive trial implemented by research institute - Target crop: promising upland crops & vegetables in each target haor land type - Operation supported by UAOs/SAAOs 2/	- Typical haor areas - 1 trial site in the Project Area	- Specification of trial site - located close to all-weathered road - 5 years	- 1 trial site - 1st year: site selection & operation - 2nd to 6th year: operation

Appendix 5.16-4

Table Program Description of APSS & SIGS – 4/4

Program	Objectives/Description	Target Area/Group	Technical Specifications	Basis for Estimation of Activity Requirement (tentative)
II. SIGS (Small-scale Income Generation Sub-component) 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 CICs x 8 member/CIG = 24 FHH 4/ - Formation of CICs - 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 CICs x 8 member/CIG = 24 FHH 4/ - Formation of CICs - 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 CICs x 8 member/CIG = 24 FHH 4/ - Formation of CICs - 1 day training & field guidance - Candidate fruits & No. of seedlings/FHH - Jujube (Ziziphus Mauritiana): 5 saplings - Litchi: 5 saplings - Guava: 5 saplings - (other fruits: moringa & 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 CICs x 8 member/CIG = 24 FHH 4/ - Formation of CICs - 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 CICs x 8 member/CIG = 24 FHH 4/ - Formation of CICs - 3 days training & field guidance - Mushroom support package/FHH: - Mushroom spoon packet - Mushroom shelf materials - 75 wooden spoons & 40 straw spoons/FHH - Packing materials/container	

Source: Prepared by JICA Survey Team
1/: SFH - small farm household 2/: SAAO = Sub-assistant Agriculture Officer, UAO = Upazila Agriculture Officer 4/: CIC = 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

Appendix 5.17

Table Results of Project Upazila Inventory

New ID	Sub-project	District	Upazila	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 SAAOs	Boro Cropped Area SAAO (1,000ha)
Rehabilitation Projects															
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
		N	Purbadhala	N	31,770	11,199	22,217	0.5	4.0	1,059	21	894	25	28	0.8
R-2	Kangsha River Scheme	N	Netrokona Sadar	N	33,465	6,061	21,933	0.6	4.0	985	22	910	24	38	0.6
		N	Purbadhala	N	31,770	5,277	22,217	0.5	4.0	724	31	400	56	28	0.8
R-3	Singer Beel Scheme	N	Barhatta	N	23,052	6,976	14,273	0.6	3.9	468	30	586	24	15	1.0
		N	Kalinakandi	FF	38,502	224	19,167	0.6	3.5	601	32	627	31	30	3.9
		S	Dharmapasha	FF	50,085	3	30,103	1.2	3.4	352	36	-	-	36	3.9
R-4	Baraikhal Khal Scheme	K	Hossainpur	N	11,921	5,989	7,283	0.3	3.9	420	17	410	18	20	0.4
		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	-	-	-	-	-	-	-	-	-
R-5	Aladia-Bahadia Scheme	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	Ganakhalli 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	Armagani	FF	18,438	9,236	20,313	1.9	3.6	346	66	852	58	9	2.3
		H	Baniachong	FF	49,627	2,457	41,227	1.4	3.8	968	43	1,277	32	25	1.6
		S	Dera	FF	40,639	7	27,147	1.1	3.2	1,355	28	-	-	30	2.7
R-9	Bashira River Scheme	H	Armagani	FF	18,438	1,673	20,313	1.9	3.6	346	66	852	58	9	2.3
		H	Baniachong	FF	49,627	906	41,227	1.4	3.8	968	43	1,277	32	25	1.6
		K	Mahaman	FF	22,548	1,942	16,823	1.2	4.2	500	34	570	30	13	1.3
R-10	Aralia Khal Scheme	H	Baniachong	FF	49,627	1,501	41,227	1.4	3.8	968	43	1,277	32	25	1.6
R-11	Chandal Beel Scheme	B	Bachcharampur	FF	20,324	1,032	9,373	0.3	4.0	170	56	990	16	26	0.3
R-12	Satdona Beel Scheme	B	Bachcharampur	FF	20,324	4,988	9,373	0.3	4.0	170	56	990	16	26	0.3
		O	Homa	N	12,917	60	-	-	-	-	-	-	-	-	-
R-13	Gangajun FCD Sub-Project	H	Bahubal	N	26,467	12,438	9,707	0.5	3.6	453	21	497	20	12	0.8
		H	Baniachong	FF	49,627	22	41,227	1.4	3.8	968	43	1,277	32	25	1.6
		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
R-14	Khaliajun FCD Polder-2	N	Khaliajun	FF	29,038	8,298	18,330	1.3	4.2	586	39	550	34	5	3.7
		N	Sulla	N	26,360	315	21,867	1.7	3.9	539	41	-	-	6	3.6
R-15	Khaliajun FCD Polder-4	K	Hina	FF	38,579	84	28,323	1.7	4.2	400	71	490	58	12	2.4
		N	Khaliajun	FF	29,038	4,847	18,330	1.3	4.2	486	39	550	34	5	3.7
		N	Madan	FF	23,088	2,230	16,376	0.7	4.1	569	29	619	27	7	2.4
					Rehabilitation Total	1,145,860	107,621	626,325		18,426		17,426		622	1.0
New Construction															
N-2	Naogaon Haor Project	K	Hina	FF	38,579	2,328	28,323	1.7	4.2	400	71	490	58	12	2.4
		K	Kariganj	N	20,259	933	10,413	0.3	4.1	430	24	380	27	35	0.3
		K	Mahaman	FF	22,548	3,928	16,823	1.2	4.2	500	34	570	30	13	1.3
		K	Nikli	FF	38,592	1,321	15,310	1.0	4.2	586	26	520	29	15	1.0
N-1	Boro Haor Project (Nikli)	K	Kariganj	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
		K	Nikli	FF	38,592	2,443	15,310	1.0	4.2	586	26	520	29	15	1.0
N-3	Jalar Haor Project	S	Chitab	FF	43,363	2,466	8,949	0.3	2.9	488	18	-	-	18	0.5
N-5	Chandpur Haor Project	K	Katiadi	N	22,135	2,294	12,428	0.4	4.0	435	29	400	31	22	0.6
		K	Nikli	FF	38,592	1,321	15,310	1.0	4.2	586	26	520	29	15	1.0
N-4	Dharmapasha Rui Beel Project	N	Barhatta	N	23,052	3,989	14,273	0.6	3.9	468	30	586	24	15	1.0
		N	Kalinakandi	FF	38,502	224	19,167	0.6	3.5	601	32	627	31	30	3.9
		N	Mohanganj Thana	FF	24,073	10	13,406	0.7	4.0	333	46	463	29	15	0.9
		S	Dharmapasha	FF	50,085	3	30,103	1.2	3.4	352	36	-	-	36	3.9
N-6	Sunair Haor Project	K	Tarail	N	14,266	3,050	10,198	0.6	4.1	337	30	475	21	20	0.5
		N	Kendua	N	30,439	844	20,697	0.5	4.0	515	40	815	25	33	0.6
N-7	Badla Haor Project	K	Hina	FF	38,579	1,504	28,323	1.7	4.2	400	71	490	58	12	2.4
		K	Tarail	N	14,266	0	10,198	0.6	4.1	337	30	475	21	20	0.5
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
		K	Nikli	FF	38,592	4,147	15,310	1.0	4.2	586	26	520	29	15	1.0
N-9	Dakhshiner Haor Project	K	Hina	FF	38,579	1,593	28,323	1.7	4.2	400	71	490	58	12	2.4
		K	Mahaman	FF	22,548	930	16,823	1.2	4.2	500	34	570	30	13	1.3
N-10	Chatal Haor Project	K	Hina	FF	38,579	588	28,323	1.7	4.2	400	71	490	58	12	2.4
		K	Tarail	N	14,266	228	10,198	0.6	4.1	337	30	475	21	20	0.5
		N	Madan	FF	23,088	2,230	16,376	0.7	4.1	569	29	619	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	FF	23,088	1,300	16,376	0.7	4.1	569	29	619	27	7	2.4
N-12	Dhakua Haor Project	FF	Dokhan Sunanganj	FF	30,649	1,347	19,647	1.2	2.6	499	47	530	37	6	3.3
		FF	Jamalganj	FF	33,198	1,76	20,956	0.9	3.1	540	37	-	-	8	2.5
		S	Sunanganj Sadar	FF	27,824	2,902	13,193	0.7	3.1	278	47	-	-	12	1.1
N-13	Mokhar Haor Project	H	Armagani	FF	18,438	1	20,313	1.9	3.6	346	66	852	58	9	2.3
		H	Baniachong	FF	49,627	4,347	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
N-14	Noapara Haor Project	K	Kariganj	FF	30,650	36	28,398	1.8	4.1	536	47	530	37	30	2.6
		K	Kariganj	N	20,259	15	10,413	0.3	4.1	430	24	380	27	35	0.3
		K	Nikli	FF	38,592	2,328	15,310	1.0	4.2	586	26	520	29	15	1.0
					New Construction	1,007,852	77,855	656,937		18,165		17,108		673	
					Overall Project	2,153,712	185,476	1,283,262		36,591	35	34,534	37	1,295	

Source: Project district DAOs (District Agriculture Office)

Appendix 5.18-1

Table Results of Preliminary Needs Assessment of APSS & SIGS by Project Upazilas – 1/2

			Results of Preliminary Need Assessment on APSA & SIGA																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
New ID	Old ID	Sub-project	District	Upazila	HLLP or Not	Total Upazila Area	Project Area	Adaptive trial (rice)																Adaptive trial (non-rice)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
								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	2.2.1	2.2.2	2.2.3	3.1.1	3.1.2	3.1.3	3.2	3.3	3.4	4.1	4.2	5.1	5.2	6.1	6.2	1	2	3	4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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R-1	R1	Dumara Water Management Scheme	M	Dhobura	N	25,224	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

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

Table Overall Work Plan for APSS & SIGS by Sub-project - 1/2

Prepared by JICA Survey Team

Appendix 5.19-2

Table Overall Work Plan for APSS & SIGS by Sub-project – 2/2

Overall Work Plan for APSA & SIGA (No. of Individual Activities Programmed for the Project Period)																																																																				
Unit: No. of activity programmed																																																																				
ID	Sub-project	District	Upazila	Project Area	1. Field Program												2. Farmer Training Program						3. F.S.E.P. 1/			4. F.M.F.S. 1/		SIGS																																								
					Adaptive trial (rice)					Adaptive trial (cropping pattern)					Demonstration Plot, (rice)	Demonstration Field, (rice)	Demonstration (area)	Demonstration plot, (upland crop/vegetable)	Cropping pattern demonstration	Water management demonstration	IPM FFS/ICM FFS	Seed multiplication	Research-extension- farmer dialog	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	Farm machinery hiring services	Construction of community drying floor & seed storage facility	Field trial on new rice varieties	Field trial on non-rice crops	5. T.D.P. 1/	Floating bed vegetable culture scheme	Small-scale vegetable production support scheme	Fruit production support scheme	Micro poultry raising scheme	Small-scale mushroom culture scheme	Total																									
					Adaptive trial (rice)	Adaptive trial (non-rice)	Adaptive trial (cropping pattern)	Demonstration Plot, (rice)	Demonstration Field, (rice)	Demonstration (area)	Demonstration plot, (upland crop/vegetable)	Cropping pattern demonstration	Water management demonstration	IPM FFS/ICM FFS	Seed multiplication	Research-extension- farmer dialog	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	Farm machinery hiring services	Construction of community drying floor & seed storage facility	Field trial on new rice varieties	Field trial on non-rice crops	5. T.D.P. 1/	Floating bed vegetable culture scheme	Small-scale vegetable production support scheme	Fruit production support scheme	Micro poultry raising scheme	Small-scale mushroom culture scheme	Total																																
N-1	New Construction Sub-project	Boro Haor Project (Nikli)	K. Katiganj	N	2847	3	1	1	9	3	1	2	1	1	1	3	4	4	3	3	5	5	5			1	1				2	3	3	2	2	12	2	2	12	3	12																											
					2590	3	1	1	10	3	1	2	1	1	3	4	4	3	3	5	5	5			0	1				2	2	2	2	3	12	3	12	3	12																													
					866	1	0	0	3	1	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1			0	0		0	1	1	1	1	1	1	1	1	1	4																											
					2443	7	2	2	22	7	2	5	2	2	2	7	0	9	0	7	0	11	11	0	0	1	3	0	0	4	6	6	6	6	6	6	6	6	6	28																												
N-2	Naogaon Haor Project	K. Inna	Sub-project Total	2375																																			0																													
				933	1	0	0	3	1	0	1	0	0	0	1	1	1								1	1												5																														
				3925																						1	1												0																													
				1871																						0	0												0																													
N-3	Jalar Haor Project	S. Chhatak	Sub-project Total	9104	1	0	0	3	1	0	1	0	0	0	1	0	1	0	0	0	0	0	0	2	3	0	0	1	1	1	1	1	1	1	1	1	1	1	5	0																												
				2466																						1	1												0																													
				3989	4	2	1	13	4	2	3	2	1	2	4	5	4			7	7	7	9		1	2	2	2	2	2	2	2	2	2	2	2	2	9	0																													
				10																					0	0		0		0	0	0	0	0	0	0	0	0	0																													
N-4	Dharmapasha Rai Bari Project	N. Mohanganj Thana	Sub-project Total	17565	4	2	1	13	4	2	3	2	1	2	4	0	5	0	4	0	7	7	0	3	6			0	1	2	2	2	2	2	2	2	2	9	0																													
				21563	2	1	1	8	3	1	2	1	1	1	2	3	2	4	4	4	4	4	4	0	0	1	1	0	0	1	2	2	2	2	2	2	2	2	10	0																												
				17																					0	0													0																													
				2311	2	1	1	8	3	1	2	1	1	1	2	0	3	0	2	0	4	4	0	0	0	1	0	0	2	2	2	2	2	2	2	2	2	10	0																													
N-6	Sunar Haor Project	K. Tarail	Sub-project Total	3059	3	2	1	10	3	1	2	1	1	1	2	3	4	3	5	5	5			1	1		1		1	2	3	2	1	2	10	0	3	10	0																													
				844	1	0	0	3	1	0	1	0	0	1	1	1	1	1	1	1	1	1	1			0	0		0	0	1	1	1	1	1	1	1	0	0																													
				3894	4	2	1	13	4	1	3	2	1	2	4	0	5	0	4	0	6	6	0	0	1	1	0	0	3	4	3	1	2	13	0	3	13	0	3																													
				1594																					0	1												0																														
N-7	Bedla Haor Project	K. Inna	Sub-project Total	1504	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																														
				1386	1	1	1	5	2	1	1	1	1	1	2	1	0	0	2	2	2			1	0		1	1	1	1	1	1	1	1	1	1	0	4																														
				278	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0		0	0	0	0	0	0	0	0	0	0																															
				4147																				1	1		1	1	1	1	1	1	1	1	1	1	0	0																														
N-9	Diddishner Haor Project	K. Inna	Sub-project Total	5810	1	1	1	6	2	1	1	1	1	1	1	0	2	0	1	0	2	2	0	0	2	1	0	0	1	2	1	1	1	1	1	1	1	0	5																													
				1553																				0	0		0		0	0	0	0	0	0	0	0	0																															
				930																				0	0		0		0	0	0	0	0	0	0	0	0	0																														
				2482	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																														
N-10	Chatal Haor Project	K. Inna	Sub-project Total	588	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0		0		0	0	0	0	0	0	0	0	0	0																														
				228	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0		0	0	0	0	0	0	0	0	0	0																															
				815	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																														
				1690	2	1	1	6	2	1	1	1	1	1	2	2	2	2	2	3	3					1	1		0	0	2	1	1	1	1	1	1	1	2																													
N-11	Gunesha Haor Project	N. Madan	Sub-project Total	3090	2	1	1	6	2	1	1	1	1	1	1	2	0	2	0	3	3	0	0	1	0	0	0	0	1	0	0	2	1	0	1	1	1	4	0																													
				1347																				0	0		0		0	0	0	0	0	0	0	0	0	0																														
				176																				0	0		0		0	0	0	0	0	0	0	0	0	0																														
				2902																				0	0		0		0	0	0	0	0	0	0	0	0	0																														
N-13	Mokhar Haor Project	H. Banachong	Sub-project Total	4425	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																														
				3																				0	0		0		0	0	0	0	0	0	0	0	0	0																														
				4347	4	2	1	12	4	1	2	2	1	2	4	5	4		6	6				1	1		1	1	1	1	1	1	1	1	1	1	1	5																														
				8064	4	2	1	12	4	1	2	2	1	2	4	0	5	0	4	0	6	6	0	0	0	2	2	0	0	1	1	1	1	1	1	1	1	1	5																													
N-14	Noapara Haor Project	K. Katiganj	Sub-project Total	36																			0	0		0		0	0	0	0	0	0	0	0	0	0	0																														
				15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0		0	0	0	0	0	0	0	0	0	0																																
				3128																				0	0		0		0	0	0	0	0	0	0	0	0	0																														
				0																				0	0		0		0	0	0	0	0	0	0	0	0	0																														
New Construction Sub-project Total				77,855	25	11	8	84	27	9	18	11	8	11	25	32	24	39	39	39	9	36	5	35	60	1	1	50	60	50	40	15	81	Overall Project				185,476	90	45	30	310	100	35	65	45	30	45	90	10	120	33	90	10	150	150	9	36	5	35	60	1	1	50	60	50	40	250

Appendix 5.20-1

Table Overall Work Plan for APSS & SIGS by Program – 1/2

Overall Work Plan for APSA & SIGA (No. of Individual Activities Programmed for the Project Period)																																				Unit: No. of activity programmed				
District	Upazila	Project Area	ID	APSS																SIGS					Total															
				1. Field Program										2. Farmer Training Program						3. F.S.E.P. 1/			4. F.M.F.S. 1/			5. T.D.P. 1/														
				Adaptive trial (rice)	Adaptive trial (cropping pattern)	Demonstration Plot, (rice)	Demonstration Field, (rice)	Field demonstration (area)	Demonstration plot, (upland crop/vegetable)	Cropping pattern demonstration	Water management demonstration	IPM FFS/ICM FFS	Seed multiplication	Research-extension-farmer dialog	Farmer training	Study tour/exchange visit	Mass guidance/field campaign	Agriculture fair	Empowerment of existing farmer organizations	Formation & empowerment of farmer organizations	Inception training	Refresher training	Study tour/exchange visit	Farm machinery hiring services		Construction of seed storage facility	Field trial on new rice varieties	Field trial on non-rice crops	Floating bed vegetable culture scheme	Small-scale vegetable production support scheme	Fruit production support scheme	Micro poultry raising scheme	Small-scale mushroom culture scheme							
Sunamganj	Chhatak	2,466 N-3	H	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	1.11	1.12	2.1.1	2.1.2	2.1.3	2.1.4	2.2	2.3	3.1	3.2	3.3	4.1	4.2	5.1	5.2	1	2	3	4	5	0						
	Dakshin Sunamganj	1,347 N-12	H																															0						
	Dera	7 R-8	H																															0						
	Dharanpasha	0 R-3	H																															0						
	Upazila Total	17,565 N-4		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
	Jamalganj	178 N-12	H																															0						
	Sala	315 R-14	N																															0						
	Sunamganj Sadar	2,902 N-12	H																															0						
	District Total	24,778		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
	Habiganj	Ajmiriganj	9,238 R-8	H																															0					
		1,673 R-9																																0						
		3 N-13																																0						
Upazila Total		10,912		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
Bahubal		12,438 R-13	N	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	1.11	1.12	2.1.1	2.1.2	2.1.3	2.1.4	2.2	2.3	3.1	3.2	3.3	4.1	4.2	5.1	5.2	1	2	3	4	5	3	17					
Baniachong		2,657 R-8	H																																0					
		906 R-9																																0						
		1,501 R-10																																0						
		22 R-13																																0						
Upazila Total		4,347 N-13		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
Chittagong	Chunarughat	9,433	N																															0						
	Habiganj Sadar	0 R-13	N																															0						
	Nabiganj	6,485 R-13	N	6	3	2	21	7	3	4	3	2	3	6	8	6	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11					
		1,498 R-13	N	1	1	0	5	2	1	1	1	0	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2					
	Upazila Total	3,714 N-13		4	2	1	12	4	1	2	2	1	2	4	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4					
		5,210		5	3	1	17	6	2	3	3	1	3	5	7	7	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5					
	District Total	44,478		22	12	7	77	25	9	15	12	7	12	22	22	31	0	22	0	38	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
	Atpara	1,630 N-11	N	2	1	1	6	2	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2						
	Barhatta	6,978 R-3	N	7	3	2	23	7	3	5	3	2	3	7	9	9	7	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12					
	Upazila Total	10,965		11	5	3	36	11	5	8	5	3	5	11	0	14	0	11	0	19	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
Netrakona	Dungapur	5 R-1	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
	Kalmakanda	224 R-3	H																															0						
	Upazila Total	0 N-4																																0						
	Kendua	844 N-6	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
	Khalajuri	6,293 R-14	H	1	0	0	3	1	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
	Upazila Total	4,847 R-15																																0						
	Madan	11,142	H	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
	Upazila Total	2,270 R-15																																0						
		1,399 N-11																																0						
	Upazila Total	3,670		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
Comilla	Mohanganj Thana	10 N-4	H																															0						
	Neorokona Sadar	6,061 R-2	N	6	3	2	19	6	2	4	3	2	3	6	8	8	6	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9					
	Putubadha	11,194 R-1	N	10	6	4	35	10	3	7	6	4	6	10	14	11	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17					
	Upazila Total	5,277 R-2		5	3	2	18	6	2	4	3	2	3	5	7	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5					
		16,476		15	9	6	53	16	5	11	9	6	9	15	0	21	0	16	0	26	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
	District Total	51,687		35	18	12	117	36	13	25	18	12	18	35	0	46	0	36	0	58	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0					

Appendix 5.20-2

Table Overall Work Plan for APSS & SIGS by Program – 2/2

Overall Work Plan for APSA & SIGA (No. of Individual Activities Programmed for the Project Period)																														Unit: No. of activity programmed					
District	Upazila	Project Area	ID	APSS														SIGS																	
				1. Field Program														2. Farmer Training Program					3. F.S.E.P. /					4. FM.F.S. /							
				Adaptive trial (rice)	Adaptive trial (cropping pattern)	Demonstration Plot, (rice)	Demonstration Field, (rice)	Field demonstration (area)	Demonstration plot, (upland crop/vegetable)	Cropping pattern demonstration	Water management demonstration	IPM FFS/ICM FFS	Seed multiplication	Research-extension-farmer dialogue	Farmer training	Study tour/exchange visit	Mass guidance/field campaign	Agriculture fair	Empowerment of existing farmer organizations	Formation & empowerment of farmer organizations	Inception training	Refresher training	Study tour/exchange visit	Farm machinery hiring services	Construction of community drying floor & seed storage facility	Field trial on new rice varieties	Field trial on non-rice crops	Floating bed vegetable culture scheme	Small-scale vegetable production support scheme	Micro poultry raising scheme	Small-scale mushroom culture scheme	Total			
Kishoreganj	Austagram	H	36 N-14	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	1.11	1.12	2.1.1	2.1.2	2.1.3	2.1.4	2.2	2.3	3.1	3.2	3.3	4.1	4.2	5.1	5.2	1	2	3	4	5	0	
	Bajupur	N	1,866 N-8	1	1	1	5	2	1	1	1	1	1	1	1	2	7	6	10	10	2	2	3	3	3	3	3	3	1	1	1	1	0	4	
	Hossainpur	N	5,969 R-4	6	3	2	20	7	2	4	3	2	3	6	6	7	6	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	22
	Itina	H	84 R-15																															0	
			2,375 N-2																															0	
			1,504 N-7																															0	
			1,553 N-9																															0	
			588 N-10																															0	
	Upazila Total		6,104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Karniganj	N	2,847 N-1	3	1	1	9	3	1	1	2	1	1	1	1	3	4	3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	12
Kishoreganj		933 N-2	1	0	0	3	1	0	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	
		15 N-14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Upazila Total	N	3,795	4	1	1	12	4	1	3	1	1	1	1	4	0	5	0	3	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0
	Katadi	N	1,416 R-6	1	1	0	5	2	1	1	1	1	1	1	1	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	6	
		2,990 N-1	3	1	1	10	3	1	2	1	1	1	1	1	3	4	3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	12	
		2,294 N-5	2	1	1	8	3	1	2	1	1	1	1	1	2	3	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	10	
		278 N-4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
	Upazila Total	N	6,978	6	3	2	24	8	3	5	3	2	3	6	0	9	0	6	0	11	11	0	0	0	0	0	0	0	0	0	0	0	0	0	29
	Kishoreganj Sadar	N	2,309 R-4	2	1	1	8	3	1	2	1	1	1	1	1	2	3	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	7	1
	Kishoreganj		866 N-1	1	0	0	3	1	0	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4
Upazila Total		N	3,475	3	1	1	11	4	1	3	1	1	1	1	3	4	0	3	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Kalar Char		N	1,942 R-9																															0	
Mithaman		H	3,925 N-2																															0	
Upazila Total			6,797	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Nikli		H	2,443 N-1																															0	
		1,871 N-2																																0	
		17 N-5																																0	
		4,147 N-8																																0	
Upazila Total			11,606	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Barisal	Pakumdia	N	2,464 R-5	2	1	1	8	3	1	2	1	1	1	1	1	2	3	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	12	
		633 R-6	1	0	0	2	1	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	
	Upazila Total	N	3,097	3	1	1	10	4	1	2	1	1	1	1	3	0	4	0	3	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	15
	Tanail	N	3,050 N-6	3	2	1	10	3	1	2	1	1	1	1	2	3	4	3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	2	10
		0 N-7	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		228 N-10	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Upazila Total	N	3,278	3	2	1	11	3	1	2	1	1	1	1	2	4	0	3	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	District Total		54,492	29	13	10	102	35	11	22	13	10	13	29	0	36	0	28	0	47	47	0	0	0	0	0	0	0	0	0	0	0	0	0	12
	Barchhanpur	H	1,012 R-11																															0	
	Barisal	Upazila/District Total	H	4,988 R-12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dhobaura		N	21 R-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Halaghat		N	2 R-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Nandail		N	369 R-4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Phulbari		N	3,776 R-1	4	2	1	13	4	2	3	2	1	2	4	5	4	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0	
District Total			4,169	4	2	1	14	4	2	3	2	1	2	4	0	5	0	4	0	7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Horma		N	69 R-12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Manohardi		N	11 R-6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
District Total			72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Others		District Base Program																																	
	Project Base Program																																		
Overall Program				90	45	30	310	100	35	65	45	30	45	90	10	120	33	90	10	150	150	9	36	5	35	60	1	1	50	60	50	50	40	250	

Note: F.S.E.P = Field Staff Empowerment Program; M.F.S.P. = Marginal Farmer Support Program; F.M.F.S. = Farm Machinery & Facility Support; T.D.P. = Technology Development Program

H = HILIP target upazila; N = upazila not covered by HILIP

2: Brahmanbaria

Prepared by JICA Survey Team

Note: F.S.E.P = Field Staff Empowerment Program; M.F.S.P. = Marginal Farmer Support Program; F.M.F.S. = Farm Machinery & Facility Support; T.D.P. = Technology Development Program
1/: H = HILIP target upazila; N = upazila not covered by HILIP
2/: Brahmanbaria

Appendix 5.21

Table Summary Implementation & Program Cost Schedule of APSS and SIGS by Program

Unit: No. of Activities Programmed & BDT 1,000

Sub-project/Program	Schedule	Calendar Year						Total Program Volume
		2018	2019	2020	2021	2022		
		Fiscal Year						
		2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	
APSS								
1. Field Program								
1.1 Adaptive Trial (rice)	Implementation	7	13	16	29	25		90
	Cost (BDT 000)	189	351	432	783	675		2,430
1.2 Adaptive Trial (upland crops & vegetables)	Implementation	0	5	8	17	15		45
	Cost (BDT 000)	0	135	216	459	405		1,215
1.3 Adaptive Trial (cropping pattern)	Implementation	0	0	4	10	16		30
	Cost (BDT 000)	0	0	220	550	880		1,650
1.4 Demonstration Plot (rice)	Implementation	12	38	71	100	89		310
	Cost (BDT 000)	144	456	852	1,200	1,068		3,720
1.5 Demonstration Field (rice)	Implementation	1	15	21	32	31		100
	Cost (BDT 000)	17	255	357	544	527		1,700
1.6 Demonstration Area (rice)	Implementation	0	0	4	12	19		35
	Cost (BDT 000)	0	0	336	1,008	1,596		2,940
1.7 Demonstration Plot (upland crops/vegetables)	Implementation	0	6	12	20	27		65
	Cost (BDT 000)	0	96	192	320	432		1,040
1.8 Cropping Pattern Demonstration	Implementation	0	0	10	15	20		45
	Cost (BDT 000)	0	0	270	405	540		1,215
1.9 Water Management Demonstration Area (rice)	Implementation	0	0	3	11	16		30
	Cost (BDT 000)	0	0	396	1,452	2,112		3,960
1.10 IPM FFS/ICM FFS (rice)	Implementation	4	6	11	9	15		45
	Cost (BDT 000)	620	930	1,705	1,395	2,325		6,975
1.11 Seed Multiplication (rice)	Implementation	5	9	20	27	29		90
	Cost (BDT 000)	790	1,422	3,160	4,266	4,582		14,220
1.12 Research-Extension-Farmer Dialog	Implementation	2	2	2	2	2		10
	Cost (BDT 000)	152	152	152	152	152		760
Sub-total		1,912	3,797	8,288	12,534	15,294		41,825
2. Farmer Training Program								
2.1.1 Farmer Training	Implementation	5	23	26	38	28		120
	Cost (BDT 000)	550	2,530	2,860	4,180	3,080		13,200
2.1.2 Study Tour/exchange Visit (farmer)	Implementation	5	7	7	7	7		33
	Cost (BDT 000)	220	308	308	308	308		1,452
2.1.3 Mass Guidance/Workshop/Campaign	Implementation	4	18	18	27	23		90
	Cost (BDT 000)	112	504	504	756	644		2,520
2.1.4 Agriculture Fair	Implementation	2	2	2	2	2		10
	Cost (BDT 000)	552	552	552	552	552		2,760
2.2 Empowerment of Existing Farmer Organizations (FO)	Implementation	7	32	29	44	38		150
	Cost (BDT 000)	742	3,392	3,074	4,664	4,028		15,900
2.3 Formation & Empowerment of Farmer Organizations (FO)	Implementation	7	32	29	44	38		150
	Cost (BDT 000)	861	3,936	3,567	5,412	4,674		18,450
Sub-total		3,037	11,222	10,865	15,872	13,286		54,282
3. Field Staff Empowerment Program								
3.1 Induction Training of Field Staff	Implementation	9						9
	Cost (BDT 000)	1,872						1,872
3.2 Refresher Training of Field Staff	Implementation		9	9	9	9		36
	Cost (BDT 000)		1,296	1,296	1,296	1,296		5,184
3.3 Study Tour/Exchange Visit (field staff)	Implementation	1	1	1	1	1		5
	Cost (BDT 000)	255	255	255	255	255		1,275
Sub-total		2,127	1,551	1,551	1,551	1,551		8,331
4. Farm Machinery & Facility Support								
4.1 Farm Machinery Hiring Services	Implementation	3	9	7	9	7		35
	Cost (BDT 000)	4,563	13,689	10,647	13,689	10,647		53,235
4.2 Construction of Community Drying Floor & Seed Storage Facility	Implementation	8	14	11	12	15		60
	Cost (BDT 000)	2,080	3,640	2,860	3,120	3,900		15,600
Sub-total		6,643	17,329	13,507	16,809	14,547		68,835
5. Technology Development Program								
5.1 Field trial on new rice varieties	Implementation							1
	Cost (BDT 000)	1,080	910	920	910	940		4,760
5.2 Field trial on non-rice crops	Implementation							1
	Cost (BDT 000)	920	790	800	790	810		4,110
Sub-total		2,000	1,700	1,720	1,700	1,750		8,870
APSS Total (BDT 000)		15,719	35,599	35,931	48,466	46,428		182,143
SIGS								
1. Floating Bed Vegetable Culture Scheme	Implementation	6	12	12	11	9		50
	Cost (BDT 000)	672	1,344	1,344	1,232	1,008		5,600
2. Small-scale Vegetable Production Support	Implementation	6	15	16	13	10		60
	Cost (BDT 000)	372	930	992	806	620		3,720
3. Fruit Production Support Scheme	Implementation	6	14	13	9	8		50
	Cost (BDT 000)	594	1,386	1,287	891	792		4,950
4. Micro Poultry Raising Scheme	Implementation	7	15	17	7	4		50
	Cost (BDT 000)	1,190	2,550	2,890	1,190	680		8,500
5. Small-scale Mushroom Culture Scheme	Implementation	6	13	11	6	4		40
	Cost (BDT 000)	1,056	2,288	1,936	1,056	704		7,040
SIGS Total (BDT 000)		3,884	8,498	8,449	5,175	3,804		29,810
Overall Program (BDT 000)		19,603	44,097	44,380	53,641	50,232		211,953

Prepared by JICA Survey Team

Appendix 5.22

Table Summary Program Direct Cost Schedule of APSS and SIGS (Component 3-1: Agriculture) by Suproject

Unit: BDT 1,000

Sub-project			Calendar Year						Total Program Cost						
			2018		2019		2020			2021		2022			
			Fiscal Year												
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23							
Rehabilitation Sub-project															
R-1 Dampara Water Management Scheme (15,004 ha)	APSS	0	4,217	5,979	6,166	3,869							20,231		
	SIGS	1,062	1,236	1,232									3,530		
	Sub-total	1,062	5,453	7,211	6,166	3,869							23,761		
R-2 Kangsha River Scheme (11,337 ha)	APSS	3,874	4,237	4,426	2,907	1,388							16,832		
	SIGS	950	1,238	1,238									3,426		
	Sub-total	4,824	5,475	5,664	2,907	1,388							20,258		
R-3 Singer Beel Scheme (7,200 ha)	APSS		1,305	3,721	2,128	1,844							8,998		
	SIGS		619	780	507								1,906		
	Sub-total		1,924	4,501	2,635	1,844							10,904		
R-4 Baraikhal Khal Scheme (8,667)	APSS				5,824	4,979							10,803		
	SIGS			1,032	1,694	819							3,545		
	Sub-total			1,032	7,518	5,798							14,348		
R-5 Aladia-Bahadia Scheme (2,464 ha)	APSS			801	834	956							2,591		
	SIGS			344	619	520							1,483		
	Sub-total			1,145	1,453	1,476							4,074		
R-6 Modkhola Bhairagirchar Sub-project Scheme (2,060 ha)	APSS	775	609	503									1,887		
	SIGS	273	443	232									948		
	Sub-total	1,048	1,052	735									2,835		
R-7 Ganakkahali Sub-scheme (2,652 ha)	APSS	1,417	877	522									2,816		
	SIGS	561	681	350									1,592		
	Sub-total	1,978	1,558	872									4,408		
R-8 Kairdhala Ratna Scheme (11,900 ha) all HILIP upazilas	APSS	2,041	2,041										4,082		
	SIGS												0		
	Sub-total	2,041	2,041										4,082		
R-9 Bashira River Scheme (4,521 ha) all HILIP upazilas	APSS				1,781	260							2,041		
	SIGS												0		
	Sub-total				1,781	260							2,041		
R-10 Aralia Khal Scheme (1,501 ha)	APSS	260											260		
	SIGS												0		
	Sub-total	260											260		
R-11 Chandal Beel Scheme (1,012 ha)	APSS												0		
	SIGS												0		
	Sub-total												0		
R-12 Satdona Beel Scheme (5,049 ha)	APSS	260	1,781										2,041		
	SIGS												0		
	Sub-total	260	1,781										2,041		
R-13 Gangajuri FCD Sub-Project (20,441 ha)	APSS		4,960	6,623	8,156	5,635							25,374		
	SIGS		1,853	1,507	460								3,820		
	Sub-total		6,813	8,130	8,616	5,635							29,194		
R-14 Khaliajuri Polder #02 Scheme (6,611 ha)	APSS	1,781	1,781										3,562		
	SIGS												0		
	Sub-total	1,781	1,781										3,562		
R-15 Khaliajuri Polder #04 Scheme	APSS	260	1,781	1,781									3,822		
	SIGS												0		
	Sub-total	260	1,781	1,781									3,822		
Rehabilitation Sub-project Total			APSS	10,668	23,589	24,356	27,796	18,931	0				105,340		
			SIGS	2,846	6,070	6,715	3,280	1,339	0				20,250		
Rehabilitation Sub-project Total				13,514	29,659	31,071	31,076	20,270	0				125,590		
New Construction Sub-project															
N-1. Boro Haor Project (Nikli) (9,146 ha)	APSS		1,534	3,798	2,265	1,127							8,724		
	SIGS	1,038	1,472	434	434	112							3,490		
	Sub-total	1,038	3,006	4,232	2,699	1,239							12,214		
N-2. Naogaon Haor Project(9,104 ha)	APSS			1,781	2,129	276							4,186		
	SIGS			619									619		
	Sub-total			2,400	2,129	276							4,805		
N-3. Jalair Haor Project (2,466 ha)	APSS		1,781										1,781		
	SIGS												0		
	Sub-total		1,781										1,781		
N-4. Dharmapasha Rui Beel Project (21,563 ha)	APSS				5,354	5,079							10,433		
	SIGS				1,126								1,126		
	Sub-total				6,480	5,079							11,559		
N-5. Chandpur Haor Project (2,311 ha)	APSS		1,477	692	422								2,591		
	SIGS		619	619									1,238		
	Sub-total		2,096	1,311	422								3,829		
N-6. Sunair Haor Project (3,894 ha)	APSS				1,483	4,035							5,518		
	SIGS				335	1,068							1,403		
	Sub-total				1,818	5,103							6,921		
N-7. Badla Haor Project (1,504 ha)	APSS		260										260		
	SIGS												0		
	Sub-total		260										260		
N-8. Nunnir Haor Project (5,810 ha)	APSS				1,901	2,894							4,795		
	SIGS					505							505		
	Sub-total				1,901	3,399							5,300		
N-9. Dakshiner Haor Project (2,482 ha)	APSS					260							260		
	SIGS												0		
	Sub-total					260							260		
N-10. Chatal Haor Project (816 ha)	APSS					12							12		
	SIGS					161							161		
	Sub-total					173							173		
N-11. Ganesh Haor Project (3,090 ha)	APSS		2,695	1,021									3,716		
	SIGS		337	62									399		
	Sub-total		3,032	1,083									4,115		
N-12. Dhakua Haor Project (4,425 ha)	APSS					3,302							3,302		
	SIGS												0		
	Sub-total					3,302							3,302		
N-13. Mokhar Haor Project (8,064 ha)	APSS				2,853	4,418							7,271		
	SIGS					619							619		
	Sub-total				2,853	5,037							7,890		
N-14. Noapara Haor Project (3,180 ha)	APSS					1,781							1,781		
	SIGS												0		
	Sub-total					1,781							1,781		
New Construction Sub-project Total			APSS	0	7747	7292	16,407	23,184	0				54,630		
			SIGS	1,038	2,428	1,734	1,895	2,465	0				9,560		
New Construction Sub-project Total				1,038	10,175	9,026	18,302	25,649	0				64,190		
Overall Sub-project Base Program			APSS	10,668	31,336	31,648	44,203	42,115	0				159,970		
			SIGS	3,884	8,498	8,449	5,175	3,804	0				29,810		
Overall Sub-project Base Program				14,552	39,834	40,097	49,378	45,919	0				189,780		
(%)				8	21	21	26	24	0				100		
District Base Program				2,644	2,156	2,156	2,156	2,156	0				11,268		
Project Base Program				2,407	2,107	2,127	2,107	2,157	0				10,905		
Overall Program Direct Cost				19,603	44,097	44,380	53,641	50,232	0				211,953		
(%)				9	20	20	18	19	13				100		

Source: Prepared by JICA Study Team

Appendix 5.23-1

Table Implementation & Cost Schedule of APSS and SIGS by Sub-project & Program -1/11

Unit: No. of Activities Programed & BDT 1,000															
Sub-project/Program	Program Volume	Unit Rate (BDT 000)	Program Cost (BDT 000)	Item	Fiscal Year										Total Program Cost
					2017/18	2018/19	2019/20	2020/21	2021/22	2022/23					
					Calendar Year										
	2017	2018	2019	2020	2021	2022	2023								
Rehabilitation Sub-project															
R-1 Dampara Water Management Scheme (15,004 ha)				Construction Schedule											
1.1 Adaptive Trial (rice)	14	27		Schedule				5	5	4				14	
			378	Cost				135	135	108	0			378	
1.2 Adaptive Trial (upland crops & vegetables)	8	27		Schedule					4	4				8	
			216	Cost					108	108	0			216	
1.3 Adaptive Trial (cropping pattern)	5	55		Schedule						2	3			5	
			275	Cost						110	165			275	
1.4 Demonstration Plot (rice)	48	12		Schedule				8	14	14	12			48	
			576	Cost				96	168	168	144			576	
1.5 Demonstration Field (rice)	14	17		Schedule				3	4	4	3			14	
			238	Cost				51	68	68	51			238	
1.6 Demonstration Area (rice)	5	84		Schedule					1	2	2			5	
			420	Cost					84	168	168			420	
1.7 Demonstration Plot (upland crops/vegetables)	10	16		Schedule					3	4	3			10	
			160	Cost					48	64	48			160	
1.8 Cropping Pattern Demonstration	8	27		Schedule					3	3	2			8	
			216	Cost					81	81	54			216	
1.9 Water Management Demonstration Area (rice)	5	132		Schedule						2	3			5	
			660	Cost					0	264	396			660	
1.10 IPM FFS/ICM FFS (rice)	8	155		Schedule				2	2	2	2			8	
			1,240	Cost				310	310	310	310			1,240	
1.11 Seed Multiplication (rice)	14	158		Schedule					5	5	4			14	
			2,212	Cost					790	790	632			2,212	
2.1.1 Farmer Training	19	110		Schedule				3	6	6	4			19	
			2,090	Cost				330	660	660	440			2,090	
2.1.3 Mass Guidance/Workshop/Campaign	15	28		Schedule				5	4	4	2			15	
			420	Cost				140	112	112	56			420	
2.2 Empowerment of Existing Farmer Organizations (FO)	23	106		Schedule				6	6	6	5			23	
			2,438	Cost				636	636	636	530			2,438	
2.3 Formation & Empowerment of Farmer Organizations (FO)	23	123		Schedule				6	6	6	5			23	
			2,829	Cost				738	738	738	615			2,829	
4.1 Farm Machinery Hiring Services	3	1,521		Schedule				1	1	1				3	
			4,563	Cost				1,521	1,521	1,521				4,563	
4.2 Construction of Community Drying Floor & Seed Storage	5	260		Schedule				1	2	1	1			5	
			1,300	Cost				260	520	260	260			1,300	
APSS	227		20,231					0	4,217	5,979	6,166	3,869		20,231	
1. Floating Bed Vegetable Culture Scheme	7	112		Schedule				2	3	2				7	
			784	Cost				224	336	224				784	
2. Small-scale Vegetable Production Support	7	62		Schedule				2	3	2				7	
			434	Cost				124	186	124				434	
3. Fruit Production Support Scheme	6	99		Schedule				2	2	2				6	
			594	Cost				198	198	198				594	
4. Micro Poultry Raising Scheme	7	170		Schedule				2	2	3				7	
			1,190	Cost				340	340	510				1,190	
5. Small-scale Mushroom Culture Scheme	3	176		Schedule				1	1	1				3	
			528	Cost				176	176	176				528	
SIGS	30		3,530					1,062	1,236	1,232				3,530	
Sub-project Cost Schedule	257		23,761					1,062	5,453	7,211	6,166	3,869	0	23,761	
R-2 Kangsha River Scheme (11,337 ha)															
1.1 Adaptive Trial (rice)	11	27		Schedule				3	3	3	2			11	
			297	Cost				81	81	81	54			297	
1.2 Adaptive Trial (upland crops & vegetables)	6	27		Schedule					2	2	2			6	
			162	Cost					54	54	54			162	
1.3 Adaptive Trial (cropping pattern)	4	55		Schedule						1	2	1		4	
			220	Cost						55	110	55		220	
1.4 Demonstration Plot (rice)	37	12		Schedule				7	9	7	7	7		37	
			444	Cost				84	108	84	84	84		444	
1.5 Demonstration Field (rice)	12	17		Schedule					3	3	3	3		12	
			204	Cost					51	51	51	51		204	
1.6 Demonstration Area (rice)	4	84		Schedule							2	2		4	
			336	Cost							168	168		336	
1.7 Demonstration Plot (upland crops/vegetables)	8	16		Schedule					3	3	2			8	
			128	Cost					48	48	32			128	
1.8 Cropping Pattern Demonstration	6	27		Schedule						2	2	2		6	
			162	Cost						54	54	54		162	
1.9 Water Management Demonstration Area (rice)	4	132		Schedule						1	2	1		4	
			528	Cost						132	264	132		528	
1.10 IPM FFS/ICM FFS (rice)	6	155		Schedule				2	2	2				6	
			930	Cost				310	310	310				930	
1.11 Seed Multiplication (rice)	11	158		Schedule				2	3	3	3			11	
			1,738	Cost				316	474	474	474			1,738	
2.1.1 Farmer Training	15	110		Schedule				3	3	3	3	3		15	
			1,650	Cost				330	330	330	330	330		1,650	
2.1.3 Mass Guidance/Workshop/Campaign	11	28		Schedule				2	3	2	2	2		11	
			308	Cost				56	84	56	56	56		308	
2.2 Empowerment of Existing Farmer Organizations (FO)	18	106		Schedule				4	4	4	4	2		18	
			1,908	Cost				424	424	424	424	212		1,908	
2.3 Formation & Empowerment of Farmer Organizations (FO)	18	123		Schedule				4	4	4	4	2		18	
			2,214	Cost				492	492	492	492	246		2,214	
4.1 Farm Machinery Hiring Services	3	1,521		Schedule				1	1	1				3	
			4,563	Cost				1,521	1,521	1,521				4,563	
4.2 Construction of Community Drying Floor & Seed Storage	4	260		Schedule				1	1	1	1			4	
			1,040	Cost				260	260	260	260			1,040	
APSS	178		16,832					3,874	4,237	4,426	2,907	1,388		16,832	
1. Floating Bed Vegetable Culture Scheme	5	112		Schedule				1	2	2				5	
			560	Cost				112	224	224				560	
2. Small-scale Vegetable Production Support	6	62		Schedule				2	2	2				6	
			372	Cost				124	124	124				372	
3. Fruit Production Support Scheme	6	99		Schedule				2	2	2				6	
			594	Cost				198	198	198				594	
4. Micro Poultry Raising Scheme	6	170		Schedule				2	2	2				6	
			1,020	Cost				340	340	340				1,020	
5. Small-scale Mushroom Culture Scheme	5	176		Schedule				1	2	2				5	
			880	Cost				176	352	352				880	
SIGS	28		3,426					950	1,238	1,238				3,426	
Sub-project Cost Schedule	206		20,258					4,824	5,475	5,664	2,907	1,388	0	20,258	

Appendix 5.23-2

Table Implementation & Cost Schedule of APSS and SIGS by Sub-project & Program -2/11

Unit: No. of Activities Programed & BDT 1,000														
Sub-project/Program	Program Volume	Unit Rate (BDT 000)	Program Cost (BDT 000)	Item	Fiscal Year								Total Program Cost	
					2017/18	2018/19	2019/20	2020/21	2021/22	2022/23				
					2017	2018	2019	2020	2021	2022	2023			
R-3	Singer Beel Scheme (7,200 ha)			Construction Schedule										
	1.1 Adaptive Trial (rice)	7	27	Schedule				3	3	1				7
			189	Cost				81	81	27				189
	1.2 Adaptive Trial (upland crops & vegetables)	3	27	Schedule				1	1	1				3
			81	Cost				27	27	27				81
	1.3 Adaptive Trial (cropping pattern)	2	55	Schedule						1	1			2
			110	Cost					55	55				110
	1.4 Demonstration Plot (rice)	23	12	Schedule				8	8	7				23
			276	Cost				96	96	84				276
	1.5 Demonstration Field (rice)	7	17	Schedule				2	2	3				7
			119	Cost				34	34	51				119
	1.6 Demonstration Area (rice)	3	84	Schedule					1	2				3
			252	Cost					84	168				252
	1.7 Demonstration Plot (upland crops/vegetables)	5	16	Schedule					3	2				5
			80	Cost					48	32				80
	1.8 Cropping Pattern Demonstration	3	27	Schedule					1	2				3
			81	Cost					27	54				81
	1.9 Water Management Demonstration Area (rice)	2	132	Schedule					1	1				2
			264	Cost					132	132				264
	1.10 IPM FFS/ICM FFS (rice)	3	155	Schedule				1	1	1				3
			465	Cost				155	155	155				465
	1.11 Seed Multiplication (rice)	7	158	Schedule				3	2	2				7
			1,106	Cost				474	316	316				1,106
	2.1.1 Farmer Training	9	110	Schedule			3	3	3					9
			990	Cost			330	330	330	0				990
	2.1.3 Mass Guidance/Workshop/Campaign	7	28	Schedule			1	2	2	2				7
			196	Cost			28	56	56	56				196
	2.2 Empowerment of Existing Farmer Organizations (FO)	12	106	Schedule			3	3	3	3				12
			1,272	Cost			318	318	318	318				1,272
	2.3 Fomation & Empowerment of Farmer Organizations (FO)	12	123	Schedule			3	3	3	3				12
			1,476	Cost			369	369	369	369				1,476
	4.1 Farm Machinery Hiring Services	1	1,521	Schedule				1						1
			1,521	Cost			0	1,521	0					1,521
	4.2 Construction of Community Drying Floor & Seed Storage	2	260	Schedule				1	1					2
			520	Cost				260	260	0				520
	APSS	108	8,998			0	1,305	3,721	2,128	1,844				8,998
	1. Floating Bed Vegetable Culture Scheme	2	112	Schedule			1	1						2
			224	Cost			112	112						224
	2. Small-scale Vegetable Production Support	4	62	Schedule			1	2	1					4
			248	Cost			62	124	62					248
	3. Fruit Production Support Scheme	4	99	Schedule			1	2	1					4
			396	Cost			99	198	99					396
	4. Micro Poultry Raising Scheme	3	170	Schedule			1	1	1					3
			510	Cost			170	170	170					510
	5. Small-scale Mushroom Culture Scheme	3	176	Schedule			1	1	1					3
			528	Cost			176	176	176					528
	SIGS	16	1,906				619	780	507					1,906
	Sub-project Cost Schedule	124	10,904			0	1,924	4,501	2,635	1,844	0			10,904
R-4	Baraikhali Khal Scheme (8,667)			Construction Schedule										
	1.1 Adaptive Trial (rice)	8	27	Schedule						4	4			8
			216	Cost						108	108			216
	1.2 Adaptive Trial (upland crops & vegetables)	4	27	Schedule						2	2			4
			108	Cost						54	54			108
	1.3 Adaptive Trial (cropping pattern)	3	55	Schedule						1	2			3
			165	Cost						55	110			165
	1.4 Demonstration Plot (rice)	29	12	Schedule						18	11			29
			348	Cost						216	132			348
	1.5 Demonstration Field (rice)	10	17	Schedule						5	5			10
			170	Cost						85	85			170
	1.6 Demonstration Area (rice)	3	84	Schedule						1	2			3
			252	Cost						84	168			252
	1.7 Demonstration Plot (upland crops/vegetables)	6	16	Schedule						3	3			6
			96	Cost						48	48			96
	1.8 Cropping Pattern Demonstration	4	27	Schedule						2	2			4
			108	Cost						54	54			108
	1.9 Water Management Demonstration Area (rice)	3	132	Schedule						1	2			3
			396	Cost						132	264			396
	1.10 IPM FFS/ICM FFS (rice)	4	155	Schedule						2	2			4
			620	Cost						310	310			620
	1.11 Seed Multiplication (rice)	8	158	Schedule						4	4			8
			1,264	Cost						632	632			1,264
	2.1.1 Farmer Training	10	110	Schedule						5	5			10
			1,100	Cost						550	550			1,100
	2.1.3 Mass Guidance/Workshop/Campaign	8	28	Schedule						4	4			8
			224	Cost						112	112			224
	2.2 Empowerment of Existing Farmer Organizations (FO)	15	106	Schedule						7	8			15
			1,590	Cost						742	848			1,590
	2.3 Fomation & Empowerment of Farmer Organizations (FO)	15	123	Schedule						7	8			15
			1,845	Cost						861	984			1,845
	4.1 Farm Machinery Hiring Services	1	1,521	Schedule						1				1
			1,521	Cost						1,521	0			1,521
	4.2 Construction of Community Drying Floor & Seed Storage	3	260	Schedule						1	2			3
			780	Cost						260	520			780
	APSS	134	10,803			0	0	0	5,824	4,979				10,803
	1. Floating Bed Vegetable Culture Scheme	7	112	Schedule						4	3			7
			784	Cost						448	336			784
	2. Small-scale Vegetable Production Support	6	62	Schedule						3	3			6
			372	Cost						186	186			372
	3. Fruit Production Support Scheme	5	99	Schedule						2	3			5
			495	Cost						198	297			495
	4. Micro Poultry Raising Scheme	7	170	Schedule					4	3				7
			1,190	Cost					680	510				1,190
	5. Small-scale Mushroom Culture Scheme	4	176	Schedule					2	2				4
			704	Cost					352	352				704
	SIGS	29	3,545			0	0	1,032	1,694	819				3,545
	Sub-project Cost Schedule	163	14,348			0	0	1,032	7,518	5,798	0			14,348

Appendix 5.23-3

Table Implementation & Cost Schedule of APSS and SIGS by Sub-project & Program -3/11

Unit: No. of Activities Programed & BDT 1,000																
Sub-project/Program		Program Volume	Unit Rate (BDT 000)	Program Cost (BDT 000)	Item	Fiscal Year										Total Program Cost
						2017/18	2018/19	2019/20	2020/21	2021/22	2022/23					
						Calendar Year										
2017	2018	2019	2020	2021	2022	2023										
R-5	Aladia-Bahadia Scheme (2,464 ha)		Construction Schedule													
	1.1 Adaptive Trial (rice)	2	27	Schedule					2					2		
			54	Cost				54						54		
	1.2 Adaptive Trial (upland crops & vegetables)	1	27	Schedule					1					1		
			27	Cost					27					27		
	1.3 Adaptive Trial (cropping pattern)	1	55	Schedule						1				1		
			55	Cost						55				55		
	1.4 Demonstration Plot (rice)	8	12	Schedule				3	3	2				8		
			96	Cost				36	36	24				96		
	1.5 Demonstration Field (rice)	3	17	Schedule					1	2				3		
			51	Cost					17	34				51		
	1.6 Demonstration Area (rice)	1	84	Schedule						1				1		
			84	Cost						84				84		
	1.7 Demonstration Plot (upland crops/vegetables)	2	16	Schedule						2				2		
			32	Cost						32				32		
	1.8 Cropping Pattern Demonstration	1	27	Schedule						1				1		
			27	Cost						27				27		
	1.9 Water Management Demonstration Area (rice)	1	132	Schedule						1				1		
			132	Cost						132				132		
	1.10 IPM FFS/ICM FFS (rice)	1	155	Schedule				1						1		
			155	Cost				155						155		
	1.11 Seed Multiplication (rice)	2	158	Schedule				1	1					2		
			316	Cost				158	158					316		
	2.1.1 Farmer Training	3	110	Schedule				1	1	1				3		
			330	Cost				110	110	110				330		
	2.1.3 Mass Guidance/Workshop/Campaign	2	28	Schedule				1	1					2		
			56	Cost				28	28					56		
	2.2 Empowerment of Existing Farmer Organizations (FO)	4	106	Schedule					2	2	2			4		
			424	Cost					212	212				424		
	2.3 Formation & Empowerment of Farmer Organizations (FO)	4	123	Schedule					2	2	2			4		
			492	Cost					246	246				492		
	4.1 Farm Machinery Hiring Services	0	1,521	Schedule										0		
		0	Cost				0						0			
4.2 Construction of Community Drying Floor & Seed Storage	1	260	Schedule				1						1			
		260	Cost				260						260			
APSS		37		2,591			0	0	801	834	956		2,591			
1. Floating Bed Vegetable Culture Scheme		3	112	Schedule				1	1	1			3			
			336	Cost				112	112	112			336			
2. Small-scale Vegetable Production Support		3	62	Schedule				1	1	1			3			
			186	Cost				62	62	62			186			
3. Fruit Production Support Scheme		1	99	Schedule					1				1			
			99	Cost					99				99			
4. Micro Poultry Raising Scheme		3	170	Schedule				1	1	1			3			
			510	Cost				170	170	170			510			
5. Small-scale Mushroom Culture Scheme		2	176	Schedule					1	1			2			
			352	Cost					176	176			352			
SIGS		12		1,483				344	619	520			1,483			
Sub-project Cost Schedule		49		4,074			0	0	1,145	1,453	1,476	0	4,074			
R-6	Modkhola Bhairagirchar Sub-project Scheme (2,060 ha)		Construction Schedule													
	1.1 Adaptive Trial (rice)	2	27	Schedule			2						2			
			54	Cost			54						54			
	1.2 Adaptive Trial (upland crops & vegetables)	1	27	Schedule				1					1			
			27	Cost				27					27			
	1.3 Adaptive Trial (cropping pattern)	0	55	Schedule									0			
			0	Cost									0			
	1.4 Demonstration Plot (rice)	7	12	Schedule			2	2	3				7			
			84	Cost			24	24	36				84			
	1.5 Demonstration Field (rice)	3	17	Schedule			1	1	1				3			
			51	Cost			17	17	17				51			
	1.6 Demonstration Area (rice)	1	84	Schedule					1				1			
			84	Cost					84				84			
	1.7 Demonstration Plot (upland crops/vegetables)	1	16	Schedule				1					1			
			16	Cost				16					16			
	1.8 Cropping Pattern Demonstration	1	27	Schedule					1				1			
			27	Cost					27				27			
	1.9 Water Management Demonstration Area (rice)	0	132	Schedule									0			
			0	Cost									0			
	1.10 IPM FFS/ICM FFS (rice)	1	155	Schedule			1						1			
			155	Cost			155						155			
	1.11 Seed Multiplication (rice)	2	158	Schedule			1	1					2			
			316	Cost			158	158					316			
	2.1.1 Farmer Training	3	110	Schedule			1	1	1				3			
			330	Cost			110	110	110				330			
	2.1.3 Mass Guidance/Workshop/Campaign	2	28	Schedule			1	1					2			
			56	Cost			28	28					56			
	2.2 Empowerment of Existing Farmer Organizations (FO)	3	106	Schedule			1	1	1				3			
			318	Cost			106	106	106				318			
	2.3 Formation & Empowerment of Farmer Organizations (FO)	3	123	Schedule			1	1	1				3			
			369	Cost			123	123	123				369			
	4.1 Farm Machinery Hiring Services	0	1,521	Schedule									0			
		0	Cost									0				
4.2 Construction of Community Drying Floor & Seed Storage	0	260	Schedule									0				
		0	Cost									0				
APSS		30		1,887			775	609	503	0	0		1,887			
1. Floating Bed Vegetable Culture Scheme		2	112	Schedule			1	1					2			
			224	Cost			112	112					224			
2. Small-scale Vegetable Production Support		3	62	Schedule			1	1	1				3			
			186	Cost			62	62	62				186			
3. Fruit Production Support Scheme		2	99	Schedule			1	1					2			
			198	Cost			99	99					198			
4. Micro Poultry Raising Scheme		2	170	Schedule				1	1				2			
			340	Cost				170	170				340			
5. Small-scale Mushroom Culture Scheme		0	176	Schedule									0			
			0	Cost									0			
SIGS		9		948			273	443	232				948			
Sub-project Cost Schedule		39		2,835			1,048	1,052	735	0	0	0	2,835			

Appendix 5.23-4

Table Implementation & Cost Schedule of APSS and SIGS by Sub-project & Program -4/11

Unit: No. of Activities Programed & BDT 1,000																		
Sub-project/Program		Program Volume	Unit Rate (BDT 000)	Program Cost (BDT 000)	Item	Fiscal Year												Total Program Cost
						2017/18	2018/19	2019/20	2020/21	2021/22	2022/23							
						Calendar Year												
						2017	2018	2019	2020	2021	2022	2023						
R-7	Ganakkahali Sub-scheme (2,652 ha)				Construction Schedule													
	1.1 Adaptive Trial (rice)	3	27		Schedule		2	1										3
				81	Cost		54	27										81
	1.2 Adaptive Trial (upland crops & vegetables)	1	27		Schedule			1										1
				27	Cost			27										27
	1.3 Adaptive Trial (cropping pattern)	1	55		Schedule				1									1
				55	Cost				55									55
	1.4 Demonstration Plot (rice)	9	12		Schedule		3	3	3									9
				108	Cost		36	36	36									108
	1.5 Demonstration Field (rice)	3	17		Schedule			1	2									3
				51	Cost			17	34									51
	1.6 Demonstration Area (rice)	1	84		Schedule				1									1
				84	Cost				84									84
	1.7 Demonstration Plot (upland crops/vegetables)	2	16		Schedule			1	1									2
				32	Cost			16	16									32
	1.8 Cropping Pattem Demonstration	1	27		Schedule				1									1
				27	Cost				27									27
	1.9 Water Management Demonstration Area (rice)	1	132		Schedule				1									1
				132	Cost				132									132
	1.10 IPM FFS/ICM FFS (rice)	1	155		Schedule		1											1
				155	Cost		155											155
	1.11 Seed Multiplication (rice)	3	158		Schedule		2	1										3
				474	Cost		316	158										474
	2.1.1 Farmer Training	3	110		Schedule		1	1	1									3
				330	Cost		110	110	110									330
	2.1.3 Mass Guidance/Workshop/Campaign	3	28		Schedule		1	1	1									3
				84	Cost		28	28	28									84
	2.2 Empowerment of Existing Farmer Organizations (FO)	4	106		Schedule		2	2										4
				424	Cost		212	212										424
	2.3 Formation & Empowerment of Farmer Organizations (FO)	4	123		Schedule		2	2										4
				492	Cost		246	246										492
	4.1 Farm Machinery Hiring Services	0	1,521		Schedule													0
				0	Cost		0	0										0
	4.2 Construction of Community Drying Floor & Seed Storage	1	260		Schedule		1											1
				260	Cost		260											260
	APSS	41		2,816			1,417	877	522	0	0							2,816
	1. Floating Bed Vegetable Culture Scheme	4	112		Schedule		2	1	1									4
				448	Cost		224	112	112									448
	2. Small-scale Vegetable Production Support	4	62		Schedule		1	2	1									4
				248	Cost		62	124	62									248
	3. Fruit Production Support Scheme	2	99		Schedule		1	1										2
				198	Cost		99	99										198
	4. Micro Poultry Raising Scheme	1	170		Schedule			1										1
				170	Cost			170										170
	5. Small-scale Mushroom Culture Scheme	3	176		Schedule		1	1	1									3
				528	Cost		176	176	176									528
	SIGS	14		1,592			561	681	350									1,592
	Sub-project Cost Schedule	55		4,408			1,978	1,558	872	0	0	0						4,408
R-8	Kairdhal Ratna Scheme (11,900 ha) all HILIP upazilas				Construction Schedule													
	4.1 Farm Machinery Hiring Services	2	1,521		Schedule		1	1										2
				3,042	Cost		1,521	1,521										3,042
	4.2 Construction of Community Drying Floor & Seed Storage	4	260		Schedule		2	2										4
				1,040	Cost		520	520										1,040
	APSS	6		4,082			2,041	2,041										4,082
	Sub-project Cost Schedule	6		4,082			2,041	2,041	0	0	0	0						4,082
R-9	Bashira River Scheme (4,521 ha) all HILIP upazilas				Construction Schedule													
	4.1 Farm Machinery Hiring Services	1	1,521		Schedule					1								1
				1,521	Cost					1,521								1,521
	4.2 Construction of Community Drying Floor & Seed Storage	2	260		Schedule					1	1							2
				520	Cost					260	260							520
	APSS	3		2,041						1,781	260							2,041
	Sub-project Cost Schedule			2,041						1,781	260	0						2,041
R-10	Aralia Khal Scheme (1,501 ha)				Construction Schedule													
	4.1 Farm Machinery Hiring Services	0	1,521		Schedule													0
				0	Cost		0											0
	4.2 Construction of Community Drying Floor & Seed Storage	1	260		Schedule		1											1
				260	Cost		260											260
	APSS	1		260			260											260
	Sub-project Cost Schedule	1		260			260											260
R-11	Chandal Beel Scheme (1,012 ha)				Construction Schedule													
	4.1 Farm Machinery Hiring Services	0	1,521		Schedule													0
				0	Cost													0
	4.2 Construction of Community Drying Floor & Seed Storage	0	260		Schedule													0
				0	Cost													0
	APSS	0		0				0										0
	Sub-project Cost Schedule	0		0				0										0
R-12	Satdona Beel Scheme (5,049 ha)				Construction Schedule													
	4.1 Farm Machinery Hiring Services	1	1,521		Schedule			1										1
				1,521	Cost		0	1,521										1,521
	4.2 Construction of Community Drying Floor & Seed Storage	2	260		Schedule		1	1										2
				520	Cost		260	260										520
	APSS	3		2,041			260	1,781										2,041
	Sub-arniect Cost Schedule	3		2,041			260	1,781	0	0	0	0	0					2,041

Appendix 5.23-5

Table Implementation & Cost Schedule of APSS and SIGS by Sub-project & Program -5/11

Unit: No. of Activities Programed & BDT 1,000

Sub-project/Program					Fiscal Year												Total Program Cost
					2017/18		2018/19		2019/20		2020/21		2021/22		2022/23		
					Calendar Year												
Program Volume	Unit Rate (BDT 000)	Program Cost (BDT 000)	Item	2017	2018	2019	2020	2021	2022	2023							
R-13 Gangajuri FCD Sub-Project (20,441 ha)	Construction Schedule																
	1.1 Adaptive Trial (rice)	18	27	Schedule					9	9					18		
			486	Cost					243	243					486		
	1.2 Adaptive Trial (upland crops & vegetables)	10	27	Schedule					5	5					10		
			270	Cost					135	135	0				270		
	1.3 Adaptive Trial (cropping pattern)	6	55	Schedule					3	3					6		
			330	Cost					165	165	0				330		
	1.4 Demonstration Plot (rice)	65	12	Schedule			10	20	20	15					65		
			780	Cost			120	240	240	180	0				780		
	1.5 Demonstration Field (rice)	21	17	Schedule			5	5	6	5					21		
			357	Cost			85	85	102	85					357		
	1.6 Demonstration Area (rice)	8	84	Schedule					4	4					8		
			672	Cost					336	336	0				672		
	1.7 Demonstration Plot (upland crops/vegetables)	13	16	Schedule				3	5	5					13		
			208	Cost				48	80	80	0				208		
	1.8 Cropping Pattern Demonstration	10	27	Schedule				2	4	4					10		
			270	Cost				54	108	108	0				270		
	1.9 Water Management Demonstration Area (rice)	6	132	Schedule					3	3					6		
			792	Cost					396	396	0				792		
	1.10 IPM FFS/ICM FFS (rice)	10	155	Schedule				3	4	3					10		
			1,550	Cost				465	620	465					1,550		
	1.11 Seed Multiplication (rice)	18	158	Schedule				6	6	6					18		
			2,844	Cost				948	948	948					2,844		
	2.1.1 Farmer Training	26	110	Schedule			7	7	7	5					26		
			2,860	Cost			770	770	770	550	0				2,860		
	2.1.3 Mass Guidance/Workshop/Campaign	18	28	Schedule			4	5	5	4					18		
			504	Cost			112	140	140	112	0				504		
	2.2 Empowerment of Existing Farmer Organizations (FO)	32	106	Schedule			8	8	8	8					32		
			3,392	Cost			848	848	848	848	0				3,392		
	2.3 Formation & Empowerment of Farmer Organizations (FO)	32	123	Schedule			8	8	8	8					32		
		3,936	Cost			984	984	984	984	0				3,936			
4.1 Farm Machinery Hiring Services	3	1,521	Schedule			1	1	1						3			
		4,563	Cost			1,521	1,521	1,521	0					4,563			
4.2 Construction of Community Drying Floor & Seed Storage	6	260	Schedule			2	2	2						6			
		1,560	Cost			520	520	520						1,560			
APSS	302		25,374			0	4,960	6,623	8,156	5,635				25,374			
1. Floating Bed Vegetable Culture Scheme	7	112	Schedule			2	2	3						7			
		784	Cost			224	224	336						784			
2. Small-scale Vegetable Production Support	6	62	Schedule			2	2	2						6			
		372	Cost			124	124	124						372			
3. Fruit Production Support Scheme	6	99	Schedule			3	3							6			
		594	Cost			297	297							594			
4. Micro Poultry Raising Scheme	7	170	Schedule			4	3							7			
		1,190	Cost			680	510							1,190			
5. Small-scale Mushroom Culture Scheme	5	176	Schedule			3	2							5			
		880	Cost			528	352							880			
SIGS	31		3,820				1,853	1,507	460					3,820			
Sub-project Cost Schedule	333		29,194			0	6,813	8,130	8,616	5,635	0			29,194			
R-14 Khaliajuri Polder #02 Scheme (6,611 ha)	Construction Schedule																
4.1 Farm Machinery Hiring Services	2	1,521	Schedule			1	1							2			
		3,042	Cost			1,521	1,521							3,042			
4.2 Construction of Community Drying Floor & Seed Storage	2	260	Schedule			1	1							2			
		520	Cost			260	260							520			
APSS	4		3,562			1,781	1,781							3,562			
Sub-project Cost Schedule	4		3,562			1,781	1,781							3,562			
R-15 Khaliajuri Polder #04 Scheme	Construction Schedule																
4.1 Farm Machinery Hiring Services	2	1,521	Schedule			1	1							2			
		3,042	Cost			0	1,521	1,521						3,042			
4.2 Construction of Community Drying Floor & Seed Storage	3	260	Schedule			1	1	1						3			
		780	Cost			260	260	260						780			
APSS	5		3,822			260	1,781	1,781						3,822			
Sub-project Cost Schedule	5		3,822			260	1,781	1,781						3,822			
Rehabilitatuion Sub-project Total				0	13,514	29,659	31,071	31,076	20,270	0				125,590			

Appendix 5.23-6

Table Implementation & Cost Schedule of APSS and SIGS by Sub-project & Program -6/11

Unit: No. of Activities Programed & BDT 1,000															
Sub-project/Program	Program Volume	Unit Rate (BDT 000)	Program Cost (BDT 000)	Item	Fiscal Year										Total Program Cost
					2017/18	2018/19	2019/20	2020/21	2021/22	2022/23					
					Calendar Year										
	2017	2018	2019	2020	2021	2022	2023								
New Construction Sub-project															
N-1. Boro Haor Project (Nikli) (9,146 ha)															
1.1 Adaptive Trial (rice)	7	27		Schedule					3	3	1		7		
1.2 Adaptive Trial (upland crops & vegetables)	2	27	189	Cost					81	81	27		189		
1.3 Adaptive Trial (cropping pattern)	2	55	54	Cost						1	1		2		
1.4 Demonstration Plot (rice)	22	12	110	Cost						27	27		54		
1.5 Demonstration Field (rice)	7	17	264	Schedule						1	1		2		
1.6 Demonstration Area (rice)	2	84	119	Cost					7	55	55		110		
1.7 Demonstration Plot (upland crops/vegetables)	5	16	80	Schedule					84	96	84		22		
1.8 Cropping Pattern Demonstration	2	27	54	Cost					2	2	3		7		
1.9 Water Management Demonstration Area (rice)	2	132	264	Schedule					34	34	51		119		
1.10 IPM FFS/ICM FFS (rice)	2	155	310	Cost					2				2		
1.11 Seed Multiplication (rice)	7	158	1,106	Schedule					310				310		
2.1.1 Farmer Training	9	110	990	Cost					2	3	2		7		
2.1.3 Mass Guidance/Workshop/Campaign	7	28	196	Schedule					316	474	316		1,106		
2.2 Empowerment of Existing Farmer Organizations (FO)	11	106	1,166	Cost					3	2	2		9		
2.3 Formation & Empowerment of Farmer Organizations (FO)	11	123	1,353	Schedule					330	220	220		990		
4.1 Farm Machinery Hiring Services	1	1,521	1,521	Cost					1	2	2		7		
4.2 Construction of Community Drying Floor & Seed Storage	3	260	780	Schedule					28	56	56		196		
APSS	102		8,724	Cost					4	4	3		11		
1. Floating Bed Vegetable Culture Scheme	4	112	448	Schedule					424	424	318		1,166		
2. Small-scale Vegetable Production Support	6	62	372	Cost					4	4	3		11		
3. Fruit Production Support Scheme	6	99	594	Schedule					492	492	369		1,353		
4. Micro Poultry Raising Scheme	6	170	1,020	Cost					1	1,521			1,521		
5. Small-scale Mushroom Culture Scheme	6	176	1,056	Schedule					1	1	1		3		
SIGS	28		3,490	Cost					260	260	260		780		
Sub-project Cost Schedule	130		12,214						1,038	1,472	434		1,056		
N-2. Naogaon Haor Project(9,104 ha)									1,038	3,006	4,232	2,699	1,239		
1.1 Adaptive Trial (rice)	1	27		Schedule										0	
1.2 Adaptive Trial (upland crops & vegetables)	0	27		Cost										12,214	
1.3 Adaptive Trial (cropping pattern)	0	55		Schedule											
1.4 Demonstration Plot (rice)	3	12		Cost											
1.5 Demonstration Field (rice)	1	17		Schedule											
1.6 Demonstration Area (rice)	0	84		Cost											
1.7 Demonstration Plot (upland crops/vegetables)	1	16		Schedule											
1.8 Cropping Pattern Demonstration	0	27		Cost											
1.9 Water Management Demonstration Area (rice)	0	132		Schedule											
1.10 IPM FFS/ICM FFS (rice)	0	155		Cost											
1.11 Seed Multiplication (rice)	1	158		Schedule											
2.1.1 Farmer Training	1	110		Cost											
2.1.3 Mass Guidance/Workshop/Campaign	0	28		Schedule											
2.2 Empowerment of Existing Farmer Organizations (FO)	0	106		Cost											
2.3 Formation & Empowerment of Farmer Organizations (FO)	0	123		Schedule											
4.1 Farm Machinery Hiring Services	2	1,521		Cost											
4.2 Construction of Community Drying Floor & Seed Storage	3	260		Schedule											
APSS	13		4,186	Cost											
1. Floating Bed Vegetable Culture Scheme	1	112		Schedule											
2. Small-scale Vegetable Production Support	1	62		Cost											
3. Fruit Production Support Scheme	1	99		Schedule											
4. Micro Poultry Raising Scheme	1	170		Cost											
5. Small-scale Mushroom Culture Scheme	1	176		Schedule											
SIGS	5		619	Cost											
Sub-project Cost Schedule	18		4,805												

Appendix 5.23-7

Table Implementation & Cost Schedule of APSS and SIGS by Sub-project & Program -7/11

Unit: No. of Activities Programed & BDT 1,000												
Sub-project/Program	Program Volume	Unit Rate (BDT 000)	Program Cost (BDT 000)	Item	Fiscal Year							Total Program Cost
					2017/18	2018/19	2019/20	2020/21	2021/22	2022/23		
					Calendar Year							
					2017	2018	2019	2020	2021	2022	2023	
N-3 Jallar Haor Project (2,466 ha)				Construction Schedule								
4.1 Farm Machinery Hiring Services	1	1,521		Schedule				1				1
			1,521	Cost			1,521					1,521
4.2 Construction of Community Drying Floor & Seed Storage	1	260		Schedule			1					1
			260	Cost			260					260
APSS	2		1,781				1,781					1,781
Sub-project Cost Schedule	2		1,781			0	1,781	0	0			1,781
N-4. Dhamapasha Rui Beel Project (21,563 ha)				Construction Schedule								
1.1 Adaptive Trial (rice)	4	27		Schedule					2	2		4
			108	Cost					54	54	0	108
1.2 Adaptive Trial (upland crops & vegetables)	2	27		Schedule					1	1		2
			54	Cost					27	27	0	54
1.3 Adaptive Trial (cropping pattern)	1	55		Schedule					1	1		2
			55	Cost						55	0	55
1.4 Demonstration Plot (rice)	13	12		Schedule					6	7		13
			156	Cost					72	84	0	156
1.5 Demonstration Field (rice)	4	17		Schedule					2	2		4
			68	Cost					34	34		68
1.6 Demonstration Area (rice)	2	84		Schedule					2	2		4
			168	Cost						168	0	168
1.7 Demonstration Plot (upland crops/vegetables)	3	16		Schedule					1	2		3
			48	Cost					16	32	0	48
1.8 Cropping Pattern Demonstration	2	27		Schedule					1	1		2
			54	Cost					27	27	0	54
1.9 Water Management Demonstration Area (rice)	1	132		Schedule					1	1		2
			132	Cost						132	0	132
1.10 IPM FFS/ICM FFS (rice)	2	155		Schedule					2	2		4
			310	Cost						310		310
2.1.1 Farmer Training	5	110		Schedule					3	2		5
			550	Cost					330	220	0	550
2.1.3 Mass Guidance/Workshop/Campaign	4	28		Schedule					2	2		4
			112	Cost					56	56	0	112
2.2 Empowerment of Existing Farmer Organizations (FO)	7	106		Schedule					4	3		7
			742	Cost					424	318	0	742
2.3 Formation & Empowerment of Farmer Organizations (FO)	7	123		Schedule					4	3		7
			861	Cost					492	369	0	861
4.1 Farm Machinery Hiring Services	3	1,521		Schedule					2	1		3
			4,563	Cost					3,042	1,521	0	4,563
4.2 Construction of Community Drying Floor & Seed Storage	7	260		Schedule					3	4		7
			1,820	Cost					780	1,040	0	1,820
APSS	71		10,433			0	0	0	5,354	5,079		10,433
1. Floating Bed Vegetable Culture Scheme	1	112		Schedule					1			1
			112	Cost					112			112
2. Small-scale Vegetable Production Support	2	62		Schedule					2			2
			124	Cost					124			124
3. Fruit Production Support Scheme	2	99		Schedule					2			2
			198	Cost					198			198
4. Micro Poultry Raising Scheme	2	170		Schedule					2			2
			340	Cost					340			340
5. Small-scale Mushroom Culture Scheme	2	176		Schedule					2			2
			352	Cost					352			352
SIGS	9		1,126						1,126			1,126
Sub-project Cost Schedule	80		11,559			0	0	0	6,480	5,079	0	11,559
N-5. Chandpur Haor Project (2,311 ha)				Construction Schedule								
1.1 Adaptive Trial (rice)	2	27		Schedule					2			2
			54	Cost					54			54
1.2 Adaptive Trial (upland crops & vegetables)	1	27		Schedule					1			1
			27	Cost					27			27
1.3 Adaptive Trial (cropping pattern)	1	55		Schedule					1			1
			55	Cost					55			55
1.4 Demonstration Plot (rice)	8	12		Schedule					3	3	2	8
			96	Cost					36	36	24	96
1.5 Demonstration Field (rice)	3	17		Schedule					1	1		3
			51	Cost					17	17		34
1.6 Demonstration Area (rice)	1	84		Schedule					1			1
			84	Cost					84			84
1.7 Demonstration Plot (upland crops/vegetables)	2	16		Schedule					1	1		2
			32	Cost					16	16		32
1.8 Cropping Pattern Demonstration	1	27		Schedule					1			1
			27	Cost					27			27
1.9 Water Management Demonstration Area (rice)	1	132		Schedule					1			1
			132	Cost					132			132
1.10 IPM FFS/ICM FFS (rice)	1	155		Schedule					1			1
			155	Cost					155			155
1.11 Seed Multiplication (rice)	2	158		Schedule					2			2
			316	Cost					316			316
2.1.1 Farmer Training	3	110		Schedule					1	1		3
			330	Cost					110	110		330
2.1.3 Mass Guidance/Workshop/Campaign	2	28		Schedule					1			2
			56	Cost					28	28		56
2.2 Empowerment of Existing Farmer Organizations (FO)	4	106		Schedule					2	2		4
			424	Cost					212	212		424
2.3 Formation & Empowerment of Farmer Organizations (FO)	4	123		Schedule					2	2		4
			492	Cost					246	246		492
4.1 Farm Machinery Hiring Services	0	1,521		Schedule								0
			0	Cost								0
4.2 Construction of Community Drying Floor & Seed Storage	1	260		Schedule					1			1
			260	Cost					260			260
APSS	37		2,591			0	1,477	692	422	0		2,591
1. Floating Bed Vegetable Culture Scheme	2	112		Schedule					1			2
			224	Cost					112	112		224
2. Small-scale Vegetable Production Support	2	62		Schedule					1			2
			124	Cost					62	62		124
3. Fruit Production Support Scheme	2	99		Schedule					1	1		2
			198	Cost					99	99		198
4. Micro Poultry Raising Scheme	2	170		Schedule					1	1		2
			340	Cost					170	170		340
5. Small-scale Mushroom Culture Scheme	2	176		Schedule					1	1		2
			352	Cost					176	176		352
SIGS	10		1,238						619	619		1,238
Sub-project Cost Schedule	47		3,829			0	2,096	1,311	422	0		3,829

Appendix 5.23-8

Table Implementation & Cost Schedule of APSS and SIGS by Sub-project & Program -8/11

Unit: No. of Activities Programed & BDT 1,000															
Sub-project/Program	Program Volume	Unit Rate (BDT 000)	Program Cost (BDT 000)	Item	Fiscal Year										Total Program Cost
					Calendar Year										
					2017/18	2018/19	2019/20	2020/21	2021/22	2022/23					
					2017	2018	2019	2020	2021	2022	2023				
N-6 Sunair Haor Project (3,894 ha)				Construction Schedule											
1.1 Adaptive Trial (rice)	4	27	108	Cost						108	0				108
1.2 Adaptive Trial (upland crops & vegetables)	2	27	54	Cost						54	0				54
1.3 Adaptive Trial (cropping pattern)	1	55	55	Cost						55	0				55
1.4 Demonstration Plot (rice)	13	12	156	Cost					5	8					13
1.5 Demonstration Field (rice)	4	17	68	Cost					60	96	0				156
1.6 Demonstration Area (rice)	1	84	84	Cost					2	2					4
1.7 Demonstration Plot (upland crops/vegetables)	3	16	48	Cost					34	34	0				68
1.8 Cropping Pattern Demonstration	2	27	54	Cost					1	1					1
1.9 Water Management Demonstration Area (rice)	1	132	132	Cost					84	0					84
1.10 IPM FFS/ICM FFS (rice)	2	155	310	Cost					3	3					3
1.11 Seed Multiplication (rice)	4	158	632	Cost					48	0					48
2.1.1 Farmer Training	5	110	550	Cost					2	2					2
2.1.3 Mass Guidance/Workshop/Campaign	4	28	112	Cost					54	0					54
2.2 Empowerment of Existing Farmer Organizations (FO)	6	106	636	Cost					56	56	0				112
2.3 Formation & Empowerment of Farmer Organizations (FO)	6	123	738	Cost					3	3					6
4.1 Farm Machinery Hiring Services	1	1,521	1,521	Cost					318	318	0				636
4.2 Construction of Community Drying Floor & Seed Storage	1	260	260	Cost					3	3					6
APSS	60		5,518	Cost		0	0	0	369	369	0				738
1. Floating Bed Vegetable Culture Scheme	3	112	336	Cost					1	2					1
2. Small-scale Vegetable Production Support	4	62	248	Cost					1,521	1					1521
3. Fruit Production Support Scheme	3	99	297	Cost					1	1					1
4. Micro Poultry Raising Scheme	1	170	170	Cost					260						260
5. Small-scale Mushroom Culture Scheme	2	176	352	Cost					2						2
SIGS	13		1,403	Cost					352						352
Sub-project Cost Schedule	73		6,921	Cost		0	0	0	335	5,103	0				1,403
N-7 Badla Haor Project				Construction Schedule											
4.1 Farm Machinery Hiring Services	0	1,521	0	Cost											0
4.2 Construction of Community Drying Floor & Seed Storage	1	260	260	Cost					1						1
APSS	1		260	Cost					260						260
Sub-project Cost Schedule	1		260	Cost					260						260
N-8 Nunnir Haor Project (5,810 ha)				Construction Schedule											
1.1 Adaptive Trial (rice)	1	27	27	Cost						1					1
1.2 Adaptive Trial (upland crops & vegetables)	1	27	27	Cost						27					27
1.3 Adaptive Trial (cropping pattern)	1	55	55	Cost						1					1
1.4 Demonstration Plot (rice)	6	12	72	Cost						55					55
1.5 Demonstration Field (rice)	2	17	34	Cost					2	4					6
1.6 Demonstration Area (rice)	1	84	84	Cost					24	48					72
1.7 Demonstration Plot (upland crops/vegetables)	1	16	16	Cost					1	1					2
1.8 Cropping Pattern Demonstration	1	27	27	Cost					17	17					34
1.9 Water Management Demonstration Area (rice)	1	132	132	Cost					1	1					1
1.10 IPM FFS/ICM FFS (rice)	1	155	155	Cost					84						84
1.11 Seed Multiplication (rice)	1	158	158	Cost					1						1
2.1.1 Farmer Training	2	110	220	Cost					1	1					1
2.1.3 Mass Guidance/Workshop/Campaign	1	28	28	Cost					110	110					220
2.2 Empowerment of Existing Farmer Organizations (FO)	2	106	212	Cost					1	1					1
2.3 Formation & Empowerment of Farmer Organizations (FO)	2	123	246	Cost					106	106					212
4.1 Farm Machinery Hiring Services	2	1,521	3,042	Cost					1	1					2
4.2 Construction of Community Drying Floor & Seed Storage	1	260	260	Cost					1,521	1,521					3042
APSS	27		4,795	Cost		0	0	0	1	1					1
1. Floating Bed Vegetable Culture Scheme	1	112	112	Cost											
2. Small-scale Vegetable Production Support	2	62	124	Cost						112					112
3. Fruit Production Support Scheme	1	99	99	Cost						2					2
4. Micro Poultry Raising Scheme	1	170	170	Cost						124					124
5. Small-scale Mushroom Culture Scheme		176	0	Cost						1					1
SIGS	5		505	Cost						99					99
Sub-project Cost Schedule	32		5,300	Cost						170					170

Appendix 5.23-9

Table Implementation & Cost Schedule of APSS and SIGS by Sub-project & Program -9/11

Unit: No. of Activities Programed & BDT 1,000													
Sub-project/Program	Program Volume	Unit Rate (BDT 000)	Program Cost (BDT 000)	Item	Fiscal Year								Total Program Cost
					2017/18	2018/19	2019/20	2020/21	2021/22	2022/23			
					Calendar Year								
Construction Schedule					2017	2018	2019	2020	2021	2022	2023		
N-9 Dakshiner Haor Project (2,482 ha)													
4.1 Farm Machinery Hiring Services	0	1,521		Schedule								0	
			0	Cost						0		0	
4.2 Construction of Community Drying Floor & Seed Storage	1	260		Schedule						1		1	
			260	Cost						260		260	
APSS	1		260								260	260	
Sub-project Cost Schedule	1		260								260	260	
N-10 Chatal Haor Project (816 ha)													
1.4 Demonstration Plot (rice)	1	12		Schedule							1		
			12	Cost						12		12	
4.1 Farm Machinery Hiring Services	0	1,521		Schedule								0	
			0	Cost						0		0	
APSS	1		12								12	12	
2. Small-scale Vegetable Production Support	1	62		Schedule							1	1	
			62	Cost						62		62	
3. Fruit Production Support Scheme	1	99		Schedule							1	1	
			99	Cost						99		99	
4. Micro Poultry Raising Scheme	0	170		Schedule								0	
			0	Cost								0	
5. Small-scale Mushroom Culture Scheme	0	176		Schedule								0	
												0	
SIGS	2		161	Cost							161	161	
Sub-project Cost Schedule	3		173			0	0	0	0		173	0	
N-11 Ganesh Haor Project (3,090 ha)													
1.1 Adaptive Trial (rice)	2	27		Schedule				2				2	
			54	Cost			54					54	
1.2 Adaptive Trial (upland crops & vegetables)	1	27		Schedule				1				1	
			27	Cost				27				27	
1.3 Adaptive Trial (cropping pattern)	1	55		Schedule				1				1	
			55	Cost				55				55	
1.4 Demonstration Plot (rice)	6	12		Schedule				3	3			6	
			72	Cost				36	36			72	
1.5 Demonstration Field (rice)	2	17		Schedule				1	1			2	
			34	Cost				17	17			34	
1.6 Demonstration Area (rice)	1	84		Schedule				1				1	
			84	Cost				84				84	
1.7 Demonstration Plot (upland crops/vegetables)	1	16		Schedule				1	1			1	
			16	Cost				16				16	
1.8 Cropping Pattern Demonstration	1	27		Schedule				1				1	
			27	Cost				27				27	
1.9 Water Management Demonstration Area (rice)	1	132		Schedule				1	1			1	
			132	Cost				132				132	
1.10 IPM FFS/ICM FFS (rice)	1	155		Schedule				1				1	
			155	Cost				155				155	
1.11 Seed Multiplication (rice)	2	158		Schedule				2				2	
			316	Cost				316				316	
2.1.1 Farmer Training	2	110		Schedule				1	1			2	
			220	Cost				110	110			220	
2.1.3 Mass Guidance/Workshop/Campaign	2	28		Schedule				1	1			2	
			56	Cost				28	28			56	
2.2 Empowerment of Existing Farmer Organizations (FO)	3	106		Schedule				2	1			3	
			318	Cost				212	106			318	
2.3 Fomation & Empowerment of Farmer Organizations (FO)	3	123		Schedule				2	1			3	
			369	Cost				246	123			369	
4.1 Farm Machinery Hiring Services	1	1,521		Schedule				1				1	
			1,521	Cost				1,521	0			1521	
4.2 Construction of Community Drying Floor & Seed Storage	1	260		Schedule				1	1			1	
			260	Cost				260				260	
APSS	31		3,716			0	2,695	1,021	0	0		3,716	
1. Floating Bed Vegetable Culture Scheme	0	112		Schedule								0	
			0	Cost								0	
2. Small-scale Vegetable Production Support	2	62		Schedule				1	1			2	
			124	Cost				62	62			124	
3. Fruit Production Support Scheme	1	99		Schedule				1				1	
			99	Cost				99				99	
4. Micro Poultry Raising Scheme	0	170		Schedule								0	
			0	Cost								0	
5. Small-scale Mushroom Culture Scheme	1	176		Schedule				1				1	
			176	Cost				176				176	
SIGS	4		399	Cost				337	62			399	
Sub-project Cost Schedule	35		4,115			0	3,032	1,083	0			4,115	
N-12 Dhakua Haor Project (4,425 ha)													
4.1 Farm Machinery Hiring Services	2	1,521		Schedule							2	2	
			3,042	Cost						3,042		3042	
4.2 Construction of Community Drying Floor & Seed Storage	1	260		Schedule						1		1	
			260	Cost						260		260	
APSS	3		3,302								3,302	3,302	
Sub-project Cost Schedule	3		3,302			0	0	0	0	3,302	0	3,302	

Appendix 5.23-10

Table Implementation & Cost Schedule of APSS and SIGS by Sub-project & Program -10/11

Unit: No. of Activities Programed & BDT 1,000												
Sub-project/Program	Program Volume	Unit Rate (BDT 000)	Program Cost (BDT 000)	Item	Fiscal Year							Total Program Cost
					2017/18	2018/19	2019/20	2020/21	2021/22	2022/23		
					Calendar Year							
					2017	2018	2019	2020	2021	2022	2023	
N-13 Mokhar Haor Project (8,064 ha)				Construction Schedule								
1.1 Adaptive Trial (rice)	4	27		Schedule						1	3	4
			108	Cost						27	81	108
1.2 Adaptive Trial (upland crops & vegetables)	2	27		Schedule							2	2
			54	Cost							54	54
1.3 Adaptive Trial (cropping pattern)	1	55		Schedule							1	1
			55	Cost							55	55
1.4 Demonstration Plot (rice)	12	12		Schedule					4	8		12
			144	Cost					48	96		144
1.5 Demonstration Field (rice)	4	17		Schedule					2	2		4
			68	Cost					34	34		68
1.6 Demonstration Area (rice)	1	84		Schedule						1		1
			84	Cost						84		84
1.7 Demonstration Plot (upland crops/vegetables)	2	16		Schedule						2		2
			32	Cost						32		32
1.8 Cropping Pattern Demonstration	2	27		Schedule						2		2
			54	Cost						54		54
1.9 Water Management Demonstration Area (rice)	1	132		Schedule						1		1
			132	Cost						132		132
1.10 IPM FFS/ICM FFS (rice)	2	155		Schedule						2		2
			310	Cost						310		310
1.11 Seed Multiplication (rice)	4	158		Schedule						4		4
			632	Cost						632		632
2.1.1 Farmer Training	5	110		Schedule					2	3		5
			550	Cost					220	330		550
2.1.3 Mass Guidance/Workshop/Campaign	4	28		Schedule					2	2		4
			112	Cost					56	56		112
2.2 Empowerment of Existing Farmer Organizations (FO)	6	106		Schedule					3	3		6
			636	Cost					318	318		636
2.3 Fomation & Empowerment of Farmer Organizations (FO)	6	123		Schedule					3	3		6
			738	Cost					369	369		738
4.1 Farm Machinery Hiring Services	2	1,521		Schedule					1	1		2
			3,042	Cost					1,521	1,521		3,042
4.2 Construction of Community Drying Floor & Seed Storage	2	260		Schedule					1	1		2
			520	Cost					260	260		520
APSS	60		7,271			0	0	0	2,853	4,418		7,271
1. Floating Bed Vegetable Culture Scheme	1	112		Schedule						1		1
			112	Cost						112		112
2. Small-scale Vegetable Production Support	1	62		Schedule						1		1
			62	Cost						62		62
3. Fruit Production Support Scheme	1	99		Schedule						1		1
			99	Cost						99		99
4. Micro Poultry Raising Scheme	1	170		Schedule						1		1
			170	Cost						170		170
5. Small-scale Mushroom Culture Scheme	1	176		Schedule						1		1
			176	Cost						176		176
SIGS	5		619	Cost						619		619
Sub-project Cost Schedule	65		7,890						2,853	5,037		7,890
N-14 Noapara Haor Project (3,180 ha)				Construction Schedule								
4.1 Farm Machinery Hiring Services	1	1,521		Schedule						1		1
			1,521	Cost						1,521		1,521
4.2 Construction of Community Drying Floor & Seed Storage	1	260		Schedule						1		1
			260	Cost						260		260
APSS	2		1,781			0	0	0	0	1,781	0	1,781
Sub-project Cost Schedule	2		1,781			0	0	0	0	1,781	0	1,781
New Construction Sub-project Total			64,190		0	1,038	10,175	9,026	18,302	25,649	0	64,190
Overall Sub-project Base Program			189,780		0	14,552	39,834	40,097	49,378	45,919	0	189,780
District Base Program			11,268		0	2,644	2,156	2,156	2,156	2,156	0	11,268
Project Base Program			10,905		0	2,407	2,107	2,127	2,107	2,157	0	10,905
Overall Project			211,953		0	19,603	44,097	44,380	53,641	50,232	0	211,953

Unit: No. of Activities Programed & BDT 1,000												
Sub-project/Program	Program Volume	Unit Rate (BDT 000)	Program Cost (BDT 000)	Item	Fiscal Year							Total Program Cost
					2017/18	2018/19	2019/20	2020/21	2021/22	2022/23		
					2017	2018	2019	2020	2021	2022	2023	
District Base Program												
2.1.2 Study Tour/exchange Visit (farmer)	33	44		Schedule		5	7	7	7	7		33
			1,452	Cost		220	308	308	308	308		1,452
2.1.4 Agriculture Fair	10	276		Schedule		2	2	2	2	2		10
			2,760	Cost		552	552	552	552	552		2,760
3.1 Induction Training of Field Staff	9	208		Schedule		9						9
			1,872	Cost		1,872						1,872
3.2 Refresher Training of Field Staff	36	144		Schedule			9	9	9	9		36
			5,184	Cost			1,296	1,296	1,296	1,296		5,184
District Base Program Cost Schedule			11,268		0	2,644	2,156	2,156	2,156	2,156	0	11,268
Project Base Program												
1.12 Research-Extension-Farmer Dialog	10	76				2	2	2	2	2		10
			760			152	152	152	152	152		760
3.3 Study Tour/Exchange Visit (field staff)	5	255				1	1	1	1	1		5
			1,275			255	255	255	255	255		1,275
5.1 Field trial on new rice varieties	1	4,760										0
			4,760			1080	910	920	910	940		4,760
5.2 Field trial on non-rice crops	1	4,110										0
			4,110			920	790	800	790	810		4,110
Project Base Program Cost Schedule			10,905		0	2,407	2,107	2,127	2,107	2,157	0	10,905

Appendix 5.23-11

Table Implementation & Cost Schedule of APSS and SIGS by Sub-project & Program -11/11

Unit: No. of Activities Programed & BDT 1,000												
Sub-project/Program	Program Volume	Unit Rate (BDT 000)	Program Cost (BDT 000)	Item	Fiscal Year							Total Program Cost
					2017/18	2018/19	2019/20	2020/21	2021/22	2022/23		
					Calendar Year							
					2017	2018	2019	2020	2021	2022	2023	
Overall Implementation & Cost Schedule												
I. APSS												
1.1 Adaptive Trial (rice)	90	27		Schedule	0	7	13	16	29	25	0	90
			2,430	Cost	0	189	351	432	783	675	0	2,430
1.2 Adaptive Trial (upland crops & vegetables)	45	27		Schedule	0	0	5	8	17	15	0	45
			1,215	Cost	0	0	135	216	459	405		1,215
1.3 Adaptive Trial (cropping pattern)	30	55		Schedule	0	0	0	4	10	16	0	30
			1,650	Cost	0	0	0	220	550	880		1,650
1.4 Demonstration Plot (rice)	310	12		Schedule	0	12	38	71	100	89	0	310
			3,720	Cost	0	144	456	852	1,200	1,068		3,720
1.5 Demonstration Field (rice)	100	17		Schedule	0	1	15	21	32	31	0	100
			1,700	Cost	0	17	255	357	544	527		1,700
1.6 Demonstration Area (rice)	35	84		Schedule	0	0	0	4	12	19	0	35
			2,940	Cost	0	0	0	336	1,008	1,596		2,940
1.7 Demonstration Plot (upland crops/vegetables)	65	16		Schedule	0	0	6	12	20	27	0	65
			1,040	Cost	0	0	96	192	320	432		1,040
1.8 Cropping Pattern Demonstration	45	27		Schedule	0	0	0	10	15	20	0	45
			1,215	Cost	0	0	0	270	405	540		1,215
1.9 Water Management Demonstration Area (rice)	30	132		Schedule	0	0	0	3	11	16	0	30
			3,960	Cost	0	0	0	396	1,452	2,112		3,960
1.10 IPM FFS/ICM FFS (rice)	45	155		Schedule	0	4	6	11	9	15	0	45
			6,975	Cost	0	620	930	1,705	1,395	2,325		6,975
1.11 Seed Multiplication (rice)	90	158		Schedule	0	5	9	20	27	29	0	90
			14,220	Cost	0	790	1,422	3,160	4,266	4,582		14,220
2.1.1 Farmer Training	120	110		Schedule	0	5	23	26	38	28	0	120
			13,200	Cost	0	550	2,530	2,860	4,180	3,080		13,200
2.1.3 Mass Guidance/Workshop/Campaign	90	28		Schedule	0	4	18	18	27	23	0	90
			2,520	Cost	0	112	504	504	756	644		2,520
2.2 Empowerment of Existing Farmer Organizations (FO)	150	106		Schedule	0	7	32	29	44	38	0	150
			15,900	Cost	0	742	3,392	3,074	4,664	4,028		15,900
2.3 Formation & Empowerment of Farmer Organizations (FO)	150	123		Schedule	0	7	32	29	44	38	0	150
			18,450	Cost	0	861	3,936	3,567	5,412	4,674		18,450
4.1 Farm Machinery Hiring Services	35	1,521		Schedule	0	3	9	7	9	7	0	35
			53,235	Cost	0	4,563	13,689	10,647	13,689	10,647	0	53,235
4.2 Construction of Community Drying Floor & Seed Storage Facility	60	260		Schedule	0	8	14	11	12	15	0	60
			15,600	Cost	0	2,080	3,640	2,860	3,120	3,900		15,600
APSS Total			159,970		0	10,668	31,336	31,648	44,203	42,115	0	159,970
II. SIGS												
1. Floating Bed Vegetable Culture Scheme	50	112		Schedule	0	6	12	12	11	9	0	50
			5,600	Cost	0	672	1,344	1,344	1,232	1,008	0	5,600
2. Small-scale Vegetable Production Support	60	62		Schedule	0	6	15	16	13	10	0	60
			3,720	Cost	0	372	930	992	806	620	0	3,720
3. Fruit Production Support Scheme	50	99		Schedule	0	6	14	13	9	8	0	50
			4,950	Cost	0	594	1,386	1,287	891	792	0	4,950
4. Micro Poultry Raising Scheme	50	170		Schedule	0	7	15	17	7	4	0	50
			8,500	Cost	0	1,190	2,550	2,890	1,190	680	0	8,500
5. Small-scale Mushroom Culture Scheme	40	176		Schedule	0	6	13	11	6	4	0	40
			7,040	Cost	0	1,056	2,288	1,936	1,056	704	0	7,040
SIGS Total			29,810		0	3,884	8,498	8,449	5,175	3,804	0	29,810
Overall Sub-project Base Program Cost Schedule			189,780		0	14,552	39,834	40,097	49,378	45,919	0	189,780

Source: Prepared by JICA Survey Team

Appendix 5.24

Table Implementation Schedules of APSS and SIGS by Subproject

Sub-project/Program	Sub-project Area (ha)	Item 1/	Calendar Year					
			2018	2019	2020	2021	2022	
			Fiscal Year					
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Rehabilitation Sub-project								
R-1 Dampara Water Management Scheme	15,004	Construction	■	■	■	■	■	
		Program	■	■	■	■	■	
R-2 Kangsha River Scheme	11,337	Construction	■					
		Program	■	■	■	■	■	
R-3 Singer Beel Scheme	7,200	Construction		■	■			
		Program	■	■	■	■	■	
R-4 Baraikhal Khal Scheme	8,667	Construction	■	■	■	■	■	
		Program	■	■	■	■	■	
R-5 Aladia-Bahadia Scheme	2,464	Construction		■	■	■		
		Program	■	■	■	■	■	
R-6 Modkhola Bhairagirchar Sub-project Scheme	2,060	Construction	■					
		Program	■	■	■	■	■	
R-7 Ganakkahali Sub-scheme	2,652	Construction	■					
		Program	■	■	■	■	■	
R-8 Kairdhala Ratna Scheme	11,900	Construction	■					
		Program	■	■	■	■	■	
R-9 Bashira River Scheme	4,521	Construction	■	■	■	■	■	
		Program	■	■	■	■	■	
R-10 Aralia Khal Scheme	1,501	Construction	■					
		Program	■	■	■	■	■	
R-11 Chandal Beel Scheme	1,012	Construction	■					
		Program	■	■	■	■	■	
R-12 Satdona Beel Scheme	5,049	Construction	■					
		Program	■	■	■	■	■	
R-13 Gangajuri FCD Sub-Project	20,441	Construction		■	■			
		Program	■	■	■	■	■	
R-14 Khaliajuri Polder #02 Scheme	6,611	Construction	■					
		Program	■	■	■	■	■	
R-15 Khaliajuri Polder #04 Scheme	7,201	Construction	■					
		Program	■	■	■	■	■	
Rehabilitation Sub-project Total		107,621						
New Construction Sub-project								
N-1. Boro Haor Project (Nikli)	9,146	Construction	■	■	■	■	■	
		Program	■	■	■	■	■	
N-2. Naogaon Haor Project	9,104	Construction	■	■	■	■	■	
		Program	■	■	■	■	■	
N-3. Jaliar Haor Project	2,466	Construction		■	■	■	■	
		Program	■	■	■	■	■	
N-4. Dhamapasha Rui Beel Project	21,563	Construction	■	■	■	■	■	
		Program	■	■	■	■	■	
N-5. Chandpur Haor Project	2,311	Construction	■					
		Program	■	■	■	■	■	
N-6. Sunair Haor Project	3,894	Construction	■	■	■	■	■	
		Program	■	■	■	■	■	
N-7. Badla Haor Project	1,504	Construction	■					
		Program	■	■	■	■	■	
N-8. Nunnir Haor Project	5,810	Construction		■	■	■	■	
		Program	■	■	■	■	■	
N-9. Dakhshiner Haor Project	2,482	Construction			■	■	■	
		Program	■	■	■	■	■	
N-10. Chatal Haor Project	816	Construction				■	■	
		Program	■	■	■	■	■	
N-11. Ganesh Haor Project	3,090	Construction	■					
		Program	■	■	■	■	■	
N-12. Dhakua Haor Project	4,425	Construction	■	■	■	■	■	
		Program	■	■	■	■	■	
N-13. Mokhar Haor Project	8,064	Construction	■	■	■	■	■	
		Program	■	■	■	■	■	
N-14. Noapara Haor Project	3,180	Construction			■	■	■	
		Program	■	■	■	■	■	
New Construction Sub-project		77,855						
Overall Sub-project		185,476						
District Base Program								
2.1.2 Study Tour/exchange Visit (farmer)		Program	■	■	■	■	■	
2.1.4 Agriculture Fair		Program	■	■	■	■	■	
3.1 Induction Training of Field Staff		Program	■	■	■	■	■	
3.2 Refresher Training of Field Staff		Program	■	■	■	■	■	
Project Base Program								
1.1.2 Research-Extension-Farmer Dialog		Program	■	■	■	■	■	
3.3 Study Tour/Exchange Visit (field staff)		Program	■	■	■	■	■	
6.1 Field Trial on Rice		Program	■	■	■	■	■	
6.2 Field Trial on Non-rice Crops		Program	■	■	■	■	■	

Prepared by JICA Survey Team

Appendix 5.25-1

Table Standard Program Cost of APSS & SIGS -1/26

Adaptive Trial: Rice 0.25 acre (0.1 ha)

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I. Direct Cost					
1. Farm Inputs					
- Seed	Kg	3	40	120	4 varieties
- Urea	Kg	19	16	304	
- TSP	Kg	11	22	242	
- MOP	Kg	8	15	113	
- Gypsum	Kg	6	10	60	
- Zinc Sulfate	Kg	1	150	120	
- Compost	Kg	500	2	1,000	
- Agro-chemicals	packet	1	250	250	
Sub-total				2,200	<i>rounded</i>
2. Materials					
- Guidance Material	packet	1	500	500	4 boards (1 large 3 smalls)
- Sign Board	packet	1	900	900	
- Input Carrying Cost	packet	1	100	100	
Sub-total				1,500	
3. Implementation					
- Land Preparation	packet	1	500	500	power tiller
- Irrigation Cost	packet	1	2,000	2,000	
- Labour Cost	packet	1	4,500	4,500	
- Farmers Field Day (FFD)	time	3	3,000	9,000	25 farmers x 3 times
- Resource Person	time	2	850	1,700	DAO staff
- Resource Person	time	4	850	3,400	UAO staff
- Report	packet	1	1,000	1,000	
Sub-total				22,100	<i>rounded</i>
4. Miscellaneous Cost	packet			1,300	± 5% of 1 to 3
Direct Cost Total (I)				27,000	<i>rounded</i>
II. Operation/Administration Cost					
- 5% of direct cost				1,400	<i>rounded</i>
Operation Cost Total (II)				1,400	
Total Program Cost (I + II)				28,000	<i>rounded</i>

Adaptive Trial: Upland Crop (Wheat) 0.25 acre (0.1 ha)

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I. Direct Cost					
1. Farm Inputs					
- Seed	Kg	5	40	200	4 varieties
- Urea	Kg	20	16	320	
- TSP	Kg	15	22	330	
- MOP	Kg	5	15	75	
- Gypsum	Kg	12	10	120	
- Zinc Sulfate	Kg	1	150	120	
- Compost	Kg	500	2	1,000	
- Agro-chemicals	packet	1	250	250	
Sub-total				2,400	<i>rounded</i>
2. Materials					
- Guidance Material	packet	1	1,000	1,000	4 boards (1 large 3 smalls)
- Sign Board	packet	1	900	900	
- Input Carrying Cost	packet	1	100	100	
Sub-total				2,000	
3. Implementation					
- Land Preparation	packet	1	500	500	power tiller
- Irrigation Cost	packet	1	1,000	1,000	
- Labour Cost	packet	1	3,000	3,000	
- Farmers Field Day (FFD)	time	3	3,000	9,000	25 farmers x 3 times
- Resource Person	time	2	850	1,700	DAO staff
- Resource Person	time	4	850	3,400	UAO staff
- Report	packet	1	1,000	1,000	
Sub-total				19,600	
4. Miscellaneous Cost	packet			1,200	± 5% of 1 to 3
Direct Cost Total (I)				26,000	<i>rounded</i>
II. Operation/Administration Cost					
- 5% of direct cost				1,300	<i>rounded</i>
Operation Cost Total (II)				1,300	
Total Program Cost (I + II)				27,000	<i>rounded</i>

Source: Prepared by JICA Survey Team

Appendix 5.25-2

Table Standard Program Cost of APSS & SIGS -2/26

Adaptive Trial: Upland Crop (Mungbeans) 0.25 acre (0.1 ha)

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I. Direct Cost					
1. Farm Inputs					
- Seed	Kg	3	75	225	4 varieties
- Urea	Kg	5	16	80	
- TSP	Kg	10	22	220	
- MOP	Kg	6	15	90	
- Gypsum	Kg	6	10	60	
- Zinc Sulfate	Kg	0.5	150	75	
- Boron Acid	Kg	0.5	300	150	
- Compost	Kg	500	2	1,000	
- Agro-chemicals	packet	1	250	250	
Sub-total				2,150	<i>rounded</i>
2. Materials					
- Guidance Material	packet	1	1,000	1,000	4 boards (1 large 3 smalls)
- Sign Board	packet	1	900	900	
- Input Carrying Cost	packet	1	100	100	
Sub-total				2,000	
3. Implementation					
- Land Preparation	packet	1	500	500	power tiller
- Irrigation Cost	packet	1	1,000	1,000	
- Labour Cost	packet	1	3,000	3,000	
- Farmers Field Day (FFD)	time	3	3,000	9,000	25 farmers x3 times
- Resource Person	time	2	850	1,700	DAO staff
- Resource Person	time	4	850	3,400	UAO staff
- Report	packet	1	1,000	1,000	
Sub-total				19,600	<i>rounded</i>
4. Miscellaneous Cost	packet			1,200	± 5% of 1 to 3
Direct Cost Total (I)				23,000	<i>rounded</i>
II. Operation/Administration Cost					
- 5% of direct cost				1,200	<i>rounded</i>
Operation Cost Total (II)				1,200	
Total Program Cost (I + II)				24,000	<i>rounded</i>

Adaptive Trial: Vegetable (Gourd) 0.25 acre (0.1 ha)

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I. Direct Cost					
1. Farm Inputs					
- Seed	g	40	15	600	4 kinds
- Urea	Kg	35	16	560	
- TSP	Kg	20	22	440	
- MOP	Kg	25	15	375	
- Gypsum	Kg	8	10	80	
- Zinc Sulfate	Kg	1	150	150	
- Compost	Kg	1,000	2	2,000	
- Agro-chemicals	packet	1	250	250	
Sub-total				4,460	
2. Materials					
- Guidance Material	packet	1	500	500	4 boards (1 large 3 smalls)
- Sign Board	packet	1	900	900	
- Input Carrying Cost	packet	1	100	100	
Sub-total				1,500	
3. Implementation					
- Land Preparation	packet	1	500	500	power tiller
- Irrigation Cost	packet	1	1,000	1,000	
- Labour Cost	packet	1	4,000	4,000	
- Farmers Field Day (FFD)	time	3	3,000	9,000	25 farmers x3 times
- Resource Person	time	2	850	1,700	DAO staff
- Resource Person	time	2	850	1,700	UAO staff
- Report	packet	5	1,000	5,000	
Sub-total				22,900	
4. Miscellaneous Cost	packet			2,100	± 5% of 1 to 3
Direct Cost Total (I)				31,000	<i>rounded</i>
II. Operation/Administration Cost					
- 5% of direct cost				1,600	<i>rounded</i>
Operation Cost Total (II)				1,600	
Total Program Cost (I + II)				33,000	<i>rounded</i>

Source: Prepared by JICA Survey Team

Appendix 5.25-3

Table Standard Program Cost of APSS & SIGS -3/26

Adaptive Trial: Vegetable (Kangkong) 0.25 acre (0.1 ha)

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I. Direct Cost					
1. Farm Inputs					
- Seed	g	6	80	480	4 kinds
- Urea	Kg	6	16	96	
- TSP	Kg	10	22	220	
- MOP	Kg	4	15	60	
- Gypsum	Kg	8	10	80	
- Zinc Sulfate	Kg			-	
- Compost	Kg	500	2	1,000	
- Agro-chemicals	packet	1	250	250	
Sub-total				2,200	rounded
2. Materials					
- Guidance Material	packet	1	500	500	
- Sign Board	packet	1	900	900	4 boards (1 large 3 smalls)
- Input Carrying Cost	packet	1	100	100	
Sub-total				1,500	
3. Implementation					
- Land Preparation	packet	1	500	500	power tiller
- Irrigation Cost	packet	1	1,000	1,000	
- Labour Cost	packet	1	4,000	4,000	
- Farmers Field Day (FFD)	time	3	3,000	9,000	25 farmers x 3 times
- Resource Person	time	2	850	1,700	DAO staff
- Resource Person	time	4	850	3,400	UAO staff
- Report	packet	1	1,000	1,000	
Sub-total				20,600	rounded
4. Miscellaneous Cost	packet			2,100	± 5% of 1 to 3
Direct Cost Total (I)				27,000	rounded
II. Operation/Administration Cost					
- 5% of direct cost				1,400	rounded
Operation Cost Total (II)				1,400	
Total Program Cost (I + II)				28,000	rounded

Source: Prepared by JICA Survey Team

Appendix 5.25-4

Table Standard Program Cost of APSS & SIGS -4/26

Adaptive Trial:/Cropping Pattern 0.25 acre (0.1 ha): Boro Rice + Vegetable (Cabbage)

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
A. Boro Rice					
Direct Cost					
1. Farm Inputs					
- Seed	Kg	3	40	120	4 varieties
- Urea	Kg	19	16	304	
- TSP	Kg	11	22	242	
- MOP	Kg	8	15	113	
- Gypsum	Kg	6	10	60	
- Zinc Sulfate	Kg	1	150	120	
- Compost	Kg	500	2	1,000	
- Agro-chemicals	packet	1	250	250	
Sub-total				2,210	
2. Materials					
- Guidance Material	packet	1	1,000	1,000	4 boards (1 large 3 smalls)
- Sign Board	packet	1	900	900	
- Input Carrying Cost	packet	1	100	100	
Sub-total				2,000	
3. Implementation					
- Land Preparation	packet	1	500	500	power tiller
- Irrigation Cost	packet	1	2,000	2,000	
- Labour Cost	packet	1	4,500	4,500	
- Farmers Field Day (FFD)	time	3	3,000	9,000	25 farmers x 3 times
- Resource Person	time	2	850	1,700	DAO staff
- Resource Person	time	4	850	3,400	UAO staff
- Report	packet	1	1,000	1,000	
Sub-total				22,100	rounded
4. Miscellaneous Cost	packet			1,300	± 5% of 1 to 3
Direct Cost Total				28,000	rounded
Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
B. Kangkong					
Direct Cost					
1. Farm Inputs					
- Seed	kg	6	80	480	4 kinds
- Urea	Kg	6	16	96	
- TSP	Kg	10	22	220	
- MOP	Kg	4	15	60	
- Gypsum	Kg	8	10	80	
- Zinc Sulfate	Kg			-	
- Compost	Kg	1,000	2	2,000	
- Agro-chemicals	packet	1	400	400	
Sub-total				3,300	rounded
2. Materials					
- Guidance Material	packet	1	1,000	1,000	4 boards (1 large 3 smalls)
- Sign Board	packet	1	900	900	
- Input Carrying Cost	packet	1	100	100	
Sub-total				2,000	
3. Implementation					
- Land Preparation	packet	1	500	500	power tiller
- Irrigation Cost	packet	1	1,000	1,000	
- Labour Cost	packet	1	4,000	4,000	
- Farmers Field Day (FFD)	time	3	3,000	9,000	25 farmers x 3 times
- Resource Person	time	2	850	1,700	DAO staff
- Resource Person	time	4	850	3,400	UAO staff
- Report	packet	1	1,000	1,000	
Sub-total				20,600	rounded
4. Miscellaneous Cost	packet			1,300	± 5% of 1 to 3
Direct Cost Total				27,000	rounded
Overall Direct Cost Total (A+B)				55,000	
C. Operation/Administration Cost					
- 5% of Direct Cost				3,000	rounded
Operation Cost Total				3,000	
Total Program Cost (A + B + C)				58,000	

Source: Prepared by JICA Survey Team

Appendix 5.25-5

Table Standard Program Cost of APSS & SIGS -5/26

Demonstration Plot: Rice 0.25 acre (0.1 ha)

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I. Direct Cost					
1. Farm Inputs					
- Seed	Kg	3	36	108	
- Urea	Kg	19	16	304	
- TSP	Kg	11	22	242	
- MOP	Kg	8	15	113	
- Gypsum	Kg	6	10	60	
- Zinc Sulfate	Kg	1	150	120	
- Compost	Kg	500	-	-	by farmer
- Agro-chemicals	packet	1	250	250	
Sub-total				1,200	
2. Materials					
- Guidance Material	packet	1	300	300	
- Sign Board (size 90 x 60 cm)	unit	1	500	500	
- Seed Storing Bag	No.	10	120	1,200	for seed exchange
- Input Carrying Cost	packet	1	100	100	
Sub-total				2,100	
3. Implementation					
- Land Preparation	packet	500			by farmer
- Farmers Field Day (FFD)	time	2	3,000	6,000	25 farmers x 2 times
- Resource Person	time	3	850	2,550	DAO/UAO staff
Sub-total				8,550	rounded
4. Miscellaneous Cost	packet			600	± 5% of 1 to 3
Direct Cost Total (I)				12,000	rounded
II. Operation/Administration Cost					
- 5% of Direct Cost				1,000	rounded
Operation Cost Total (II)				1,000	
Total Program Cost (I + II)				13,000	

Demonstration Field: Rice 1 acre (0.4 ha)

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I. Direct Cost					
1 Farm Inputs					
- Seed	Kg	12	36	432	
- Urea	Kg	75	16	1,200	
- TSP	Kg	45	22	990	
- MOP	Kg	30	15	450	
- Gypsum	Kg	25	10	250	
- Zinc Sulfate	Kg	3	150	450	
- Compost	Kg	15,000	-	-	by farmer
- Agro-chemicals	packet	1	1,000	1,000	
Sub-total				4,800	rounded
2 Materials					
- Guidance Material	packet	1	200	200	
- Sign Board (size 90 x 60 cm)	unit	1	500	500	
- Input Carrying Cost	packet	1	200	200	
Sub-total				900	
3 Implementation					
- Land Preparation	packet	2,000			by farmer
- Farmers Field Day (FFD)	time	2	3,000	6,000	25 farmers x 2 times
- Seed Storing Bag	No.	10	120	1,200	for seed exchange
- Resource Person	time	3	850	2,550	DAO/UAO staff
Sub-total				9,800	rounded
4 Miscellaneous Cost	packet			800	± 5% of 1 to 3
Direct Cost Total (I)				17,000	rounded
II. Operation/Administration Cost					
- 5% of Direct Cost				1,000	rounded
Operation Cost Total (II)				1,000	
Total Program Cost (I + II)				18,000	

Source: Prepared by JICA Survey Team

Appendix 5.25-6

Table Standard Program Cost of APSS & SIGS -6/26

Demonstration Area: Rice 10 acre (4 ha)

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I. Direct Cost					
1. Farm Inputs					
- Seed	Kg	120	36	4,320	
- Urea	Kg	750	16	12,000	
- TSP	Kg	450	22	9,900	
- MOP	Kg	300	15	4,500	
- Gypsum	Kg	250	10	2,500	
- Zinc Sulfate	Kg	30	150	4,500	
- Compost	Kg	15,000		-	by farmer
- Agro-chemicals	packet	1	1,000	1,000	
Sub-total				38,700	rounded
2. Materials					
- Guidance Material	packet	1	1,000	1,000	
- Sign Board (size 180 x 120 cm)	unit	2	500	1,000	
- Seed Storing Bag	No.	100	120	12,000	for seed exchange
- Input Carrying Cost	packet	1	2,000	2,000	
Sub-total				16,000	
3. Implementation					
- Land Preparation	packet	20,000		-	by farmer
- Farmers Field Day (FFD)	time	4	5,000	20,000	2 times x 50 farmers x 2 sites
- Resource Person	time	6	850	5,100	DAO/UAO staff
Sub-total				25,100	rounded
4. Miscellaneous Cost	packet			4,000	± 5% of 1 to 3
Direct Cost Total (I)				84,000	rounded
II. Operation/Administration Cost					
- 5% of Direct Cost				4,000	rounded
Operation Cost Total (II)				4,000	
Total Program Cost (I + II)				88,000	

Water Management Demonstration Area: Rice 20 acre (8 ha)

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I. Direct Cost					
1. Farm Inputs					
- Seed	Kg	240	36	8,640	
- Urea	Kg	1,500	16	24,000	
- TSP	Kg	900	22	19,800	
- MOP	Kg	600	15	9,000	
- Gypsum	Kg	500	10	5,000	
- Zinc Sulfate	Kg	60	150	9,000	
- Compost	Kg	30,000		-	by farmer
- Agro-chemicals	packet	1	2,000	2,000	
Sub-total				77,400	rounded
2. Materials					
- Guidance Material	packet	1	2,000	2,000	
- Sign Board (size 180 x 120 cm)	unit	4	500	2,000	
- Seed Storing Bag	packet	1	4,000	4,000	
- Input Carrying Cost	packet	1	4,000	4,000	
Sub-total				8,000	
3. Implementation					
- Irrigation Cost	packet	1	15,000	15,000	
- Farmers Field Day (FFD)	time	4	5,000	20,000	2 times x 50 farmers x 2 sites
- Resource Person	time	6	850	5,100	DAO/UAO staff
Sub-total				40,100	rounded
4. Miscellaneous Cost	packet			6,300	± 5% of 1 to 3
Direct Cost Total (I)				132,000	rounded
II. Operation/Administration Cost					
- 5% of Direct Cost				7,000	rounded
Operation Cost Total (II)				7,000	rounded
Total Program Cost (I + II)				139,000	

Source: Prepared by JICA Survey Team

Appendix 5.25-7

Table Standard Program Cost of APSS & SIGS -7/26

Demonstration Plot: Oil Seed Mustard 0.25 acre (0.1 ha)

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I. Direct Cost					
1. Farm Inputs					
- Seed	Kg	1	130	130	
- Urea	Kg	18	16	288	
- TSP	Kg	18	22	396	
- MOP	Kg	12	15	180	
- Gypsum	Kg	18	10	180	
- Zinc Sulfate	Kg	1	150	120	
- Boric Acid	Kg	1	200	200	
- Compost	Kg	500		-	by farmer
- Agro-chemicals	packet	1	600	600	
Sub-total				2,100	rounded
2. Materials					
- Guidance Material	packet	1	200	200	
- Sign Board (size 90 x 60 cm)	unit	1	500	500	
- Seed Container	No.	2	900	1,800	for seed exchange
- Input Carrying Cost	packet	1	100	100	
Sub-total				2,600	
3. Implementation					
- Land Preparation	packet			-	by farmer
- Farmers Field Day (FFD)	time	2	3,000	6,000	25 farmers x 2 times
- Resource Person	time	3	850	2,550	DAO/UAO staff
Sub-total				8,600	rounded
4. Miscellaneous Cost	packet			700	± 5% of 1 to 3
Direct Cost Total (I)				14,000	rounded
II. Operation/Administration Cost					
- 5% of Direct Cost				1,000	rounded
Operation Cost Total (II)				1,000	
Total Program Cost (I + II)				15,000	

Demonstration Plot: Black Gram 0.25 acre (0.1 ha)

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I. Direct Cost					
1. Farm Inputs					
- Seed	Kg	5	80	400	
- Urea	Kg	5	16	80	
- TSP	Kg	9	22	198	
- MOP	Kg	4	15	60	
- Gypsum	Kg	18	10	180	
- Zinc Sulfate	Kg	1	150	120	
- Compost	Kg	500		-	by farmer
- Agro-chemicals	packet	1	600	600	
Sub-total				1,600	rounded
2. Materials					
- Guidance Material	packet	1	200	200	
- Sign Board (size 90 x 60 cm)	unit	1	500	500	
- Seed Container	No.	3	900	2,700	for seed exchange
- Input Carrying Cost	packet	1	100	100	
Sub-total				3,500	
3. Implementation					
- Land Preparation	packet			-	by farmer
- Farmers Field Day (FFD)	time	2	3,000	6,000	25 farmers x 2 times
- Resource Person	time	3	850	2,550	DAO/UAO staff
Sub-total				8,600	rounded
4. Miscellaneous Cost	packet			700	± 5% of 1 to 3
Direct Cost Total (I)				15,000	rounded
II. Operation/Administration Cost					
- 5% of Direct Cost				1,000	rounded
Operation Cost Total (II)				1,000	
Total Program Cost (I + II)				16,000	

Source: Prepared by JICA Survey Team

Appendix 5.25-8

Table Standard Program Cost of APSS & SIGS -8/26

Demonstration Plot: Vegetables (Cabbage) 0.25 acre (0.1 ha)

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I. Direct Cost					
1. Farm Inputs					
- Seedling	No.	3,000	1	1,500	
- Urea	Kg	30	16	480	
- TSP	Kg	20	22	440	
- MOP	Kg	25	15	375	
- Gypsum	Kg	8	10	80	
- Zinc Sulfate	Kg	1	150	120	
- Boric Acid	Kg	1	200	200	
- Compost	Kg	1,000	-	-	by farmer
- Agro-chemicals	packet	1	300	300	
Sub-total				3,500	rounded
2. Materials					
- Guidance Material	packet	1	200	200	
- Sign Board (size 90 x 60 cm)	unit	1	500	500	
- Input Carrying Cost	packet	1	100	100	
Sub-total				800	
3. Implementation					
- Land Preparation	packet	1	1,500	1,500	
- Irrigation Cost	packet	1	800	800	
- Farmers Field Day (FFD)	time	2	3,000	6,000	25 farmers x 2 times
- Resource Person	time	3	850	2,550	DAO/UAO staff
Sub-total				10,900	rounded
4. Miscellaneous Cost	packet			800	± 5% of 1 to 3
Direct Cost Total (I)				16,000	rounded
II. Operation/Administration Cost					
- 5% of Direct Cost				1,000	rounded
Operation Cost Total (II)				1,000	
Total Program Cost (I + II)				17,000	

Demonstration Plot: vegetables (Sweet Gourd) 0.25 acre (0.1 ha)

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I. Direct Cost					
1. Farm Inputs					
- Seed	g	25	14	350	
- Urea	Kg	35	16	560	
- TSP	Kg	20	22	440	
- MOP	Kg	25	15	375	
- Gypsum	Kg	8	10	80	
- Zinc Sulfate	Kg	1	150	150	
- Boric Acid	Kg		200	-	
- Compost	Kg	1,000	-	-	by farmer
- Agro-chemicals	packet	1	300	300	
Sub-total				2,300	rounded
2. Materials					
- Guidance Material	packet	1	200	200	
- Sign Board (size 90 x 60 cm)	unit	1	500	500	
- Input Carrying Cost	packet	1	100	100	
Sub-total				800	
3. Implementation					
- Land Preparation	packet	1	3,500	3,500	
- Irrigation Cost	packet	1	800	800	
- Farmers Field Day (FFD)	time	2	3,000	6,000	25 farmers x 2 times
- Resource Person	time	3	850	2,550	DAO/UAO staff
Sub-total				12,900	rounded
4. Miscellaneous Cost	packet			800	± 5% of 1 to 3
Direct Cost Total (I)				17,000	rounded
II. Operation/Administration Cost					
- 5% of Direct Cost				1,000	Administration
Operation Cost Total (II)				1,000	rounded
Total Program Cost (I + II)				18,000	

Source: Prepared by JICA Survey Team

Appendix 5.25-9

Table Standard Program Cost of APSS & SIGS -9/26

Cropping Pattern Demonstration: 0.25 acre (0.1 ha) : Boro Rice + Vegetable (Cabbage)

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
A. Boro Rice					
Direct Cost					
1. Farm Inputs					
- Seed	Kg	3	36	108	
- Urea	Kg	19	16	304	
- TSP	Kg	11	22	242	
- MOP	Kg	8	15	113	
- Gypsum	Kg	6	10	60	
- Zinc Sulfate	Kg	1	150	120	
- Compost	Kg	500	-	-	by farmer
- Agro-chemicals	packet	1	250	250	
Sub-total				1,200	rounded
2. Materials					
- Guidance Material	packet	1	200	200	
- Sign Board	unit	1	500	500	(size 90 x 60 cm)
- Seed Storing Bag	No.	10	120	1,200	for seed exchange
- Input Carrying Cost	packet	1	100	100	
Sub-total				2,000	
3. Implementation					
- Land Preparation	packet	500			by farmer
- Farmers Field Day (FFD)	time	2	3,000	6,000	25 farmers
- Resource Person	time	3	850	2,550	DAO/UAO staff
Sub-total				8,600	rounded
4. Miscellaneous Cost	packet			600	± 5% of 1 to 3
Direct Cost Total				12,000	rounded
Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
B. Boro Cabbage					
Direct Cost					
1. Farm Inputs					
- Seedling	No.	3,000	1	1,500	
- Urea	Kg	30	16	480	
- TSP	Kg	20	22	440	
- MOP	Kg	25	15	375	
- Gypsum	Kg	8	10	80	
- Zinc Sulfate	Kg	1	150	120	
- Boric Acid	Kg	1	200	200	
- Compost	Kg	1,000	-	-	by farmer
- Agro-chemicals	packet	1	400	400	
Sub-total				3,600	rounded
2. Materials					
- Guidance Material	packet	1	200	200	
- Sign Board	unit	1	500	500	(size 90 x 60 cm)
- Input Carrying Cost	packet	1	100	100	
Sub-total				800	
3. Implementation					
- Land Preparation	packet	1,500			by farmer
- Irrigation Cost	packet	1	800	800	25 farmers
- Farmers Field Day (FFD)	time	2	3,000	6,000	DAO/UAO staff
- Resource Person	time	3	850	2,550	
Sub-total				9,400	rounded
4. Miscellaneous Cost	packet			700	± 5% of 1 to 3
Direct Cost Total				15,000	rounded
Overall Direct Cost Total (A+B)				27,000	
C. Operation/Administration Cost					
- 5% of Direct Cost				1,000	rounded
Operation Cost Total				1,000	
Total Program Cost (A + B + C)				28,000	

Source: Prepared by JICA Survey Team

Appendix 5.25-10

Table Standard Program Cost of APSS & SIGS -10/26

IPM FFS (rice): 25 farmers & 10 sessions

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I. Direct Cost					
1. IPM Demonstration Field (0.3ha)					
- Seed	Kg	10	36	360	
- Urea	Kg	50	16	800	
- TSP	Kg	20	22	440	
- MOP	Kg	7	15	105	
- Gypsum	Kg	18	10	180	
- Zinc Sulfate	Kg	2	150	300	
- Compost	Kg	800		-	by farmer
Sub-total				2,200	
2. Materials					
- Sign Board	packet	1	500	500	
- Input Carrying Cost	packet	1	100	100	
Sub-total				600	
3. FFS Cost (12 sessions)					
- 1st: orientation					
- Participant Allowance 1/	participant	25	400	10,000	DAO/UAO staff
- Resource Person	manday	2	850	1,700	
- Field Facilitator	manday	1	700	700	
- Training Materials	set	30	100	3,000	
- Others	packet	1	3,000	3,000	refreshment & miscellaneous
				18,400	
- 2nd to 9th session					
- Participant Allowance 1/	participant	200	400	80,000	25 farmers x 8 times
- Resource Person	manday	8	850	6,800	DAO/UAO staff
- Field Facilitator	time	8	700	5,600	1 facilitator x 8 times
- Training Materials	set	30	400	12,000	
- Farmer Field Day	time	2	5,000	10,000	2 times x 50 farmers
- Miscellaneous	packet	1	1,000	1,000	
				115,400	
- 10th (review) session (workshop)					
- Participant Allowance 1/	participant	25	400	10,000	DAO/UAO staff
- Resource Person	manday	2	850	1,700	
- Field Facilitator	manday	1	700	700	
- Workshop Materials	set	30	200	6,000	
- Consumables & Miscellaneous	packet	1	3,500	3,500	
- Report	packet	1	1,000	1,000	
				22,900	
Sub-total				156,700	
4. Miscellaneous Cost	packet			8,000	± 5% of 1 to 3
Direct Cost Total (I)				168,000	rounded
II. Operation/Administration Cost					
- 5% of Direct Cost				8,000	rounded
Operation Cost Total (II)				8,000	
Total Program Cost (I + II)				176,000	

1/ : Allowance include honorarium, food, travelling cost, etc.

Source: Prepared by JICA Survey Team

Appendix 5.25-11

Table Standard Program Cost of APSS & SIGS -11/26

ICM FFS (rice): 25 farmers & 8 sessions

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I. Direct Cost					
1. ICM Demonstration Field (0.3ha)					
- Seed	Kg	10	36	360	
- Urea	Kg	50	16	800	
- TSP	Kg	20	22	440	
- MOP	Kg	7	15	105	
- Gypsum	Kg	18	10	180	
- Zinc Sulfate	Kg	2	150	300	
- Compost	Kg	800		-	by farmer
Sub-total				2,200	
2. Materials					
- Sign Board	packet	1	500	500	
- Input Carrying Cost	packet	1	100	100	
Sub-total				600	
3. FFS Cost (8 sessions)					
- 1st: orientation					
- Participant Allowance 1/	participant	25	400	10,000	
- Resource Person	manday	2	1,850	1,850	DAO & UAO
- Field Facilitator	manday	1	700	700	
- Training Materials	set	30	100	3,000	
- Others	packet	1	3,000	3,000	refreshment & miscellaneous
				18,550	
- 2nd to 7th session					
- Participant Allowance 1/	time	150	400	60,000	25 farmers x 6 times
- Resource Person	time	6	850	5,100	DAO/UAO staff
- Field Facilitator	time	6	350	2,100	2 facilitator x 6 times
- Training Materials	set	30	400	12,000	
- Farmer Field Day	time	2	5,000	10,000	2 times x 50 farmers
- Miscellaneous	packet	1	1,000	1,000	
				90,200	
- 8th (review) session (workshop)					
- Participant Allowance 1/	participant	25	400	10,000	
- Resource Person	manday	2	1,850	1,850	DAO/UAO staff
- Field Facilitator	manday	1	700	700	
- Workshop Materials	set	30	200	6,000	
- Consumables & Miscellaneous	packet	1	3,500	3,500	
- Report	packet	1	1,000	1,000	
				23,050	
Sub-total				131,800	
4. Miscellaneous Cost	packet			6,700	± 5% of 1 to 3
Direct Cost Total (I)				141,000	rounded
II. Operation/Administration Cost					
- 5% of Direct Cost				7,000	rounded
Operation Cost Total (II)				7,000	
Total Program Cost (I + II)				148,000	

1/: Allowance include honorarium, food, travelling cost, etc.

Source: Prepared by JICA Survey Team

Appendix 5.25-12

Table Standard Program Cost of APSS & SIGS -12/26

Seed Multiplication (Rice) 20 acre (5 ha) 0.5 acre (0.2 ha) x 25 farmers

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I. Direct Cost					
1. Farm Inputs					
- Seed	Kg	125	40	5,000	foundation seed
- Urea	Kg	450	16	7,200	50% covered by project
- TSP	Kg	275	22	6,050	50% covered by project
- MOP	Kg	185	15	2,775	50% covered by project
- Gypsum	Kg	150	10	1,500	50% covered by project
- Zinc Sulfate	Kg	13	150	1,875	50% covered by project
- Compost	ton	25		-	by farmer
- Agro-chemicals	set	25	500	12,500	
Sub-total				36,900	rounded
2. Materials					
- Material	packet	1	500	500	
- Sign Board	unit	2	500	1,000	(size 180 x 120 cm) x 2 units
- Seed Storing Bag	No.	250	120	30,000	for seed exchange
- Input Carrying Cost	packet	25	150	3,750	
Sub-total				35,300	rounded
3. Implementation					
- Land Preparation	ha	5	500	2,500	50% covered by project
- Irrigation Cost	ha	5	6,000	30,000	
- Training Cost					2 days training
- Training Material	packet	1	1,500	1,500	
- Trainer Cost	manday	6	850	5,100	
- Participant Allowance 1/	day	50	400	20,000	25 farmers x 2 days
- Stationary, Banner, Consumables	packet	1	2,000	2,000	
- Farmers Field Day (FFD)	time	2	5,000	10,000	50 farmers x 2 times
- Field Inspection	time	4	850	3,400	SCA staff
- Resource Person	time	4	850	3,400	DAO/UAO staff
Sub-total				77,900	
4. Miscellaneous Cost	packet			7,500	± 5% of 1 to 3
Direct Cost Total (I)				158,000	rounded
II. Operation/Administration Cost					
- 5% of Direct Cost				8,000	rounded
Operation Cost Total (II)				8,000	
Total Program Cost (I + II)				166,000	

1/: Allowance include honorarium, food, travelling cost, etc.

Research-Extension-Farmer Dialog (3 days)

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I. Direct Cost					
1. Materials					
- Guidance Materials	set	20	200	4,000	researchers: 3, field staff 8
- Stationary, Consumables	packet	1	1,000	1,000	farmers representatives: 12
Sub-total				5,000	project staff 2
2. Implementation					
- Researcher (allowance)	manday	9	3,500	31,500	3 researchers x 3 days
- Field staff (allowance)	manday	24	850	20,400	8 staff x 3 days
- Farmer (allowance)	manday	36	400	14,400	
- Report	packet	1	1,000	1,000	
Sub-total				67,300	
4. Miscellaneous Cost	packet			3,600	± 5% of 1 to 2
Direct Cost Total (I)				76,000	rounded
II. Operation/Administration Cost					
- 5% of Direct Cost				4,000	rounded
Operation Cost Total (II)				4,000	
Total Program Cost (I + II)				80,000	

1/: Allowance include honorarium, food, travelling cost, etc.

Source: Prepared by JICA Study Team

Appendix 5.25-13

Table Standard Program Cost of APSS & SIGS -13/26

Farmer Training (25 participants, 3 days at upazila HQ): Subject: On need basis

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I. Direct Cost					
1. Preparatory Works					
- Material Preparation	manday	3	500	1,500	
- Consumables	set	1	500	500	
Sub Total				2,000	
2. Materials					
- Stationary & Training Kit	set	30	400	12,000	
- Training Materials	set	30	200	6,000	
- Banner	unit	1	500	500	
- Certification Paper	No.	25	100	2,500	
Sub Total				21,000	
3. Training Implementation Cost					
- Per Diem Allowances	day	75	200	15,000	25 x 3 days
- Transportation Cost	time	75	150	11,250	25 x 3 times
- Training Room Rent	day	3	500	1,500	
- Consumables	time	90	200	18,000	lunch, refreshment, etc.
- Trainers & Coordinator Cost	manday	15	850	12,750	5 trainers x 3 days
- Training Assistant	manday	3	350	1,050	
Sub Total				59,600	rounded
4. Miscellaneous Cost (report etc.)				4,100	± 5% of 1 to 3
Direct Cost Total (I)				87,000	rounded
II Operation/Administration Cost					
- 5% of Direct Cost				4,000	rounded
Operation Cost Total (II)				4,000	
Total Program Cost (I + II)				91,000	

Farmer Training (25 participants, 5 days at upazila HQ): Subject: On need basis

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I. Direct Cost					
1. Preparatory Works					
- Material Preparation	manday	3	500	1,500	
- Consumables	set	1	500	500	
Sub Total				2,000	
2. Materials					
- Stationary & Training Kit	set	30	400	12,000	
- Training Materials	set	30	300	9,000	
- Banner	unit	1	500	500	
- Certification Paper	unit	25	100	2,500	
Sub Total				24,000	
3. Training Implementation Cost					
- Per Diem Allowances	day	125	200	25,000	25 x 5 days
- Transportation Cost	time	125	150	18,750	25 x 5 days
- Training Room Rent	day	5	500	2,500	
- Consumables	time	150	200	30,000	lunch, refreshment, etc.
- Trainers & Coordinator Cost	manday	25	850	21,250	5 trainer x 5 days
- Training Assistant	manday	5	350	1,750	
Sub Total				99,300	rounded
4. Miscellaneous Cost (report etc.)				6,300	± 5% of 1 to 3
Direct Cost Total (I)				132,000	rounded
II Operation/Administration Cost					
- 5% of Direct Cost				7,000	rounded
Operation Cost Total (II)				7,000	
Total Program Cost (I + II)				139,000	

Source: Prepared by JICA Survey Team

Appendix 5.25-14

Table Standard Program Cost of APSS & SIGS -14/26

Study Tour/Exchange Visit (25 farmers x 1 day)

Item		Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I	Direct Cost					
1.	Materials					
	- Guidance Materials	packet	30	100	3,000	
	- Banner	packet	1	500	500	
	- Training Kit	No.	25	200	5,000	cap, bag, stationary
	Sub Total				8,500	
2.	Implementation Cost					
	- Consumables	packet	30	200	6,000	lunch, refreshment
	- Resource Person	manday	3	850	2,550	DAO/UAO staff
	- Transpiration Cost	packet	1	20,000	20,000	bus rental
	- Per Diem Allowance for Participant	day	25	200	5,000	
	Sub Total				33,600	rounded
3.	Miscellaneous Cost (report etc.)				2,100	+ 5% of 1 to 2
	Direct Cost Total (I)				44,000	rounded
II	Operation/Administration Cost					
	- 5% of Direct Cost				2,000	rounded
	Operation Cost Total (II)				2,000	
	Total Program Cost (I + II)				46,000	

Source: Prepared by JICA Survey Team

Mass Guidance/Workshop/Campaign: 1 day/40 participants (at Upazila HQ)

Item		Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I	Direct Cost					
1.	Materials					
	- Guidance/Workshop Materials/Slide/Multimedia	packet	1	9,000	9,000	
	- Banner	packet	1	500	500	
	Sub Total				9,500	
2.	Implementation Cost					
	- Consumables	packet	1	5,000	5,000	
	- Resource Person	manday	3	850	2,550	DAO/UAO/BRDB etc.
	- Facilitator	manday	1	700	700	NGO
	- Training Room Rent	day	1	500	500	
	Sub Total				8,800	rounded
3.	Miscellaneous Cost (report etc.)				900	+ 5% of 1 to 2
	Direct Cost Total (I)				20,000	rounded
II	Operation/Administration Cost					
	- 5% of Direct Cost				1,000	rounded
	Operation Cost Total (II)				1,000	
	Total Program Cost (I + II)				21,000	

Source: Prepared by JICA Survey Team

Appendix 5.25-15

Table Standard Program Cost of APSS & SIGS -15/26

Mass Guidance/Workshop/Campaign: 1 day/80 participants (at Upazila HQ)

Item		Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I	Direct Cost					
1.	Materials					
	- Guidance/Workshop Materials/Slide/Multimedia	packet	1	18,000	18,000	
	- Banner	packet	1	500	500	
	Sub Total				18,500	
2.	Implementation Cost					
	- Consumables	packet	1	10,000	10,000	
	- Resource Person	manday	3	850	2,550	
	- Facilitator	manday	2	700	1,400	
	- Training Room Rent	day	1	500	500	
	Sub Total				14,500	
3.	Miscellaneous Cost (report etc.)				1,700	
	Direct Cost Total (I)				35,000	
II	Operation/Administration Cost					
	- 5% of Direct Cost				2,000	
	Operation Cost Total (II)				2,000	
	Total Program Cost (I + II)				37,000	

Source: Prepared by JICA Survey Team

Agriculture Fair (3 days at distract HQ)

Item		Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I	Direct Cost					
1.	Materials					
	- Leaflets	packet	1	10,000	10,000	
	- Banner	packet	2	1,000	2,000	
	- Hand-outs	packet	1	15,000	15,000	
	- Stall & Decoration	packet	1	90,000	90,000	
	Sub Total				117,000	
2.	Implementation Cost					
	- Exhibition Preparation	packet	1	20,000	20,000	
	- Ceremony	packet	2	20,000	40,000	
	- Utility Cost	day	3	5,000	15,000	
	- Consumables	packet	1	15,000	15,000	
	- Show	day	3	10,000	30,000	
	- Publicity	packet	1	15,000	15,000	
	- Resource Person	manday	6	850	5,100	
	- Security & Maintenance	packet	1	5,000	5,000	
	Sub Total				145,100	
3.	Miscellaneous Cost (report etc.)				13,100	
	Direct Cost Total (I)				276,000	
II	Operation/Administration Cost					
	- 5% of Direct Cost				14,000	
	Operation Cost Total (II)				14,000	
	Total Program Cost (I + II)				290,000	

Source: Prepared by JICA Survey Team

Appendix 5.25-16

Table Standard Program Cost of APSS & SIGS -16/26

Empowerment of Existing Farmer Organizations (5 executive members x 5 organizations = 25 participants)

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I. Direct Cost					
1. Training Cost (5 days)					by NGO facilitator
- Materials & Stationary	packet	30	500	15,000	
- Facilitator	manday	5	700	3,500	NGO facilitator
- Resource Person A	manday	2	850	1,700	DAO/BRDB
- Resource Person B	manday	2	850	1,700	KSS, dealer, collector etc.
- Consumables	packet	5	5,000	25,000	
- Per Diem Allowance	manday	125	200	25,000	25 members x 5 days
- Training Room/Venue Rent	day	5	500	2,500	at Upazila HQ
- Banner	packet	1	500	500	
- Miscellaneous Cost	packet	1	5,000	5,000	
Sub-total				79,900	
2. Empowerment Workshop (1 day)					by NGO facilitator
2.1 Materials					
- Guidance/Workshop Materials	packet	1	2,000	2,000	
- Banner	packet	1	500	500	
				2,500	
2.2 Implementation Cost					
- Consumables	packet	1	5,000	5,000	
- Facilitator	manday	2	700	1,400	
- Resource Person	manday	4	850	3,400	KSS, dealer, market, agent etc.
- Training Room/Venue Rent	day	1	500	500	at Upazila HQ
- Miscellaneous Cost	packet	1	1,000	1,000	
				11,300	
Sub-total				13,800	rounded
3. Follow-up Guidance					by NGO facilitator
- Facilitator	manday	10	700	7,000	field guidance 10 times
4. Miscellaneous Cost	packet			5,000	± 5% of 1 to 3
Direct Cost Total (I)				106,000	rounded
II. Operation/Administration Cost					
- 5% of Direct Cost				5,000	rounded
Operation Cost Total (II)				5,000	
Total Program Cost (I + II)				111,000	

Source: Prepared by JICA Survey Team

Appendix 5.25-17

Table Standard Program Cost of APSS & SIGS -17/26

Formation & Empowerment of Farmer Organizations
(5 executive members x 5 organizations = 25 participants)

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I. Direct Cost					
1. Formation of Farmer Organizations					by NGO facilitator
1.1 Formation Guidance (1 day)					
- Materials & Stationary	packet	1	2,500	2,500	
- Facilitator	manday	2	700	1,400	NGO facilitator
- Resource Person	manday	1	850	850	DAO/UAO
- Consumables	packet	1	5,000	5,000	
- Miscellaneous Cost	packet	1	3,000	3,000	
Sub-total				12,800	
1.2 Formation of Farmer Organization					Formation of 5 organizations
- Facilitator	manday	5	700	3,500	
Sub-total				3,500	
2. Empowerment of Farmer Organization					
2.1 Training Cost (5 days)					by NGO facilitator
- Materials & Stationary	packet	30	500	15,000	
- Facilitator	manday	5	700	3,500	5 NGO facilitators
- Resource Person A	manday	2	850	1,700	DAO/BRDB
- Resource Person B	manday	2	850	1,700	KSS, dealer, market, agent etc.
- Consumables	packet	5	5,000	25,000	
- Per Diem Allowance	manday	125	200	25,000	25 members x 5 days
- Training Room/Venue Rent	day	5	500	2,500	at Upazila HQ
- Banner	unit	1	500	500	
- Miscellaneous Cost	packet	1	5,000	5,000	
Sub-total				79,900	
2.2 Empowerment Workshop (1 day)					by NGO facilitator
Materials					
- Guidance/Workshop Materials	packet	1	2,000	2,000	
- Banner	packet	1	500	500	
				2,500	
Implementation Cost					
- Consumables	packet	1	5,000	5,000	
- Facilitator	manday	2	700	1,400	2 NGO facilitators
- Resource Person	manday	4	850	3,400	KSS, dealer, collector etc.
- Training Room/Venue Rent	day	1	1,000	1,000	
- Miscellaneous Cost	packet	1	1,000	1,000	
Sub-total				11,800	rounded
				14,300	
3. Follow-up Guidance					by NGO facilitator
- Facilitator	manday	10	700	7,000	field guidance 10 times
4. Miscellaneous Cost	packet			5,900	± 5% of 1 to 3
Direct Cost Total (I)				123,000	rounded
II. Operation/Administration Cost					
- 5% of Direct Cost				6,000	rounded
Operation Cost Total (II)				6,000	
Total Program Cost (I + II)				129,000	

Source: Prepared by JICA Survey Team

Appendix 5.25-18

Table Standard Program Cost of APSS & SIGS -18/26

Induction Training of Field Staff: 25 field staff x 5 days; District HQ)

	Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I	Direct Cost					
1.	Preparatory Works					
	- Material Preparation	manday	10	500	5,000	
	- Consumables	set	1	1,500	1,500	
	Sub Total				6,500	
2.	Materials					
	- Stationary & Training Kit	set	25	1,000	25,000	
	- Training Materials	set	30	500	15,000	
	- Banner	unit	1	500	500	
	- Certification Paper	unit	25	100	2,500	
	Sub Total				43,000	
3.	Training Implementation Cost					
	- Per Diem Allowances	day	125	500	62,500	25 x 5 days
	- Transportation Cost	time	125	200	25,000	25 x 5 days
	- Training Room Rent	day	5	1,500	7,500	
	- Consumables	time	150	200	30,000	lunch & refreshment
	- Trainers & Coordinator Cost	manday	25	850	21,250	5 trainer x 5 days
	- Training Assistant	manday	5	350	1,750	DAO staff
	Sub Total				148,000	rounded
4.	Miscellaneous Cost (report etc.)				9,900	± 5% of 1 to 3
	Direct Cost Total (I)				208,000	rounded
II	Operation/Administration Cost					
	- 5% of Direct Cost				10,000	rounded
	Operation Cost Total (II)				10,000	
	Total Program Cost (I + II)				218,000	rounded

Staff Empowerment: Refresher Training of Field Staff: 25 field staff x 3 days; District HQ)

	Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I	Direct Cost					
1.	Preparatory Works					
	- Material Preparation	manday	7	500	3,500	
	- Consumables	set	1	1,500	1,500	
	Sub Total				5,000	
2.	Materials					
	- Stationary & Training Kit	set	25	1,000	25,000	
	- Training Materials	set	30	500	15,000	
	- Banner	unit	1	500	500	
	- Certification Paper	unit	25	100	2,500	
	Sub Total				43,000	
3.	Training Implementation Cost					
	- Per Diem Allowances	day	75	500	37,500	25 x 3 days
	- Transportation Cost	time	75	200	15,000	25 x 3 times
	- Training Room Rent	day	3	1,500	4,500	
	- Consumables	time	90	200	18,000	lunch & refreshment
	- Trainers & Coordinator Cost	manday	15	850	12,750	5 trainer x 3 days
	- Training Assistant	manday	3	350	1,050	DAO staff
	Sub Total				88,800	rounded
4.	Miscellaneous Cost (report etc.)				6,800	± 5% of 1 to 3
	Direct Cost Total (I)				144,000	rounded
II	Operation/Administration Cost					
	- 5% of Direct Cost				7,000	rounded
	Operation Cost Total (II)				7,000	
	Total Program Cost (I + II)				151,000	rounded

Source: Prepared by JICA Survey Team

Appendix 5.25-19

Table Standard Program Cost of APSS & SIGS -19/26

Study Tour/Exchange Visit (25 field staff x 3 days)

Item		Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I.	Direct Cost					
1.	Materials					
	- Guidance Materials	packet	30	200	6,000	
	- Banner	packet	1	500	500	
	- Training Kit	No.	25	1,000	25,000	cap, bag, stationary
	Sub Total				31,500	
2.	Implementation Cost					
	- Consumables	packet	90	200	18,000	lunch, refreshment
	- Resource Person	manday	9	2,000	18,000	3 staff x 3 days
	- Transpiration Cost	day	3	20,000	60,000	bus rental 3 days
	- Training Assistant	day	3	1,000	3,000	
	- Per Diem Allowance for Participant	day	75	1,500	112,500	25 x 3 days
	Sub Total				211,500	
3.	Miscellaneous Cost (report etc.)				12,200	± 5% of 1 to 2
	Direct Cost Total (I)				255,000	rounded
II	Operation/Administration Cost					
	- 5% of Direct Cost				13,000	rounded
	Operation Cost Total (II)				13,000	
	Total Program Cost (I + II)				268,000	

Source: Prepared by JICA Survey Team

Appendix 5.25-20

Table Standard Program Cost of APSS & SIGS -20/26

Farm Machinery Hiring Services (2 Hiring Service Providers Groups x 5 members)					
Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I. Direct Cost					
1. Formation of Farm Machinery Hiring Services Providers Group (MHSG) & Preparatory Works (Upazila HQ)					
- Guidance Material	packet	1	2,500	2,500	
- Awareness Guidance	time	1	2,500	2,500	25 participants/consumables
- Resource Person	manday	1	850	850	BRDB or BADC
- Facilitator	manday	1	700	700	by NGO facilitator
- Candidate Selection for MHSG					
- Facilitator	manday	4	700	2,800	by NGO facilitator
- Preliminary Formation of MHSG	time	1	1,000	1,000	10 participants/consumables
- Preparation of Manuals etc.	manday	9	850	7,650	DAE/BADC/BRDB x 3 days
Sub-total				18,000	<i>rounded</i>
2. Training Materials					
- Stationary & Training Kit	set	10	400	4,000	Training of Candidate
- Training Materials	set	15	500	7,500	Providers Group (2 weeks; 2
- Banner	unit	1	500	500	candidate service providers
- Certification Paper	unit	10	100	1,000	groups; 10 members/group)
Sub-total				13,000	
3. Training Implementation Cost (14 days)					
- Per Diem Allowances	day	140	200	28,000	10 x 14 days
- Transportation Cost	time	140	100	14,000	10 x 14 times
- Training Room Rent	day	14	500	7,000	
- Consumables	time	140	200	28,000	lunch & refreshment
- Resource Trainers Cost	manday	14	850	11,900	2 trainers x 7 days
- Technical Trainers Cost	manday	28	700	19,600	mechanic; 2 trainers x 14 days
- Training Assistant	manday	14	350	4,900	UAO staff
- Formation of MHSG	manday	5	700	3,500	NGO facilitator
Sub-total				116,900	
4. Provision of Farm Machinery to MHSGs (assuming provision under revolving fund repayment arrangement)					
- Power Tiller	unit	4	185,000	740,000	2 units/group
- Power Thresher	unit	4	140,000	560,000	2 units/group
Sub-total				1,300,000	
5. Miscellaneous Cost	packet			72,400	± 5% of 1 to 4
Direct Cost Total (I)				1,521,000	<i>rounded</i>
II. Operation/Administration Cost					
- 5% of Direct Cost				76,000	<i>rounded</i>
Operation Cost Total (II)				76,000	
Total Program Cost (I + II)				1,597,000	

Drying Floor & Temporary Seed Storage Facility

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I. Direct Cost					
1. Need Assessment & Workshop					
- Need Assessment	manday	5	700	3,500	by NGO facilitator
- Community Workshop	time	1	5,000	5,000	by NGO facilitator
Sub-total				8,500	<i>rounded</i>
2. Joint Field Survey (1 day)					
- NGO Facilitator	manday	1	700	700	
- Resource Person	manday	2	850	1,700	DAO/LGED
- Farmers Representatives	manday	5	500	2,500	
- Consumables	packet	1	1,600	1,600	
Sub-total				6,500	<i>rounded</i>
3. Construction of Drying Yard & Storage Facility					
- Construction of Drying Yard	m2	40	1,300	52,000	
- Construction of Seed Storage	m2	20	9,000	180,000	
Sub-total				232,000	
4. Miscellaneous Cost	packet			12,400	± 5% of 1 to 3
Direct Cost Total (I)				260,000	<i>rounded</i>
II. Operation/Administration Cost					
- 5% of Direct Cost				13,000	<i>rounded</i>
Operation Cost Total (II)				13,000	
Total Program Cost (I + II)				273,000	

Source: Prepared by JICA Survey Team

Appendix 5.25-21

Table Standard Program Cost of APSS & SIGS -21/26

Field Trial on Rice (New Rice Varieties, etc. (1 site: size 1 acre) 1/

Item	Year					Total BDT (000)	Remarks
	1st Year BDT (000)	2nd Year BDT (000)	3rd Year BDT (000)	4th Year BDT (000)	5th Year BDT (000)		
I. Direct Cost							
1. Preparation & Site Selection	102,200					102,200	
2. Trial Cost							
Trial Site Cost (1 acre)	38,000	18,000	18,000	18,000	18,000	110,000	
Farm Inputs & Materials	25,400	21,600	21,600	21,600	21,600	111,800	
Field Management	30,000	30,000	30,000	30,000	30,000	150,000	
Supervision & Management Cost	270,000	260,000	260,000	260,000	260,000	1,310,000	
Sub-total	363,400	329,600	329,600	329,600	329,600	1,681,800	
3. Seminar & Guidance							
Field Seminar (2 times/year)	184,000	184,000	184,000	184,000	176,000	912,000	
Seminar at Project (1 time/year)	36,000	36,000	36,000	36,000	36,000	180,000	
Sub-total	220,000	220,000	220,000	220,000	212,000	1,092,000	
4. Report Preparation	9,000	9,000	19,000	9,000	29,000	75,000	
5. Staff Recruitment & Honorarium	235,000	235,000	235,000	235,000	235,000	1,175,000	
6. Miscellaneous Expenses (5% of 1 to 4)	46,480	39,680	40,180	39,680	40,280	206,300	
Direct Cost Total (I)	980,000	830,000	840,000	830,000	850,000	4,330,000	rounded
II. Operation/Administration Cost							
1 ~ 5 x 10% ≒	98,000	83,000	84,000	83,000	85,000	433,000	
Total Program Cost (I + II)	1,080,000	910,000	920,000	910,000	940,000	4,760,000	rounded

1/: Details shown in Attachment

Field Trial on Non-rice Crops (1 site: size 1 acre) 2/

Item	Year					Total BDK (000)	Remarks
	1st Year BDK (000)	2nd Year BDK (000)	3rd Year BDK (000)	4th Year BDK (000)	5th Year BDK (000)		
I. Direct Cost							
1. Preparation & Site Selection	102,200					102,200	
2. Trial Cost							
Trial Site Cost (1 acre)	19,000	9,000	9,000	9,000	9,000	55,000	
Farm Inputs & Materials	12,700	12,700	12,700	12,700	12,700	63,500	
Field Management	15,000	15,000	15,000	15,000	15,000	75,000	
Supervision & Management Cost	201,000	201,000	201,000	201,000	201,000	1,005,000	
Sub-total	247,700	237,700	237,700	237,700	237,700	1,198,500	
3. Seminar & Guidance							
Field Seminar (2 times/year)	170,000	170,000	170,000	170,000	170,000	850,000	
Seminar at Project (1 time/year)	36,000	36,000	36,000	36,000	36,000	180,000	
Sub-total	206,000	206,000	206,000	206,000	206,000	1,030,000	
4. Report Preparation	9,000	9,000	19,000	9,000	29,000	75,000	
5. Staff Recruitment & Honorarium	235,000	235,000	235,000	235,000	235,000	1,175,000	
5. Miscellaneous Expenses (5% of 1 to 4)	39,995	34,385	34,885	34,385	35,385	179,035	
Direct Cost Total (I)	840,000	720,000	730,000	720,000	740,000	3,750,000	rounded
II. Operation/Administration Cost							
1 ~ 5 x 10% ≒	84,000	72,000	73,000	72,000	74,000	375,000	
Total Program Cost (I + II)	920,000	790,000	800,000	790,000	810,000	4,110,000	rounded

2/: Details shown in Attachment

Source: Prepared by JICA Survey Team

Appendix 5.25-22

Table Standard Program Cost of APSS & SIGS -22/26

Table Estimated Program Cost for Field Trials for Technology Development (Rice)

Items	1st Year		2nd Year		3rd Year		4th Year		Amount (BDT)	Qty	Amount (BDT)	Total (BDT)
	Unit Cost (BDT)	Qty	Amount (BDT)	Qty	Amount (BDT)	Qty	Amount (BDT)	Qty				
I. Direct Program Cost												
1. Preparation & Site Selection												
a. Travelling Allowance/Researcher	2,500	3 staffs x 4 days	30,000									
b. Travelling Allowance/Assistant	1,500	2 staffs x 4 days	12,000									
c. Consultation Meeting	3,000	1 time	3,000									
d. Vehicle Rent	11,000	5 days	55,000									
e. Materials & Miscellaneous Expenses	2,200	1 packet	2,200									
Preparatory Cost Total			102,200									102,200
2. Trial Cost												
a. Trial Site Cost (2 sites x 1 acre = 2 acres)												
Irrigation Charge	5,000	20 acre x 1 site	10,000	20 acre x 1 site	10,000	20 acre x 1 site	10,000	20 acre x 1 site	10,000	20 acre x 1 site	10,000	50,000
Land Rent	4,000	20 acre x 1 site	8,000	20 acre x 1 site	8,000	20 acre x 1 site	8,000	20 acre x 1 site	8,000	20 acre x 1 site	8,000	40,000
Fencing	10,000	20 acre x 1 site	20,000									20,000
Sub-Total			38,000		18,000		18,000		18,000		18,000	110,000
b. Farm Inputs & Materials												
Seed	800	2 acre	1,600	2 acre	1,600	2 acre	1,600	2 acre	1,600	2 acre	1,600	8,000
Fertilizer & Soil Amelioration, etc.	10,000	2 acre	20,000	2 acre	20,000	2 acre	20,000	2 acre	20,000	2 acre	20,000	100,000
Silo Board	900	2 unit	1,800									1,800
Tools, Equipment & Others	1,000	2 acre	2,000									2,000
Sub-Total			25,400		21,600		21,600		21,600		21,600	111,800
c. Field Management												
Labor Costs	15,000	2 acre	30,000	2 acre	30,000	2 acre	30,000	2 acre	30,000	2 acre	30,000	150,000
Sub-Total			30,000		30,000		30,000		30,000		30,000	150,000
d. Supervision & Management Cost												
Researcher A	2,500	1 staff x 12 days	30,000	1 staff x 10 days	25,000	1 staff x 10 days	25,000	1 staff x 10 days	25,000	1 staff x 10 days	25,000	130,000
Researcher B	2,500	1 staffs x 8 days	20,000	1 staffs x 6 days	15,000	1 staffs x 6 days	15,000	1 staffs x 6 days	15,000	1 staffs x 6 days	15,000	80,000
Assistant Researcher	1,500	2 staffs x 20 days	60,000	2 staffs x 20 days	60,000	2 staffs x 20 days	60,000	2 staffs x 20 days	60,000	2 staffs x 20 days	60,000	300,000
Field Assistant	350	4 staffs x 20 days	28,000	4 staffs x 20 days	28,000	4 staffs x 20 days	28,000	4 staffs x 20 days	28,000	4 staffs x 20 days	28,000	140,000
Vehicle Rent	11,000	12 days	132,000	12 days	132,000	12 days	132,000	12 days	132,000	12 days	132,000	660,000
Sub-Total			270,000		260,000		260,000		260,000		260,000	1,310,000
Trial Cost Total			363,400		329,600		329,600		329,600		329,600	1,681,800
3. Seminar & Guidance												
a. Field Seminar (2 times/season)												
Travelling Allowances/DAO	850	10 staffs x 4 days	34,000	10 staffs x 4 days	34,000	10 staffs x 4 days	34,000	10 staffs x 4 days	34,000	10 staffs x 4 days	34,000	170,000
Travelling Allowances/UAO	850	10 staffs x 4 days	34,000	10 staffs x 4 days	34,000	10 staffs x 4 days	34,000	10 staffs x 4 days	34,000	10 staffs x 4 days	34,000	170,000
Transportation Costs	11,000	2 cars x 4 days	88,000	2 cars x 4 days	88,000	2 cars x 4 days	88,000	2 cars x 4 days	88,000	2 cars x 4 days	88,000	440,000
Fumers	200	20 fumers x 4 times	16,000	20 fumers x 4 times	16,000	20 fumers x 4 times	16,000	20 fumers x 4 times	16,000	20 fumers x 4 times	16,000	72,000
Materials & Miscellaneous Expenses	3,000	1 packet x 4 times	12,000	1 packet x 4 times	12,000	1 packet x 4 times	12,000	1 packet x 4 times	12,000	1 packet x 4 times	12,000	60,000
Sub-Total			184,000		184,000		184,000		184,000		184,000	912,000
b. Seminar at Project (1 time/year)												
Travelling Allowances/DAE	2,500	2 staffs x 2 days	10,000	2 staffs x 2 days	10,000	2 staffs x 2 days	10,000	2 staffs x 2 days	10,000	2 staffs x 2 days	10,000	50,000
Travelling Allowances/DAO	1,500	2 staff x 2 days	6,000	2 staff x 2 days	6,000	2 staff x 2 days	6,000	2 staff x 2 days	6,000	2 staff x 2 days	6,000	30,000
Travelling Allowances/UAO	1,500	10 staffs x 2 days	17,000	10 staffs x 2 days	17,000	10 staffs x 2 days	17,000	10 staffs x 2 days	17,000	10 staffs x 2 days	17,000	85,000
Room Rent	1,000	1 time	1,000	1 time	1,000	1 time	1,000	1 time	1,000	1 time	1,000	5,000
Materials & Miscellaneous Expenses	2,000	1 packet	2,000	1 packet	2,000	1 packet	2,000	1 packet	2,000	1 packet	2,000	10,000
Sub-Total			36,000		36,000		36,000		36,000		36,000	180,000
Seminar Cost Total			220,000		220,000		220,000		220,000		220,000	1,092,000
4. Report Preparation												
a. Inception Report	2,000	1 packet	2,000	1 packet	2,000	1 packet	2,000	1 packet	2,000	1 packet	2,000	10,000
b. Monthly Report	1,000	5 packets	5,000	5 packets	5,000	5 packets	5,000	5 packets	5,000	5 packets	5,000	25,000
c. Annual Report	2,000	1 packet	2,000	1 packet	2,000	1 packet	2,000	1 packet	2,000	1 packet	2,000	10,000
d. Final Report	10,000	0	0	0	0	0	0	0	0	0	0	10,000
e. Preparation of Extension Materials	10,000	0	0	0	0	0	0	0	0	0	0	10,000
Report Preparation Cost Total			9,000		9,000		9,000		9,000		9,000	75,000
5. Staff Recruitment & Honorarium												
a. Field Assistant	15,000	1 staff x 12 months	180,000	1 staff x 12 months	180,000	1 staff x 12 months	180,000	1 staff x 12 months	180,000	1 staff x 12 months	180,000	900,000
b. Honorarium for Scientists	55,000	2 scientists	55,000	2 scientists	55,000	2 scientists	55,000	2 scientists	55,000	2 scientists	55,000	275,000
Staff Recruitment & Honorarium Total			235,000		235,000		235,000		235,000		235,000	1,175,000
6. Miscellaneous Expenses (5% of 1 to 5)												
Program Direct Cost Total			980,000		830,000		830,000		830,000		830,000	4,330,000
II. Operation/Administration Costs (non-eligible)												
1-6x 10% =			98,000		83,000		83,000		83,000		83,000	433,000
Overall Program Cost			1,080,000		910,000		910,000		910,000		910,000	4,760,000

Source: Prepared by JICA Survey Team based on cost estimate of BRRI

Appendix 5.25-23

Table Standard Program Cost of APSS & SIGS -23/26

Table Estimated Program Cost for Field Trials for Technology Development (Non-rice Crops)

Items	Unit Cost (BDK)	1st Year		2nd Year		3rd Year		4th Year		Amount (RP.000)	Qty	Amount (RP.000)	Total (RP.000)
		Qty	Amount (BDK)	Qty	Amount (BDK)	Qty	Amount (BDK)	Qty	Amount (BDK)				
I. Direct Program Cost													
1. Preparation & Site Selection													
a. Travelling Allowance/Researcher	2,500	3 staffs x 4 days	30,000										
b. Travelling Allowance/Assistant	1,500	2 staffs x 4 days	12,000										
c. Consultation Meeting	3,000	1 time	3,000										
d. Vehicle Rent	11,000	5 days	55,000										
e. Materials & Miscellaneous Expenses	2,200	1 packet	2,200										
Preparatory Cost Total			102,200										102,200
2. Trial Cost													
a. Trial Site Cost (1 site = 1 acre)													
Irrigation Charge	5,000	1.0 acre x 1 site	5,000	1.0 acre x 1 site	5,000	1.0 acre x 1 site	5,000	1.0 acre x 1 site	5,000		1.0 acre x 1 site	5,000	25,000
Land Rent	4,000	1.0 acre x 1 site	4,000	1.0 acre x 1 site	4,000	1.0 acre x 1 site	4,000	1.0 acre x 1 site	4,000		1.0 acre x 1 site	4,000	20,000
Fencing	10,000	1.0 acre x 1 site	10,000										10,000
Sub-Total			19,000		9,000		9,000		9,000			9,000	55,000
b. Farm Inputs & Materials													
Seed	800	1 acre	800	1 acre	800	1 acre	800	1 acre	800		1 acre	800	4,000
Fertilizer & Soil Amelioration, etc.	10,000	1 acre	10,000	1 acre	10,000	1 acre	10,000	1 acre	10,000		1 acre	10,000	50,000
Sign Board	900	1 unit	900	1 unit	900	1 unit	900	1 unit	900		1 unit	900	4,500
Tools, Equipment & Others	1,000	1 acre	1,000	1 acre	1,000	1 acre	1,000	1 acre	1,000		1 acre	1,000	5,000
Sub-Total			12,700		12,700		12,700		12,700			12,700	63,500
c. Field Management													
Labor Costs	15,000	1 acre	15,000	1 acre	15,000	1 acre	15,000	1 acre	15,000		1 acre	15,000	75,000
Sub-Total			15,000		15,000		15,000		15,000			15,000	75,000
d. Supervision & Management Cost													
Researcher A	2,500	1 staff x 10 days	25,000	1 staff x 10 days	25,000	1 staff x 10 days	25,000	1 staff x 10 days	25,000		1 staff x 10 days	25,000	125,000
Researcher B	2,500	1 staffs x 6 days	15,000	1 staffs x 6 days	15,000	1 staffs x 6 days	15,000	1 staffs x 6 days	15,000		1 staffs x 6 days	15,000	75,000
Assistant Researcher	1,500	1 staffs x 20 days	30,000	1 staffs x 20 days	30,000	1 staffs x 20 days	30,000	1 staffs x 20 days	30,000		1 staffs x 20 days	30,000	150,000
Field Assistant	350	3 staffs x 20 days	21,000	3 staffs x 20 days	21,000	3 staffs x 20 days	21,000	3 staffs x 20 days	21,000		3 staffs x 20 days	21,000	105,000
Vehicle Rent	11,000	10 days	110,000	10 days	110,000	10 days	110,000	10 days	110,000		10 days	110,000	550,000
Sub-Total			201,000		201,000		201,000		201,000			201,000	1,005,000
Trial Cost Total			247,700		237,700		237,700		237,700			237,700	1,198,500
3. Seminar & Guidance													
a. Field Seminar (2 times/season)													
Travelling Allowances/DAO	850	10 staffs x 4 days	34,000	10 staffs x 4 days	34,000	10 staffs x 4 days	34,000	10 staffs x 4 days	34,000		10 staffs x 4 days	34,000	170,000
Travelling Allowances/UAO	850	10 staffs x 4 days	34,000	10 staffs x 4 days	34,000	10 staffs x 4 days	34,000	10 staffs x 4 days	34,000		10 staffs x 4 days	34,000	170,000
Transportation Costs	11,000	2 cars x 4 days	88,000	2 cars x 4 days	88,000	2 cars x 4 days	88,000	2 cars x 4 days	88,000		2 cars x 4 days	88,000	440,000
Farmers	200	20 farmers x 2 times	8,000	20 farmers x 2 times	8,000	20 farmers x 2 times	8,000	20 farmers x 2 times	8,000		20 farmers x 2 times	8,000	40,000
Materials & Miscellaneous Expenses	3,000	1 packet x 2 times	6,000	1 packet x 2 times	6,000	1 packet x 2 times	6,000	1 packet x 2 times	6,000		1 packet x 2 times	6,000	30,000
Sub-Total			170,000		170,000		170,000		170,000			170,000	850,000
b. Seminar at Project (1 time/year)													
Travelling Allowances/DAE	2,500	2 staffs x 2 days	10,000	2 staffs x 2 days	10,000	2 staffs x 2 days	10,000	2 staffs x 2 days	10,000		2 staffs x 2 days	10,000	50,000
Travelling Allowances/DAO	1,500	2 staff x 2 days	6,000	2 staff x 2 days	6,000	2 staff x 2 days	6,000	2 staff x 2 days	6,000		2 staff x 2 days	6,000	30,000
Travelling Allowances/UAO	850	10 staffs x 2 days	17,000	10 staffs x 2 days	17,000	10 staffs x 2 days	17,000	10 staffs x 2 days	17,000		10 staffs x 2 days	17,000	85,000
Room Rent	1,000	1 time	1,000	1 time	1,000	1 time	1,000	1 time	1,000		1 time	1,000	5,000
Materials & Miscellaneous Expenses	2,000	1 packet	2,000	1 packet	2,000	1 packet	2,000	1 packet	2,000		1 packet	2,000	10,000
Sub-Total			36,000		36,000		36,000		36,000			36,000	180,000
Seminar Cost Total			206,000		206,000		206,000		206,000			206,000	1,030,000
4. Report Preparation													
a. Inspection Report	2,000	1 packet	2,000	1 packet	2,000	1 packet	2,000	1 packet	2,000		1 packet	2,000	10,000
b. Monthly Report	1,000	5 packets	5,000	5 packets	5,000	5 packets	5,000	5 packets	5,000		5 packets	5,000	25,000
c. Annual Report	2,000	1 packet	2,000	1 packet	2,000	1 packet	2,000	1 packet	2,000		1 packet	2,000	10,000
d. Final Report	10,000	0	0	0	0	0	0	0	0		0	0	0
e. Preparation of Extension Materials	10,000	0	0	0	0	0	0	0	0		0	0	0
Report Preparation Cost Total			9,000		9,000		9,000		9,000			9,000	75,000
5. Staff Recruitment & Honorarium													
a. Field Assistant	15,000	1 staff x 12 months	180,000	1 staff x 12 months	180,000	1 staff x 12 months	180,000	1 staff x 12 months	180,000		1 staff x 12 months	180,000	900,000
b. Honorarium for Scientists	55,000	2 scientists	55,000	2 scientists	55,000	2 scientists	55,000	2 scientists	55,000		2 scientists	55,000	275,000
Staff Recruitment & Honorarium Total			235,000		235,000		235,000		235,000			235,000	1,175,000
6. Miscellaneous Expenses (5% of 1 to 5)													
Program Direct Cost Total			840,000		720,000		720,000		720,000			720,000	3,750,000
II. Operation/Administration Costs (non-slight)													
Overall Program Cost			920,000		790,000		800,000		800,000			800,000	4,110,000

Source: Prepared by JICA Survey Team based on cost estimate of BARI

Appendix 5.25-24

Table Standard Program Cost of APSS & SIGS -24/26

Floating Bed Vegetable Culture Scheme (8 members/CIG x 3CIGs/unit) : 1 bed/member

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I. Direct Cost					
1. Formation of CIGs for Scheme					by NGO facilitator
- Materials	packet	1	2,000	2,000	
- Facilitator	manday	3	700	2,100	NGO facilitator
- Resource Person	manday	1	850	850	DAO/UAO staff
- CIG Formation Guidance	time	2	3,000	6,000	consumables/stationary etc.
- Miscellaneous Cost	packet	1	1,000	1,000	
Sub-total				12,000	<i>rounded</i>
2. Training Cost (24 participants, 1 day)					
- Material	set	30	50	1,500	
- Per Diem Allowance	manday	24	200	4,800	24 x 1 day
- Consumables	packet	30	200	6,000	
- Facilitator	manday	1	700	700	NGO facilitator x 1 day
- Resource Person	time	3	850	2,550	DAO/UAO staff
Sub-total				15,550	
3. Provision of Farm Inputs & Materials					
- Farm Inputs	set	24	200	4,800	vegetable seeds; 5 kinds/bed
- Bed Preparation	set	24	600	14,400	
size W 2m x L 6m x H 1.5 m					
- Materials	set	24	2,200	52,800	bamboo, net, wire etc.
- Sign Board	No/	1	500	500	
Sub-total				72,500	
4. Field Guidance					
- Resource Person	manday	2	850	1,700	DAO/UAO staff
- Facilitator	manday	6	700	4,200	NGO facilitator
Sub-total				5,900	
5. Miscellaneous Cost	packet			5,300	± 5% of 1 to 4
Direct Cost Total (I)				112,000	<i>rounded</i>
II. Operation/Administration Cost					
- 5% of Direct Cost				6,000	<i>rounded</i>
Operation Cost Total (II)				6,000	
Total Program Cost (I + II)				118,000	

Small-scale Vegetable Production Support Scheme (8 members/CIG x 3CIGs/unit);
Plot Size: 1 decimal = 40m2/member

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I. Direct Cost					
1. Formation of CIGs for Scheme					by NGO facilitator
- Materials	packet	1	1,000	1,000	
- Facilitator	manday	2	700	1,400	NGO facilitator
- Resource Person	manday	1	850	850	DAO/UAO staff
- CIG Formation Guidance	time	2	3,000	6,000	consumables/stationary etc.
- Miscellaneous Cost	packet	1	1,000	1,000	
Sub-total				10,300	<i>rounded</i>
2. Training Cost (1 day)					
- Training Material	set	30	50	1,500	
- Per Diem Allowance	manday	24	200	4,800	
- Consumables	packet	30	200	6,000	
- Facilitator	manday	1	700	700	NGO facilitator x 1 day
- Resource Person	manday	3	850	2,550	DAO/UAO staff
Sub-total				15,600	<i>rounded</i>
3. Provision of Farm Inputs & Materials					
- Seeds	set	24	200	4,800	vegetable seeds; 5 kinds
- Fertilizer	set	24	400	9,600	
- Fencing Material	set	24	500	12,000	bamboo, wire etc.
- Watering Can	No.	24	200	4,800	
- Sign Board	No.	1	500	500	
Sub-total				31,700	
4. Field Guidance					
- Facilitator	manday	2	700	1,400	NGO facilitator
Sub-total				1,400	
5. Miscellaneous Cost	packet			3,000	± 5% of 1 to 4
Direct Cost Total (I)				62,000	<i>rounded</i>
II. Operation/Administration Cost					
- 5% of Direct Cost				3,000	<i>rounded</i>
Operation Cost Total (II)				3,000	
Total Program Cost (I + II)				65,000	

Source: Prepared by JICA Survey Team

Appendix 5.25-25

Table Standard Program Cost of APSS & SIGS -25/26

Fruit Production Support Scheme (8 members/CIG x 3CIGs/unit)

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I. Direct Cost					
1. Formation of CIGs for Scheme					by NGO facilitator
- Materials	packet	1	1,000	1,000	
- Facilitator	manday	2	700	1,400	NGO facilitator
- Resource Person	manday	1	850	850	DAO/UAO staff
- CIG Formation Guidance	time	2	3,000	6,000	consumables/stationary etc.
- Miscellaneous Cost	packet	1	1,000	1,000	
Sub-total				10,300	rounded
2. Training Cost (1 day)					
- Training Material	set	30	50	1,500	
- Per Diem Allowance	manday	24	200	4,800	
- Consumables	packet	30	200	6,000	
- Facilitator	manday	1	700	700	NGO facilitator x 1 day
- Resource Person	manday	3	850	2,550	DAO/UAO staff
Sub-total				15,600	
3. Provision of Farm Inputs & Materials					
- Seedling	No.	24	200	4,800	3 kind of fruits
- Jujube (<i>Ziziphus Mauritiana</i>)	No.	120	75	9,000	5 seedling/member x 24
- Litchi	No.	120	120	14,400	5 seedling/member x 24
- Guava	No.	120	60	7,200	5 seedling/member x 24
- Fertilizer	set	24	300	7,200	
- Fencing Material	set	24	800	19,200	bamboo, wire etc.
- Watering Can	No.	24	200	4,800	
- Sign Board	No.	1	500	500	
Sub-total				67,100	
4. Field Guidance					
- Facilitator	manday	2	700	1,400	NGO facilitator
- Resource Person	manday	2	850	1,700	DAO/UAO staff
Sub-total				1,400	
5. Miscellaneous Cost	packet			4,700	± 5% of 1 to 4
Direct Cost Total (I)				99,000	rounded
II. Operation/Administration Cost					
- 5% of Direct Cost				5,000	rounded
Operation Cost Total (II)				5,000	
Total Program Cost (I + II)				104,000	

Micro Poultry Raising Scheme (8 members/CIG x 3CIGs/unit)

Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I. Direct Cost					
1. Formation of CIGs for Scheme					by NGO facilitator
- Materials	packet	1	1,000	1,000	
- Facilitator	manday	2	700	1,400	NGO facilitator
- Resource Person	manday	1	850	850	DLO/ULO staff
- CIG Formation Guidance	time	2	3,000	6,000	consumables/stationary etc.
- Miscellaneous Cost	packet	1	1,000	1,000	
Sub-total				10,300	rounded
2. Training Cost (2 days)					
- Training Material	set	30	100	3,000	
- Per Diem Allowance	manday	48	200	9,600	24 participants x 2 days
- Consumables	packet	60	200	12,000	
- Facilitator	manday	2	700	1,400	NGO facilitators x 2 days
- Resource Person	manday	6	850	5,100	DLO/ULO staff
Sub-total				31,100	rounded
3. Provision of Farm Inputs & Materials					
- Package (3 months old)	package	24	3,000	72,000	cock: 1 + 9 chicks/package
- Poultry feed	package	24	1,000	24,000	duck: 1 + 9 ducklings/package
- Veterinary services	package	24	600	14,400	for 0.5 month
- Sign Board	No.	1	500	500	
- Miscellaneous Cost	package	24	300	7,200	
Sub-total				118,100	
4. Field Guidance					
- Resource Person	manday	1	850	850	DLO/ULO staff
- Technician	manday	2	700	1,400	DLO/ULO staff
Sub-total				2,300	
5. Miscellaneous Cost	packet			8,100	± 5% of 1 to 4
Direct Cost Total (I)				170,000	rounded
II. Operation/Administration Cost					
- 5% of Direct Cost				9,000	rounded
Operation Cost Total (II)				9,000	
Total Program Cost (I + II)				179,000	

Source: Prepared by JICA Survey Team

Appendix 5.25-26

Table Standard Program Cost of APSS & SIGS -26/26

Small-scale Mushroom Culture Scheme (8 members/CIG x 3CIGs/unit)

	Item	Unit	Vol.	Unit Rate (BDT)	Amount (BDT)	Remarks
I.	Direct Cost					
1.	Formation of CIGs for Scheme					by NGO facilitator
	- Materials	packet	1	1,000	1,000	
	- Facilitator	manday	2	700	1,400	NGO facilitator
	- Resource Person	manday	1	850	850	DAO/UAO staff
	- CIG Formation Guidance	time	2	3,000	6,000	consumables/stationary etc.
	- Miscellaneous Cost	packet	1	1,000	1,000	
	Sub-total				10,300	<i>rounded</i>
2.	Training Cost (3 days)					
	- Training Material	set	30	300	9,000	
	- Per Diem Allowance	manday	72	200	14,400	
	- Consumables	packet	90	200	18,000	
	- Facilitator	manday	3	700	2,100	NGO facilitator x 3 days
	- Resource Person	manday	3	850	2,550	DAO/UAO staff x 3 days
	Sub-total				46,100	<i>rounded</i>
3.	Provision of Farm Inputs & Materials					
	- Mushroom Spoon Packet	package	24	2,500	60,000	wooden dust & straw spoon
	- Mushroom Shelves	set	24	1,500	36,000	(wooden spoon 75/farmer)]
	- Packing Materials & Container	set	24	500	12,000	(straw spoon 40/farmer)]
	- Sign Board	No.	1	500	500	
	Sub-total				108,500	
4.	Field Guidance					
	- Resource Person	manday	2	850	1,700	DAO/UAO staff
	- Facilitator	manday	2	700	1,400	NGO facilitator
	Sub-total				3,100	
5.	Miscellaneous Cost	packet			8,400	± 5% of 1 to 3
	Direct Cost Total (I)				176,000	<i>rounded</i>
II.	Operation/Administration Cost					
	- 5% of Direct Cost				9,000	<i>rounded</i>
	Operation Cost Total (II)				9,000	
	Total Program Cost (I + II)				185,000	

Source: Prepared by JICA Survey Team

Appendix 5.26-1

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

Program/Activity	Division of Roles (Scope of Activities)		
	Project Organizations PMO/PTU/Sub-division Office	UAO/DAO (DAE)	Consultant/Others (specified)
Overall & Annual Work Plan for APSS & SIGS Formulation			
- 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
Project Implementation			
- Implementation of APSS & SIGS based on AWP	- 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	- 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	- 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	- Monitoring & evaluation of APSS & SIGS		
Agriculture Promotion Support Sub-project (APSS)			
1. Field Program			
(1) Adaptive Trials	- Implementation of program in accordance with technical guideline/operation manuals	- Assigning DAO/UAO staff as resource person/technical supporting personnel for supporting the program implementation	- Providing technical guidance & support for the program implementation
- Adaptive trial (rice), adaptive trial (upland crops & vegetables), adaptive trial (cropping pattern)	- Scope of activities include: - Selection of target group/site, technical guidance, operation of Farmer Field Day, liaison with stakeholders, supervision, monitoring & evaluation, reporting, etc.	- Support the project organizations in their monitoring & evaluation of the program	- Support the program monitoring & evaluation activities of the project organizations
(2) Field Demonstrations	- Implementation of program in accordance with technical guideline/operation manuals	- Assigning DAO/UAO staff as resource person/technical supporting personnel for supporting the program implementation	- Providing technical guidance & support for the program implementation
- Demonstration plot (rice), demonstration field (rice), demonstration area (rice), water management demonstration area (rice), demonstration plot (upland crops/vegetables), cropping pattern demonstration	- Scope of activities include: - Selection of target group/site, technical guidance, operation of Farmer Field Day, liaison with stakeholders, supervision, monitoring & evaluation, reporting, etc.	- Support the project organizations in their monitoring & evaluation of the program	- 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	- Assigning DAO/UAO staff as resource person/technical supporting personnel for supporting the program implementation	- Providing technical guidance & support for the program implementation
	- 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 & reporting, etc.	- Support the project organizations in their monitoring & evaluation of the program	- Support the program monitoring & evaluation activities of the project organizations
(4) Seed Multiplication (rice)	- Implementation of program in accordance with technical guideline/operation manuals	- Assigning DAO/UAO staff as resource person/technical supporting personnel for supporting the program implementation	- Providing technical guidance & support for the program implementation
	- 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.	- Support the project organizations in their monitoring & evaluation of the program	- Support the program monitoring & evaluation activities of the project organizations
(5) Research-Extension-Farmer Dialog	- Implementation of program in collaboration with research institutes in accordance with technical guideline/operation manuals	- Assigning DAO/UAO staff as resource person/technical supporting personnel for supporting the program implementation	- Support the program implementation of the project organizations
	- Scope of activities include: - Selection of target site, preparation of guidance materials, joint field visit & discussion/guidance, reporting, etc.	- Support the project organizations in their monitoring & evaluation of the program	- SCA or DAO - Assigning resource person for field inspection - Support the program implementation of the project organizations - BRRI & BA RI - Assigning resource person for the program

Appendix 5.26-2

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

Program/Activity	Division of Roles (Scope of Activities)		
	Project Organizations		Consultant/Others (specified)
	PMO/PIU/Sub-division Office	UAO/DAO (DAE)	
2. Farmer Training Program 2.1 Farmer Training (1) Farmer Training	- Implementation of program in accordance with technical guideline/operation manuals - Scope of activities include: Training need assessment, selection of target group, preparation of training manuals & materials, implementation of training, monitoring & evaluation, reporting, etc.	- Assigning DAO/UAO staff as resource person/trainer for supporting the program implementation - Support the project organizations in their monitoring & evaluation of the program	- Support the program implementation of the project organizations - Preparation of training manuals
(2) Study Tour/Exchange Visit	- Implementation of program in accordance with technical guideline/operation manuals - Scope of activities include: Selection of target site for the tour & target group, logistic arrangement, preparation of guidance materials, monitoring & evaluation, reporting & evaluation, reporting, etc.	- Assigning DAO/UAO staff as resource person for supporting the program implementation - Support the project organizations in their monitoring & evaluation of the program	- Support the program implementation of the project organizations
(3) Mass Guidance/Workshop/Campaign	- Implementation of program in accordance with technical guideline/operation manuals - Scope of activities include: Need assessment, selection of subject for the program & target group, preparation of guidance materials, implementation of the program, monitoring & evaluation, reporting, etc.	- Assigning DAO/UAO staff as resource person for supporting the program implementation - Support the project organizations in their monitoring & evaluation of the program	- Support the program implementation of the project organizations
(4) Agriculture Fair	- Implementation of program in accordance with technical guideline/operation manuals - Scope of activities include: Selection of site, participants & stalls for fair, preparation of leaflet/materials, public announcement, operation of fair, liaison with stakeholders, etc.	- Assigning DAO/UAO staff as resource person for supporting the program implementation - Support the project organizations in their monitoring & evaluation of the program - Mobilization of farmers	- Support the program implementation of the project organizations
(5) Empowerment of Farmer Organizations (FO) - Empowerment of existing farmer organizations, formation & empowerment of farmer organizations	- Implementation of program in accordance with technical guideline/operation manuals - Scope of activities include: Selection of target group, resource persons & facilitators, preparation of training manuals/materials, operation of workshop, follow-up guidance, monitoring & evaluation, reporting, etc.	- Assigning DAO/UAO staff as resource person/trainer for supporting the program implementation - Support the project organizations in their monitoring & evaluation of the program	- Support the program implementation of the project organizations - Preparation of training manuals - NGO - Assigning facilitators for the empowerment & follow-up guidance
3. Field Staff Empowerment Program (1) Staff Training - Induction training of field staff, refresher training of field staff	- Implementation of program in accordance with technical guideline/operation manuals - Scope of activities include: Training need assessment, selection of target group, trainer & resource person, preparation of training materials, monitoring & evaluation, reporting, etc.	- Assigning DAO/UAO staff as resource person/trainer for supporting the program implementation - Support the project organizations in their monitoring & evaluation of the program	- Support the program implementation of the project organizations - Provide guidance on technical guideline & operation manuals for APSS & SIGS
(2) Study Tour/Exchange Visit	- Implementation of program in accordance with technical guideline/operation manuals - Scope of activities include: Selection of target site for the tour & target group, preparation of guidance materials, logistic arrangement, monitoring & evaluation, reporting, etc.	- Assigning DAO/UAO staff as resource person/trainer for supporting the program implementation - Support the project organizations in their monitoring & evaluation of the program	- Support the program implementation of the project organizations

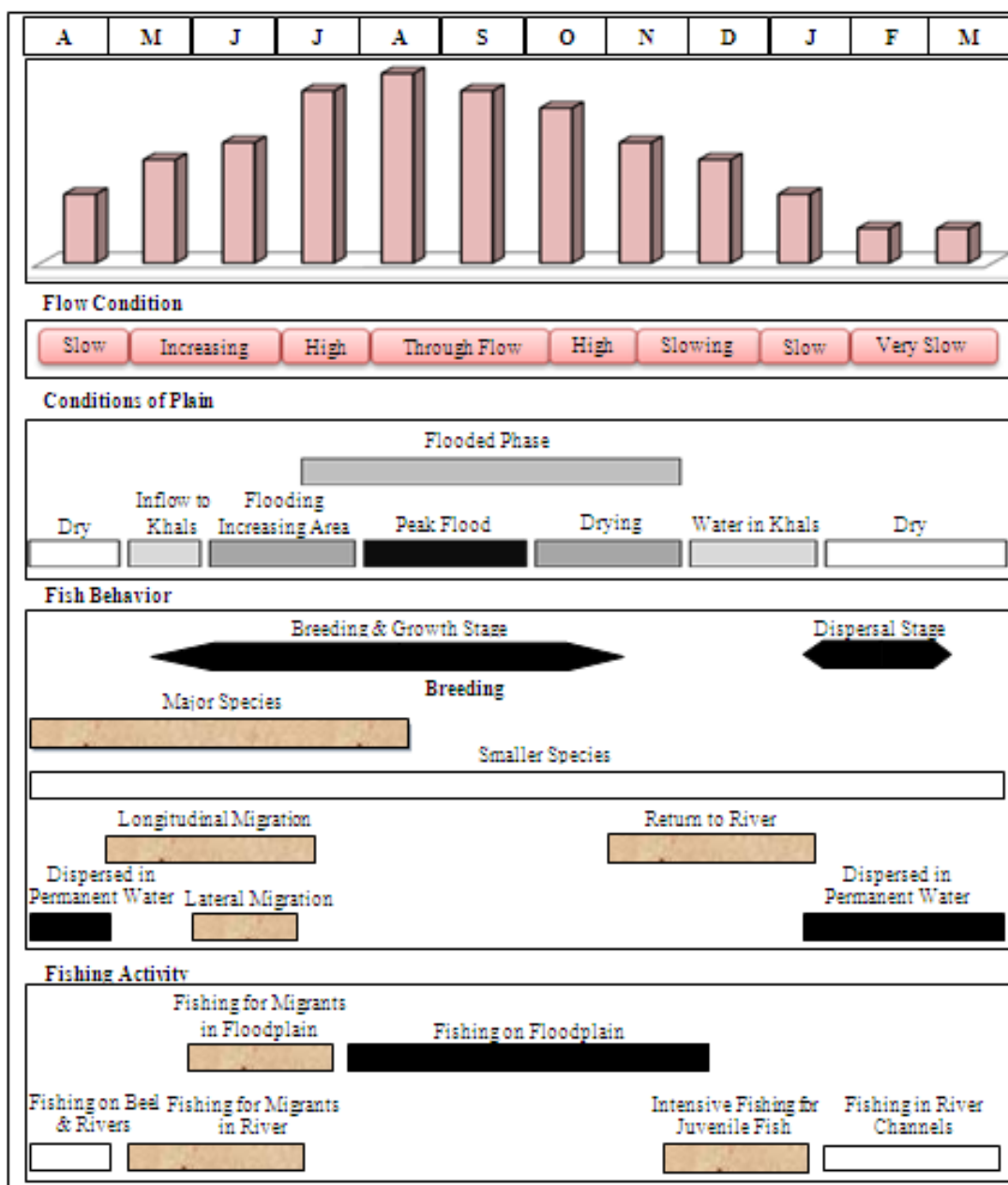
Appendix 5.26-3

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

Program/Activity	Division of Roles (Scope of Activities)		
	Project Organizations		Consultant/Others (specified)
	PMO/PIU/Sub-division Office	UAO/DAO (DAE)	
4. Farm Machinery & Facility Support (1) Farm Machinery Hiring Services	- Implementation of program in accordance with technical guideline/operation manuals - 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 & provision of farm machinery, monitoring & evaluation of hiring services & FMHSGs activities/fund repayment, reporting, etc.	- Assigning DAO/UAO staff as resource person/trainer for supporting the program implementation - Support the project organizations in their monitoring & evaluation of the program	- Support the program implementation of the project organizations - NCO - Assigning facilitators for the formation of FMHSG
(2) Construction of Community Drying Floor & Seed Storage Facility	- Implementation of program in accordance with technical guideline/operation manuals - Scope of activities include: Need assessment, selection of construction site, community workshop, selection of facilitator & farmer representatives, joint field survey, construction of drying yard/seed storage, organization of users group, preparation of by-low for users group & users regulations, monitoring & evaluation of the program, reporting, etc.	- Assigning DAO/UAO staff as resource person for supporting the program implementation - Support the project organizations in their monitoring & evaluation of the program	- Support the program implementation of the project organizations - NCO - Assigning facilitators for the formation of users group
5. Technology Development Program (1) Field Trial on Rice	- Implementation of program in accordance with technical guideline/operation manuals - Scope of activities include: Preparation of TOR for the program, Conclude Letter of Agreement (LoA) with BRRI, monitoring & evaluation of the program	- Assigning DAO/UAO staff for supporting the program implementation by BRRI - Support the project organizations in their monitoring & evaluation of the program	- Support the program implementation of the project organizations - BRRI - Implementation of the program in accordance with LOA - Operation of field seminar & seminar at Project - Report preparation
(2) Field Trial on Non-rice Crops	- Implementation of program in accordance with technical guideline/operation manuals - Scope of activities include: Preparation of TOR for the program, Conclude Letter of Agreement (LoA) with BARI, monitoring & evaluation of the program	- Assigning DAO/UAO staff for supporting the program implementation by BARI - Support the project organizations in their monitoring & evaluation of the program	- Support the program implementation of the project organizations - BARI - Implementation of the program in accordance with LOA - Operation of field seminar & seminar at Project - Report preparation
Small-scale Income Generation Sub-project (SIGS) (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	- Implementation of program in accordance with technical guideline/operation manuals - Scope of activities include: Selection of target groups & formation of CIGs, preparation training materials, selection of facilitator, training of CIGs, procurement & provision of goods & materials for the program, field guidance, follow-up field guidance, monitoring & evaluation of the program, reporting	- Assigning DAO/UAO staff for supporting the program implementation - Support the project organizations in their follow-up filed guidance and monitoring & evaluation of the program	- Support the program implementation of the project organizations - NCO - Assigning facilitators for the formation of CIGs & follow-up field guidance - DIO/ULO - Support implementation of Micro Poultry Raising Scheme

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	Kuljar Char	Kanimganj	Hossainpur	Austagram	Nikli	Ina	Mithamain	Bagipur	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
	Female	80	144	150	16	50	1,670	3	5	40	50	8	30	7
	sub-total	215	2,419	8,926	906	2,200	6,220	259	165	230	450	1,520	1,922	332
Fisher	Male	80	1,000	2,150	810	1,350	550	7,240	170	300	15,500	2,390	3,250	1,250
	Female	20	-	350	-	-	-	-	170	150	2,000	5	-	-
	sub-total	100	1,000	2,500	810	1,350	550	7,240	340	450	17,500	2,395	3,250	1,250
Total	315	3,419	11,426	1,716	3,550	6,770	7,499	505	680	17,950	3,915	5,172	1,582	64,499
Netrokona District														
	Mohanganj	Kalma Kanda	Purbadhala	Atpara	Durgapur	Madan	Khallajuri	Barhatta	Netrokona Sadar	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		
Total	6,940	12,235	11,480	9,815	7,200	3,407	8,132	8,785	12,648	8,845	89,487			
Habiganj District														
	Habiganj Sadar	Bahubal	Lakkhai	Nabiganj	Ajminganj	Chunaghat	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				
Total	9,300	5,375	13,560	9,580	5,785	275	2,250	6,647	52,772					
Brahmanbaria District														
	Sarail	B B Sadar	Nasirmagar	Kasba	Ashuganj	Bancharanji	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				
Total	2,030	14,120	4,095	5,925	1,600	2,775	5,530	6,950	43,025					
Sunamganj District														
	Chatak	Doarabazar	Shalla	South Sunamganj	Bishwanvar pur	Dhamapash sa	Jamalganj	Tahipur	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	
Total	17,000	7,966	35,296	7,600	4,575	9,958	5,040	7,069	17,140	5,610	1,773	119,027		

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

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

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.)

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 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
A. COMMUNITY RESOURCE MANAGEMENT		
Development of Beels		
A-1. Resource Mapping & Identification of Resources	- Data collection and screening for 150 Beels - Haor Upazilas of five project districts - Within 29 the sub-project schemes (Component - 1) - Preparation of list of beels (not covered in HILIP) & review - Availability & status of beels (at DC Offices, etc.) - Identification of physical location of potential beels - Assessment of lease value and legal status - PRAs to identify, select & mapping (with representatives from districts, Upazilas, etc. - Group Formation - Process to acquire or requisite selected beels from MoL, etc. - Mobilize and form groups (BUGs, BMCs) - Provide training (on excavation, conservation, etc.)	- A participatory exercise with the involvement of the stakeholders (i.e. villagers, fishers, women, local officials, public representatives. - 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. - A detailed implementation plan would be developed in consultation with the communities. - PRAs to cover the 29 sub-projects areas. - Group formation (BUG) will be done by organizing general meetings of beneficiaries. - After MOU signing with MoL & LGED, BUGs will get lease from MoL representative and commence to pay lease rent. - Project with its local upazila, zila offices & DoF office will organize training, the project staff will facilitate the process.
A-2. Development of Beel System	- Demarcation & zoning of sanctuary (with markers)	- 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.
A-2.1 Establishment of sanctuary, swamp forest, etc.	- Removal of silt (excavation), strengthening of bunds, dykes	- About 225 km of canals/khals for the beels considered for re-excavation to maintain connectivity with the developed beels.
A-2.2 Beel connectivity (canal/khal excavation)	- Planting of hizal & koroch tree samplings (200) in shallow areas - Making of shelters (FADs) with tree branches (2,000 m) - Bamboos & flags (for markers & fencing) - Removal of silt (excavation), strengthening of bunds, dykes - Nursery construction (water in-take & out-flow, net fixing, etc.) - Nursery preparation (pond bottom cleaning, ploughing, liming, manuring, predator eradication, etc.) - Procuring of spawns/fry (stocking 1 million/ha) - Nursery management (netting, feeding, plankton management, liming & fertilization, etc.) - Billboards	- BUGs will gradually develop other potential areas of the beel with their fund and savings. - Nursery will be established in a suitable area (or place) of the beel by BUGs.
B. FLOODPLAIN AQUACULTURE ACTIVITIES		
B-1. Alternate Income Generating Activities (Pilot models)		
B-1.1 Fish Net-Pen Culture	- Selection & identification of location for Fish Net-Pen - Area size: About 10 ha/fish net-pen - Number: 2 fish-pens/district - Total: 10 fish pens (5 districts) - Formation of Groups (HHs, Fishers/Farmers), women included. - Training of management group (2 days & 2 times/year) for 6 years - For Set-up of One unit Fish Net-Pen (10 ha) for One Group - Erection of nets & bamboo screens (700 m Bamboo screen, etc.) - Land preparation (cleaning, eradication of predators, etc.) - Procuring fingerlings/juvenile fish (1,200/ha) and stocking - Feeding (only partial) and management - Fish culling and harvesting	- Demonstration of pen aquaculture in group - Provides opportunity of livelihood development in haor area during flood months. - Fish production outside the beels; provides alternate income with other crop (paddy). - Suitable sites will be selected by community in consultation with DOF and project staff. - Size of the net-pen size will be decided by the community on availability and suitability of the land. - It will create scope of fish production in flood land and economical earning for the communities during wet months.
B-1.2. Fish Cage Culture	Selection & identification of location for Fish Cages installations	- Demonstration of cage aquaculture in group or individual
- Small Individual cages set of 20 units/location	- Small cage: 1 unit (m²) x 20 units (20 m²) per selected location - One set per district; total 5 sets (5 districts)	- Operate and manage by 20 individuals (farmers, women, etc.) - Fish production in canals, rivers and flood plain during flood months in control method (planned aquaculture).
- Large-cage set of 10 units- joint/location	- Large cage set: 10 units joint (25 m²) per selected location - One set per district; total 5 sets (5 districts) - Formation of Groups (HHs, Fishers, Farmers) - Training of management group (2 days & 2 times/year) for 6 years - Cage size (large) 20' x 10' x 4.5' - Cage material: frames, nets, drums, floats, etc. - Preparation of the site - Construction & setting up of cages, labour, etc. - Procuring fingerlings (30-40 gm) and stocking - Feeding (floating feed FCR 1.35) and cage management	- Operate and manage by a group (farmers, women, etc.) - Employment opportunity during flood season - Introduction of Cage fish culture in Haor areas
B-1.3 Backyard Fish Pond Culture	- Identification & selection of location for suitable backyard ponds - Size: 5-10 ponds/group; 10 members or HHs/group - Number: 4 groups/district - Total: 20 groups (5 districts) - Formation of Groups (HHs, Fishers, Farmers) - Training of management group (2 days & 2 times/year) for 6 years - Pond renovation & preparation for culture - Making dykes & fixing nets (if necessary) - Drying, cleaning, liming, manuring, fertilization, etc. - Procuring fingerlings (2 fingerling/m²) and stocking - Pond management, feeding, etc.	- 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. - Provide additional supply of nutrition & income for HHs. - Provides employment opportunity year around.
B-1.4 Daukhandi Model Aquaculture	- Identification & selection of location for seasonal floodplain aquaculture - Area size: about 10 ha - Water: seasonal 4-5 months (depth not above 8') - Number: 2 model sites within the 29 sub-project scheme area - Total: 2 models (5 districts) - Formation of Groups (HHs, Fishers, Farmers) - Training of management group (2 days & 2 times/year) for 6 years - Preparation of the site - Infrastructural improvement (dyke, water regulators, net, etc.) - Drying, cleaning, liming, manuring, fertilization, etc. - Procuring fingerlings/Fish Juvenile 5"-6" size (10,000/ha) & stocking	- Selection of suitable location in the floodplain area locations (semi-closed waters) - Proper utilization of paddy lands during the flood months - Demonstration of the model for adaptation to other suitable areas.
B-1.5 Fish Drying and Fermentation	- Selection among HHs and groups already in dry fish processing - Mobilize and organize beneficiaries groups - Training on improved processing & awareness on sanitation, hygiene & new products (preferably to have a brand name).	- Select existing fish drying locations/sites that have potential for development as model. - Dry & fermented (value added) fish production in hygienic condition. - Provide better fish preservation - Create employment opportunities for women in Haor areas.

Sub-components (Programs)	Technical Specifications	Objectives/Description
C. FISHERIES SUPPORT SERVICES		
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.
D. TRAINING/WORKSHOP/SEMINAR		
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		
D-2.1 Fish Net-Pen Culture	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-2.2 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	Participants: Govt. officials, public representatives 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.
E. Exchange Visits for Experience Sharing	- 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.
F. Monitoring, Legal Support & Studies		
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.
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 7.10

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
	Total		24	14	10

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>		<i>20</i>	<i>4</i>	<i>16</i>
	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>		<i>11</i>	<i>5</i>	<i>6</i>
		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>		<i>4</i>	<i>3</i>	<i>1</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>		<i>4</i>	<i>2</i>	<i>2</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>		<i>4</i>	<i>1</i>	<i>3</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	-
		Sub-total		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
			Sub-total		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
			Sub-total		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
			Sub-total		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	-
			Sub-total		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
			Sub-total		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
			Sub-total		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	-
			Sub-total		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
			Sub-total		4	1	3
		Jaganathpur O&M Section-2	1	Sub-Assistant Engineer/S.	1	1	-
			2	Work Assistant	2	-	2
			3	MLSS	1	-	1
			Sub-total		17	5	12
	Grand Total					97	32

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	
			Sub-total				21	7
				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
		Sub-total				12	4	8
			Netrokona O&M Section	1	SAE/SO	1	1	0
				2	Work Assistant	2	2	0
				3	MLSS	1	0	1
				Sub-total				4
			Thakurakona O&M Section	1	SAE/SO	1	1	0
				2	Work Assistant	2	1	1
				3	MLSS	1	1	0
	Sub-total				4	3	1	
				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
				Sub-total				11
			Mohonganj O&M Section-I	1	SAE/SO	1	1	0
				2	Work Assistant	2	1	1
3				MLSS	1	0	1	
Sub-total				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	
Sub-total				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	
			Sub-total				4	0
Grand Total					64	23	41	

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			
			Sub-total		15	6	9			
				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	-		
				Sub-total		10	6	4		
			Kishoreganj O&M Section	1	Sub-Assistant Engineer/S.O	1	1	-		
				2	Work Assistant	2	2	-		
				3	MLSS	1	1	-		
				Sub-total		4	4	-		
			Bajitpur O&M Section	1	Sub-Assistant Engineer/S.O	1	1	-		
				2	Work Assistant	2	-	2		
				3	MLSS	1	-	1		
				Sub-total		4	1	3		
			Bhairab O&M Section	1	Sub-Assistant Engineer/S.O	1	1	-		
				2	Work Assistant	2	-	2		
				3	MLSS	1	-	1		
				Sub-total		4	1	3		
					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		
	Sub-total				10	2	8			
					Bhairab WD Setion-1	1	Sub-Assistant Engineer/S.O	1	1	-
						2	Work Assistant	2	1	1
						3	MLSS	1	-	1
						Sub-total		4	2	2
			Bhairab WD Setion-2	1	Sub-Assistant Engineer/S.O	1	1	-		
				2	Work Assistant	2	-	2		
				3	MLSS	1	-	1		
				Sub-total		4	1	3		
	Grand Total					55	23	32		

Brahmanbaria WD Division

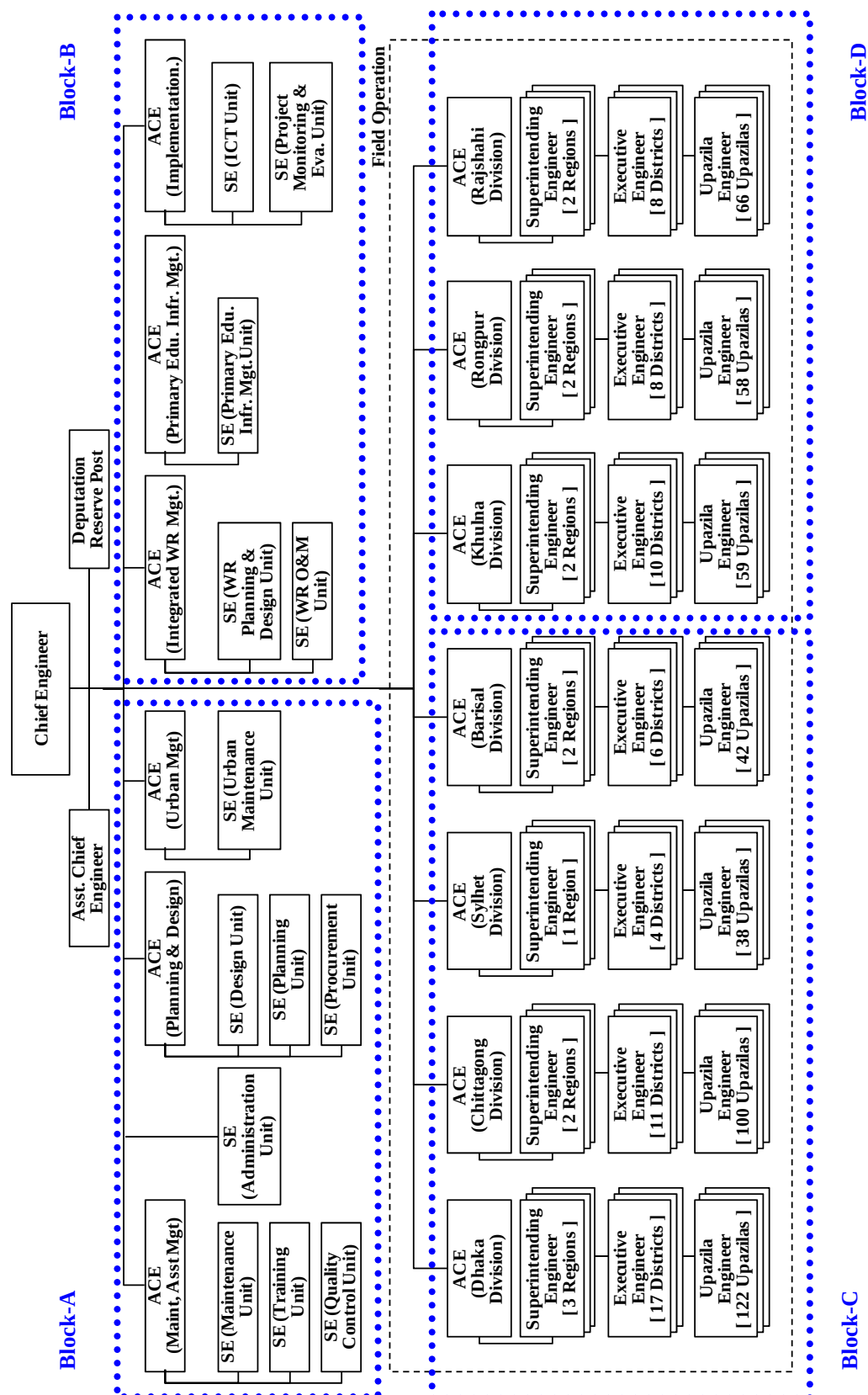
Division Name	Sub-division Name	Section Name	No.	Position	Nos. of Approved Position	Nos. of Filled Position	Nos. of Vacant Position	
Brahmanbaria WD Division	Ashuganj WD Sub-division		1	Executive Engineer	1	1	0	
			2	Revenue Officer	1	0	1	
			3	Sub-assistant Engineer/Estimator	1	0	1	
			4	Senior Clerk	1	0	1	
			5	DEO	1	0	1	
			6	Driver	1	0	1	
			7	MLSS	2	0	2	
			8	Guard	1	0	1	
		Sub-total		9	1	8		
			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	
		Sub-total		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	
			Sub-total		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	
			Sub-total		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	
			Sub-total		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	
			Sub-total		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	
			Sub-total		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	
			Sub-total		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	
			Sub-total		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	
	Sub-total			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	
			Sub-total		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	
			Sub-total		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	
			Sub-total		3	1	2	
Grand Total					60	11	49	

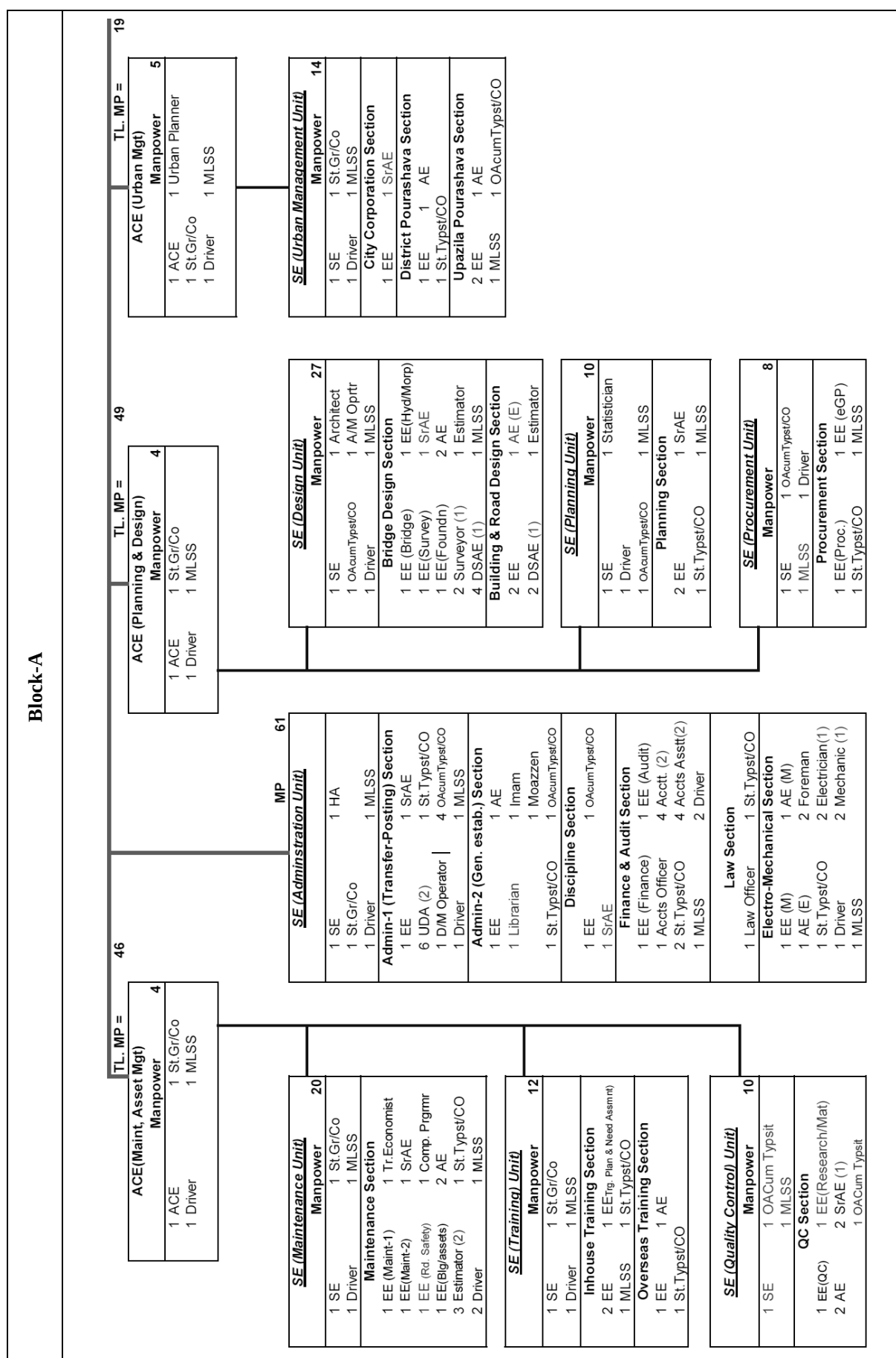
Habiganj O&M Division

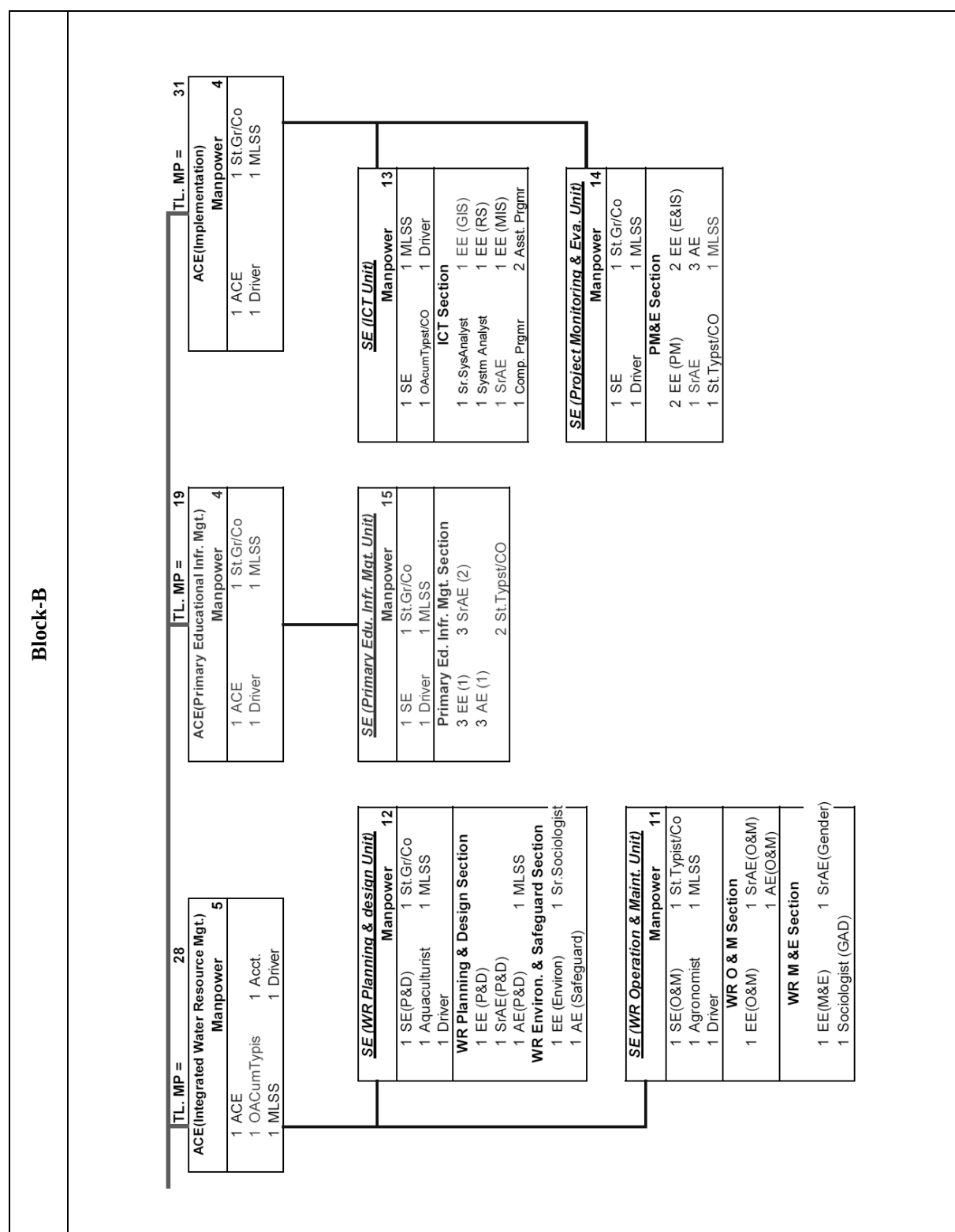
Division Name	Sub-division Name	Section Name	No.	Position	Nos. of Approved Position	Nos. of Filled Position	Nos. of Vacant Position	
Habiganj O&M Division			1	Executive Engineer	1	1	0	
			2	Asstt. Engineer	1	0	1	
			3	SAE/Estimator	1	1	0	
			4	U.D. Asstt.	1	0	1	
			5	Asstt. Accountant	1	0	1	
			6	Sr. 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	
			Sub-total	20	7	13		
				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
				Sub-total	13	5	8	
			Habiganj O&M Section	1	SAE/SO	1	1	0
				2	Work Assistant	2	2	0
				3	MLSS	1	0	1
				Sub-total	4	3	1	
			Balla O&M Section	1	SAE/SO	1	1	0
				2	Work Assistant	1	0	1
				3	MLSS	1	0	1
				Sub-total	3	1	2	
			Bahubal O&M Section	1	SAE/SO	1	1	0
				2	Work Assistant	1	0	1
				3	MLSS	1	0	1
			Sub-total	3	1	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
				Sub-total	8	2	6	
			Habiganj Town Protec. Section	1	SAE/SO	1	0	1
				2	Work Assistant	2	2	0
				3	MLSS	1	0	1
				Sub-total	4	2	2	
			Baniachong O&M Section	1	SAE/SO	1	1	0
				2	Work Assistant	1	0	1
				3	MLSS	1	0	1
				Sub-total	3	1	2	
			Madanpur O&M Section	1	SAE/SO	1	0	1
				2	Work Assistant	1	1	0
				3	MLSS	1	0	1
				Sub-total	3	1	2	
		Grand Total					61	23

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	TL. MP	TL. MP	TL. MI	TL. MI	TL. MI
2731	2172	830	956		
ACE (Dhaka Division) Manpower 15 1 ACE 1 EE (Impl.) 1 EE (O&M) 1 EE (M) 1 Sr. Sociolgst 1 AE 1 OAcumTypist/C 1 SAE 3 Driver 3 MLSS 1 Acctt. Asstt.	ACE (Chittagong Division) Manpower 11 1 ACE 1 EE (Impl.) 1 EE (O&M) 1 EE (M) 1 Sr. Sociolgst 1 AE 1 St.Gr./Co 1 SAE 2 MLSS 1 Acctt.	ACE (Sylhet Division) Manpower 11 1 ACE 1 EE (Impl.) 1 EE (O&M) 1 EE (M) 1 Sr. Sociolgst 1 AE 1 St.Gr./Co 1 SAE 2 MLSS 1 Acctt.	ACE (Barisal Division) Manpower 10 1 ACE 1 EE (Impl.) 1 EE (O&M) 1 EE (M) 1 Sr. Sociolgst 1 AE 1 St.Gr./Co 1 SAE 1 Acctt. 1 MLSS		
Superintending Engineers-3 Regions (Dhaka, Faridpur & Mymensingh Regions)	Superintending Engineers-2 Regions (Comilla & Chittagong Regions)	Superintending Engineers-1 Region (Sylhet Region)	Superintending Engineers-2 Regions (Barisal & Patuakhali Regions)		
MP 12 x 3 = 36 1 SE 3 EE (2) 1 AE 1 SAE 1 Acctt. Asstt. 1 StGr/Co 2 Driver 2 MLSS (1)	MP 12 x 2 = 24 1 SE 3 EE (2) 1 AE 1 SAE 1 Acctt. Asstt. 1 StGr/Co 2 Driver 2 MLSS (1)	MP 12 x 1 = 12 1 SE 3 EE (2) 1 AE 1 SAE 1 Acctt. Asstt. 1 StGr/Co 2 Driver 2 MLSS (1)	MP 12*2 = 24 1 SE 3 EE (2) 1 AE 1 SAE 1 Acctt. Asstt. 1 StGr/Co 2 Driver 2 MLSS (1)		
EE (17 Districts) Gr. Dt. 5 MP (19+2) x 12 = 252 22X5 = 110 = 362 1 EE 1 Sr.AE 1 AE (M)* 1 AE 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	EE (11 Districts) Gr. Dt. 6 MP (19+2) x 5 = 105 22X6 = 132 = 237 1 EE 1 Sr.AE 1 AE (M)* 1 AE 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	EE (4 Districts) Gr. Dt. 1 MP (19+2) x 3 = 63 22X1 = 22 = 85 1 EE 1 Sr.AE 1 AE (M)* 1 AE 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	EE (6 Districts) Gr. Dt. 2 MP (19+2) x 4 = 84 22X2 = 44 = 128 1 EE 1 Sr.AE 1 AE (M)* 1 AE 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		
UE (122 Upazilas) MP 19 x 122 = 2318 1 UE 1 UAE 2 SAE 1 DSAE 4 WA 1 Surveyor 1 C.Org. 1 Electrician 1 Acctt. Asstt. 1 Acctt. 1 OAcumTypist 1 OA 2 MLSS 1 Chowkider	UE (100 Upazilas) MP 19 x 100 = 1900 1 UE 1 UAE 2 SAE 1 DSAE 4 WA 1 Surveyor 1 C.Org. 1 Electrician 1 Acctt. Asstt. 1 Acctt. 1 OAcumTypist 1 OA 2 MLSS 1 Chowkider	UE (38 Upazilas) MP 19 x 38 = 722 1 UE 1 UAE 2 SAE 1 DSAE 4 WA 1 Surveyor 1 C.Org. 1 Electrician 1 Acctt. Asstt. 1 Acctt. 1 OAcumTypist 1 OA 2 MLSS 1 Chowkider	UE (42 Upazilas) MP 19 x 40+17*2 = 794 1 UE 1 UAE 2 SAE 1 DSAE 4 WA 1 Surveyor 1 C.Org. 1 Electrician 1 Acctt. Asstt. 1 Acctt. 1 OAcumTypist 1 OA 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	
ACE (Khulna Division)		ACE (Rongpur Division)	
Manpower 11		Manpower 10	
1 ACE 1 EE (O&M) 1 Sr. Sociologist 1 St.Gr./Co 1 SAE 1 Acctt. 2 MLSS		1 ACE 1 EE (O&M) 1 Sr. Sociologist 1 St.Gr./Co 1 SAE 1 Acctt. 1 MLSS	
Superintending Engineers-2 Regions (Khulna & Jessore Regions)		Superintending Engineers-2 Regions (Dinajpur & Rangpur Regions)	
MP 12*2= 24		MP 12*2= 24	
1 SE 1 AE 1 Acctt. Asstt. 2 Driver 1 OACumTpst (Jessr) EE (10 Districts) Gr. Dt. 3 MP (19+2) x 7 = 147 22 X3 = 66 = 213		1 SE 1 AE 1 Acctt. Asstt. 2 Driver 1 OACumTpst (DPP) EE (8 Districts) Gr. Dt. 2 MP (19+2) x 6 = 126 22 X2 = 44 = 170	
1 SE 3 EE (2) 1 SAE 1 StGr/Co(Kh) 2 MLSS (1)		1 SE 3 EE (2) 1 SAE 1 StGr/Co(RP) 2 MLSS (1)	
1 Sr.AE 1 AE (M)* 1 Foreman 1 Sociologist 2 SAE(*1) 1 Acctt. 1 UDA 1 Accts Asst.* 1 St.Typst/CO 1 Electrician 3 Roll. Driver 1 Truck Driver 1 MLSS		1 Sr.AE 1 AE (M)* 1 Foreman 1 Sociologist 2 SAE(*1) 1 Acctt. 1 UDA 1 Accts Asst.* 1 St.Typst/CO 1 Electrician 3 Roll. Driver 1 Truck Driver 1 MLSS	
UE (59 Upazilas)		UE (58 Upazilas)	
MP 19 x 59 = 1121		MP 19 x 58 = 1102	
1 UE 2 SAE 4 WA 1 C.Org. 1 Acct. Asstt. 1 OACumTypist 2 MLSS		1 UE 2 SAE 4 WA 1 C.Org. 1 Acct. Asstt. 1 OACumTypist 2 MLSS	
1 UE 1 DSAE 1 Surveyor 1 Electrician 1 Acctt. 1 OA 1 Chowkider		1 UE 1 DSAE 1 Surveyor 1 Electrician 1 Acctt. 1 OA 1 Chowkider	
TL. MP 1464		TL. MP 1254	
ACE (Rajshahi Division)		ACE (Rajshahi Division)	
Manpower 15		Manpower 15	
1 ACE 1 EE (O&M) 1 Sr. Sociologist 1 OACumTypist/c 1 SAE 3 Driver 3 MLSS		1 ACE 1 EE (O&M) 1 Sr. Sociologist 1 OACumTypist/c 1 SAE 3 Driver 3 MLSS	
Superintending Engineers-2 Regions (Rajshahi & Bogra Regions)		Superintending Engineers-2 Regions (Rajshahi & Bogra Regions)	
MP 12*2= 24		MP 12*2= 24	
1 SE 1 AE 1 Acctt. Asstt. 2 Driver 1 OACumTpst (Bgra) EE (8 Districts) Gr. Dts 3 MP (19+2) x 5 = 105 22 X3 = 66 = 171		1 SE 1 AE 1 Acctt. Asstt. 2 Driver 1 OACumTpst (Bgra) EE (8 Districts) Gr. Dts 3 MP (19+2) x 5 = 105 22 X3 = 66 = 171	
1 SE 3 EE (2) 1 SAE 1 StGr/Co(RS) 2 MLSS (1)		1 SE 3 EE (2) 1 SAE 1 StGr/Co(RS) 2 MLSS (1)	
1 Sr.AE 1 AE (M)* 1 Foreman 1 Sociologist 2 SAE(*1) 1 Acctt. 1 UDA 1 Accts Asst.* 1 St.Typst/CO 1 Electrician 3 Roll. Driver 1 Truck Driver 1 MLSS		1 Sr.AE 1 AE (M)* 1 Foreman 1 Sociologist 2 SAE(*1) 1 Acctt. 1 UDA 1 Accts Asst.* 1 St.Typst/CO 1 Electrician 3 Roll. Driver 1 Truck Driver 1 MLSS	
UE (66 Upazilas)		UE (66 Upazilas)	
MP 19 x 66 = 1254		MP 19 x 66 = 1254	
1 UE 2 SAE 4 WA 1 C.Org. 1 Acct. Asstt. 1 OACumTypist 2 MLSS		1 UE 2 SAE 4 WA 1 C.Org. 1 Acct. Asstt. 1 OACumTypist 2 MLSS	
1 UE 1 DSAE 1 Surveyor 1 Electrician 1 Acctt. 1 OA 1 Chowkider		1 UE 1 DSAE 1 Surveyor 1 Electrician 1 Acctt. 1 OA 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 Mohanganj	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 Nandail 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	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed
Name of Post	Netrokona PIU			Kishoreganj PIU			Habiganj PIU			Brahmanbaria PIU			Sunamganj PIU		
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								
Sub-projects for Component	R1, R2, R3			R14, R15 N11			R4, R5, R6 N1, N2, N6, N7, N9, N10,						R7 N5, N8, N14		
Name of Post	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed
	Netrokona SDO			Mohongganj 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					
Sub-projects for Component	R13			R8, R9, R10 N13			R11, R12			N3, N12			N4, N12		
Name of Post	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed
	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 7.5 List of Sub-Projects of Component 2 and Component 3-2 by Upazila

N o	District	Upazila	Component 1 Sub-Project	Component 2 Sub-Project																		Component 3-2 (Fishery) Sub-Project	
				Rural Road																Hat (no) RM GC		Ghat (no)	Beels
				Submerged (km) UZR UNR VRA VRB				Non-submerged (km) UZR UNR VRA VRB				Bridge (m) UZR UNR VRA VRB				Culvert (m) UZR UNR VRA VRB							
1	Netrokona	1 Atpara	N11,				5.3																
		2 Borhatta	R3,	6.2						4.4													
		3 Durgapur	N4,																				
		4 Khalajuri	R14, R15,			1.6				1.5	5.0			170.0				10.0			1		
		5 Kalmakanda	N4,																				
		6 Kendua	N6,																				
		7 Madan	N11,																				
		8 Mohonganj	N4,																				
		9 Netrokona sadar	R2,																				
		10 Purbadhala	R1, R2,					3.0		9.4	2.9	3.2			60.0						2		3
Sub-total				6.2	1.6	0.0	8.3	0.0	10.9	12.3	3.2	0.0	170.0	60.0	0.0	0.0	10.0	0.0	0.0	3	0	3	30
2	Kishoreganj	1 Astagram	N14,	10.2	20.9																		
		2 Bajitpur	N8,						7.1														
		3 Bhairab																					
		4 Hossainpur	R4,						13.5	4.9													
		5 Itna	N2, N7, N9, N10,	13.4	3.0		3.0													1		2	
		6 Karimganj	N1, N2, N7,					12.9															
			N14,																				
		7 Katiadi	R5, R6, N1,						2.1														
			N5, N8,																				
		8 Kishoreganj Sadar	R4, N1,			2.4			2.6	2.3										6	1	8	
		9 Kularchar	R7,						10.4														
		10 Mithamain	N2, N9,	10.0	9.6	3.0																	
		11 Nikli	N1, N2,							2.0	0.6												
	N5, N8, N14																						
12 Pakundia	R5, R6,						30.2												1				
13 Tarail	N6, N7, N10,		3.3				3.6																
Sub-total				33.6	36.8	5.4	3.0	12.9	69.5	9.2	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8	1	10	30	
3	Habiganj	1 Ajmiriganj	R8, R9, N13,	7.0	4.2	2.0	28.1	14.0	4.2					60.0	70.0	50.0	10.0	90.0		1	1		
		2 Bahubal	R13,				5.9			4.5	10.8				10.0			30.0	100.0		2		
		3 Baniachanj	R8, R9, R10, N13,		1.4			4.9	8.8	7.1		50.0	130.0	30.0		20.0	50.0	40.0		2	1	1	
			R13,																				
		4 Chunarughat																					
		5 Habiganj Sadar	R13,						4.2	3.0								10.0		1		2	
			N13,																				
		6 Lakhai																					
7 Madhabpur																							
8 Nabiganj																							
Sub-total				7.0	5.6	2.0	34.0	18.9	17.5	22.1	3.0	50.0	130.0	30.0	70.0	90.0	100.0	80.0	200.0	6	2	3	30
4	Brahman- baria	1 Akhaura																					
		2 Bancharampur	R11, R12,																				
		3 Brahmanbaria																					
		4 Kashba																					
		5 Nabinagar																					
		6 Nasimnagar																					
		7 Sarail																					
		8 Ashuganj																					
		9 Bijoyknagar																					
Sub-total				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	30	
5	Sunamganj	1 Bishwamvarpur																					
		2 Chhatak	N3,																				
		3 Dera		0.9		6.0		0.9		3.2				20.0		10.0		80.0				1	
		4 Dharmapasha	N4,	8.7	8.0			8.7								100.0	50.0			1			
		5 Dowarabazar																					
		6 Jagannathpur																					
		7 Jamalganj	N12,	0.1								20.0			20.0				10.0				
		8 Sullah																			1		
		9 Sunamganj Sadar	N12,	8.3	3.9	9.8	3.0		3.8		2.0					30.0	10.0	10.0		1	1		
		10 Tahirpur																					
		11 South Sunamganj	N12,	14.9		8.5						190.0				50.0		30.0				2	
Sub-total				32.9	11.9	24.3	3.0	9.6	3.8	3.2	2.0	210.0	0.0	20.0	20.0	190.0	60.0	120.0	10.0	1	1	5	30
Total				79.7	55.9	31.7	48.3	41.4	101.6	46.8	8.8	260.0	300.0	110.0	90.0	280.0	170.0	200.0	210.0	18	4	21	150

Notes:

- 1) Part of R4 area (component 1 sub-project) is located in Nandail Upazila in Mymensingh District.
2) UZR=Upazila Road, UNR=Union Road, VRA=Village Road Type A, VRB=Village Road Type B

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	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	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&E Specialist and Environmental Engineer/Expert are shown in Page A7.6-4.

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

PUOs in Nerokona District	Upazila Engineer	Alpara	Bothatta	Khaliajuri	Kamalkanda	Kendua	Madan	Mohonganj	Netrokona Sdr	Purbadhala	Total			
	Sub-Assistant Engineer	1	1	1	1	1	1	1	1	1	9			
	SMS Fisheries *1	1	1	1	1	1	1	1	1	1	9			
	Work Assistant	1	1	1	1	1	1	1	1	1	9			
	LCS Organizer	1	1	1	1	1	1	1	1	1	9			
	Social Organizer (Fisheries)	1	1	1	1	1	1	1	1	1	9			
	Surveyor	1	1	1	1	1	1	1	1	1	9			
	Guard	1	1	1	1	1	1	1	1	1	9			
	Office Helper	1	1	1	1	1	1	1	1	1	9			
	Total	9	9	9	9	9	9	9	9	9	81			
	*1: SMS-Subject matter specialist													
PUOs in Kishoreganj District	Upazila Engineer	Astagram	Bajipur	Hossainpur	Ina	Karinganj	Katiadi	Kishoreganj Sdr	Kulurchar	Mithamain	Nikli	Pakundia	Tarail	Total
	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
	PUOs in Habiganj District	Upazila Engineer	Ajmiganj	Bahubal	Baniachanj	Habiganj sadar								
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
PUOs in Brahmanbaria District		Upazila Engineer	Bancharampur										Total	
	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		
	PUOs in Sunamganj District	Upazila Engineer	Chhatak	Derai	Dharmapasha	Jamalganj	Sullah	Sunamganj Sdr	S. Sunamganj				Total	
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	9				63	

Note:

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

Note:

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

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	- Conduct works relevant to environmental management under the guidance of PD. - Review draft EIA/IEE including EMP and RAP prepared by the consultant in accordance with Environmental Conservation Rules 1997 of Bangladesh and others. - Disseminate and explain additionally confirmed and identified environmental issues to public including holding public consultations. - Assist PD in obtaining Environmental Clearance from DOE. - Review and approve environmental programs prepared by the contractors in accordance with EMP, relevant plans and JICA Environmental Guidelines. - Coordinate with DOE and other government agencies relating to the environmental management in terms of the environmental programs and activities.
M&E Specialist	- Conduct works relevant to reporting and project management under the guidance of PD. - Prepare AWPB and procurement plan with the help of consultants team. - Prepare the optimum type of monitoring & evaluation program for project implementation. - Design a monitoring system based on measurable inputs, outputs and outcomes. The system shall include road traffic, market, household and bio-diversity characteristics survey. - Review the result of baseline survey and monitoring activity to be carried out by the consultants. - Periodically review monitoring activities during project implementation. - Review subproject profile including baseline data and detail design for construction works from the viewpoint of project monitoring and evaluation. - Review the inception report, progress reports, and completion report prepared by the consultants and ensure that these reports meet monitoring and evaluation requirements. - Overview implementation of measures stated in the environmental programs. - Overview implementation of measures in RAP. - Monitor the effectiveness of EMP and compliance with requirements of Environmental Conservation Rules, relevant guidelines, etc. - Coordinate with DOE and other government agencies relating to the environmental management in terms of the environmental programs and activities. - Generate other reports to satisfy the reporting obligation of GOB and JICA with the help of consultants.

(2) PIU (LGED)

Name of Post	Major Tasks and Duties
Community Infrastructure Coordination Expert	- Conduct works relevant to community infrastructure management under the guidance of EE. - 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. - Implement and monitor all the infrastructure activities in coordination with LGI and communities. - Implement and monitor land acquisition and compensation activities for the infrastructure.
Community Resource Management Coordination Expert	- Conduct works relevant to community resource management under the guidance of EE. - Assist District Project Coordinator in preparing the overall work plan for community resource management including beels. - Implement and monitor the process of accessing to resources including beels in coordination with LGI. - Establish rights of the community on the community resources and sustainable management in coordination with LGI and community.

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	FCDI
2	Kangsha River Scheme	Netrokona	7	FCDI
3	Singer Beel Subproject	Netrokona	4	FCDI
4	Boraikhali Khal Sub-project	Mymensingh and Kishoreganj	1	FCDI
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	FCDI
9	Bashira River Re-excavation Sub-project	Habiganj	2	FCDI
10	Aralia khal Sub-project	Habiganj	2	FCDI
11	Chandal beel Sub-project	Brahmanbaria	1	FCDI
12	Satdona Beel Scheme	Brahmanbaria	2	FCDI
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 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: <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)		Others	28. (specify in detail)	

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

1. Basic Information on Interview	
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 M.r. polash Talukdar
Organization	Chorervita Sluice Committee
Position	Member
Name of interviewer	Md. Moniruzzaman P Eng
2. Basic Information on Sub-project	
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:
3. Your Personal Experience in O&M Works	
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
4. Current Status of Your Organization	
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.
5. Issues on Operation Works	
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.
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, 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.
7. Technical Capacities	
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
8. Needs for Future O&M Works	
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

1. Basic Information on Interview	
Date of interview	28 August 2013; Time: 11.00 AM to 01.30 PM
Location	District: Netrokona, Upazila: purbodhala, Village: shaldigha
Name of interviewee	Md. Jobied Hossain Fakir
Organization	Shaldigha Regulator Committee
Position	General Secretary
Name of interviewer	Md. Moniruzzaman P Eng
2. Basic Information on Sub-project	
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 ELm
Submergible embankment	Length: x km, Crest width: x m, Crest elev. to ELm
Canal	Can-1:
	Can-2:
3. Your Personal Experience in O&M Works	
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.
4. Current Status of Your Organization	
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.
5. Issues on Operation Works	
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.
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, 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
7. Technical Capacities	
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
8. Needs for Future O&M Works	
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 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

1. Basic Information on Interview	
Date of interview	31 Aug. 2013; Time: 08.35 AM to 11.05 AM
Location	District: Netrokona Upazila: Barhatta Village: Putukia
Name of interviewee	Md. Jalal Uddin (in presence of Md. Shahjahan, Gate Operator)
Organization	Tummir Sluice Committee
Position	Chairman of the Committee
Name of interviewer	Md. Moniruzzaman P Eng
2. Basic Information on Sub-project	
Sub-project name	Singer Beel Subproject
Location	District: Netrokona Upazila: Barhatta
Regulator	Reg-1: Tummir 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: 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:	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.
4. Current Status of Your Organization	
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.
5. Issues on Operation Works	
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 help less. 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.
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, 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.
7. Technical Capacities	
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
8. Needs for Future O&M Works	
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: Boraikhal 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	Boraikhal 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: Boraikhal 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 Samajeebi Samabay a 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 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

1. Basic Information on Interview	
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 Sluice Committee
Position	Member of the Committee
Name of interviewer	Md. Moniruzzaman P Eng
2. Basic Information on Sub-project	
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 ELm
Submergible embankment	Length: x km, Crest width: x m, Crest elev. x to x ELm
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
3. Your Personal Experience in O&M Works	
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.
4. Current Status of Your Organization	
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.
5. Issues on Operation Works	
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.
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, 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.
7. Technical Capacities	
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.
Q7-3:	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. 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
8. Needs for Future O&M Works	
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 Samabay 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 out side 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 out side 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: Korchha
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: Korchha
Regulator	Reg-1: Korchha Reg., L 4.4m x W 4.4m, 2vents, Not functioning
Full embankment	Lengh - km, Crest width - m, Crest elev. - to - ELm
Submergible embankment	Lengh -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:	Korchha 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 "Korchha 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 "Korchha village committee." The village committee does various activities for peace and happiness of the village including arraigning 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 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.
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	Md. Dolon Mia
Organization	Poikarkandi 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 - ELm
Submergible embankment	Length -15 km, Crest width - 3.5 m, Crest elev. - to - ELm
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

1. Basic Information on Interview	
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
2. Basic Information on Sub-project	
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 - ELm
Submergible embankment	Length - km, Crest width - m, Crest elev. - to - ELm
Canal	Shotomukha Khal, L 2.39km, Bed Width 3 m, Top Width 30 m.
3. Your Personal Experience in O&M Works	
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.
4. Current Status of Your Organization	
Q4-1:	Now a days there is no special organization/ committee for O&M works in the sub-project.
Q4-2:	"Shotomukha village committee." arrange the auction for irrigation scheme before cultivation.
Q4-3:	All the villagers are in the organization/ committee. Most of them are farmers.
Q4-4:	The villagers are very cooperative among themselves.
Q4-5:	There is no funding source for the organization/ committee.
Q4-6:	The contractor provides all O&M cost regarding to the irrigation.
Q4-7:	No, the organization/ committee does not receive any O&M cost from BWDB.
Q4-8:	Operation of regulator
Q4-9:	BWDB has all responsibilities. We just have the handle and we operate the gate according to our needs depending on water level.
Q4-10:	There are some cooperative societies among the fishermen in the sub-project area to develop their fishery.
Q4-11:	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).
Q4-12:	Yes, I communicate regularly with BWDB offices over mobile-phone.
Q4-13:	Yes, I have a proper contact with BWDB officials.
5. Issues on Operation Works	
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.
6. Issues on Maintenance Works	
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 contract. 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.
7. Technical Capacities	
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.
Q7-3:	Details guidance/ training are essential for proper operation and maintenance works.
Q7-4:	Only the handle of the regulator has been provided about 20 years ago.
Q7-5:	It is insufficient.
Q7-6:	It was used only for gate operation. We have no equipment for small scale maintenance works.
Q7-7:	There is no difficulty in accessing to the field. It is accessible on foot.
Q7-8:	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
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 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

1. Basic Information on Interview	
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
2. Basic Information on Sub-project	
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 - El.m
Submergible embankment	Length - km, Crest width - m, Crest elev. - to - El.m
Canal	Mullukbari Khal, L 1.5 km, Bed Width 5 m, Top Width 25 m.
3. Your Personal Experience in O&M Works	
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.
4. Current Status of Your Organization	
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.
5. Issues on Operation Works	
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.
6. Issues on Maintenance Works	
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.
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 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.
8. Needs for Future O&M Works	
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 required 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 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. 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	Mukhlis 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 - ELm
Submergible embankment	Length - km, Crest width - m, Crest elev. - to - ELm
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: Noyakhal
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 contract. 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

1. Basic Information on Interview	
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
2. Basic Information on Sub-project	
Sub-project name	Khaliajuri FCD Polder-2
Location	District: Netrokona Upazila: Khaliajuri
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: 52.1 km, 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:
3. Your Personal Experience in O&M Works	
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.
4. Current Status of Your Organization	
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.
5. Issues on Operation Works	
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.
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, 21. Sedimentation, 22. Land degradation
Q6-2:	Repair by your 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.
7. Technical Capacities	
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
8. Needs for Future O&M Works	
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	Md. Masud Rana
Organization	Kumaria Sluice Committee
Position	Chairman of the Committee
Name of interviewer	Md. 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**

	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed
Name of Post	Netrokona			Kishoreganj			Habiganj			Brahmanbaria			Sunamganj		
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)

	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed
Name of Post	Netrokona SDO			Kishoreganj SDO ^{*1}			Habiganj-1 SDO			Nabinagar SDO			Sunamganj-1 SDO		
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	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)

	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed
Name of Post	Mohongang SDO			Bhairab SDO			Habiganj-2 SDO			Sunamganj-2 SDO		
Sub-divisional Engineer	1	1	1	1	1	1	1	1	1	1	0	1
LD Assistant cum Typist	1	1	1	1	0	1	1	0	1	1	0	1
Account Clerk	1	0	1	1	0	1	1	0	1	1	0	1
Surveyor (Engineering)	1	0	1	1	1	1	1	0	1	1	0	1
Extension Overseers (EO)			8			9			13			8
Driver	1	0	1	1	0	1	1	0	1	0	0	
Speed Boat Driver	1	0	1	1	0	1	0	0		1	1	1
MLSS	2	0	2	2	0	2	2	1	2	2	1	2
Pump Operator	0	0		0	0		0	0		0	0	
Chowkidar (Guard)	1	0	1	1	0	1	1	0	1	1	1	1
Assistant Cook	1	0	1	0	0		0	0		0	0	
Electrician	0	0		0	0		0	0		0	0	
Bearer	1	0	1	1	0	1	0	0		0	0	
Imam (Religious Leader)	0	0		0	0		0	0	0	0	0	
Total	11	2	19	10	2	19	8	2	21	8	3	16

Section Office (SO)

	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed	Set-up	Existing	Proposed
Name of Post	5 section offices			5 + new 3 section offices			6 section offices			3 section offices			6 section offices		
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.

Appendix 7.9 Annual O&M Cost for Component 1 Structures**Annual O&M Cost**

Work Item	Unit	Unit Cost	Annual Work	Annual Cost	Estimation Base for Annual Work Volume
Annual Cost of Routine and Periodical Inspection and Maintenance					
* Removal of garbage around regulator	m	10	118,076	1,180,762	12 times in average for all regulators
* Removal of sediment in canal	km/year	99,421	389	38,713,543	total length of canal
* Removal of hyacinth around regulator	m ²	5	114,771	577,299	Once a year, 100m from regulator
* Small repair of submergible embankment	m ²	112	45,590	5,106,080	100m ² per km (1% of embankment)*
* Small repair of non-submergible embankment	m ²	112	5,900	660,744	50m ² per km (0.5% of embankment)*
* Re-painting of metal parts of submergible regulator	m ²	231	1,346	310,994	100% of each gate in a year
* Re-painting of metal parts of non-submergible regulator	m ²	231	200	46,264	50% of each gate in a year
* Closing breach of embankment	place	50,193	7	331,795	1 place per 87km in a year*
<i>Sub-total</i>				46,927,481	
Cost for Overhaul of Regulator					
<< Submergible >>					
* Grease	kg	250	355	88,750	Work interval = 1 years, 5kg per unit
* Oil	ltr	80	355	28,400	Work interval = 1 years, 5ltr per unit
* Overhaul of operation equipment	unit	50,000	14	710,000	Work interval = 5 years
* Overhaul of miscellaneous equipment	L.S.	10,000	14	142,000	Work interval = 5 years
<< Non-submergible >>					
* Grease	kg	250	105	8,750	Work interval = 3 years, 5kg per unit
* Oil	ltr	80	105	2,800	Work interval = 3 years, 5ltr per unit
* Overhaul of operation equipment	unit	50,000	2	105,000	Work interval = 10 years
* Overhaul of miscellaneous equipment	L.S.	10,000	2	21,000	Work interval = 10 years
<i>Sub-total</i>				1,106,700	
Annual Routine Operation Cost of Regulator					
* Gate keeper	M/D	-	-	-	Contribution by WMO
* Grease	kg	250	314	78,500	1kg per gate
* Oil	ltr	80	314	25,120	1ltr per gate
* Spare parts	L.S.	-	-	1,000,000	
* Consumables	L.S.	-	-	1,000,000	
* Miscellaneous (10% above)	L.S.	-	-	210,362	
<i>Sub-total</i>				2,313,982	
Overhead for O&M Works					
* Vehicle	car/day	2,600	5,040	13,104,000	360days x 14 sub-division offices
* Computer	nos/month	3,250	228	741,000	12months x 5 division offices + 14 sub-division offices
* Miscellaneous (20% above)	L.S.	-	-	2,769,000	
<i>Sub-total</i>				16,614,000	
Grand Total				66,962,163	

Source: JICA Survey Team

Note: * Annual required volume was estimated based on the result of inventory survey conducted by the Data Collection Survey

Estimation of Percentage of Annual Repair of Embankment

Sel. No.*1	Reh. No.	Name of Sub-project	Embankment		Comp. Year	Passed Years		Length of Embankment Damage Portion				Annual Damage % (I),(J)≥1%*2)	
			Length (km)			Full	Subm	Total (m)		Damage %		(K) = (I)/(E)	(L) = (J)/(F)
			Full	Submerge				Full	Subm	Full	Subm		
			(A)	(B)	(D)	(E)	(F)	(G)	(H)	(I) = (G)/(A)	(J) = (H)/(B)	(K) = (I)/(E)	(L) = (J)/(F)
1		Sukhaijuri-Bathai Sub-project	20.85	-	1992	21		29.5		0.14%			
2	R-4	Boraikhal Khal Sub-project	5.30	-	1993	20		6.5		0.12%			
3		Char Ferradee-Jangalia Sub-project	11.60	-	1991	22		38		0.33%			
4	R-6	Mothjola-Bairagir Char Sub-project	10.80	-	1993	20		28		0.26%			
5		Binnabaid Sub-scheme	27.00	-	2004	9		38.5		0.14%			
6		Akashi & Shapla Beel Scheme	5.50	-	1977	36		130		2.36%		0.07%	
7	R-11	Chandal Beel Sub-project	2.74	-	1992	21		90		3.28%		0.16%	
8	R-8	Kair Dhala Ratna Sub-project	-	26.00	2005		8		46		0.18%		
9		Shutki River Sub-project	-	20.00	1992		21		0		0.00%		
10	R-9	Bashira River Re-excavation Sub-project	-	15.00	1987		26		6050		40.33%		1.55%
11		Madhabpur Sub-project	38.00	-	1988	25		1255		3.30%		0.13%	
12		Cheghaia Khal Sub-project	-	2.50	2004		9		120		4.80%		0.53%
13	R-13	Gangajuri Sub-project	46.00	-	1992	21		590		1.28%		0.06%	
14		Thakurakona Subproject	13.15	-	1992	21		215		1.63%		0.08%	
15	R-2	Kangsha River Scheme	20.00	-	1990	23		34.5		0.17%			
16		Someswari River Subproject	6.00	-	1989	24		1962		32.70%		1.36%	
17	R-14	Khaliajuri FCD Polder-2	-	52.10	2010		3		783		1.50%		0.50%
18	R-15	Khaliajuri FCD Polder-4	-	47.00	2011		2		614		1.31%		0.65%
19		Sunamganj Town Protection	1.60	-	1985	28		760		47.50%		1.70%	
Average												0.51%	0.81%

Notes: *1 Out of the surveyed 31 sub-projects, 19 sub-projects had data on the damage portion of embankment.

*2 Damage percentage of less than 1% is regarded as rehabilitated embankment and excluded from the average of annual damage.

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

Unit Cost of Routine and Periodical Inspection and Maintenance Work

Work Item	Description	Unit	Quantity	Unit Rate		Cost (BDT)
				Rate (BDT)	Source	
Removal of garbage around regulator per 100m	Common Labor	M/D	0.25	280	*1	70
	Dump Truck (2t)	day	0.25	3,750	*1	938
	Total					1,008
	Removal of garbage around regulator per 1m =					10
Removal of sediment deposit in intake/drainage canal per km per year	Average Unit Price of Re-excavation in Rehabilitation Sub-project	km	1	1,889,000	*2	-
	Average Years after Completion	years	19	-	*2	-
	Total					
	Removal of sediment deposit in canal per 1 km per 1 year =					99,421
Removal of floating aquatic grass such as water hyacinth around regulator per 100m ²	Water hyacinth removal: packed	m ²	100.00	5.03	*1	503
	Total					503
	Removal of aquatic grass around regulator per 1m² =					5.03
Small repair for cracks, holes & other minor failures of embankment per 1m ²	Earth work in closing holes	m ³	1	76.89	*1	77
	Compaction of earth (90%)	m ³	1	35.48	*1	35
	Total					112
	Minor rehabilitation on embankment per 1m² =					112
Closing breach of embankment per 1 place (30m width, average section 11.7m ²)	Closing breach: upto 30m width	m ³	350	107.83	*1	37,767
	Compaction of earth (90%)	m ³	350	35.48	*1	12,427
	Total					50,193
	Closing breach of embankment per 1 place =					50,193
Re-painting of metal parts and tightening/ replacement of bolts/nuts per 5m ²	Foreman	M/D	0.25	450	*1	113
	Skilled Painter	M/D	0.50	350	*1	175
	Assistant. Painter	M/D	1.00	280	*1	280
	Lead Paint	kg	0.9	60	*1	54
	Cover Paint	kg	0.9	273	*1	246
	Paint Remover	liter	0.2	110	*1	22
	Thinner	liter	0.2	150	*1	30
	Bolts/Nuts	dzn	0.5	470	*1	235
	Total					1,154
	Painting of metals per 1m² =					231

Source: *1 BWDB Standard Schedule of Rates Manual (Volume II: Item and Element Rates), Mymensingh O&M Circle

*2 Haor Master Plan

Note: Man-power cost of permanent staff and its incidental cost is excluded from the above annual cost.

Quantity of Flood Management Sub-project

No.	Name of Sub-project	Embankment		Canal	Regulator												Completion Year
		Length (km)		Length (km)	Nos. of Vent										Nos. of Regulator		
		Full	Submerge		1	2	3	4	5	6	7	8	9	10		Total	
R-1	Dampara Water Management Scheme	20.00	27.00	17.00	10	5									15	2	2000
R-2	Kangsha River Scheme	20.00	-	-	4	3	3	3	1	1	1				16	7	1990
R-3	Singer Beel Sub-project	13.15	3.50	5.50	1	3	3	1							8	4	1997
R-4	Boraikhali Khal Sub-project	5.30	-	24.50	6										6	1	1993
R-5	Alalia-Bahadia Sub-project	-	-	8.00	2										2	1	1983
R-6	Mothjola-Bairagir Char Sub-project	10.80	-	-	3										3	1	1993
R-7	Ganakkhali Sub-project	-	-	-	2	1									3	2	1993
R-8	Kair Dhala Ratna Sub-project	-	26.00	40.00	2	2	5								9	3	2005
R-9	Bashira River Re-excavation Sub-project	-	15.00	20.00	2	2									4	2	1987
R-10	Aralia Khal Sub-project	-	-	2.39	2	2									4	2	2004
R-11	Chandal Beel Sub-project	2.74	-	1.50	2										2	1	1992
R-12	Satdona Beel Scheme	-	-	-	2	2									4	2	1992
R-13	Gangajuri Sub-project	46.00	-	4.50	7	2	7	5	1	5	1				28	7	1992
R-14	Khaliajuri FCD Polder-2	-	52.10	-	1	3	1	4	4	1	1	1	2	2	20	10	
R-15	Khaliajuri FCD Polder-4	-	47.00	-	3	4	1	1	1						10	5	
N-1	Naogaon Haor Project	-	31.20	20.00	9	9	8	4							30	4	
N-2	Boro Haor Project (Nikli)	-	10.30	10.00	9	9	3								21	3	
N-3	Jaliar Haor Project	-	12.40	8.00	2	2									4	2	
N-4	Chandpur Haor Project	-	2.20	5.00	4	1									5	2	
N-5	Dharmapasha Rui Beel Project	-	54.30	5.00	9	9	9	8	8	6	3				52	7	
N-6	Suniar Haor Project	-	15.40	25.00	4	1									5	2	
N-7	Badla Haor Project	-	9.70	2.00	2	2									4	2	
N-8	Nunnir Haor Project	-	23.20	20.00	5	2	2								9	3	
N-9	Dakhshiner Haor Project	-	16.80	10.00	6	3									9	2	
N-10	Chatal Haor Project	-	5.80	11.00	1	1									2	2	
N-11	Ganesh Haor Project	-	19.40	3.00	3	2									5	2	
N-12	Dhakua Haor Project	-	32.90	30.00	5	3	1								9	3	
N-13	Mokhar Haor Project	-	28.40	110.00	5	4	4	3	3						19	5	
N-14	Noapara Haor Project	-	23.30	7.00	3	2	1								6	3	
Sub-total of Submergible		-	455.90	-											242	71	
Sub-total of Non-submergible		117.99	-	-											72	21	
Grand Total		117.99	455.90	389.39											314	92	

Source: JICA Data Collection Survey Team

Note: Vent size (B x H) 1.52m x 1.83m

BWDB Standard Schedule of Rates Manual (Volume II: Item and Element Rates)

Code	Description	Unit Meas.	Rate (Taka)
04. Preliminary & Misc. Work			
04-400-10	Water hyacinth removal, stacking & burning: scattered	sqm	2.26
04-400-20	Water hyacinth removal, stacking & burning: packed	sqm	5.03
16. Earthwork			
16-210-10	Compaction of earth (85%): 0.0m to 6.0m height and above	cum	23.47
16-210-20	Compaction of earth (90%): 0.0m to 6.0m height and above	cum	35.48
16-270-10	Earth work, closing breach or channel: upto 30m width	cum	107.83
16-270-20	Earth work, closing breach or channel: upto 45m width	cum	119.69
16-270-30	Earth work, closing breach or channel: upto 60m width	cum	131.54
16-270-40	Earth work, closing breach or channel: upto 75m width	cum	143.43
16-270-50	Earth work, closing breach or channel: upto 90m width	cum	155.32
16-280	Earth work in closing ghogs or holes in embankment	cum	76.89
52. Dismantling and Repair Work			
52-290	Repairing of cracks with sand and cement (1:4)	m	1.11
52-310	Repairing of cracks with concrete (1:2:4), section 125mm x 75mm	m	48.04
72. Painting Work			
72-110	Painting W.L. gauges with black and white water proof paint	m	31.06
72-140-20	Ready mixed painting: 2 coats over old surface	sqm	121.82
72-550	Cleaning of old grease and greasing gear box of hoist	each	1099.05
20. Materials: Misc.			
20-245	Diesel/ fuel	ltr	61.2
20-300	Linseed oil	ltr	80
20-315	Grease, best quality	kg	250
20-385	Paint: blue	kg	273
20-410	Paint: gum	kg	60
20-417	Paint: Ready mixed	ltr	175
20-440	Paint: Turpentine (terpin)	ltr	110
20-445	Paint: Thinner	ltr	150
20-512	Rubber seal: (W=75mm, T=12mm, B=25mm)	m	380
20-514	Rubber seal: (W=100mm, T=16mm, B=45mm)	m	400
40. Metal Work			
40-091	Bolts, Tower, Brass, 300mm long, 19mm dia	dzn	2100
40-092	Bolts, Tower, Brass, 225mm long, 13mm dia	dzn	7500
40-093	Bolts, Tower, Brass, 150mm long, 13mm dia	dzn	600
40-094	Bolts, Tower, Brass, 100mm long, 10mm dia	dzn	470
70. Equipment, Tools			
70-045	B.dozer/ S.F.roller/ V.compactor: 150HP	day	4000
70-056	Excavator (combatsu): 8 hrs day	day	6000
70-057	Excavator long boom: 8 hrs day	day	9000
70-060	Cargo truck (without fuel & lubricant)	day	2600
70-071	Tug boat: 8 hrs day	day	4500
70-077	Engine boat (40 ton capacity)	day	3000
70-345	Road Roller: 8hrs day (with fuel etc.)	day	2500
70-350	Soil compactor; vibratory; engine operated	day	250
70-766	Dump Truc: 8 hrs day	day	3750
70-990	Cutter (geo-textile): 8 hrs day	day	280
76. M.S. Work & Metal Work			
76-240-40	Manufacture & supply, M.S. lift gate: 1.95m x 1.65m	each	90,149.42
76-250-40	Manufacture & supply, M.S. flap gate: 1.95m x 1.65m	each	108,063.77
76-260-20	Installation of M.S. lift/flap gate: large size	each	8,231.43
76-270-10	Labour for removal of M.S. gates: 1.95m x 1.65m or 1.95m x 1.35m	each	1,582.06
80. Labour			
80-060	Boat, Engine	day	1050
80-062	Country boat with Majhee	day	800
80-225	Foreman	day	450
80-370	Labour, Skilled	day	350
80-375	Labour, Unskilled	day	280
80-470	Operator (tug boat)	day	400
80-472	Operator (other work)	day	375
80-473	Operator, helper (other work)	day	280
80-535	Painter, helper	day	280
80-540	Painter, varnisher	day	350
80-765	Diver without safety devices (shallow water)	day	700
80-766	Diver with safety devices and gas (deep water)	day	1100

Source: BWDB Standard Schedule of Rates Manual (Volume II: Item and Element Rates), Mymensingh O&M Circle

Note: Effective for the year 2012-13

Appendix 7.10 Cost Breakdown for Annual Maintenance of Component 2 Structures

Annual O&M Cost Estimate

	(1) Total direct construction cost (DCC) (1,000BDT)	(2) DCC mainly relating to OM cost (1,000BDT)	(3) Percentage of annual OM cost to relevant DCC	(4) = (2)*(3) Annual OM cost (1,000BDT)	(5) Administration cost (1,000BDT), 10% of annual OM cost	(6) = (4) + (5) Annual total OM cost (1,000BDT)
Rural roads						
Repair cost						
Non-submergible	1,131,792	667,757 (59% of DCC)*1	9.00% *2	60,098	6,010	66,108
Submergible	1,810,862	1,086,517 (60% of DCC)*1	9.00% *2	97,787	9,779	107,565
Bridges & culverts	623,401	623,401	0.25% *3	1,559	156	1,714
Hat						
Repair cost	249,477	249,477	0.50% *3	1,247	125	1,372
Ghat						
Repair cost	25,983	25,983	0.50% *3	130	13	143
Total	3,841,515			160,821	16,082	176,903

Notes:

*1 = Cost of base course as that mainly relating to OM, estimated based on LGED data

*2 = LGED data

*3 = HILIP data

Annual O&M Cost Estimate for Rural Road

	(1) Total direct construction cost (DCC) (1,000BDT)	(2) DCC mainly relating to OM cost (1,000BDT)	(3) Percentage of annual OM cost to relevant DCC	(4) = (2)*(3) Annual OM cost (1,000BDT)	(5) Administration cost (1,000BDT), 10% of annual OM cost	(6) = (4) + (5) Annual total OM cost (1,000BDT)
Rural roads						
Repair cost						
Non-submergible (Total)	<u>1,131,792</u>	<u>667,757</u> (59% of DCC)	<u>9.00%</u>	<u>60,098</u>	<u>6,010</u>	<u>66,108</u>
Upazila Road	290,543	171,420	9.00%	15,428	1,543	16,971
Union Road	587,564	346,663	9.00%	31,200	3,120	34,320
Important Village Road	126,843	74,837	9.00%	6,735	674	7,409
Other Village Road	126,842	74,837	9.00%	6,735	674	7,409
Submergible (Total)	<u>1,810,862</u>	<u>1,086,517</u> (60% of DCC)	<u>9.00%</u>	<u>97,787</u>	<u>9,779</u>	<u>107,565</u>
Upazila Road	865,417	519,250	9.00%	46,733	4,673	51,406
Union Road	509,409	305,645	9.00%	27,508	2,751	30,259
Important Village Road	218,018	130,811	9.00%	11,773	1,177	12,950
Other Village Road	218,018	130,811	9.00%	11,773	1,177	12,950
Bridges & culverts (Total)	<u>623,401</u>	<u>623,401</u>	<u>0.25%</u>	<u>1,559</u>	<u>156</u>	<u>1,714</u>
Upazila Road	241,476	241,476	0.25%	604	60	664
Union Road	178,843	178,843	0.25%	447	45	492
Important Village Road	101,541	101,541	0.25%	254	25	279
Other Village Road	101,541	101,541	0.25%	254	25	279
Total (Rural roads)	3,566,055	2,377,675		159,443	15,944	175,388

Note: Share of Important Village Road is assumed to be 50% of total village road based on Upazila Road Maps.

Appendix 8.1

Contractor List in Haor Area & Equipment Inventory (1/3)					
SL. No.	District	Contractor Name	Address & Phone	Working Department	Heavy Equipment Status
1	Netrakona	M/S. Tapos Traders	01711-692394	BWDB	They have no own heavy construction equipment & any roller. They rent from rental company from Dhaka and Chittagong. They also rent these equipment from LGED & BWDB if available.
2		Uttom Kumar Shingho	01711-617328	BWDB	
3		M/S. Helal Trading	01711-485455	BWDB	
4		M/S. Goodman Enterprise	01937-588767	BWDB	
5		M/S. Oshim Shingho	01711-786461	BWDB & LGED	
6		M/S. Uzzol kumar	01712-762285	BWDB	
7		Azad Rahman	01711-705488	LGED	
8		Basef Prokoushali	01916-855289	LGED	
9		Masud Rana Chowdhury	01718-811829	LGED	
10		Byuiyan Enterprise	01927-584800	LGED	
11		Alam Khan	01713-560410	LGED	
12		Hemayet Ali	01718-023499	LGED	
13		S. M. Angoor	01711-956379	LGED	
14		Subrata Sottadhar	01198-177006	LGED	
1	Kishoreganj	Younos & Brothers	01713-567965	BWDB	They have no own heavy construction equipment & any roller. They rent from rental company from Dhaka and Chittagong. They also rent these equipment from LGED & BWDB if available.
2		M/S. Goodman Enterprise	01711-613737	BWDB	
3		Baul Construction	01713-013342	BWDB	
4		Shahin Enterprise	not get	BWDB	
5		Selim Traders	01713-567965	BWDB	
6		M/S. M Rahman	01711-692394	BWDB	
7		Moklesur Rahman	01711-613737	BWDB	
8		Vati Bangla Enterprise	01919-400791	LGED	
9		Gautom Sorker	01711-686384	LGED	
10		Apollo Enterprise	01815-770625	LGED	
11		M/S. J A Traders	01718-083097	LGED	
12		Shahidul Islam	01711-666009	LGED	
13		Chan Mia	01740-910626	LGED	
14		M/S. Al-Gilani Construction	01711-531100	LGED	

Contractor List in Haor Area & Equipment Inventory (2/3)					
SL. No.	District	Contractor Name	Address & Phone	Working Department	Heavy Equipment Status
1	Sunamganj	Hasan Brothers		BWDB	They have little construction equipment & any roller. They rent from rental company from Dhaka and Chittagong. They also rent these equipment from LGED & BWDB if available.
2		Psrishha		BWDB	
3		Younos & Brothers	01713-567965	BWDB	
4		Don Corporation		BWDB	
5		Jamil & Brothers		BWDB	
6		Renu Mia	01712-374292	LGED	
7		M/S. Mahbub Enterprise	01711-335076	LGED	
8		M/S. Maloti	01718-349239	LGED	
9		Rajib Enterprise	01714-698665	LGED	
10		Aminul Islam	01686-896933	LGED	
11		M/S. Aminul Haque & Co.	01715-003503	LGED	
12		Nurul Haque	01715-236334	LGED	
13		M/S. Nurul Islam	01713-812992	LGED	
14		M/S. Priti Enterprise	01715-236334	LGED	
1	Habiganj	Abdul Kaiyum	01718-978709	BWDB	They have no own heavy construction equipment & any roller. They rent from rental company from Dhaka and Chittagong. They also rent these equipment from LGED & BWDB if available.
2		Sharifullah	01715-096015	BWDB	
3		Abdur Rahman	01711-176963	BWDB	
4		Rahmatullah	01711-455042	BWDB	
5		Mortuja	01711-966651	BWDB	
6		Golam Faruk	01675-403282	BWDB	
7		Anam	01714-455975	BWDB	
8		Mizanur	01711-455018	LGED	
9		M/S. Niyon Enterprise	01711-242125	LGED	
10		M/S. Mortuja Hasan	01711-966651	LGED	
11		M/S. Chwaudary Enterprise	01711-125674	LGED	
12		M/S. Rathindrachandra	01853-924053	LGED	
13		Kohinur Alam	01711-264235	LGED	
14		Md. Abdullah	01711-107641	LGED	

Contractor List in Haor Area & Equipment Inventory (3/3)					
SL. No.	District	Contractor Name	Address & Phone	Working Department	Heavy Equipment Status
1	B. Baria	M/S. Tara Fashion	01715-621823	LGED	They have no own heavy construction equipment & any roller. They rent from rental company from Dhaka and Chittagong. They also rent these equipment from LGED & BWDB if available
2		M/S. Anas Enterprise	01912-556882	LGED	
3		M/S. Uzzal Enterprise	01726-797363	LGED	
4		M/S. Shahil Enterprise	01915-719562	LGED	
5		-	-	-	
6		-	-	-	
7		-	-	-	
8		-	-	-	
9		-	-	-	
10		-	-	-	
11		-	-	-	
12		-	-	-	
13		-	-	-	
14		-	-	-	

Note: The above tables indicate the contractor list of Haor area which are listed LGED & BWDB. They have no heavy construction equipment such as Bulldozer, Excavator, Drum truck, Vibrator roller, Tandem roller, Tyre roller, Tamping roller, Plate compactor. When contractor in Haor area rent heavy construction equipment from Dhaka or Chittagong, there are two transportation method.

1) In dry season when there is no water then they use trolley to transport the equipment in site.

2) If there is any water then they use heavy boat. No instrument is used to load & upload these heavy equipment. When the boat reached loading with heavy equipment to the construction site, the contractor make a road to the level of boat platform, and the operator move the heavy construction equipment from boat platform to the making road. Contractor shall make a temper road for loading if necessary.

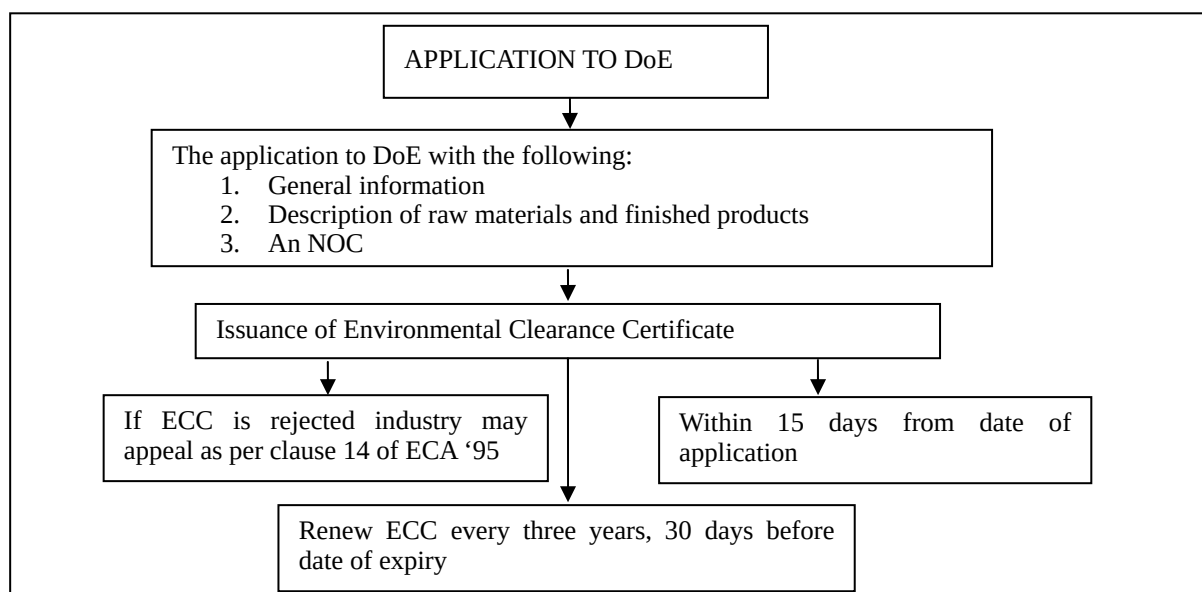
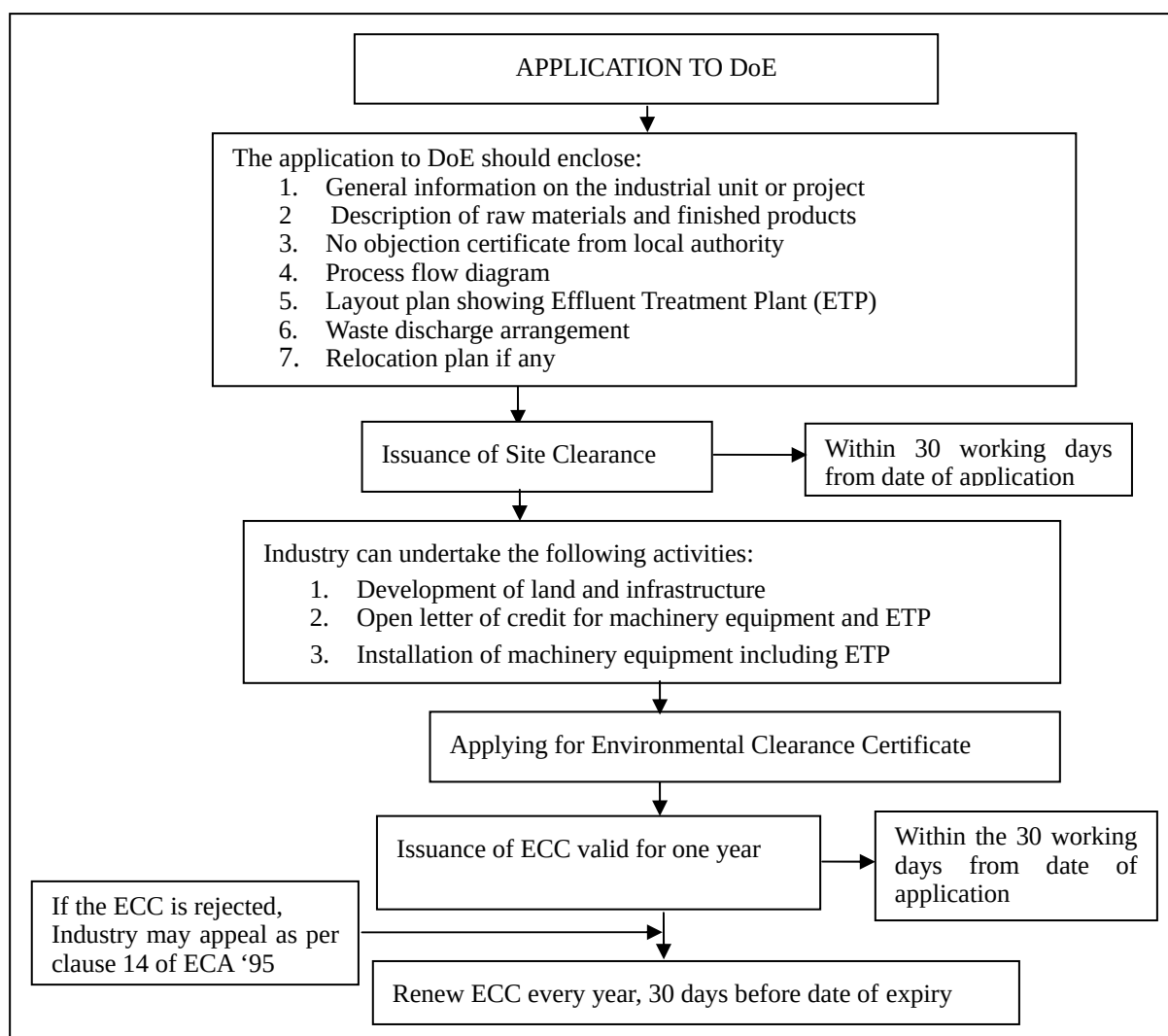
Investigation Result of Construction Equipment Number to Government Organization and Contractor/Rental Company

NO.	Company Name	Address	Bulldozer (120- 150HP)	Excavator/Backhoe (0.6- 1.25m ³)	Dump Truck (15-20 ton)	Concrete Mixer (0.15- 0.45m ³)	Drum roller	Vibrator Roller (8-11 ton)	Steel Roller/Tandem Roller	Tire Roller	Tamping Roller	Plate Compact or
	Government Organization											
1	BWDB	BWDB (Mechanical Office) Tezgaon, Dhaka	5	14	0	0	0	0	N/A	N/A	0	N/A
2	LGED	Level-5, LGED Bhaban; Agargaon, Shere Bangla Nagar	13	0	137	248	0	※1) 462	N/A	N/A	0	N/A
3	RHD	Tezgaon, Dhaka	14	12	20	0	0	65	45	25	0	N/A
4	PWD	Purta Bhaban, Segunbagicha, Dhaka-1000	0	0	0	0	0	0	0	0	0	0
5	Dhaka City Corporation	Nagar vaban, Fulbaria	20	50	250	65	0	25	20	N/A	0	N/A
	Total of Government Organization		52	76	407	313	0	552	65	25	0	0
	Contractor/Rental Company											
6	Mir Aktar hossain Ltd. (Contractor & Rental Company)	House #13, Road # 12, Dhanmondi, Dhaka-1209, Phone: 028110992, 02-9134572-3	5	15	62	35	0	27	30	5	0	10
7	Project Builders Ltd. (Contractor & Rental Company)	PBL Tower, 4th & 6th Floor, 17(North) C/A, Gulshan-2, Dhaka- 1212	8	12	40	50	0	20	15	4	0	8
8	Bangla track Ltd. (Seller & Rental Company)	4, Mohakhali C/A, Dhaka-1212, Phone: 02-9859812-3, 12410	50	70	47	60	0	84	N/A	N/A	0	N/A
9	Abdul Momen Ltd. (Contractor & Rental Company)	Momen Business District, 111, Bir Uttam C. R. Dutta Road (Sonargaon Road), Dhaka-1205	8	23	65	82	0	45	35	12	0	10
10	National Development Engineers Ltd. (Contractor & Rental Company)	House #20A, Road #44, Gulshan, Dhaka-1212, Phone: 02-8810753	5	10	8	26	0	55	8	4	0	15
11	Earth Logistic Int. (Rental company)	BEPZ Road, Tonga Bari, Ashulia, Dhaka , Phone: 01711-882101, 01711-534455	50	70	20	0	3	10	35	4	3	10
12	M/S. SHIKDER TRADERS (Rental company)	BEPZ Road, Tonga Bari, Ashulia, Dhaka , Phone: 02-7164701, 01713-016907, 01912-739198	8	10	0	0	0	4	5	3	0	4
13	M/S. KHADIZA & SONS (only rental company)	BEPZ Road, Tonga Bari, Ashulia, Dhaka Phone: 01712-036248, 01680-976820	2	5	0	0	0	1	4	5	0	2
14	M/S. S. R. ENGINEERING (only rental company)	BEPZ Road, Tonga Bari, Ashulia, Dhaka Phone: 01713-110958	22	30	10	0	5	10	15	4	5	5
15	M/S. Zisan & Brothers (only rental company)	BEPZ Road, Tonga Bari, Ashulia, Dhaka , Phone: 01718-953210	4	1	0	0	0	10	2	3	0	0
16	Pinky Traders (only rental company)	BEPZ Road, Tonga Bari, Ashulia, Dhaka, Phone: 01711-947899	10	30	8	0	5	8	2	4	5	0
17	S.A. Enterprise (Rental company)	BEPZ Road, Tonga Bari, Ashulia, Dhaka, Phone: 01713-664607 , 01918-107030	10	10	20	0	0	5	8	4	0	3
18	Akota Enterprise (Rental company)	BEPZ Road, Tonga Bari, Ashulia, Dhaka, Phone: 01925-607362	2	4	NO	0	0	2	6	2	0	1
19	L. B. Trade Link International (Rental company)	BEPZ Road, Tonga Bari, Ashulia, Dhaka , Phone: 01925-607362	5	11	8	0	0	3	10	4	0	0
20	M/S. Fine Traders (Rental company)	BEPZ Road, Tonga Bari, Ashulia, Dhaka , Phone: 01712-624447, 01711-454715	10	15	3	0	0	3	13	3	0	0
21	LIZA ENGINEERING (Rental company)	BEPZ Road, Tonga Bari, Ashulia, Dhaka , Phone: 01711-024821	5	6	0	0	0	4	6	4	0	0
22	Nilla & Sons (Rental company)	BEPZ Road, Tonga Bari, Ashulia, Dhaka , Phone: 01711-625238	5	3	0	0	0	3	14	5	0	0
23	M/S. Satadal Enterprise	BEPZ Road, Tonga Bari, Ashulia, Dhaka , Phone: 01716-053317	5	10	0	0	0	0	3	3	0	0
24	HILL Enterprise	BEPZ Road, Tonga Bari, Ashulia, Dhaka , Phone: 01712-440460, 01676-043085	3	4	0	0	0	3	5	2	0	2
25	RIPA Enterprise	BEPZ Road, Tonga Bari, Ashulia, Dhaka , Phone:	3	6	5	0	0	3	2	0	0	0
26	Hyder & Sons	BEPZ Road, Tonga Bari, Ashulia, Dhaka , Phone: 01736-928821	5	5	0	0	0	0	4	3	0	0
27	Jamuna Associates	BEPZ Road, Tonga Bari, Ashulia, Dhaka , Phone: 01740-574775	2	7	0	0	0	0	3	2	0	2
28	Sharif Enterprise	Bakur Ghat, Gabtoli, Dhaka, Phone: 01715844318	2	5	0	0	0	0	5	0	0	0
29	REJA Rental	Bakur Ghat, Gabtoli, Dhaka, Phone: 01712-421842	5	5	5	0	0	0	4	2	0	0
30	Rahman Enterprise	Bakur Ghat, Gabtoli, Dhaka, Phone: 01712-421842	4	10	5	0	0	0	4	2	0	0
31	AK. Motors	Dhaka-Chittagong Road, Madanpur, Narayanganj, Phone: 01717-277511, 01819-894010	8	4	11	0	0	1	12	5	0	3
	Total of Contractor/Rental Company		246	381	317	253	13	301	250	89	13	75
	TOTAL		298	457	724	566	13	853	315	114	13	75

※1) This number is including another type of roller.

Appendixes 9.1 to 9.5

<Appendix 9.1 :Environmental Clearance Process in DoE >

**Figure A.9.1 Process in the Green category****Figure A.9.2 Process in the Orange A category**

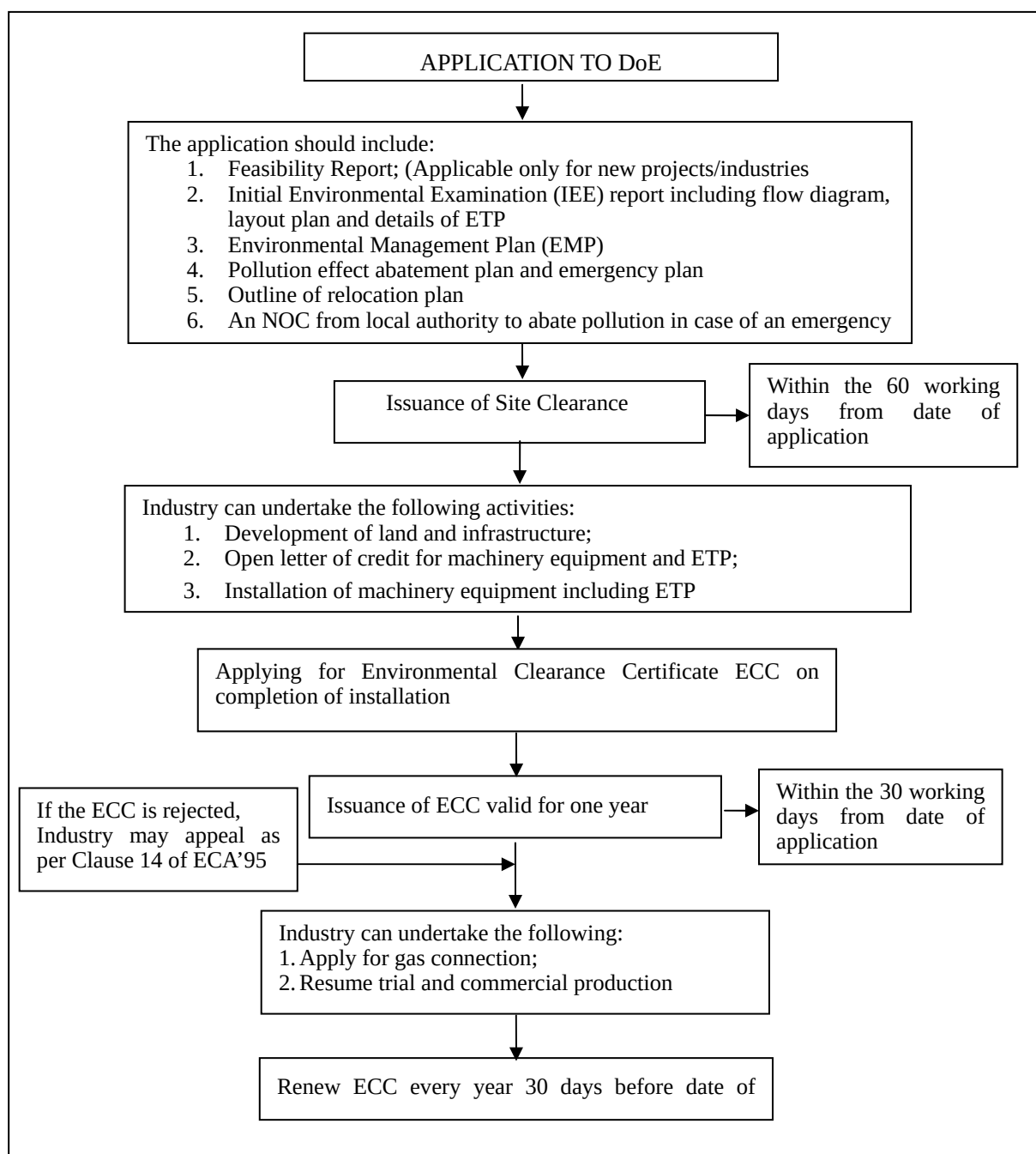


Figure A.9.3 Process in the Orange B category

<Appendix 9.2 Tentative Categorization in ECR 1997>

Table-A.9.1 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-Bahadi a 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	Brammanbari a 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.9.2 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 = 1no.	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 = 1no. 4-vent Regulator = 1no.	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 = 1no. 2-vent Regulator = 1no.	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 = 1no. 3-vent Regulator = 1no.	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 = 1no. 1-vent Regulator = 1no.	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 = 1no. 1-vent Regulator = 1no.	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.9.3 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 Upazala: 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): 1no=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.9.4 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, 1 Village Road: 2.0km) : 2no=4.61km Hat/bazaar (2 Rural 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.

<Appendix 9.3 Tentative Environmental Checklist >

Table A.9.5 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 obtained "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	(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) 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? (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?	(a) N (b) N (c) N (d) N (e) N	(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. (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 embankment should be designed not to disturb the current natural flow. (e) No any large destruction of the ecosystem, because water-gates will be installed at current natural flow at embankment. (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.
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	(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) Management Plan should be developed based on the environmental study. (b) Impact to natural should be reduced, if it will be found. (c) Adequate compensation will be considered within the Resettlement Frame Work.
	(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	(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 should be monitored adequately. (c) The framework should develop the adequately at the process of the Environmental clearance in GOB. (d) No particular regulation has been identified.

		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.9.6 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.

JICA Survey Team

<Appendix 9.4 Environmental Monitoring Form>

Form 1: Environmental Process Monitoring Form during Planning/Design Stagea) 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?	☐ Y / ☐ 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?	☐ Y / ☐ N	Conditions and its countermeasures
2	Documentation of EIA report	Have EIA/IEE reports been already prepared in official process?	☐ Y / ☐ 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?	☐ Y / ☐ N	PCM Report
4	Approval of EIA report	Have EIA reports been approved by authorities of the host country's government?	☐ Y / ☐ N	Approved Environmental Management Plan and Monitoring Plan
		Have updated monitoring plan based on approved EMP & EMoP?	☐ Y / ☐ 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?	☐ Y / ☐ N ☐ Y / ☐ N ☐ Y / ☐ N ☐ Y / ☐ N	
2	Approval	(a) Has RAP & LAP Framework been approved? (b) Have RAP & LAP been approved?	☐ Y / ☐ N ☐ Y / ☐ 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?	☐ Y / ☐ N ☐ Y / ☐ N ☐ Y / ☐ 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?	☐ Y / ☐ N ☐ Y / ☐ N	
5	Implementation arrangement	(a) Has the implementation arrangement been prepared? (b) Have the relevant committees been formed?	☐ Y / ☐ N ☐ Y / ☐ 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?	☐ Y / ☐ N ☐ Y / ☐ N ☐ Y / ☐ N	
7	Schedule	Has the implementation schedule been prepared?	☐ Y / ☐ N	
8	Monitoring	(a) Has the implementation monitoring plan been prepared? (b) Has the external monitoring plan been prepared?	☐ Y / ☐ N ☐ Y / ☐ 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?	☐ Y / ☐ N	Contents of grievance should be reported at the time of periodical project report
		If yes; Have the problems been solved?	☐ Y / ☐ 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?	☐ Y / ☐ N	Submission of Approved monitoring plan (may include; waste management,

Source: JICA Survey Team

Form 4: Environmental Process Monitoring Form after Construction Stagea) 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?	☐ Y / ☐ N	Contents of grievance should be reported at the time of periodical project report
		If yes; Have the problems been solved?	☐ Y / ☐ N	Countermeasure for the problem

Source: JICA Survey Team

Table-A.9.7 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	Kaliakjuri 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.9.8 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	Ganakkhalli 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 9.5 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.9.5.1 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.9.5.2 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.9.5.3 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.9.5.4 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.9.5.5 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 11.1 to 11.2

Construction Cost of Component 1 (Flood Management Infrastructure)

Unit: mil. BDT

No.	Name of sub-project/ Haor project	Direct Cost	Const. Cost	Land Acqui. Cost
R-1	Dampara Water Management Scheme	30.44	32.0	
R-2	Kangsa River Scheme	4.41	4.6	
R-3	Singer Beel Scheme	7.48	7.9	
R-4	Baraikhali Khal Scheme	5.91	6.2	
R-5	Alalia-Bahadia Scheme	16.20	17.0	
R-6	Modkhola Bhairagirchar sub-project Scheme	15.50	16.3	
R-7	Ganakkhali sub-project scheme	0.30	0.3	
R-8	Kairdhala Ratna Scheme	1.07	1.1	
R-9	Bahira River Scheme	108.20	113.6	
R-10	Aralia Khal Scheme	5.20	5.5	
R-11	Chandal Beel Scheme	24.61	25.8	
R-12	Satdona Beel Scheme	33.00	34.7	
R-13	Ganjajuri FCD sub-project	34.44	36.2	
R-14	Kaliajuri polder #02 Scheme	4.80	5.0	
R-15	Kaliajuri polder #04 Scheme	2.57	2.7	
R	Sub-total of R-1 to R-15	294.1	308.8	0.0
N-1	Boro Haor Project	146.1	153.4	84.0
N-2	Naogaon Haor Project	208.2	218.7	162.0
N-3	Jaliar Haor Project	60.2	63.2	32.0
N-4	Dharmapasha Rui Beel Project	632.2	663.8	456.0
N-5	Chandpur Haor Project	46.2	48.5	10.0
N-6	Suniar Haor Project	85.0	89.3	59.0
N-7	Badla Haor Project	68.8	72.2	63.0
N-8	Nunnir Haor Project	183.1	192.2	158.0
N-9	Dakhashiner Haor Project	160.9	168.9	120.0
N-10	Chatal Haor Project	72.3	75.9	35.0
N-11	Ganesh Haor Project	157.0	164.8	147.0
N-12	Dhakua Haor Project	325.9	342.2	278.0
N-13	Mokhar Haor Project	805.4	845.7	599.0
N-14	Noapara Haor Project	304.3	319.5	246.0
N	Sub-total of N-1 to N-14	3,255.5	3,418.3	2449.0

Total of R-1 to 15 and N-1 to 14	3,549.6	3,727.1	2,449.0
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General Item Cost	5.0%
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Contractors Office, Temporary works, etc.

Unit Cost of Component 1 (Flood Management Infrastructure)

Preliminary Cost Estimation of Embankment and Regulator

- Submergible Embankment Unit Price per cum

Supposing 1.2m height (1:3 slope for both side), crest width 4.3m

Item	Unit	Quantity	Unit Price	Amount
Earth work (300m to 1km)	cum	9.48	263.92	2,502.0
Transportation (1km to 5km) for 50% vol.	cum	4.74	30.15	142.9
Base stripping (t=15cm)	cum	1.73	107.96	186.8
Compaction 90%	cum	9.48	35.48	336.4
Compaction 90%=>95%	cum	9.48	20	189.6
Slope protection (turfing)	sqm	7.59	20.46	155.3
Turfing pavement	sqm	3.5	20.46	71.6
others (toe protection, etc)	sqm	15.8		716.9
Total volume	cum			9.5
Total amount	BDT			4,301.4
Transportation (0%)				0.0
Unit price per volume	BDT/cum			454

Unit price of land acquisition :
600 BDT/sqm

- Submergible Embankment Unit Price per cum

Supposing 1.2m height (1:3 slope for both side), crest width 4.3m

Item	Unit	Quantity	Unit Price	Amount
Earth work (300m to 1km)	cum	9.48	263.92	2,502.0
Transportation (1km to 5km) for 50% vol.	cum	4.74	30.15	142.9
Base stripping (t=15cm)	cum	1.73	107.96	186.8
Compaction 90%	cum	9.48	35.48	336.4
Compaction 90%=>95%	cum	9.48	20	189.6
Slope protection (turfing)	sqm	7.59	20.46	155.3
Brick pavement	sqm	0	328.62	0.0
CC Block pavement	sqm	0	1385.22	0.0
Compacting brick chipe pavement	cum	0.88	4138.53	3,621.2
others (toe protection, etc)	sqm	15.8		702.6
Total volume	cum			9.5
Total amount	BDT			7,836.7
Transportation (0%)				0.0
Unit price per volume	BDT/cum			827

• CC Block
Ref : LGED Schedule of rate/July 2012
Item Code 3.2.11.03 : 1385.22 BDT/m2
3.5 m2
• Compacting brick chipe
Ref : LGED Schedule of rate/July 2012
Item Code 3.2.03.04 : 4,138.53 BDT/m3
0.875 m3

- Submergible Embankment Unit Price per cum

(Brick pavement 20% and Turfing pavement 80%)

529

- Regulator (concrete structure and gate)

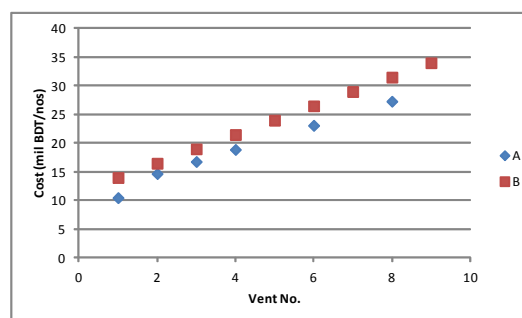
Number of vents (gates)

Unit Price (mil BDT/per nos)

	A	B
1	10.5	14.0
2	14.7	16.5
3	16.8	19.0
4	18.9	21.5
5		24.0
6	23.1	26.5
7		29.0
8	27.3	31.5
9		34.0

A: referring DPP (2011 Study), hearing from BWDB Design Circle 1 and Example of Detail Cost Estimation

B: hearing from PD on 2013/10/07 for vent no. of 1 and 2 linear extrapolation for vent no. of more than 3
=> B is applied.



Unit Cost of Component 3-1 (Agriculture)

Unit: BDT 1,000									
		Calendar Year							
		2017	2018	2019	2020	2021	2022		
Rehabilitation Sub-project									
R-1 Dampara Water Management Scheme (15,004 ha)	APSS	0	2,109	5,098	6,073	5,018	1,935	20,231	
	SIGS	531	1,149	1,234	616	0	0	3,530	
	Sub-total	531	3,258	6,332	6,689	5,018	1,935	23,761	
R-2 Kangsha River Scheme (11,337 ha)	APSS	1993	4,224	4,556	3,779	2,148	694	17,392	
	SIGS	419	926	1,014	507	0	0	2,866	
	Sub-total	2412	5,150	5,570	4,286	2,148	694	20,258	
R-3 Singer Beel Scheme (7,200 ha)	APSS	0	653	2,513	2,925	1,986	922	8,998	
	SIGS	0	310	700	644	254	0	1,906	
	Sub-total	0	962	3,213	3,568	2,240	922	10,904	
R-4 Baraikhali Khal Scheme (8,667 ha)	APSS	0	0	0	2,912	5,402	2,490	10,803	
	SIGS	0	0	516	1,363	1,257	410	3,545	
	Sub-total	0	0	516	4,275	6,658	2,899	14,348	
R-5 Aladia-Bahadia Scheme (2,464 ha)	APSS	0	0	401	818	895	478	2,591	
	SIGS	0	0	172	482	570	260	1,483	
	Sub-total	0	0	573	1,299	1,465	738	4,074	
R-6 Modkhola Bhairagirchar Sub-project Scheme	APSS	387.5	692	556	252	0	0	1,887	
	SIGS	136.5	358	338	116	0	0	948	
	Sub-total	524	1,050	894	368	0	0	2,835	
R-7 Ganakkhali Sub-scheme (2,652 ha)	APSS	708.5	1,147	700	261	0	0	2,816	
	SIGS	280.5	621	516	175	0	0	1,592	
	Sub-total	989	1,768	1,215	436	0	0	4,408	
R-8 Kairdhala Ratna Scheme (11,900 ha) all HILIP	APSS	1020.5	2,041	1,021	0	0	0	4,082	
	SIGS	0	0	0	0	0	0	0	
	Sub-total	1020.5	2,041	1,021	0	0	0	4,082	
R-9 Bashira River Scheme (4,521 ha) all HILIP upa	APSS	0	0	0	891	1,021	130	2,041	
	SIGS	0	0	0	0	0	0	0	
	Sub-total	0	0	0	891	1,021	130	2,041	
R-10 Aralia Khal Scheme (1,501 ha)	APSS	130	130	0	0	0	0	260	
	SIGS	0	0	0	0	0	0	0	
	Sub-total	130	130	0	0	0	0	260	
R-11 Chandal Beel Scheme (1,012 ha)	APSS	0	0	0	0	0	0	0	
	SIGS	0	0	0	0	0	0	0	
	Sub-total	0	0	0	0	0	0	0	
R-12 Satdona Beel Scheme (5,049 ha)	APSS	130	1,021	891	0	0	0	2,041	
	SIGS	0	0	0	0	0	0	0	
	Sub-total	130	1,021	891	0	0	0	2,041	
R-13 Gangajuri FCD Sub-Project (20,441 ha)	APSS	0	2,480	5,792	7,390	6,896	2,818	25,374	
	SIGS	0	927	1,680	984	230	0	3,820	
	Sub-total	0	3,407	7,472	8,373	7,126	2,818	29,194	
R-14 Khalajuri Polder #02 Scheme (6,611 ha)	APSS	890.5	1,781	891	0	0	0	3,562	
	SIGS	0	0	0	0	0	0	0	
	Sub-total	890.5	1,781	891	0	0	0	3,562	
R-15 Khalajuri Polder #04 Scheme	APSS	130	1,021	1,781	891	0	0	3,822	
	SIGS	0	0	0	0	0	0	0	
	Sub-total	130	1,021	1,781	891	0	0	3,822	
Rehabilitation Sub-project Total		APSS	5,390	17,297	24,197	26,188	23,364	9,466	105,900
		SIGS	1,367	4,290	6,169	4,886	2,310	670	19,690
			6,757	21,587	30,365	31,074	25,673	10,135	125,590
New Construction Sub-project									
N-1 Boro Haor Project (Nikli) (9,146 ha)	APSS	0	767	2,666	3,032	1,696	564	8,724	
	SIGS	519	1,255	953	434	273	56	3,490	
	Sub-total	519	2,022	3,619	3,466	1,969	620	12,214	
N-2 Naogaon Haor Project(9,104 ha)	APSS	0	0	891	1,955	1,203	138	4,186	
	SIGS	0	0	310	310	0	0	619	
	Sub-total	0	0	1,200	2,265	1,203	138	4,805	
N-3 Jalir Haor Project (2,466 ha)	APSS	0	891	891	0	0	0	1,781	
	SIGS	0	0	0	0	0	0	0	
	Sub-total	0	891	891	0	0	0	1,781	
N-4 Dhamapasha Rui Beel Project (21,563 ha)	APSS	0	0	0	2,677	5,217	2,540	10,433	
	SIGS	0	0	0	563	563	0	1,126	
	Sub-total	0	0	0	3,240	5,780	2,540	11,559	
N-5 Chandpur Haor Project (2,311 ha)	APSS	0	739	1,085	557	211	0	2,591	
	SIGS	0	310	619	310	0	0	1,238	
	Sub-total	0	1,048	1,704	867	211	0	3,829	
N-6 Sunair Haor Project (3,894 ha)	APSS	0	0	0	742	2,759	2,018	5,518	
	SIGS	0	0	0	168	702	534	1,403	
	Sub-total	0	0	0	909	3,461	2,552	6,921	
N-7 Badla Haor Project (1,504 ha)	APSS	0	130	130	0	0	0	260	
	SIGS	0	0	0	0	0	0	0	
	Sub-total	0	130	130	0	0	0	260	
N-8 Nunnir Haor Project (5,810 ha)	APSS	0	0	0	951	2,398	1,447	4,795	
	SIGS	0	0	0	0	253	253	505	
	Sub-total	0	0	0	951	2,650	1,700	5,300	
N-9 Dakshiner Haor Project (2,482 ha)	APSS	0	0	0	0	130	130	260	
	SIGS	0	0	0	0	0	0	0	
	Sub-total	0	0	0	0	130	130	260	
N-10 Chatal Haor Project (816 ha)	APSS	0	0	0	0	6	6	12	
	SIGS	0	0	0	0	81	81	161	
	Sub-total	0	0	0	0	87	87	173	
N-11 Ganesh Haor Project (3,090 ha)	APSS	0	1,348	1,858	511	0	0	3,716	
	SIGS	0	169	200	31	0	0	399	
	Sub-total	0	1,516	2,058	542	0	0	4,115	
N-12 Dhakua Haor Project (4,425 ha)	APSS	0	0	0	0	1,651	1,651	3,302	
	SIGS	0	0	0	0	0	0	0	
	Sub-total	0	0	0	0	1,651	1,651	3,302	
N-13 Mokhar Haor Project (8,064 ha)	APSS	0	0	0	1,427	3,636	2,209	7,271	
	SIGS	0	0	0	0	310	310	619	
	Sub-total	0	0	0	1,427	3,945	2,519	7,890	
N-14 Noapara Haor Project (3,180 ha)	APSS	0	0	0	0	891	891	1,781	
	SIGS	0	0	0	0	0	0	0	
	Sub-total	0	0	0	0	891	891	1,781	
New Construction Sub-project Total		APSS	0	3,874	7,520	11,850	19,796	11,592	54,630
		SIGS	519	1,733	2,081	1,815	2,180	1,233	9,560
			519	5,607	9,601	13,664	21,976	12,825	64,190
Overall Sub-project Base Program		APSS	5,390	21,170	31,716	38,038	43,159	21,058	160,530
		SIGS	1,886	6,023	8,250	6,700	4,490	1,902	29,250
			7,276	27,193	39,966	44,738	47,649	22,960	189,780
		(%)	4	14	21	24	25	12	100
		District Base Program	1,322	2,400	2,156	2,156	2,156	1,078	11,268
		Project Base Program	1,204	2,257	2,117	2,117	2,132	1,079	10,905
Overall Program Direct Cost (%)		9,802	31,850	44,239	49,011	51,937	25,116	211,953	
			5	15	21	23	25	12	100

Capacity development

Training Cost for O&M Works

Item	Unit	Unit Price	Quantity		Cost	Remarks
			Training Days	Nos. of Group		
Training to BWDB Field Office	day	45,000	1	14	630,000	14 sub-division offices
Initial Training to WMO	day	30,000	2	100	6,000,000	100 WMGs (including WMA members)
Follow-up Training to WMO	day	30,000	1	44	1,320,000	* 10-15 persons (representatives) from each WMG including WMA members * In the case of more than 2 WMG in 1 sub-project, 1 training for 3 WMGs (30 persons in total per training) * 44 trainings in total for 100 WMGs
Total					7,950,000	

Source: JICA Survey Team

BWDB O&M Cost until Project Completion**(1) Rehabilitation Project**

Projects	Item	Qnt.	O&M unit cost (BDT/year)	Const. period (Year)	O&M period (Year)	O&M cost (BDT)
1 Dampara	Resection of Embankment (Full)	0.2 km	38,057	0.026	5.474	208,311
	Resection of Embankment (Submergible)	0.46 km	87,532	0.061	5.439	476,113
	Replacement of Gates	15 nos				
2 Kangsa River	Resection of Embankment (Full)	0.04 km	7,611	0.005	5.495	41,823
	Replacement of Gates	16 nos				
3 Singer Beel	Resection of Embankment (Full)	0.1 km	19,029	0.013	5.487	104,407
	Resection of Embankment (Submergible)	0.125 km	23,786	0.016	5.484	130,430
	Replacement of Gates	1 nos				
4 Baraikhali Khal	Resection of Embankment (Full)	0.01 km	1,903	0.0013	5.499	10,463
	Replacement of Gates	6 nos				
5 Alaria Bahadia	Replacement of Gates	2 nos				
6 Modkhola Bhairagirchar	Resection of Embankment (Full)	0.5 km	95,144	0.066	5.434	517,011
7 Ganakkhali	Replacement of Gates	3 nos				
8 Kairdhala Ratna	Resection of Embankment (Submergible)	0.06 km	11,417	0.008	5.492	62,704
	Replacement of Gates	9 nos				
9 Bashira River	Resection of Embankment (Submergible)	6 km	1,141,722	0.792	4.708	5,375,468
	2-vent Regulator	2 nos				
10 Aralia Khal	Replacement of Gates	4 nos				
11 Chandal Beel	Resection of Embankment (Full)	0.1 km	19,029	0.013	5.487	104,407
	2-vent Regulator	1 nos				
12 Satdona Beel	2-vent Regulator	2 nos				
13 Gangajuri FCD	Resection of Embankment (Full)	0.6 km	114,172	0.079	5.421	618,907
	Replacement of Gates	20 nos				
14 Kalajuri Polder #2	Resection of Embankment (Submergible)	0.81 km	154,132	0.107	5.393	831,253
	Replacement of Gates	19 nos				
15 Kalajuri Polder #4	Resection of Embankment (Submergible)	0.63 km	119,881	0.083	5.417	649,378
	Replacement of Gates	3 nos				
Sub-total (1)		9.60 km				9,130,675 BDT

(2) New Project

Projects	Item	Qnt.	O&M unit cost (BDT/year)	Const. period (Year)	O&M period (Year)	O&M cost (BDT)
1 Boro (Nikli)		9.6 km	1,826,755	1.27	4.23	7,732,907
2 Naogaon		34.1 km	6,488,787	4.50	1.00	6,488,787
3 Jaliar		6.8 km	1,293,952	0.90	4.60	5,955,592
4 Dharmapasha (1)		19.0 km	3,621,796	2.51	2.99	10,822,903
4 Dharmapasha (2)		19.0 km	3,621,796	2.51	2.99	10,822,903
4 Dharmapasha (3)		19.0 km	3,621,796	2.51	2.99	10,822,903
5 Chandpur		2.1 km	399,603	0.28	5.22	2,087,075
6 Sunair		16.2 km	3,082,649	2.14	3.36	10,364,392
7 Badla		10.8 km	2,055,100	1.43	4.07	8,374,079
8 Nunnir		25.5 km	4,852,319	3.37	2.13	10,359,202
9 Dakshiner		18.3 km	3,482,252	2.41	3.09	10,742,901
10 Chatal		5.7 km	1,084,636	0.75	4.75	5,149,635
11 Ganesh		22.5 km	4,281,458	2.97	2.53	10,835,477
12 Dhakua (1)		18.25 km	3,472,738	2.41	3.09	10,736,463
12 Dhakua (2)		18.25 km	3,472,738	2.41	3.09	10,736,463
13 Mokhar (1)		17.2 km	3,272,936	2.27	3.23	10,572,256
13 Mokhar (2)		17.2 km	3,272,936	2.27	3.23	10,572,256
13 Mokhar (3)		17.2 km	3,272,936	2.27	3.23	10,572,256
13 Mokhar (4)		17.2 km	3,272,936	2.27	3.23	10,572,256
14 Noapara (1)		14.15 km	2,692,561	1.87	3.63	9,781,261
14 Noapara (2)		14.15 km	2,692,561	1.87	3.63	9,781,261
Sub-total (2)		342.3 km				184,101,967 BDT

4.5 year : Const. period (Max = 34.1 km)

5.5 year : Period from a construction start to project completion

※ O&M period = Period from a construction start to project completion - Const. period

Total (1) + (2)	351.9 km	193,232,642 BDT
Note) O&M Period : 5.5 year (from commencement of construction to end of project)		193,233,000 BDT

Summary of Annual O&M Cost for 29 Sub-projects (from Table 7.4.9)

(Unit: BDT/year)	
Work Item	Annual Cost
Annual Cost of Routine and Periodical Inspection and Maintenance	46,927,481
Cost for Overhaul of Regulator	1,106,700
Annual Routine Operation Cost of Regulator	2,313,982
Overhead for O&M Works	16,614,000
Total	66,962,163

Annual O&M Cost pre km (= 66,962,163 BDT / 351.9 km) **190,287 BDT/km**

Cost Breakdown for the Consulting Services (for BWDB)

US \$ = yen 99.7 BDT = yen 1.28								
	Unit	Qty.	Foreign Portion		Local Portion		Combined Total	
			(Yen)		BDT			
			Rate	Amount ('000)	Rate	Amount ('000)	('000) Yen	('000) BDT
A Remuneration								
1 Professional (A)	M/M	71	2,753,000	195,463	0	0	195,463	152,705
2 Professional (B)	M/M	324	0	0	350,000	113,400	145,152	113,400
3 Supporting Staffs	M/M	356	0	0	100,000	35,600	45,568	35,600
Subtotal of A				195,463		149,000	386,183	301,705
							0	0
B Direct Cost (Component 1 & 3-1)							0	0
1 International Airfare	Round	38	346,000	13,148	4,500.0	171	13,367	10,443
2 Domestic Airfare(Sylhet -Dhaka)	Round	10		0	11,600	116	148	116
3 Per diem and Accommodation allowance (A)	Day	2,130	10,000	21,300	0	0	21,300	16,641
4 Per diem and Accommodation allowance (B)	Day	4,860	0	0	3,000	14,580	18,662	14,580
C Direct Cost (Component 1)								0
5 Vehicle Rental (Sedan x 4nos.)	Month	19	0	0	352,800	6,703	8,580	6,703
6 Vehicle Rental (Sedan x 1nos.)	Month	54	0	0	88,200	4,763	6,096	4,763
7 Vehicle Purchase (4WD)	nos	6	0	0	6,000,000	36,000	46,080	36,000
8 Fuel for Vehicle	LS	1	0	0	8,000,000	8,000	10,240	8,000
9 Maintenance cost for Vehicle	LS	1	0	0	3,000,000	3,000	3,840	3,000
10 Office Rental (Design)	M/M	19	0	0	80,000	1,520	1,946	1,520
11 Office Rental (S/V- Site)	M/M	157	0	0	24,000	3,768	4,823	3,768
12 Office Running Cost (Design)	M/M	19	0	0	20,000	380	486	380
13 Office Running Cost (S/V)	M/M	157	0	0	20,000	3,140	4,019	3,140
14 International Communications(Design)	M/M	19	0	0	10,000	190	243	190
15 Domestic Communications(Design)	M/M	19	0	0	5,000	95	122	95
16 International Communications(S/V)	M/M	157	0	0	10,000	1,570	2,010	1,570
17 Domestic Communications(S/V)	M/M	157	0	0	5,000	785	1,005	785
18 Office Supply	LS	1	0	0	3,252,800	3,253	4,164	3,253
19 Office Furniture and Equipment	M/M	176	0	0	6,810	1,199	1,534	1,199
20 Report Preparation	LS	1	0	0	4,100,000	4,100	5,248	4,100
21 Driver	M/M	222	0	0	50,000	11,100	14,208	11,100
22 Boring a Soil Test and Survey	LS	1	0	0	79,001,865	79,002	101,122	79,002
23 Flood and Drainage Management	LS	1	0	0	27,743,750	27,744	35,512	27,744
24 RAP Preparation Cost	LS	1	0	0	12,964,000	12,964	16,594	12,964
25 EIA Preparation Cost	LS	1	0	0	37,860,480	37,860	48,461	37,860
26 PR Implementation Cost	LS	1	0	0	43,744,000	43,744	55,992	43,744
27 Base line survey	LS	1	0	0	1,945,000	1,945	2,490	1,945
							0	0
Direct Cost (Component 3-1)								0
27 Vehicle Rental (Sedan x 1nos.)	Month	6	0	0	88,200	529	677	529
28 Vehicle Purchase (4WD)	nos	1	0	0	6,000,000	6,000	7,680	6,000
29 Fuel for Vehicle	LS	1	0	0	1,950,000	1,950	2,496	1,950
30 Maintenance cost for Vehicle	LS	1	0	0	750,000	750	960	750
31 Report Preparation	LS	1	0	0	500,000	500	640	500
32 Driver	M/M	58	0	0	50,000	2,900	3,712	2,900
							0	0
							0	0
Subtotal of B				34,448		320,321	444,458	347,233
Total				229,911		469,321	830,641	648,939

Annual Fund Requirement

Base Year for Cost Estimation: Oct, 2013
Exchange Rates: BDT = Yen 1.28
Price Escalation: FC: 1.3% LC: 3.4%
Physical Contingency 5%
Physical Contingency for Consultant 5%

FC & Total: million JPY
LC : million BDT

Item	Total			2014			2015			2016			2017			2018			2019			2020			2021			2022			2023		
Item	Total			Year-1			Year-2			Year-3			Year-4			Year-5			Year-6			Year-7			Year-8			Year-9			Year-10		
	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total			
A. ELIGIBLE PORTION																																	
I) Procurement / Construction	0	5,172	6,620	0	0	0	0	0	0	0	0	0	0	175	225	0	1,089	1,393	0	1,126	1,441	0	1,164	1,490	0	1,203	1,540	0	415	531	0	0	0
Component1 (Flood management infrastructure)	0	3,735	4,781	0	0	0	0	0	0	0	0	0	0	138	177	0	830	1,062	0	830	1,062	0	830	1,062	0	830	1,062	0	277	354	0	0	0
Component-3-1(Agriculture)	0	212	271	0	0	0	0	0	0	0	0	0	0	8	10	0	47	60	0	47	60	0	47	60	0	47	60	0	16	20	0	0	0
Base cost for JICA financing	0	3,947	5,052	0	0	0	0	0	0	0	0	0	0	146	187	0	877	1,123	0	877	1,123	0	877	1,123	0	877	1,123	0	292	374	0	0	0
Price escalation	0	978	1,252	0	0	0	0	0	0	0	0	0	0	21	27	0	160	204	0	195	249	0	231	296	0	269	344	0	103	131	0	0	0
Physical contingency	0	246	315	0	0	0	0	0	0	0	0	0	0	8	11	0	52	66	0	54	69	0	55	71	0	57	73	0	20	25	0	0	0
II) Consulting services	256	591	1,013	0	0	0	55	65	138	61	88	173	21	44	78	27	84	135	27	87	139	27	84	135	28	89	141	6	49	69	3	1	5
Base cost	230	469	831	0	0	0	51	58	125	56	75	152	19	37	66	24	68	111	24	68	111	24	63	105	24	65	106	5	35	49	3	1	4
Component 1& 3-1	230	266	570																														
Boring, Soil test, Survey, RAP, EIA, etc.	0	203	260																														
Price escalation	14	94	134	0	0	0	1	4	6	2	8	12	1	5	8	2	12	17	2	15	21	2	17	24	3	20	28	1	12	16	0	0	1
Physical contingency	12	28	48	0	0	0	3	3	7	3	4	8	1	2	4	1	4	6	1	4	7	1	4	6	1	4	7	0	2	3	0	0	0
Total (I + II)	256	5,763	7,632	0	0	0	55	65	138	61	88	173	21	220	303	27	1,173	1,528	27	1,213	1,580	27	1,248	1,625	28	1,292	1,681	6	464	600	3	1	5
B. NON ELIGIBLE PORTION																																	
a Procurement / Construction	0	253	324	0	0	0	0	0	0	0	0	0	0	9	11	0	53	68	0	55	71	0	57	73	0	59	75	0	20	26	0	0	0
GOB portion	0	193	247	0	0	0	0	0	0	0	0	0	0	7	9	0	43	55	0	43	55	0	43	55	0	43	55	0	14	18	0	0	0
Base cost for GOB financing	0	193	247	0	0	0	0	0	0	0	0	0	0	7	9	0	43	55	0	43	55	0	43	55	0	43	55	0	14	18	0	0	0
Price escalation	0	48	61	0	0	0	0	0	0	0	0	0	0	1	1	0	8	10	0	10	12	0	11	14	0	13	17	0	5	6	0	0	0
Physical contingency	0	12	15	0	0	0	0	0	0	0	0	0	0	0	1	0	3	3	0	3	3	0	3	3	0	3	4	0	1	1	0	0	0
b Land Acquisition	0	3,038	3,889	0	0	0	0	45	58	0	559	716	0	578	740	0	598	765	0	618	791	0	639	818	0	0	0	0	0	0	0	0	0
Base cost	0	2,449	3,135	0	0	0	0	40	51	0	482	617	0	482	617	0	482	617	0	482	617	0	482	617	0	0	0	0	0	0	0	0	0
Price escalation	0	444	569	0	0	0	0	3	4	0	51	65	0	69	88	0	88	112	0	107	137	0	127	163	0	0	0	0	0	0	0	0	0
Physical contingency	0	145	185	0	0	0	0	2	3	0	27	34	0	28	35	0	28	36	0	29	38	0	30	39	0	0	0	0	0	0	0	0	0
c Administration cost	0	463	592	0	0	0	0	8	10	0	35	44	0	41	53	0	92	118	0	95	122	0	98	126	0	69	88	0	24	31	0	0	0
d VAT	0	932	1,193	0	0	0	0	16	21	0	20	26	0	37	47	0	187	239	0	193	248	0	199	255	0	206	264	0	73	94	0	1	1
e Import Tax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total (a+b+c+d+e)	0	4,686	5,998	0	0	0	0	69	88	0	614	786	0	665	851	0	931	1,191	0	962	1,231	0	993	1,272	0	333	427	0	118	151	0	1	1
TOTAL (A+B)	256	10,449	13,631	0	0	0	55	134	227	61	702	959	21	884	1,153	27	2,103	2,719	27	2,175	2,811	27	2,241	2,896	28	1,625	2,108	6	582	751	3	2	6
C. Interest during Construction	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	1	1	0	1	1	0	1
Interest during Construction(Const.)	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	1	1	0	1
Interest during Construction (Consul.)	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D. Commitment Charge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL (A+B+C+D)	260	10,449	13,634	0	0	0	55	134	227	61	702	959	21	884	1,153	27	2,103	2,720	28	2,175	2,812	28	2,241	2,897	28	1,625	2,109	7	582	752	4	2	7
E. JICA finance portion (A)	256	5,763	7,632	0	0	0	55	65	138	61	88	173	21	220	303	27	1,173	1,528	27	1,213	1,580	27	1,248	1,625	28	1,292	1,681	6	464	600	3	1	5

Administration Cost = 5%
VAT= 15% of the expenditure in local currency of the eligible portion
Import Tax= 30%

Adminitration Cost of BWDB

Category Location	Description	Unit	UnitRate:	Qty:	Amount: (Tk in Lac)
1. Salaries BWDB Staff Outsourcing of Manpower					
1) Extension Overseer for Five	Salary of Officer & Staff	year	136.80	5.50	865.26 (15% inflation)
2) PMO Office	Salary of Staff	year	3.96	9.50	47.03 (25% inflation)
Subtotal of 1.					912.29
2. Other Operation Expenses					
PMO Operation	Office Accommodation (5000 uft @ Tk. 100/uft/moeth)	year	60.00	9.50	570.00
	Office Furniture & equipment	L..S.	1.00	30.00	30.00
	Fuel for vehicle (3 Jeep @ Tk. 150,000)	year	7.50	9.50	71.25
	Vehicle Maintenance	year	4.50	9.50	42.75
	Stationeries	year	6.00	9.50	57.00
	Phone, Fax, Internet etc	year	1.80	9.50	17.10
	Maintenance of Comp., Photocopier				
	Printer etc. with accessories	year	1.00	9.50	9.50
	Honourium of the members of different committees including entertainment of national & foreign guest and project related	L..S.	1.00	20.00	20.00
	TA&OA (4801)	year	3.00	9.50	28.50
	Printing	year	0.20	9.50	1.90
					0.00
SMO Kishoregonj	Fuel for vehicle (1 Jeep, 1 speed boat, 3 motor cycle)	year	7.50	5.50	41.25
	Vehicle Maintenance	year	1.50	5.50	8.25
	Stationeries	year	3.00	5.50	16.50
	Phone, Fax, Internet etc	year	0.50	5.50	2.75
	Maintenance of Comp., Photocopier				0.00
	Maintenance of Comp., Photocopier				0.00
	Printer etc. with accessories	year	0.30	5.50	1.65
	TA&OA	year	2.00	5.50	11.00
	Printing	year	0.50	5.50	2.75
SMO Netrokona	Fuel for vehicle (1 Jeep, 1 speed boat, 3 motor cycle)	year	6.00	5.50	33.00
	Vehicle Maintenance	year	1.00	5.50	5.50
	Stationeries	year	2.00	5.50	11.00
	Phone, Fax, Internet etc	year	0.50	5.50	2.75
	Maintenance of Comp., Photocopier				
	Printer etc. with accessories	year	0.30	5.50	1.65
	TA&OA	year	1.50	5.50	8.25
	Printing	year	0.50	5.50	2.75
SMO Sunamgonj	Fuel for vehicle (1 Jeep, 1 speed boat, 3 motor cycle)	year	6.00	5.50	33.00
	Vehicle Maintenance	year	1.00	5.50	5.50
	Stationeries	year	2.00	5.50	11.00
	Phone, Fax, Internet etc	year	0.50	5.50	2.75
	Maintenance of Comp., Photocopier				
	Printer etc. with accessories	year	0.30	5.50	1.65
	TA&OA	year	1.50	5.50	8.25
	Printing	year	0.50	5.50	2.75

Category Location	Description	Unit	UnitRate:	Qty:	Amount: (Tk in Lac)
SMO Habigonj	Fuel for vehicle (1 Jeep, 1 speed boat, 3 motor cycle)	year	6.00	5.50	33.00
	Vehicle Maintenance	year	1.00	5.50	5.50
	Stationeries	year	2.00	5.50	11.00
	Phone, Fax, Internet etc	year	0.50	5.50	2.75
	Maintenance of Comp., Photocopier				
	Printer etc. with accessories	year	0.30	5.50	1.65
	TA&OA	year	1.50	5.50	8.25
	Printing	year	0.50	5.50	2.75
SMO Brahmanbaria	Fuel for vehicle (1 Jeep, 1 speed boat, 3 motor cycle)	year	6.00	5.50	33.00
	Vehicle Maintenance	year	1.00	5.50	5.50
	Stationeries	year	2.00	5.50	11.00
	Phone, Fax, Internet etc	year	0.50	5.50	2.75
	Maintenance of Comp., Photocopier				
	Printer etc. with accessories	year	0.30	5.50	1.65
	TA&OA	year	1.50	5.50	8.25
	Printing	year	0.50	5.50	2.75
Subtotal of 2.					1,191.75
Total of 1.+ 2.					2,104.04

Breakdown of Manpower through Outsourcing

Sl. No	Type of Personnel (Existing)	Scale of Pay	Number	Annual Remu. (In Taka)	Total Remu. (Lakh Tk.) (Total for years)
1	2	3	4	5	6
1	Extension Overseer (For five division)	10000 (Basic) +5000 (Allowance)	76	13680000	86,526,000.00
2	DEO (For PMO)	8000 (Basic) +4000 (Allowance)	1	144000	1,710,000.00
3	Drivers (For PMO)	8500 (Basic) +4500 (Allowance)	1	156000	1,852,500.00
4	MLSS (For PMO)	5500 (Basic) +2500 (Allowance)	1	96000	1,140,000.00
	Total:		79	14076000	91,228,500.00

3. Equipment and Vehicle

Procurement of Goods, restricted bidding

3.1 Office Equipment

All cost estimates, based on market rates, include the VAT of 5.5%, which translates into a tax rate of 5.21% of the base cost. Due to the procurement at the beginning of the project and the current stable market, 5% contingencies are deemed sufficient.

(Tk in Lac)				
Item	Unit	No	Rate	Amount
Desktop PC (PMO-1D, Kishoregonj-3, Netrokona-2, Sunamgonj-2, Habigonj-2, Brahmanbaria-2)	No	21	0.64	13.44
Laptop PC (PMO-6, Kishoregonj-1, Netrokona-1, Sunamgonj-1, Habigonj-1, Brahmanbaria-1)	No	11	1.00	11.00
A3 Combo Printer (PMO-1)	No	1	1.00	1.00
Printer (PMO-2, Kishoregonj-1, Netrokona-1, Sunamgonj-1, Habigonj-1, Brahmanbaria-1)	No	7	0.52	3.64
Photocopier (PMO-2, Kishoregonj-1, Netrokona-1, Sunamgonj-1, Habigonj-1, Brahmanbaria-1)	No	7	1.28	8.96
Networking equipment (PMO-1, Kishoregonj-1, Netrokona-1, Sunamgonj-1, Habigonj-1, Brahmanbaria-1)	No	6	1.00	6.00
Total				44.04

3.2 Survey Equipment

All cost estimates include the VAT of 5.5%, which translates into a tax rate of 5.21% of the base cost. The cost estimates are based on market rates, provided by the Kaitola survey division. Given that equipment will be procured during the first year, 5% contingencies are sufficient.

(Tk in Lac)				
Item	Unit	No	Rate	Amount
Digital Leveling Instrument	No	5	1.50	7.50
Total Station	No	2	5.00	10.00
Hand held GPS	No	10	0.30	3.00
Repair of speed boat and engine	L.S.	1	5.00	5.00
Total				25.50

3.3 Transport Vehicles

Procured through national competitive bidding in two lots.

Item	PMO	SMO				
		Kishoregonj	Netrokona	Sunamgonj	Habigonj	Brahmanbaria
Jeep >25D0 cc	1	0	0	0	0	0
Jeep	2	2	1	1	1	1
Motorcycle	2	12	6	6	6	6

(Tk in Lac)				
Item	Unit	No	Rate	Amount
4-wheel drives (2200 to 2500cc) (PMO-2, Kishoregonj-1, Netrokona-1, Sunamgonj-1, Habigonj-1, Brahmanbaria-1)	No	7	100.00	700.00
4-wheel drives (>2500 cc) (PMO-1)	No	1	100.00	100.00
Motorbike (PMO-2, Kishoregonj-12, Netrokona-6, Sunamgonj-6, Habigonj-6, Brahmanbaria-6)	No	38	1.95	74.10
speed boat with engine and all accessories	55 hp	3	20.00	60.00
Total				934.10

3.4 Overseas Training/Study Tour

One international training courses of one month duration and one study tour will be provided. The costs include 15% VAT. The defined scope limits the contingency to 5%.

(Tk in Lac)					
Item	Trainees	Number	unit	Rate	Sum
Flood management in hoar area	8	1	Course	200.00	200.00
Japan	10	1	Tour	38.54	38.54
Total					238.54

Total of 3. Equipment and Vehicle **1,242.18**
(Tk in Lac)

Construction Cost and Land Acquisition Cost of Component 2 (Rural Infrastructure)

• Land Acquisition

Rural Road	304,198 (1,000 BDT)
Hat	25,133 (1,000 BDT)
Ghat	21,600 (1,000 BDT)
Total	350,931 (1,000 BDT)

• Construction Cost for Rural Infrastructure Development (1,000 BDT)

Item	Direct cost		Construction cost	
	FC (JPY)	LC (BDT)	FC (JPY)	LC (BDT)
Rural Road	0	3,566,056	0	3,744,359
Hat (incl. protection)	0	241,099	0	253,154
Ghat (incl. protection)	0	26,964	0	28,312
	0	3,834,119		4,025,825

• General item cost 5%

• Construction Cost for Rural Infrastructure Development

(1,000 BDT)

Item	Construction cost	
	FC (JPY)	LC (BDT)
Rural Road		3,744,359
Hat		253,154
Ghat		28,312
		4,025,825

Direct Cost of Rural Road

Rural Road	414.20 km	2,942,654	(1,000 BDT)
Bridge	780 m	340,925	(1,000 BDT)
Culvert	860 m	282,477	(1,000 BDT)
Total	415.84 km	3,566,056	(1,000 BDT)

Upzila/Union Road	278.82 km
Village Road	135.38 km

DIRECT COST OF RURAL ROAD

Sl. No.	District	Upazila	Road Name	Road Code	Shoulder e	Length (km)					Cost (Tk)					Road Class	Brick (m)	Unit Cost 4	Cost 4	Cutvert (m)	Unit Cost 5	Cost 5	Direct Cost Total (1,000 BDT)	Hwy Proj. No. (29) No.
						Unit Cost 1	Cost 1	Non- damaging	Unit Cost 2	Cost 2	Total (without Bridge and Cutvert)	Unit Cost 3	Cost 3	Total										
1	4-03	Habiganj	Baniachang	636113013	0.00	9,110.415	0	7.35	5,773.165	42,432.763	7.35	7.40	0	0	UNR	30	399.194	11,975.620	300.594	6,011.800	60,420	R13		
2	4-7	Habiganj	Sadar	63644065	0.00	5,466.172	0	2.59	4,561.852	13,693.937	2.59	3.00	0	0	VRB	0	399.194	0	300.594	3,005.940	16,046	R13		
3	1-4	Kishoreganj	Kumhari	34482008	0.00	10,865.928	0	12.50	7,003.572	90,346.079	12.50	12.90	0	0	UZR	0	512.862	0	366.187	0	90,346	N9		
4	2-4	Netrokona	Punahala	37283012	0.00	9,110.415	0	6.00	5,773.165	34,638.090	6.00	6.00	0	0	UNR	0	399.194	0	300.594	0	34,639	R1		
5	3-23	Sunamganj	SUNAMGA	690892009	8.27	10,865.928	89,861.225	0.00	7,003.572	0	8.27	8.30	0	0	UZR	0	512.862	25,643.100	366.187	11,585.610	101,447	N12		
6	4-10	Habiganj	Baniachang	636113017	0.00	10,865.928	0	4.93	7,003.572	34,638.090	4.93	5.00	0	0	UZR	30	399.194	0	366.187	7,723.740	67,894	R8		
7	4-105	Habiganj	Baniachang	636113017	1.44	9,110.415	13,674.446	0	1.44	5,773.165	42,432.763	1.44	1.44	0	0	UNR	100	399.194	39,919.400	300.594	9,917.620	70,295	R10	
8	4-55	Habiganj	Azimganj	639024002	1.59	5,466.172	10,865.928	0.00	4,561.852	22,899.360	1.59	2.00	0	0	VRB	0	399.194	0	300.594	3,005.940	13,884	R8		
9	2-19	Netrokona	Khalilpur	37283012	0.00	5,466.172	0	5.00	4,561.852	22,899.360	5.00	5.00	0	0	VRB	0	399.194	0	300.594	0	22,899	R15		
10	3-150	Sunamganj	Chandpur	690892011	14.89	10,865.928	161,933.660	0.00	7,003.572	0	14.89	15.13	0	0	UZR	190	512.862	97,443.780	366.187	19,305.350	278,547	N12		
11	1-21	Kishoreganj	Araiganj	344922002	10.20	10,865.928	10,832.466	0.00	7,003.572	0	10.20	10.20	0	0	UZR	0	512.862	0	366.187	0	11,032	N6		
12	1-3	Kishoreganj	Pokunda	344933006	0.00	9,110.415	0	11.94	5,773.165	6,839.150	11.94	11.94	0	0	UNR	0	399.194	0	300.594	0	68,932	R5		
13	1-4	Kishoreganj	Pokunda	344933007	0.00	9,110.415	0	9.97	5,773.165	57,558.455	9.97	9.97	0	0	UNR	0	399.194	0	300.594	0	57,558	R5		
14	1-9	Kishoreganj	Tron	344832004	13.37	10,865.928	145,777.457	0.00	7,003.572	0	13.37	13.37	0	0	UZR	0	512.862	0	366.187	0	145,777	N9		
15	1-15	Kishoreganj	Sadar	344944052	2.33	5,466.172	12,736.181	0.00	4,561.852	10,629.115	2.33	2.33	0	0	VRB	0	399.194	0	300.594	0	23,365	R4		
16	1-18	Kishoreganj	Nikli	344764005	0.00	5,466.172	0	2.00	4,561.852	9,123.704	2.00	2.00	0	0	VRB	0	399.194	0	300.594	0	9,124	N1		
17	1-29	Kishoreganj	Hossainpur	344874008	0.00	5,466.172	0	4.87	4,561.852	22,716.219	4.87	4.87	0	0	UNR	0	399.194	0	300.594	0	22,716	N1		
18	1-35	Kishoreganj	Mithamoon	344853001	9.59	9,110.415	87,368.080	0.00	5,773.165	0	9.59	9.59	0	0	UNR	0	399.194	0	300.594	0	87,369	N2		
19	1-26	Kishoreganj	Hossainpur	344873007	0.00	9,110.415	0	4.45	5,773.165	25,690.384	4.45	4.45	0	0	UNR	0	399.194	0	300.594	0	25,691	R4		
20	4-54	Habiganj	Azimganj	639025034	1.73	5,466.172	9,456.470	0.00	4,561.852	0	1.73	1.80	0	0	VRB	60	399.194	23,951.640	300.594	3,005.940	36,414	R9		
21	1-22	Kishoreganj	Araiganj	344922004	9.53	9,110.415	86,422.225	0.00	5,773.165	0	9.53	9.53	0	0	UNR	0	399.194	0	300.594	0	86,422	N6		
22	1-28	Kishoreganj	Hossainpur	344873010	0.00	9,110.415	0	4.00	5,773.165	23,092.660	4.00	4.00	0	0	UNR	0	399.194	0	300.594	0	23,093	R4		
23	1-48	Kishoreganj	Kulachar	344854006	0.00	9,110.415	0	5.38	5,773.165	31,059.628	5.38	5.38	0	0	UNR	0	399.194	0	300.594	0	31,060	R9		
24	3-126	Sunamganj	SUNAMGA	690892001	3.85	9,110.415	35,029.546	0.00	5,773.165	22,919.619	3.85	3.85	0	0	UNR	0	399.194	0	300.594	3,005.940	60,233	N12		
25	4-47	Habiganj	Azimganj	639022003	0.00	10,865.928	0	14.06	7,003.572	98,470.222	14.06	14.06	0	0	UZR	0	512.862	0	366.187	0	98,470	R8		
26	1-23	Kishoreganj	Araiganj	344922005	11.37	9,110.415	103,585.419	0.00	5,773.165	0	11.37	11.37	0	0	UNR	0	399.194	0	300.594	0	103,585	N6		
27	4-49	Habiganj	Azimganj	639022005	6.55	10,865.928	75,314.200	0.00	7,003.572	0	6.55	7.02	0	0	UZR	0	512.862	0	366.187	27,033.060	102,551	R13		
28	1-5	Kishoreganj	Bolpur	344963001	0.00	9,110.415	0	7.06	5,773.165	40,758.545	7.06	7.06	0	0	UNR	0	399.194	0	300.594	0	40,759	N8		
29	1-8	Kishoreganj	Tron	344833004	3.00	5,466.172	16,998.516	0.00	4,561.852	0	3.00	3.00	0	0	VRB	0	399.194	0	300.594	0	16,999	N7		
30	1-34	Kishoreganj	Mithamoon	344952002	10.00	10,865.928	108,659.280	0.00	7,003.572	0	10.00	10.00	0	0	UZR	0	512.862	0	366.187	0	108,659	N2		
31	1-36	Kishoreganj	Mithamoon	344954001	3.00	5,466.172	16,998.516	0.00	4,561.852	0	3.00	3.00	0	0	VRB	0	399.194	0	300.594	0	16,999	N2		
32	1-37	Kishoreganj	Tarail	344933004	0.00	9,110.415	0	3.54	5,773.165	20,437.004	3.54	3.54	0	0	UNR	0	399.194	0	300.594	0	20,437	N7		
33	3-48	Sunamganj	Dreni	690292004	0.92	10,865.928	9,942.324	0.00	7,003.572	64,008.668	1.83	1.84	0	0	UZR	0	512.862	0	366.187	3,461.070	20,212	R8		
34	4-8	Habiganj	Bhubal	639053004	0.00	9,110.415	0	4.50	5,773.165	25,979.443	4.50	4.50	0	0	UNR	0	399.194	0	300.594	0	25,979	R13		
35	4-109	Habiganj	Baniachang	636114049	3.00	5,466.172	14,125.71	0.00	4,561.852	14,232.978	3.12	3.13	0	0	VRB	0	399.194	0	300.594	3,005.940	17,239	R13		
36	1-10	Kishoreganj	Tron	344833007	3.00	9,110.415	27,331.245	0.00	5,773.165	0	3.00	3.00	0	0	UNR	0	399.194	0	300.594	0	27,331	N7		
37	1-39	Kishoreganj	Tarail	344933010	3.31	9,110.415	30,155.474	0.00	5,773.165	0	3.31	3.31	0	0	UNR	0	399.194	0	300.594	0	30,155	N8		
38	1-47	Kishoreganj	Kulachar	344854002	0.00	9,110.415	0	4.97	5,773.165	24,892.630	4.97	4.97	0	0	UNR	0	399.194	0	300.594	0	24,893	R7		
39	2-3	Netrokona	Punahala	37283002	0.00	9,110.415	0	3.36	5,773.165	19,397.634	3.36	3.36	0	0	UNR	0	399.194	0	300.594	0	19,398	R1		
40	3-70	Sunamganj	Jamalin	690502004	0.13	10,865.928	1,412.571	0.00	7,003.572	0	0.13	0.15	0	0	UZR	20	512.862	10,257.240	366.187	0	11,670	N12		
41	4-53	Habiganj	Azimganj	639025005	8.48	5,466.172	46,153.180	0.00	4,561.852	0	8.48	8.50	0	0	VRB	0	399.194	0	300.594	6,011.800	52,365	R8		
42	4-106	Habiganj	Baniachang	636114013	0.00	5,466.172	0	0.95	4,561.852	4,333.759	0.95	1.00	0	0	VRB	30	399.194	11,975.620	300.594	6,011.800	22,321	R13		
43	4-107	Habiganj	Baniachang	636114019	0.00	5,466.172	0	2.99	4,561.852	13,693.937	2.99	3.00	0	0	VRB	0	399.194	0	300.594	3,005.940	16,046	N13		
44	4-58	Habiganj	Azimganj	639025026	2.74	5,466.172	14,977.311	0.00	4,561.852	0	2.74	2.75	0	0	VRB	0	399.194	0	300.594	3,005.940	17,983	R9		
45	3-47	Sunamganj	Dharmapasha	690322007	8.68	10,865.928	94,316.255	0.00	7,003.572	60,791.005	17.36	17.46	0	0	UZR	0	512.862	0	366.187	38,618.700	193,726	N4		
46	1-2	Kishoreganj	Pokunda	344933005	0.00	9,110.415	0	8.30	5,773.165	42,917.270	8.30	8.30	0	0	UNR	0	399.194	0	300.594	0	42,917	R5		
47	1-19	Kishoreganj	Nikli																					

56	4-48	Habiganj	Azmiriganj	630025001	Peshchimang- Azmiriganj Road.	4.20	9,110.415	38,263.743	4.20	5,773.165	24,247.293	8.40	8.45	0	0	UNR	0	399,194	0	399,194	300,394	15,029,700	77,541	R8
57	4-59	Habiganj	Azmiriganj	630025012	G C C Road - Renia Road.	2.09	5,466.172	11,424.299	0.00	4,561.852	0	2.09	2.10	0	0	VRB	0	399,194	0	399,194	300,394	3,005,940	14,400	R8
58	4-57	Habiganj	Azmiriganj	630025008	Priatnandit Ghat - Shalla Highschool.	3.64	5,466.172	19,896.866	0.00	4,561.852	0	3.64	3.65	0	0	VRB	0	399,194	0	399,194	300,394	3,005,940	22,903	R8
59	4-52	Habiganj	Azmiriganj	630025027	Kalkow Bazar - Rabala Rd.	2.24	5,466.172	12,244.225	0.00	4,561.852	0	2.24	2.25	0	0	VRB	0	399,194	0	399,194	300,394	3,005,940	15,260	R9
60	1-11	Kishoreganj	Sadar	348493009	Dumapuri UP-Jala bazar	0.00	9,110.415	0	2.61	5,773.165	15,067.961	2.61	2.61	0	0	UNR	0	399,194	0	399,194	300,394	0	15,068	N1
61	2-11	Netrokona	Alipata	372045037	Sikar Badrakola	2.00	5,466.172	10,932.344	0.00	4,561.852	0	2.00	2.00	0	0	VRB	0	399,194	0	399,194	300,394	0	10,932	N11
62	3-02	Sunamganj	Deval	690294018	Nargagan Ferryhat-Namribazar	2.00	5,466.172	10,932.344	0.00	4,561.852	0	2.00	2.00	0	0	VRB	0	399,194	0	399,194	300,394	0	10,932	R8
63	3-03	Sunamganj	Deval	690294019	Alitha Bazar-Nargagan via Kulanje	1.96	5,466.172	10,713.697	0.00	4,561.852	0	1.96	2.00	0	0	VRB	0	399,194	0	399,194	300,394	12,023,766	22,737	R6
64	3-04	Sunamganj	Deval	690294020	Alitha Bazar-Namri Bazar	0.00	5,466.172	0	1.21	4,561.852	5,519.841	1.21	1.25	0	0	VRB	20	399,194	7,963,880	20	300,394	6,011,680	19,516	R8
65	4-4	Habiganj	Sadar	638444035	Poll-Pachindia Rd.	0.00	5,466.172	0	4.20	4,561.852	19,159.778	4.20	4.20	0	0	VRB	0	399,194	0	399,194	300,394	0	19,160	R13
66	4-15	Habiganj	Bahubal	630055058	Shuayabazar-Royail	5.89	5,466.172	32,395.753	0.00	4,561.852	0	5.89	6.00	0	0	VRB	10	399,194	3,991,940	100	300,394	30,059,400	66,247	R13
67	4-56	Habiganj	Azmiriganj	630025006	Bongot - Padaly land Rd	5.09	5,466.172	27,822.815	0.00	4,561.852	0	5.09	5.10	0	0	VRB	0	399,194	0	399,194	300,394	3,005,940	30,629	R8
68	2-28	Netrokona	Bahubal	372094015	Bamshahapur FBB-Nalbari Bazar Rd	0.00	5,466.172	0	4.39	4,561.852	20,026.530	4.39	4.39	0	0	VRB	0	399,194	0	399,194	300,394	0	20,027	N5
69	3-16	Sunamganj	Min Sunamga	690340021	Canganj RHD-Jaldan Road.	4.68	5,466.172	25,591.885	0.00	4,561.852	0	4.68	4.70	0	0	VRB	0	399,194	0	399,194	300,394	6,011,680	31,594	N12
70	4-12	Habiganj	Bahubal	630054010	Khagura Bagdar Road	0.00	5,466.172	0	5.79	4,561.852	26,413.123	5.79	5.80	0	0	VRB	0	399,194	0	399,194	300,394	3,005,940	29,419	R13
71	4-51	Habiganj	Azmiriganj	630025023	Kalkow GCCR - Rosulpur.	2.09	5,466.172	11,424.299	0.00	4,561.852	0	2.09	2.10	0	0	VRB	0	399,194	0	399,194	300,394	3,005,940	14,400	R9
72	3-50	Sunamganj	Dharmapasha	69032005	Mothay anagar bazar-Golla Rd.	7.95	9,110.415	72,427.299	0.00	5,773.165	0	7.95	8.00	0	0	UNR	0	399,194	0	399,194	300,394	15,029,700	87,457	N4
73	2-5	Netrokona	Purbadaha	372835052	Jaria Purbagata-Jaria Swethi Gate via RPSchool Rd.	3.00	5,466.172	16,398.516	0.00	4,561.852	0	3.00	3.00	0	0	VRB	0	399,194	0	399,194	300,394	0	16,399	R2
74	2-9	Netrokona	Alipata	372045034	Ukakhul Road	1.75	5,466.172	9,585.801	0.00	4,561.852	0	1.75	1.75	0	0	VRB	0	399,194	0	399,194	300,394	0	9,586	N11
75	2-10	Netrokona	Alipata	372045036	Duar bazar road	1.50	5,466.172	8,399.258	0.00	4,561.852	0	1.50	1.50	0	0	VRB	0	399,194	0	399,194	300,394	0	8,399	N11
76	2-16	Netrokona	Khulajuri	372383008	Upazila HQ - Gaolpur UP office rd.	1.69	9,110.415	15,351.049	1.69	5,773.165	9,727.783	3.37	3.57	0	0	UNR	190	399,194	75,846,860	10	300,394	3,005,940	103,932	R15
78	3-79	Sunamganj	Jamulajuri	690505037	Sakdebpur - Radanagar Road	0.00	5,466.172	0	0.01	4,561.852	45,619	0.01	0.04	0	0	VRB	20	399,194	7,963,880	10	300,394	3,005,940	11,035	N12
79	3-59	Sunamganj	Deval	690294012	Tarapasa-Tongor	1.98	5,466.172	10,823.021	0.00	4,561.852	0	1.98	2.00	0	0	VRB	0	399,194	0	399,194	300,394	6,011,680	16,935	R8
80	3-01	Sunamganj	Deval	690294017	Boala Bazar-Bhulgan	0.00	5,466.172	0	2.00	4,561.852	9,123.704	2.00	2.00	0	0	VRB	0	399,194	0	399,194	300,394	0	9,124	R8
81	3-131	Sunamganj	SUNAMGA	690894022	RHD(Jalugan)-Islampur (Laxminisree)	2.20	5,466.172	12,055.578	0.00	4,561.852	0	2.20	2.20	0	0	VRB	0	399,194	0	399,194	300,394	0	12,056	N12
82	3-135	Sunamganj	SUNAMGA	690894073	Bahadepur RHD to Nurdula Village Road(LaxminisreeM abanpur)	4.00	5,466.172	21,864.888	0.00	4,561.852	0	4.00	4.00	0	0	VRB	0	399,194	0	399,194	300,394	0	21,865	N12
83	3-142	Sunamganj	SUNAMGA	690895111	Katari jaynagar GC road (Nogaign)-Kandigan Village road.(Katar)	3.00	5,466.172	16,398.516	0.00	4,561.852	0	3.00	3.00	0	0	VRB	0	399,194	0	399,194	300,394	0	16,399	N12
84	3-152	Sunamganj	SUNAMGA	690895038	Katari-Jaynagar Road to Nurdula GPS(M abanpur)	0.00	5,466.172	0	2.00	4,561.852	9,123.704	2.00	2.00	0	0	VRB	0	399,194	0	399,194	300,394	0	9,124	N12
85	3-174	Sunamganj	Min Sunamga	690340048	Achammura Ppy. School-Puran -Kandigan Road.	3.80	5,466.172	20,771.454	0.00	4,561.852	0	3.80	3.81	0	0	VRB	0	399,194	0	399,194	300,394	3,005,940	23,777	N12

Rural Road

(Unit Cost 1)	10,865.928	tk/km
Upazila Road (UZB), Shmeregible	7,003.572	tk/km
Upazila Road (UZB), Non-shmeregible	9,110.415	tk/km
Union Road (UNB), Shmeregible	5,773.165	tk/km
Union Road (UNB), Non-shmeregible	5,466.172	tk/km
Village Road (VBA, VBB), Shmeregible	4,561.852	tk/km
Village Road (VBA, VBB), Non-shmeregible	512.862	tk/km
Bridge (Upazila Road)	399.194	tk/km
Bridge (Union Road and Village Road)	386.187	tk/km
Calvert (Upazila Road)	390.594	tk/km
Calvert (Union Road and Village Road)		

HAT SELECTION

No.	List No.	District	Upazila	Union name	Hat name	Type		Haor project No.
1	1-1	Kishoreganj	Pakundia	Agarosindur	Bahahadia	RM	New	R5
2	1-4	Kishoreganj	Itna	Joysiddhi	Mudirgaon	RM	New	N9
3	1-9	Kishoreganj	Sadar	Danapatuli	Kaliar Kanda Bazar	RM	New	N1
4	1-20	Kishoreganj	Sadar	Pumdi	Pumdi bazar	RM	New	R4
5	1-21	Kishoreganj	Sadar	Pumdi	Adu master bazar	RM	New	R4
6	1-22	Kishoreganj	Sadar	Pumdi	Nimeukhali bazar	RM	New	R4
7	1-27	Kishoreganj	Sadar	Saharam Dhuldia	Dhuldia Hat	GC	Rehabilitation	N1
8	1-32	Kishoreganj	Sadar	Gopdighi	Bogadia	RM	New	N2
9	1-41	Kishoreganj	Sadar	Joyka	Shadakhali	RM	New	N1
10	2-5	Netrokona	Purbadhala	Hogla	Patra Bazar	RM	New	R1
11	2-6	Netrokona	Purbadhala	Ghagra	Ghagra Bazar	RM	New	R1
12	2-13	Netrokona	Khaliajuri	MENDIPUR	Satgoan Bazar	RM	New	R15
13	3-16	Sunamganj	Dhamapasha	Selborash	Badshagonj	RM	New	N4
14	3-45	Sunamganj	Sunamganji Sadar	Mohanpur	Joynagar	GC	Rehabilitation	N12
15	4-3	Habiganj	HABIGANJ-S	Poil	Poil Natun Bazar	RM	Rehabilitation	R13
16	4-5	Habiganj	Bahubal	Putijuri up	Digoambar	RM	New	R13
17	4-7	Habiganj	Bahubal	Satkapon up	Shoaia Bazer	RM	New	R13
18	4-10	Habiganj	AZMIRIGANJ	Badolpur	Paharpur	GC	Rehabilitation	R8
19	4-11	Habiganj	AZMIRIGANJ	Kakailsew	Nischintopur	RM	New	R9
20	4-17	Habiganj	Baniachong	Pukra	Aowar Mohal Bazar	RM	New	R13
21	4-19	Habiganj	Baniachong	Sujatpur	Sujatpur Bazar	GC	Rehabilitation	R10
22	4-20	Habiganj	Baniachong	Muradpur	Muradpur Bazar	RM	New	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)
	RM (Rural market)	Total	18	(nos)
		Kishoregnj	8	(nos)
		Netorkona	3	(nos)
		Sunamganj	1	(nos)
		Habiganj	6	(nos)
		Brahmanbaria	0	(nos)
Direct Cost	(including protection)	Rihabilitation	5	(nos)
			10,959,077	(tk/nos)
			54,795	(1,000BDT)
		New Construction	17	(nos)
			10,959,077	(tk/nos)
			186,304	(1,000BDT)
		TOTAL	241,099	(1,000BDT)
Unit Cost	Rehabilitation		10,959,077	(tk)
	New Construction		10,959,077	(tk)
			10,959,077	(tk)
Land Acquisition	Rihabilitation		5	(nos)
			0	(tk/nos)
			0	(1,000BDT)
		New Construction	17	(nos)
			1,478,400	(tk/nos)
			25,133	(1,000BDT)
	TOTAL		25,133	(1,000BDT)
	GC		7	(nos)
	RM		20	(nos)
	Total		27	(nos)

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	Dera	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

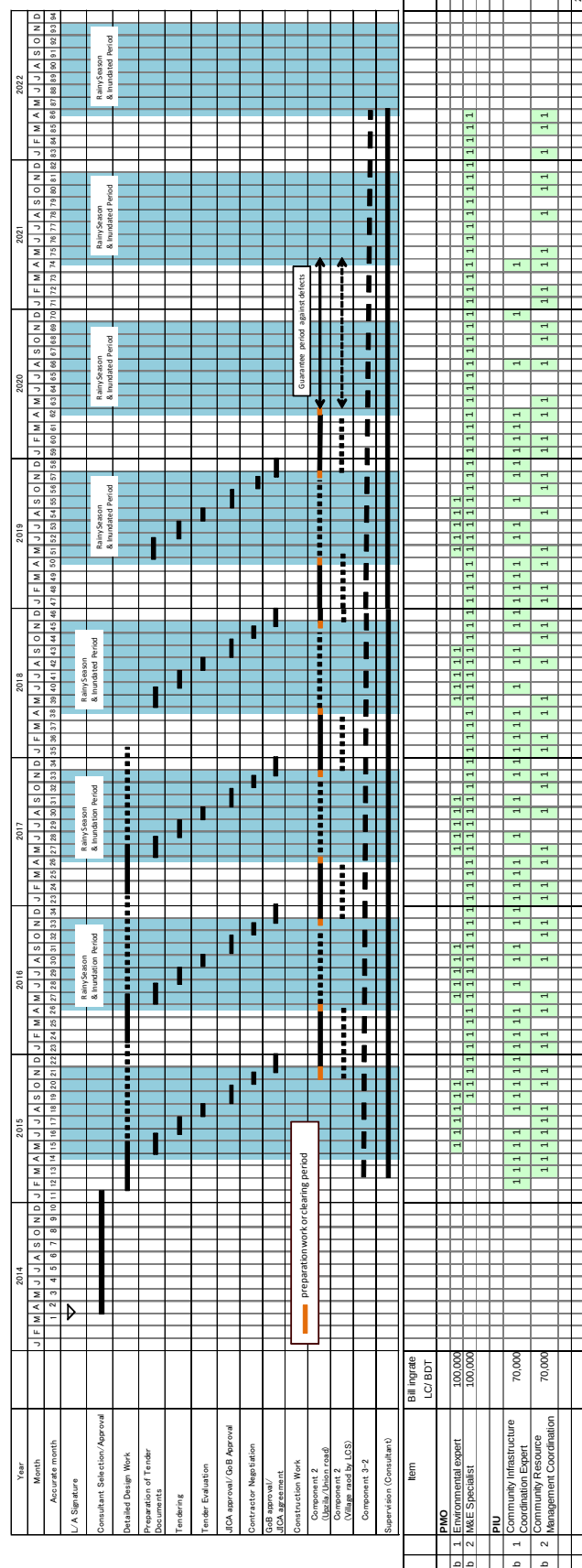
Brahmanbaria : Not applicable

		Total	Type-A	Type-B	
		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)
Unit Cost	Type-A (including protetion)		1,239,648		(tk/nos)
	Type-B (including protetion)		1,311,319		(tk/nos)
Land Acquisition	Type-A		7,200		(tk/nos)
	Type-B		14,400		(tk/nos)
			21,600		(tk/nos)
Direct Cost	Type-A (including protetion)				
	Quantity		8		(nos)
	Unit Cost		1,239,648		(tk/nos)
			9,917		(1,000BDT)
	Type-B (including protetion)				
	Quantity		13		(nos)
	Unit Cost		1,311,319		(tk/nos)
			17,047		(1,000BDT)
Total of direct Cost (Type A + Type B)			26,964		(1,000BDT)

LAND ACQUISITION COST OF RURAL ROAD

LAND ACQUISITION COST OF KURLE ROAD						Crest Width (m)		Land Acquisition			Unit Cost	Cost	Population	Estimated
Ranking	No.	District	Upazila	Road Code	Road Name	Existing	Plan	Area (m2/m)	Length	Area	(tk/m2)	(1000BDT/m2)	Density	Move population
									(km)	(m2)				(Person)
1	4-103	Habiganj	Baniachang	636113013	Subidpur Up office-Aowar Mohal Bazar Via Kabirpur, Niamat pur	2.30	5.050	2.750	7.40	20,350	600	12,210	0.000982	20
2	4-7	Habiganj	Sadar	636444065	Bohula 2no word Pirbari - Paschim Haor Road	2.00	3.670	1.670	3.00	5,010	600	3,006	0.000982	5
3	1-44	Kishoreganj	Karimganj	348422008	Niamatpur-Gandhar GC Road via Fazilkhali Bazar	7.32	5.750	-1.570	12.90	(20,253)	600		0.000982	
4	2-4	Netrokona	Purbadhala	372833012	Ghagra UP (Kapashia)-Jaria Bazar road via Katwari	3.20	5.050	1.850	6.00	11,100	600	6,660	0.000982	11
5	3-123	Sunamganj	SUNAMGA	690892009	R&H (Raharbari)-Baishber-Joy nagar GC Road,(Laxmansree/Mohanpur)	3.00	5.750	2.750	8.30	22,825	600	13,695	0.000982	23
6	4-100	Habiganj	Baniachang	636112007	Kadir Gonj Ge-Paharpur Ge Via Karcha	3.00	5.750	2.750	5.00	13,750	600	8,250	0.000982	14
7	4-105	Habiganj	Baniachang	636113017	Bithangal Gc-Hobiganj - Sojatpur Road Via Monduri UP office , Bijoypur, Agia	2.11	5.050	2.940	3.00	8,820	600	5,292	0.000982	9
8	4-55	Habiganj	Azmiriganj	636024002	Pirajpur Lanchghat-Jalsuka bazar Rd.	3.00	3.670	0.670	2.00	1,340	600	804	0.000982	2
9	2-19	Netrokona	Khalajuri	372384012	Hayatpur-Champur via Khusalpur	3.00	3.670	0.670	5.00	3,350	600	2,010	0.000982	4
10	3-158	Sunamganj	Akhin Sunamga	690932011	Santiganj bazar (UZ HQ)-Rajaniiganj bazar(Patharia GC) via Dungria Road.	5.50	5.750	0.250	15.13	3,783	600	2,270	0.000982	4
11	1-21	Kishoreganj	Austagram	348022002	Austagram-Mitmain Road	5.50	5.750	0.250	10.20	2,550	600	1,530	0.000982	3
12	1-3	Kishoreganj	Pakunda	348793006	Hosendi UP-Ashulia old bazer Rd via Monglabaria and Thutarja	3.66	5.050	1.390	11.94	16,597	600	9,958	0.000982	17
13	1-4	Kishoreganj	Pakunda	348793007	Pakunda UP-Mossua hat via Saluadi	2.90	5.050	2.150	9.97	21,436	600	12,861	0.000982	22
14	1-9	Kishoreganj	Itna	348332004	Itna-Kakalichew Road	4.48	5.750	1.270	13.37	16,980	600	10,188	0.000982	17
15	1-15	Kishoreganj	Sadar	348494052	Baratopa-Thadapara Bazer Road	3.00	3.670	0.670	4.66	3,122	600	1,873	0.000982	4
16	1-18	Kishoreganj	Nikli	348764005	Jariatara UP office-Chetra Road	2.44	3.670	1.230	2.00	2,460	600	1,476	0.000982	3
17	1-29	Kishoreganj	Hossainpur	348274038	Gangtharia bazar-Janata bazaria Abdul Aziz H/S road	3.00	3.670	0.670	4.87	3,263	600	1,958	0.000982	4
18	1-35	Kishoreganj	Mitmain	348593001	Mitmain Noya hat-Dhaki UP Office Rd.	3.60	5.050	1.450	9.59	13,906	600	8,343	0.000982	14
19	1-26	Kishoreganj	Hossainpur	348273007	Char Pundri bazar-Pundri UP H/Q Road	4.00	5.050	1.050	4.45	4,673	600	2,804	0.000982	5
20	4-54	Habiganj	Azmiriganj	636025034	Anandopur Ghat - Anandopur Village	2.50	3.670	1.170	1.80	2,106	600	1,264	0.000982	3
21	1-22	Kishoreganj	Austagram	348023004	Austagram-Badha ghat-Kalma UP office road	3.66	5.050	1.390	9.53	13,247	600	7,948	0.000982	14
22	1-28	Kishoreganj	Hossainpur	348273010	Gohindpur UP H/Q-Janata bazar Road	4.80	5.050	0.250	4.00	1,000	600	600	0.000982	1
23	1-48	Kishoreganj	Kuliachar	348543006	Dumrakanda Bazar-Randi UP Office Rd.	4.88	5.050	0.170	5.38	915	600	549	0.000982	1
24	3-126	Sunamganj	SUNAMGA	690893001	R&H road Janigan-Joy nagar Bazar Road (Laxmansree/Mohanpur)	2.50	5.050	2.550	7.70	19,635	600	11,781	0.000982	20
25	4-47	Habiganj	Azmiriganj	636022003	Azmiriganj - Paharpur road.	7.32	5.750	-1.570	14.06	(22,074)	600		0.000982	
26	1-23	Kishoreganj	Austagram	348023005	Austagram-Molishitilla-Gagra UP Office Rd	2.66	5.050	2.390	11.37	27,174	600	16,305	0.000982	27
27	4-49	Habiganj	Azmiriganj	636022005	Paharpur - Baniachong Via Jhlsuk.	2.50	5.750	3.250	7.02	22,815	600	13,689	0.000982	23
28	1-5	Kishoreganj	Bajipur	348063001	Ujanchar bazar-Halimpur UP Rd	2.75	5.050	2.300	7.06	16,238	600	9,743	0.000982	16
29	1-8	Kishoreganj	Itna	348335041	Mosra-Chandrapur hat Rd.	3.66	3.670	0.010	3.00	30	600	18	0.000982	1
30	1-34	Kishoreganj	Mitmain	348592002	Mitmain Sadar-Karimganj Boarder Balikhola Road	5.00	5.750	0.750	10.00	7,500	600	4,500	0.000982	8
31	1-36	Kishoreganj	Mitmain	348594001	Singua Ferry ghat-Bugdia Bazar Rd.	3.30	3.670	0.370	3.00	1,110	600	666	0.000982	2
32	1-37	Kishoreganj	Tarail	348923004	Thana H.Q-Dhamiha Bazer	3.00	5.050	2.050	3.54	7,257	600	4,354	0.000982	8
33	3-89	Sunamganj	Derail	690292004	Derai Bazar-Dhol-Marculi Road	3.70	5.750	2.050	1.84	3,772	600	2,263	0.000982	4
34	4-8	Habiganj	Bahubal	636053004	Satkapan UP Office (Chalitatala)-Bakterpur via Shoata bazar Rd	4.00	5.050	1.050	4.50	4,725	600	2,835	0.000982	5
35	4-109	Habiganj	Baniachang	636114049	Puka UP office -Kandipura village Riad Via Darowa, Sathigan High School	2.50	3.670	1.170	3.13	3,662	600	2,197	0.000982	4
36	1-10	Kishoreganj	Itna	348333007	Badia UP-Barshikura Hat Road	3.60	5.050	1.450	3.00	4,350	600	2,610	0.000982	5
37	1-39	Kishoreganj	Tarail	348923010	Lower UP-Dhamiha UP via Echapahar	3.10	5.050	1.950	3.31	6,455	600	3,873	0.000982	7
38	1-47	Kishoreganj	Kuliachar	348543002	Chhaysati UP Office(R&H)-Patia Bazar via Mahabadi, Pailampur R	4.88	5.050	0.170	4.97	845	600	507	0.000982	1
39	2-3	Netrokona	Purbadhala	372833002	Purbadhala (Kaldur)-Ghagra UP (Kapashia) road via Ghagra bazar	4.67	5.050	0.380	3.36	1,277	600	766	0.000982	2
40	3-70	Sunamganj	Jamaliganj	690502004	Sachna Bazar - Beheli GC - Taherpur	5.50	5.750	0.250	0.15	38	600	23	0.000982	1
41	4-53	Habiganj	Azmiriganj	636025035	Solori - Shilpasha.	2.50	3.670	1.170	8.50	9,945	600	5,967	0.000982	10
42	4-106	Habiganj	Baniachang	636114013	Habiganj-Baniyachong RHD to Sunaru vill	2.00	3.670	1.670	1.00	1,670	600	1,002	0.000982	2
43	4-107	Habiganj	Baniachang	636114019	Shibiganj Bazar to halderpur Chilori road	1.50	3.670	2.170	3.00	6,510	600	3,906	0.000982	7
44	4-58	Habiganj	Azmiriganj	636025026	Kamulpur Ghat - Kamulpur Prry School.	2.25	3.670	1.420	2.75	3,905	600	2,343	0.000982	4
45	3-47	Sunamganj	Dharmapasha	690322007	Joyasree-Modhanagar Via Ramdiga Road.	3.70	5.750	2.050	17.46	35,793	600	21,476	0.000982	36
46	1-2	Kishoreganj	Pakunda	348793005	Hosendi UP-Mokkhola GC Via Alamdi	4.60	5.050	0.450	8.30	3,735	600	2,241	0.000982	4
47	1-19	Kishoreganj	Nikli	348765009	Gari UP office-Chapirchar Rd	3.65	3.670	0.020	0.64	13	600	8	0.000982	1
48	1-25	Kishoreganj	Hossainpur	348273005	Gohindpur Chowasta bazar-Gohindpur UP H/Q Road	3.90	5.050	1.150	2.08	2,392	600	1,435	0.000982	3
49	1-27	Kishoreganj	Hossainpur	348273009	Adu Master bazar-Shahedi UP H/Q Road	4.50	5.050	0.550	3.00	1,650	600	990	0.000982	2
50	1-32	Kishoreganj	Katiadi	348453007	Achimta UP H/Q-Pong Massa bazar Rd.	3.65	5.050	1.400	2.10	2,940	600	1,764	0.000982	3
51	2-6	Netrokona	Purbadhala	372834065	Kalihar R&H-Dampara via Chandler Bazar	3.00	3.670	0.670	3.00	2,010	600	1,206	0.000982	2
52	2-7	Netrokona	Purbadhala	372835039	Shahala-Hatkhal Bazar	2.75	3.670	0.920	3.20	2,944	600	1,766	0.000982	3
53	2-20	Netrokona	Barhatta	372092007	Amtala-Samaj GC Road (Barhatta Portion)	4.40	5.750	1.350	6.24	8,424	600	5,054	0.000982	9
54	3-132	Sunamganj	SUNAMGA	690894005	Tokergat-Bahadurpur Rd,(Laxmansree)	2.00	3.670	1.670	3.60	6,012	600	3,607	0.000982	6
55	4-10	Habiganj	Bahubal	636054079	Gubura Prry. School - Panchpara Road Via Sluice gate Durgu pur .	3.75	3.670	-0.080	5.00	(400)	600		0.000982	
56	4-48	Habiganj	Azmiriganj	636023001	Pashchimbag - Azmiriganj Road.	2.50	5.050	2.550	8.45	21,548	600	12,929	0.000982	22
57	4-59	Habiganj	Azmiriganj	636025012	G C C Road - Ronia Road.	3.00	3.670	0.670	2.10	1,407	600	844	0.000982	2
58	4-57	Habiganj	Azmiriganj	636025008	Pituarandi Ghat - Shalla Highschool.	3.50	3.670	0.170	3.65	621	600	372	0.000982	1
59	4-52	Habiganj	Azmiriganj	636025027	Kakikow Bazar - Rahala Rd.	2.80	3.670	0.870	2.25	1,958	600	1,175	0.000982	2
60	1-11	Kishoreganj	Sadar	348493009	Danapatuli UP-Jala bazar	4.88	5.050	0.170	2.61	444	600	266	0.000982	1
61	2-11	Netrokona	Atpara	372045037	Sakari Badirakola	2.00	3.670	1.670	2.00	3,340	600	2,004	0.000982	4
62	3-102	Sunamganj	Derail	690294018	Nagrggon Ferryghat-Nasimbazar	2.50	3.670	1.170	2.00	2,340	600	1,404	0.000982	3
63	3-103	Sunamganj	Derail	690294019	Akila Bazar-Nagrggon via Kulanje	3.00	3.670	0.670	2.00	1,340	600	804	0.000982	2
64	3-104	Sunamganj	Derail	690294020	Akila Bazar-Nasim Bazar	2.50	3.670	1.170	1.25	1,463	600	878	0.000982	2
65	4-4	Habiganj	Sadar	636444035	Poil-Pachparia Rd.	3.50	3.670	0.170	4.20	714	600	428	0.000982	1
66	4-15	Habiganj	Bahubal	636055058	Shuaitabazar-Ruyail	3.00	3.670	0.670	6.00	4,020	600	2,412	0.000982	4
67	4-56	Habiganj	Azmiriganj	636025006	Bong rd - Paddy land Rd	3.00	3.670	0.670	5.10	3,417	600	2,050	0.000982	4
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PMO & PIU Staff Schedule



Note) Place : PMO(Dahka). PIU(District office)

Capacity development for LCS

Village road 135 km x 3 group/km x 25,000 BDT/group ÷ 10,000,000 BDT

- Village road length : 135 km
- LCS group per km : 3 group (1 group = 30 person)
- 2 time before and after road construction
 - Remuneration for lecturer : 2000 BDT x 3 days x 2 times = 12,000 BDT
 - Allowance for lecturer : 1,500 BDT x 3 days x 2 times = 9,000 BDT
 - Travel expenses : 1,000 BDT
 - handout, etc. : 2,000 BDT

LGED O&M Cost until Project Completion

Annual Maintenance Cost for Component 2 Structures (from Table 7.4.18)

(1,000 BDT/year)	
Items	Annual Cost
Rural Roads	
- Upazila and Union Roads	132,956
- Important Village Road	20,359
- Other Village Roads	20,359
- Bridges and Culverts	1,714
Sub-total of Rural Roads	175,388
Growth Centers/Rural Markets (Hats)	1,372
Boat Landing Facilities (Ghats)	143
Total	176,903

Source: JICA Survey Team based on LGED data

- O&M Period

6.5 year

(from construction start to project completion)

Component 2 (Rural Infrastructure)

Rural Road	415.84 km
- Upazila Road	121.13 km
- Union road	157.69 km
- Village Road	135.38 km
- Bridge	780 m
- Culvert	860 m
HAT	22 Place
GHAT	21 Place

Annual O&M Cost until Project Completion

570,011,000 BDT

(= 50% x 6.5 year x 175,388,000 BDT)

※ The maintenance cost during the implementation period was estimated 50% of the period until project completion from the start of construction.

Construction Cost of Component 3-2 (Fishery)

Program/ Activity	Units	Q'ty	Unit Cost (BDT 1,000)	Total (BDT 1,000)
A. COMMUNITY RESOURCE MANAGEMENT				
A-1. Identification of Resources (Resource Mapping)				
A-1.1 Collection & Review Beels' Status from DC Office and Screening of Beels	Districts	5	160	800
A-1.2 Mapping of selected beels through PRA in 29 sub-project areas (participated by stakeholders of respective upazila and union parishad representatives) of 5 districts.	Sub Projects	29	110	3,190
A-1.3 Professional Documentation/Mapping/Printing*	Sub-projects	29	628	18,220
A-1.3 Leasing Process & Group Formation (BUGs)	Beels	150	19	2,790
Sub-total				25,000
A-2. Development of Beels System				
A-2.1 Establishment of sanctuary, swamp forest, etc.	Nos	150	1,300	195,000
A-2.2 Beel Connectivity (Canal/Khal Excavation)	km	225	1,200	270,000
Sub-total				465,000
B. FLOODPLAIN AQUACULTURE ACTIVITIES				
B-1. Alternate Income Generating Activities				
B-1.1 Fish Net-Pen Culture	Sets	10	917	9,170
B-1.2 Fish Cage Culture				
- Small cage set	Sets	5	80	400
- Big cage set	Sets	5	400	2,000
B-1.3 Backyard Fish Pond Culture	Sets	20	450	9,000
B-1.4 Daukhandi Model Aquaculture	Sets	2	1,000	2,000
B-1.5 Fish Drying & Fermentation	Sets	10	20	200
Sub-total				22,770
C. FISHERIES SUPPORT SERVICES				
Promotional materials for extension services (2.5 lakhs x 5 districts x 7 years)				8,750
Sub-total				8,750
D. TRAINING/WORKSHOP/SEMINAR				
D-1. Training of Project Staff/Officer	Nos	10	168	1,680
D-2. Training of Beneficiaries				
D-2.1 Fish Net-Pen Culture	Nos	25	19	485
D-2.2 Fish Cage Culture	Nos	25	19	485
D-2.3 Backyard Fish Pond Culture	Nos	25	22	545
D-2.4 Daukhandi Model Aquaculture	Nos	10	23	228
D-2.5 Capacity Building BUGs	Nos	75	22	1,635
D-2.6 Fish Drying & Fermentation	Nos	50	22	1,120
D-3. Consultation Meetings with GOs and NGOs	Nos	15	150	2,250
D-4. Workshops (on need based subjects)	Nos	40	100	4,000
D-5. Seminars on Findings, New Ideas & Results	Nos	30	165	4,962
Sub-total				17,390
E. Exchange Visits for Experience Sharing	Nos	40	126.3	5,052
F. Monitoring, Legal Support & Studies				
F-1. Third Party M & E/ Knowledge Management	Nos	6	4,000	24,000
F-2. BUGs Auditing (50 BUGs/year for 6 years) at 20,000 Tk/Bug		300	20	6,000
F-3. Legal Support (for 6 years at 1.2 million/year)	Nos	6	1,200	7,200
Sub-total				37,200
TOTAL				581,161

Cost Breakdown for the Consulting Services (for LGED)

				US \$ = yen 99.7				
				BDT = yen 1.28				
	Unit	Qty.	Foreign Portion		Local Portion		Combined Total	
			(Yen)		BDT		('000) Yen	('000) BDT
			Rate	Amount ('000)	Rate	Amount ('000)		
A Remuneration								
1 Professional (A)	M/M	24	2,753,000	66,072	0	0	66,072	51,619
2 Professional (B)	M/M	327	0	0	350,000	114,450	146,496	114,450
3 Supporting Staffs	M/M	487	0	0	70,000	34,090	43,635	34,090
Subtotal of A				66,072		148,540	256,203	200,159
							0	0
B Direct Cost (Component 2 & 3-2)							0	0
1 International Airfare	Round	16	346,000	5,536	4,500.0	72	5,628	4,397
2 Domestic Airfare(Sylhet -Dhaka)	Round	10		0	11,600	116	148	116
3 Per diem and Accommodation allowance (A)	Day	720	10,000	7,200	0	0	7,200	5,625
4 Per diem and Accommodation allowance (B)	Day	4,920	0	0	3,000	14,760	18,893	14,760
C Direct Cost (Component 2)				0		0	0	0
5 Vehicle Rental (Sedan x 4nos.)	Month	16	0	0	352,800	5,645	7,225	5,645
6 Vehicle Rental (Sedan x 1nos.)	Month	54	0	0	88,200	4,763	6,096	4,763
7 Vehicle Purchase (4WD)	nos	6	0	0	6,000,000	36,000	46,080	36,000
8 Fuel for Vehicle	LS	1	0	0	8,000,000	8,000	10,240	8,000
9 Maintenance cost for Vehicle	LS	1	0	0	3,000,000	3,000	3,840	3,000
10 Office Rental (Design)	M/M	18	0	0	80,000	1,440	1,843	1,440
11 Office Rental (S/V- Site)	M/M	157	0	0	24,000	3,768	4,823	3,768
12 Office Running Cost (Design)	M/M	18	0	0	20,000	360	461	360
13 Office Running Cost (S/V)	M/M	157	0	0	20,000	3,140	4,019	3,140
14 International Communications(Design)	M/M	18	0	0	10,000	180	230	180
15 Domestic Communications(Design)	M/M	18	0	0	5,000	90	115	90
16 International Communications(S/V)	M/M	157	0	0	10,000	1,570	2,010	1,570
17 Domestic Communications(S/V)	M/M	157	0	0	5,000	785	1,005	785
18 Office Supply	LS	1	0	0	3,044,800	3,045	3,897	3,045
19 Office Furniture and Equipment	M/M	175	0	0	6,810	1,192	1,525	1,192
20 Report Preparation	LS	1	0	0	4,100,000	4,100	5,248	4,100
21 Driver	M/M	218	0	0	50,000	10,900	13,952	10,900
○ 22 Boring a Soil Test and Survey	LS	1	0	0	86,254,580	86,255	110,406	86,255
○ 23 RAP Preparation Cost	LS	1	0	0	8,673,250	8,673	11,102	8,673
○ 24 EIA Preparation Cost	LS	1	0	0	7,087,500	7,088	9,072	7,088
○ 25 PR Implementation Cost	LS	1	0	0	37,730,000	37,730	48,294	37,730
○ 26 Base Line Survey	LS	1	0	0	1,945,000	1,945	2,490	1,945
				0		0	0	0
D Direct Cost (Component 3-2)				0		0	0	0
27 Vehicle Rental (Sedan x 1nos.)	Month	6	0	0	88,200	529	677	529
28 Vehicle Purchase (4WD)	nos	1	0	0	6,000,000	6,000	7,680	6,000
29 Fuel for Vehicle	LS	1	0	0	1,300,000	1,300	1,664	1,300
30 Maintenance cost for Vehicle	LS	1	0	0	500,000	500	640	500
31 Report Preparation	LS	1	0	0	500,000	500	640	500
32 Driver	M/M	52	0	0	50,000	2,600	3,328	2,600
33 Office Rental (S/V- Site)	M/M	32	0	0	24,000	768	983	768
34 Office Running Cost (S/V)	M/M	32	0	0	20,000	640	819	640
35 International Communications(S/V)	M/M	32	0	0	10,000	320	410	320
36 Domestic Communications(S/V)	M/M	32	0	0	5,000	160	205	160
							0	0
							0	0
Subtotal of B				12,736		257,933	342,890	267,883
Total				78,808		406,473	599,093	468,041

Annual Fund Requirement

Base Year for Cost Estimation:	Oct, 2013			FC & Total: million JPY
Exchange Rates	BDT = Yen	1.28		LC : million BDT
Price Escalation:	FC: 1.3%	LC: 3.4%		
Physical Contingency	5%			
Physical Contingency for Consultant	5%			

Item	Total			2014			2015			2016			2017			2018			2019			2020			2021			2022			2023			
	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total				
A. ELIGIBLE PORTION																																		
I) Procurement / Construction	0	5,396	6,907	0	0	0	0	183	234	0	1,083	1,387	0	1,120	1,434	0	1,158	1,483	0	1,198	1,533	0	491	628	0	121	155	0	42	53	0	0	0	
Component 2 (Rural Infrastructure)	0	3,802	4,867	0	0	0	0	141	180	0	845	1,081	0	845	1,081	0	845	1,081	0	845	1,081	0	282	360	0	0	0	0	0	0	0	0		
Component 3-2 (Fishery)	0	582	745	0	0	0	0	22	28	0	88	113	0	88	113	0	88	113	0	88	113	0	88	113	0	88	113	0	29	38	0	0	0	
Base cost for JICA financing	0	4,384	5,611	0	0	0	0	163	209	0	933	1,195	0	933	1,195	0	933	1,195	0	933	1,195	0	370	474	0	88	113	0	29	38	0	0	0	
Price escalation	0	755	967	0	0	0	0	11	14	0	98	126	0	134	171	0	170	217	0	207	265	0	98	125	0	27	35	0	10	13	0	0	0	
Physical contingency	0	257	329	0	0	0	0	9	11	0	52	66	0	53	68	0	55	71	0	57	73	0	23	30	0	6	7	0	2	3	0	0	0	
II) Consulting services (for LGED)	88	502	731	0	0	0	17	60	94	12	87	122	11	82	116	11	79	113	12	79	113	8	58	82	4	36	50	14	21	41	0	0	0	
Base cost	79	406	599	0	0	0	16	54	84	11	75	106	10	68	98	10	64	92	10	62	89	7	43	62	4	26	37	12	15	31	0	0	0	
Component 2 & 3-2	79	265	418																															
Boring, Soil test, Survey, RAP, EIA, etc.	0	142	181																															
Price escalation	5	71	97	0	0	0	0	4	5	0	8	10	1	10	13	1	12	16	1	14	18	1	11	15	0	8	11	1	5	8	0	0	0	
Physical contingency	4	24	35	0	0	0	1	3	4	1	4	6	1	4	6	1	4	5	1	4	5	0	3	4	0	2	2	1	1	2	0	0	0	
Total (I + II)	88	5,898	7,638	0	0	0	17	243	328	12	1,170	1,509	11	1,202	1,550	11	1,237	1,595	12	1,277	1,646	8	548	710	4	157	206	14	63	95	0	0	0	
B. NON ELIGIBLE PORTION																																		
a Procurement / Construction	0	1,502	1,923	0	0	0	0	51	65	0	316	405	0	327	419	0	338	433	0	350	447	0	120	154	0	0	0	0	0	0	0	0	0	
GOB portion	0	1,226	1,569	0	0	0	0	45	58	0	272	349	0	272	349	0	272	349	0	272	349	0	91	116	0	0	0	0	0	0	0	0	0	0
Base cost for GOB financing	0	1,226	1,569	0	0	0	0	45	58	0	272	349	0	272	349	0	272	349	0	272	349	0	91	116	0	0	0	0	0	0	0	0	0	0
Price escalation	0	205	262	0	0	0	0	3	4	0	29	37	0	39	50	0	50	63	0	61	77	0	24	31	0	0	0	0	0	0	0	0	0	
Physical contingency	0	72	92	0	0	0	0	2	3	0	15	19	0	16	20	0	16	21	0	17	21	0	6	7	0	0	0	0	0	0	0	0	0	
b Land Acquisition	0	421	539	0	0	0	0	62	79	0	96	123	0	99	127	0	102	131	0	62	79	0	0	0	0	0	0	0	0	0	0	0	0	
Base cost	0	351	449	0	0	0	0	55	70	0	83	106	0	83	106	0	83	106	0	48	62	0	0	0	0	0	0	0	0	0	0	0	0	
Price escalation	0	50	64	0	0	0	0	4	5	0	9	11	0	12	15	0	15	19	0	11	14	0	0	0	0	0	0	0	0	0	0	0	0	
Physical contingency	0	20	26	0	0	0	0	3	4	0	5	6	0	5	6	0	5	6	0	3	4	0	0	0	0	0	0	0	0	0	0	0	0	
c Administration cost	0	395	505	0	0	0	0	18	24	0	80	102	0	82	105	0	84	108	0	85	109	0	34	43	0	8	10	0	4	5	0	0	0	
d VAT	0	747	956	0	0	0	0	31	39	0	150	191	0	154	197	0	158	203	0	164	209	0	68	86	0	16	21	0	7	9	0	0	0	
e Import Tax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total (a+b+c+d+e)	0	3,065	3,923	0	0	0	0	162	207	0	641	821	0	662	847	0	683	875	0	660	845	0	222	284	0	24	31	0	11	14	0	0	0	
TOTAL (A+B)	88	8,963	11,561	0	0	0	17	405	535	12	1,811	2,330	11	1,864	2,397	11	1,921	2,470	12	1,936	2,490	8	770	994	4	181	236	14	74	109	0	0	0	
C. Interest during Construction																																		
Interest during Construction(Const.)	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	1	1	0	1	1	0	1	0	0		
Interest during Construction (Consul.)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
D. Commitment Charge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
GRAND TOTAL (A+B+C+D)	92	8,963	11,565	0	0	0	17	405	535	12	1,811	2,330	12	1,864	2,397	12	1,921	2,470	12	1,936	2,491	9	770	995	5	181	237	14	74	109	0	0	0	
E. JICA finance portion (A)	88	5,898	7,638	0	0	0	17	243	328	12	1,170	1,509	11	1,202	1,550	11	1,237	1,595	12	1,277	1,646	8	548	710	4	157	206	14	63	95	0	0	0	

Administration Cost =	5%
VAT=	10% of the expenditure in local currency of the eligible portion
Import Tax=	30%

Appendixes 12.1 to 12.2

A12.1.1 STAFFING AND QUALIFICATION

I Detailed Design Stage

For component-1, 6 of Professional(A) (hereinafter referred to as 'Pro-A') consultants and 12 of Professional (B) (hereinafter referred to as 'Pro-B') consultants will be engaged over 33 months' duration of the consulting services, for a total of 36 man-months for Professional(A) and 98 man-months for Professional (B) consultants, respectively. Total consulting input is 134 man-months. For component 3-1, 1 of Professional(A) (hereinafter referred to as 'Pro-A') consultants and 2 of Professional (B) (hereinafter referred to as 'Pro-B') consultants will be engaged over 33 months' duration of the consulting services, for a total of 2 man-months for Professional(A) and 4 man-months for Professional (B) consultants, respectively. Total consulting input is 6 man-months. A detailed schedule of consulting services and distribution of man-months is shown in Attachment -2.

I-1 Qualification of key team members

(1) Component-1

1) Team Leader (River Engineer): Pro-A

The Team Leader / River Engineer will have at least 15 years of experience in study and detailed engineering design of flood control / river improvement project. He / she will have experiences as team leader and/or deputy team leader in similar project at least 5 years.

2) Soil Engineer: Pro-A

The Soil Engineer will have at least 10 years of experience in the soil mechanic analysis for the structures to prepare detailed engineering design in similar project.

3) Hydraulic Engineer: Pro-A

The Hydraulic Engineer will have at least 8 years of experience in planning and implementation of hydraulic facilities/drainage system including the related facilities in similar project.

4) Construction Plan Cost Estimator: Pro-A

The Construction Plan/ Cost Estimator will have at least 8 years of experience in the preparation of construction plan and cost estimate of flood control/river improvement works in similar project.

5) Mechanical Engineer: Pro-A

The Mechanical Engineer will have at least 8 years of experience in detailed engineering design of river/drainage mechanical structures in similar project

6) Safeguard Specialist : Pro-A

The Safeguard Specialist will have at least 8 years of experience in natural environmental consideration, including environmental surveys, stakeholders' consultation, and analyzing

environmental impacts to identify mitigation measures in compliance with safeguard policies of the international development financing institutions and national legislations.

And he will have at least 8 years of experience in social impact assessment including census and socioeconomic surveys, stakeholders' consultation, and analyzing social impacts to identify mitigation measures in compliance with social safeguard policies of the international development financing institutions and national legislations. He/she will also have experience of preparing resettlement framework and action plans and implementation of plans for externally financed projects.

7) Co-team Leader: Pro-B

The Co-Team Leader / River Engineer will have at least 20 years of experience in study and detailed engineering design of flood control / river improvement project. He/she will have experiences of projects in the Haor area at least for 5 years.

8) Embankment Design Engineer: Pro-B

Embankment Design Engineer will have at least 15 years of experience in design and quality control of embankment work. He/she will have experiences of at least one similar project.

9) Structure Engineer: Pro-B

Structure Engineer will have at least 10 years of experience in detail design of reinforced concrete works. He/she will have experiences of at least one similar project including regulators.

10) Soil Engineer: Pro-B

Soil Engineer will have at least 15 years of experience in soil investigation for river or similar embankment material including quality control of compaction.

11) Geodetic Engineer: Pro-B

Geodetic Engineer will have at least 10 years of experience in topographic survey. He/she will have experiences of at least one project in the Haor area.

12) Hydraulic Engineer: Pro-B

Hydraulic Engineer will have at least 15 years of experience in hydraulic study. He/she will have experiences of at least one project for flood mitigation in the Haor area.

13) Construction Plan/Cost Estimate Engineer: Pro-B

Construction Plan/Cost Estimate Engineer will have at least 10 years of experience in construction plan and cost estimation for detail design. He/she will have experiences of at least one project in the Haor area.

14) Mechanical Engineer: Pro-B

Mechanical Engineer will have at least 10 years of experience in detail design of metal works.

15) Environmental Specialist: Pro-B

Environmental Specialist will have at least 15 years of experience in preparing EIA/IEE in accordance with the rules and guideline in Bangladesh.

16) Land Acquisition and Resettlement Specialist: Pro-B

Land Acquisition and Resettlement Specialist will have at least 15 years of experience in preparing RAP and assisting implementation agencies in land acquisition and resettlement. He/she will have experiences of at least one project in the Haor area.

17) Procurement and Contract Specialist: Pro-B

Procurement and Contract Specialist will have at least 15 years of experience in preparing tender document, evaluation of bidder and preparing contract document.

18) O&M Specialist: Pro-B

O&M Specialist will have at least 15 years of experience in O&M of flood mitigation or water resource management facilities. He/she will have experiences of at least one similar project in the Haor area.

(2) Component-3

1) Agricultural Support Services Specialist: Pro-A

The Agricultural Support Services Specialist will have experiences in overseas agriculture development projects: 15 years or more and experience in agricultural support services activities: 5 years or more

2) Agronomist/Field Extension Services Specialist: Pro-B

The Agronomist/Field Extension Services Specialist will have at least 15 years of experience in agricultural promotion support and income generation support project. He/she will have at least 3 years of experience of project in the Haor area.

3) Agricultural Training Specialist: Pro-B

The Agricultural Training Specialist will have at least 15 years of experience in agricultural promotion support and income generation support project. He/she will have at least 3 years of experience of project in the Haor area.

The requirements for education and specialty are as follows;

Component 1

No.	Engineers	Requirement
International Engineer (Pro-A)		
a-1	Team Leader	M.Sc. / Civil Engineering
a-2	Soil Engineer	M.Sc. / Soil Engineering
a-3	Hydraulic Engineer	M.Sc. / Civil Engineering with hydraulic experience
a-4	Construction Plan & Cost Estimator	B.Sc. / Civil Engineering
a-5	Mechanical Engineer	B.Sc. / Mechanical Engineer
a-6	Safe Guard Expert	Master in Civil Engineer with experience of environmental and social consideration

No.	Engineers	Requirement
National Engineer (Pro-B)		
b-1	Co-Team Leader	M. Sc. / Civil Engineer
b-2	Embankment Design Engineer	B.Sc. / Civil Engineering
b-3	Structure Engineer	B.Sc. / Civil Engineering
b-4	Soil Engineer	M.Sc. / Soil Engineering or Geotechnical Engineer
b-5	Geodetic Engineer	B.Sc. / Civil Engineering
b-6	Hydraulic Engineer	M.Sc. / Civil Engineering with hydraulic experience
b-7	Construction Plan & Cost Estimator	B.Sc. / Civil Engineering
b-8	Mechanical Engineer	B.Sc. / Mechanical Engineer
b-9	Environment & Social Specialist	Master in Civil Engineer with experience of environmental and social consideration
b-10	Land acquisition & Resettlement Specialist	Master in Civil Engineering with experience of social consideration
b-11	Procurement and Contract Engineer	B.Sc. / Civil Engineering
b-12	O&M Specialist	M.Sc. / Civil Engineering

Component 3-1

No.	Engineers	Requirement
International Engineer (Pro-A)		
a-7	Agriculture Support Services Specialist	M.Sc. / Agriculture
National Engineer (Pro-B)		
b-14	Agronomist/Field Extension Services Specialist	B.Sc. / Agriculture
b-15	Agriculture Training Specialist	B.Sc. / Agriculture

Consultant may propose other experts and supporting staffs required to accomplish the tasks outline in the ToR. It is the Consultant's responsibility to select the optimum team and to propose the professionals which he believes best meets the need of BWDB

I-2 Scope of works for the respective personnel

Detailed information on the major tasks and duties each member of the detailed engineering team shall perform is provided as follows:

Component 1

No.	Position	Major Tasks and Duties
a-1	Team Leader (River Engr) (Pro-A)	- Lead the detailed design task team. Ensure all deliverables are prepared in accordance with quality and time constraints. - Administer and supervise design and documentation activities for civil works contracts. - Liaise with JICA and BWBD, and coordinate project activities with both agencies.

No.	Position	Major Tasks and Duties
		- Plan and supervise the required surveys and investigations such as topographical survey, geotechnical survey, material availability survey, and baseline survey for project evaluation. - Prepare detailed work plan, progress reports and implementation schedule of the Project. - Prepare the detailed design of the Project. - Prepare the bidding documents of the Project. - Assist BWDB in the bidding procedure.
a-2	Soil Engineer (Pro-A)	- Plan and supervise the geotechnical survey and material availability survey. - Prepare the detailed design reports and drawings about geotechnical condition and soil. - Examine the suitability of locally available construction materials, especially the possibility of utilizing the material from re-excavation to embankment, and where necessary, locate new quarries and borrow pits and assess the quality and quantity of materials and hauling distance. - Analysis and establish the physical design value for stability analysis of the structures.
a-3	Hydraulic Engineer (Pro-A)	- Establish design criteria for hydraulic design. - Investigate the hydraulic conditions on the sites for the detailed design. - Collaborate with the sub-contractor to conduct hydraulic calculation. - Prepare the detailed design, drawings and hydraulic analysis..
a-4	Construction Plan / Cost Estimator (Pro-A)	- Investigate the site condition for examination of construction plan. - Prepare construction plan and schedule showing anticipated progress of works by contract packages. The schedules should reflect seasonal climatic effects at the work sites. - Investigate the local markets such as distributor of materials and machineries, contractor, agency of construction materials and machineries and grasping the market price for estimating the project cost. - Develop unit rate of construction for rehabilitation works and new construction works. - Prepare bills of quantities, and calculate detailed cost estimates for civil works, broken down into local components as well as taxes and duties.
a-5	Mechanical Engineer (Pro-A)	- Investigate existing conditions on the sites for the detailed design. - Investigate the local factories of gate fabricating for getting hold of capacity, quality, materials, etc. - Review and prepare the standard of gate type on the basis of BWDB standard. - Prepare the detailed design reports and drawings about metal works such as gate, gate gear and stoplog if necessary.
a-6	Safeguard Expert (Pro-A)	- Preparation of EIA/IEE including EMP and EMoP in accordance with Environmental Conservation Rules 1997 in Bangladesh; - Assist BWDB in dissemination and explanation of additionally confirmed and identified environmental issues to public

No.	Position	Major Tasks and Duties
		including holding public consultations; - Assist BWDB in obtaining Environmental Clearance from DOE in accordance with the planned implementation schedule; - During the preparation of bidding documents, clearly identify environmental responsibilities as explained in the EIA/IEE and EMP; - Prepare RAP as necessary based on detailed design in accordance with the agreed resettlement framework, coordinate with various agencies in preparing the procedures for timely land acquisition and disbursement of compensation to project affected persons (PAPs); - Assist BWDB in identifying and listing the eligible PAPs, preparing 'Payment Statement' for them, and recording the places of their relocation so that the executing agency will be able to monitor the income and living condition of the relocated persons; - Assist BWDB in conducting social assessment during early stage of the detailed design stage and review the existing income restoration plan and special assistance plan for vulnerable PAPs if necessary. - Assist in the preparation and review of the inception report, progress reports and ensure that these reports meet environmental and social requirements.
- National Engineer		
b-1	Co-team Leader (River Engineer) (Pro-B)	- Assist Team Leader with the detailed design task team. Ensure all deliverables are prepared in accordance with quality and time constraints. - Represent Team Leader in the no assignment period of Team Leader. - Liaise with JICA and BWBD, and coordinate project activities with both agencies. - Plan and supervise the required surveys and investigations such as topographical survey, geotechnical survey, material availability survey, and baseline survey for project evaluation. - Prepare detailed work plan, progress reports and implementation schedule of the Project. - Prepare the detailed design of the Project. - Prepare the bidding documents of the Project. - Assist BWDB in the bidding procedure. - Assist BWDB to prepare overall O&M guideline. - Assist BWDB to prepare specific O&M plan and manual for each-sub-project. - Assist the formation of water management organization (WMO) in coordination with BWDB's Extension Supervisors
b-2	Embankment Design Engineer (Pro-B)	- Investigate existing conditions on the sites for the detailed design. - Prepare the detailed design, drawings, structural analysis, quantity calculation and technical specifications especially for embankment design.
b-3	Structural Engineer (Pro-B)	- Establish design criteria for structural design. - Investigate the existing conditions of the structures to be rehabilitated. - Prepare the detailed design, drawings, structural analysis,

No.	Position	Major Tasks and Duties
		quantity calculation and technical specifications for structures including embankment, regulator, and re-excavation of canal.
b-4	Soil Engineer (Pro-B)	- Plan and supervise the geotechnical survey and material availability survey. - Prepare the detailed design reports and drawings about geotechnical condition and soil. - Examine the suitability of locally available construction materials, especially the possibility of utilizing the material from re-excavation to embankment, and where necessary, locate new quarries and borrow pits and assess the quality and quantity of materials and hauling distance. - Analysis and establish the physical design value for stability analysis of the structures. - Prepare the detailed design, drawing and technical specifications for foundation of embankment, regulator and re-excavation of canal.
b-5	Geodetic Engineer (Pro-B)	- Plan and supervise the topographic survey - Prepare the detailed design, drawings and technical specifications for topographic conditions of embankment, regulator and re-excavation of canal.
b-6	Hydraulic Engineer (Pro-B)	- Establish design criteria for hydraulic design. - Investigate the hydraulic conditions on the sites for the detailed design. - Collaborate with the sub-contractor to conduct hydraulic calculation. - Prepare the detailed design, drawings and hydraulic analysis..
b-7	Construction Plan / Cost Estimator (Pro-B)	- Investigate the site condition for examination of construction plan. - Prepare construction plan and schedule showing anticipated progress of works by contract packages. The schedules should reflect seasonal climatic effects at the work sites. - Investigate the local markets such as distributor of materials and machineries, contractor, agency of construction materials and machineries and grasping the market price for estimating the project cost. - Develop unit rate of construction for rehabilitation works and new construction works. - Prepare bills of quantities, and calculate detailed cost estimates for civil works, broken down into local components as well as taxes and duties.
b-8	Mechanical Engineer (Pro-B)	- Investigate existing conditions on the sites for the detailed design. - Investigate the local factories of gate fabricating for getting hold of capacity, quality, materials, etc. - Review and prepare the standard of gate type on the basis of BWDB standard. - Prepare the detailed design reports and drawings about metal works such as gate, gate gear and stoplog if necessary.
b-9	Environment Specialist (Pro-B)	- Prepare the draft of EIA/IEE including EMP and EMoP in accordance with Environmental Conservation Rules 1997 in Bangladesh; - Assist BWDB in dissemination and explanation of additionally confirmed and identified environmental issues to public

No.	Position	Major Tasks and Duties
		including holding public consultations; - Assist BWDB in obtaining Environmental Clearance from DOE in accordance with the planned implementation schedule; - During the preparation of bidding documents, clearly identify environmental responsibilities as explained in the EIA/IEE and EMP; - Assist in the preparation and review of the inception report, progress reports, and completion report and ensure that these reports meet environmental requirements.
b-10	Land acquisition and Resettlement Specialist (Pro-B)	- Prepare the draft of RAP as necessary based on detailed design in accordance with the agreed resettlement framework, including entitlement matrix and compensation plan; coordinate with various agencies in preparing the procedures for timely land acquisition and disbursement of compensation to project affected persons (PAPs); - Assist BWDB in identifying the eligible PAPs, and in preparation/updating of the list of eligible PAPs and 'Payment Statement' for individual eligible PAPs. The places where each eligible PAPs will relocate to are necessary to be recorded so that the Executing Agency could implement monitoring on income and living conditions of resettled persons; - Assist BWDB in conducting social assessment during early stage of the detailed design stage and review the existing income restoration plan and special assistance plan for vulnerable PAPs and revise/update the contents of the plans if necessary based on priorities identified with support of relevant government agencies and Non-Governmental Organizations (NGOs). - Assist in the preparation and review of the inception report, progress reports, and completion report and ensure that these reports meet social requirements.
b-11	Procurement and Contract Specialist (Pro-B)	- Prepare bid documents in compliance with appropriate procurement guidelines selected on the discussion with BWDB. Bid documents will be prepared for LCB for subprojects.
b-12	O&M Specialist (Pro-B)	- Provide training for BWDB field officers on formation method of water management organization (WMO), preparation of O&M manual. - Assist BWDB to prepare overall O&M guideline. - Assist BWDB to prepare specific O&M plan and manual for each-sub-project. - Assist BWDB to form WMO in coordination with BWDB's Assistant Extension Officers (AEOs) and Extension Overseers (EOs). - Assist BWDB to provide training programs to WMOs.

Component 3-1

No.	Position	Major Tasks and Duties
a-7	Agricultural Support Services Specialist (Pro-A)	- Prepare technical guideline and operation manuals for APSS and SIGs, - Review & update, if necessary, the overall work plan for APSS & SIGS prepared under the Preparatory Survey, - Prepare monitoring & evaluation forms for APSS & SIGS and

No.	Position	Major Tasks and Duties
		assist BWDB in establishing APSS & SIGS monitoring & evaluation system, - Assist BWDB in the preparation of APSS & SIGS Annual Work Plan,
b-14	Agronomist/Field Extension Services Specialist (Pro-B)	- Prepare technical guideline and operation manuals for APSS and SIGS, - Review & update, if necessary, the overall work plan for APSS & SIGS prepared under the Preparatory Survey, - Prepare monitoring & evaluation forms for APSS & SIGS and assist BWDB in establishing APSS & SIGS monitoring & evaluation system, - Assist BWDB in the preparation of APSS & SIGS Annual Work Plan, - Support the establishment & strengthening of coordination and collaboration system for the implementation of APSS & SIGS among BWDB and line agencies concerned,
b-15	Agricultural Training Specialist (Pro-B)	- Prepare technical guideline and operation manuals for APSS and SIGS, - Review & update, if necessary, the overall work plan for APSS & SIGS prepared under the Preparatory Survey, - Prepare monitoring & evaluation forms for APSS & SIGS and assist BWDB in establishing APSS & SIGS monitoring & evaluation system, - Assist BWDB in the preparation of APSS & SIGS Annual Work Plan, - Assist training of project field staff and staff of concerned line agencies on APSS & SIGS conducted by BWDB, - Support the establishment & strengthening of coordination and collaboration system for the implementation of APSS & SIGS among BWDB and line agencies concerned,

II Supervision Stage

For component-1, 1 of Professional(A) consultants and 5 of Professional (B) consultants will be engaged over 66 months' duration of the consulting services, for a total of 28 man-months for Professional (A) and 146 man-months for Professional (B) consultants, respectively. Total consulting input is 174 man-months. For component 3-1, 1 of Professional(A) (hereinafter referred to as 'Pro-A') consultants and 2 of Professional (B) (hereinafter referred to as 'Pro-B') consultants will be engaged over 66 months' duration of the consulting services, for a total of 5 man-months for Professional(A) and 76 man-months for Professional (B) consultants, respectively. Total consulting input is 81 man-months. A detailed schedule of consulting services and distribution of man-months is shown in A12.1.2.

II-1 Qualification of key team members (Pro-A)

(1) Component 1

1) Team Leader (Construction Management Specialist) (Pro-A)

The Team Leader / Construction Management Specialist should have at least fifteen (15) years of experience in construction supervision, and operation and maintenance of flood control/river improvement project. He / she should have experiences as team leader and/or deputy team leader in similar project for at least five (5) years.

2) Co-team Leader (Construction Management Specialist) (Pro-B)

The Co-team Leader / Construction Management Specialist should have at least 20 years of experience in construction supervision, and operation and maintenance of flood control/river improvement project. He / she should have experiences of projects in the Haor area for at least 5 years.

3) Supervisor (Pro-B)

The Supervisor should have at least 15 years of experience in construction supervision of flood control/river improvement project.

4) Environmental Specialist (Pro-B)

Environmental Specialist will have at least 15 years of experience in preparing EIA/IEE in accordance with the rules and guideline in Bangladesh.

5) Land Acquisition and Resettlement Specialist (Pro-B)

Land Acquisition and Resettlement Specialist will have at least 15 years of experience in preparing RAP and assisting implementation agencies in land acquisition and resettlement. He/she will have experiences of at least one project in the Haor area.

6) O&M Specialist (Pro-B)

O&M Specialist will have at least 15 years of experience in O&M of flood mitigation or water resource management facilities. He/she will have experiences of at least one similar project in the Haor area.

(2) Component 3-1

1) Agricultural Support Services Specialist (Pro-A)

The Agricultural Support Services Specialist will have Experiences in overseas agriculture development projects: 15 years or more and experience in agricultural support services activities: 5 years or more

2) Agronomist/Field Extension Services Specialist: Pro-B

The Agronomist/Field Extension Services Specialist will have at least 15 years of experience in agricultural promotion support and income generation support project. He/she will have at

least 3 years of experience of project in the Haor area.

3) Agricultural Training Specialist: Pro-B

The Agricultural Training Specialist will have at least 15 years of experience in agricultural promotion support and income generation support project. He/she will have at least 3 years of experience of project in the Haor area.

The requirements for education and specialty are as follows;

Component 1

No.	Engineers	Requirement
International Engineer (Pro-A)		
a-1	Team Leader	M.Sc. / Civil Engineering
National Engineer (Pro-B)		
b-1	Co-Team Leader	M. Sc. / Civil Engineer
b-9	Environment & Social Specialist	Master in Civil Engineer with experience of environmental and social consideration
b-10	Land acquisition & Resettlement Specialist	Master in Civil Engineering with experience of social consideration
b-12	O&M Specialist	M.Sc. / Civil Engineering
b-13	Supervisor	B.Sc. / Civil Engineering

Component 3-1

No.	Engineers	Requirement
International Engineer (Pro-A)		
a-7	Agriculture Support Services Specialist	M.Sc. / Agriculture
National Engineer (Pro-B)		
b-14	Agronomist/Field Extension Services Specialist	B.Sc. / Agriculture
b-15	Agriculture Training Specialist	B.Sc. / Agriculture

Consultant may propose other experts and supporting staffs required to accomplish the tasks outline in the ToR. It is the Consultant's responsibility to select the optimum team and to propose the professionals which he believes best meets the need of BWDB

II-2 Scope of works for the respective personnel

Detailed information on the major tasks and duties each member of the construction supervision team shall perform is provided as follows:

(1) Component-1

No.	Position	Major Tasks and Duties
- Foreign Engineer		
a-1	Team Leader (Pro-A)	- Lead the construction supervision task teams. Ensure all deliverables are prepared in accordance with quality and time constraints. - Administer and supervise design and documentation activities for civil works contracts. - Liaise with JICA and BWDB, and coordinate project activities with both agencies. - Assist BWDB in the bidding procedure. - Establish construction management system. - Review the proposals submitted by the contractors which include work program, method statements, material sources, manpower and equipment deployment. - Monitor physical and financial progress against the milestones. - Supervise the works so that all the contractual requirement will be met by the contractors. - Provide assistance to BWDB in issuing interim and final payment certificates and in preparing loan withdrawal documentation for submission to JICA through PMO.
- Local Engineer		
b-1	Co-Team Leader (Pro-B)	- Assist Team Leader with the construction supervision task team. Ensure all deliverables are prepared in accordance with quality and time constraints. - Represent Team Leader in the no assignment period of Team Leader. - Liaise with JICA and BWDB, and coordinate project activities with both agencies. - Administer and supervise design and documentation activities for civil works contracts. - Assist BWDB in the bidding procedure. - Establish construction management system. - Review the proposals submitted by the contractors which include work program, method statements, material sources, manpower and equipment deployment. - Monitor physical and financial progress against the milestones. - Supervise the works so that all the contractual requirement will be met by the contractors. - Provide assistance to BWDB in issuing interim and final payment certificates for submission to BWDB, and in preparing loan withdrawal documentation for submission to JICA through PMO. - Update the O&M manual to incorporate specific issues for the O&M of flood management infrastructure in the haor areas based on the experience of the Project
b-13	Supervisor 1 (Pro-B)	- Assist BWDB to provide the contractors with all necessary survey data and reference for setting out the works. - Maintain regular estimates of the cost to completion and time to completion for each contract. - Keep full and detailed permanent site records, which will include site correspondence, survey data, quality acceptance data, day work

No.	Position	Major Tasks and Duties
		records, site diaries, measurement and other - Assist Supervisor (Pro-A) for managing quantity and cost. - Prepare data presented in regular monthly progress reports. - Provide measurement and inspection data required for interim payments. - Provide the contractors with all necessary survey data and reference for setting out the works. - Ensure that as-built drawings are prepared for construction works. - Attend the periodical site inspection during the defects liability period. - Undertake day-to-day field contract supervision, quality control and measurements at the site. - Receive, assess and approve the contractors' implementation work plans and programs. - Ensure that the construction works are executed in accordance with all the provisions of the contract, including those concerning standards of workmanship, and other safety provisions and protection of the environment. - Provide assistance to BWDB to Approve or disapprove the materials to be used by the contractors in accordance with the contract and technical specifications. - Assist in preparing quality assurance reports to be submitted monthly or attached to the interim certificates, if so required. - Assist water management organizations (MWOs) in trial operation and maintenance activities
b-9	Environment Specialist (Pro-B)	- Assist BWDB to review the Construction Contractor's Environmental Program to be prepared by the contractor in accordance with EMP, relevant plans and JICA Environmental Guidelines and to make recommendations to BWDB regarding any necessary amendments for its approval; - Assist BWDB to implement the measures identified in the EMP; - Monitor the effectiveness of EMP and negative impacts on environment caused by the construction works and provide technical advice, including a feasible solution, so that BWGB can improve situation when necessary; - Assist BWDB in monitoring the compliance with conditions stated in the EPC and the requirements under EMP and JICA Environmental Guidelines;
b-10	Land acquisition and Resettlement Specialist (Pro-B)	- Assist BWDB to implement the measures identified in the revised RAP; - Monitor land acquisition and compensation activities being undertaken by BWDB and/or competent authorities, and report the results in monthly progress reports; - Assist in procurement of Implementation NGO (INGO); - Assist BWDB in facilitating stakeholder's participation (including focus group discussions for vulnerable PAPs) and providing feedback their comments on RAP; - Assist BWDB in establishment of grievance redress mechanism including formation of Grievance Redress Committee; - Assist BWDB to ensure that the PAPs are fully aware of the grievance redress procedure and the process of bringing their complaints, investigate the veracity of the complaints, and recommends actions/measures to settle them amicably, fairly and

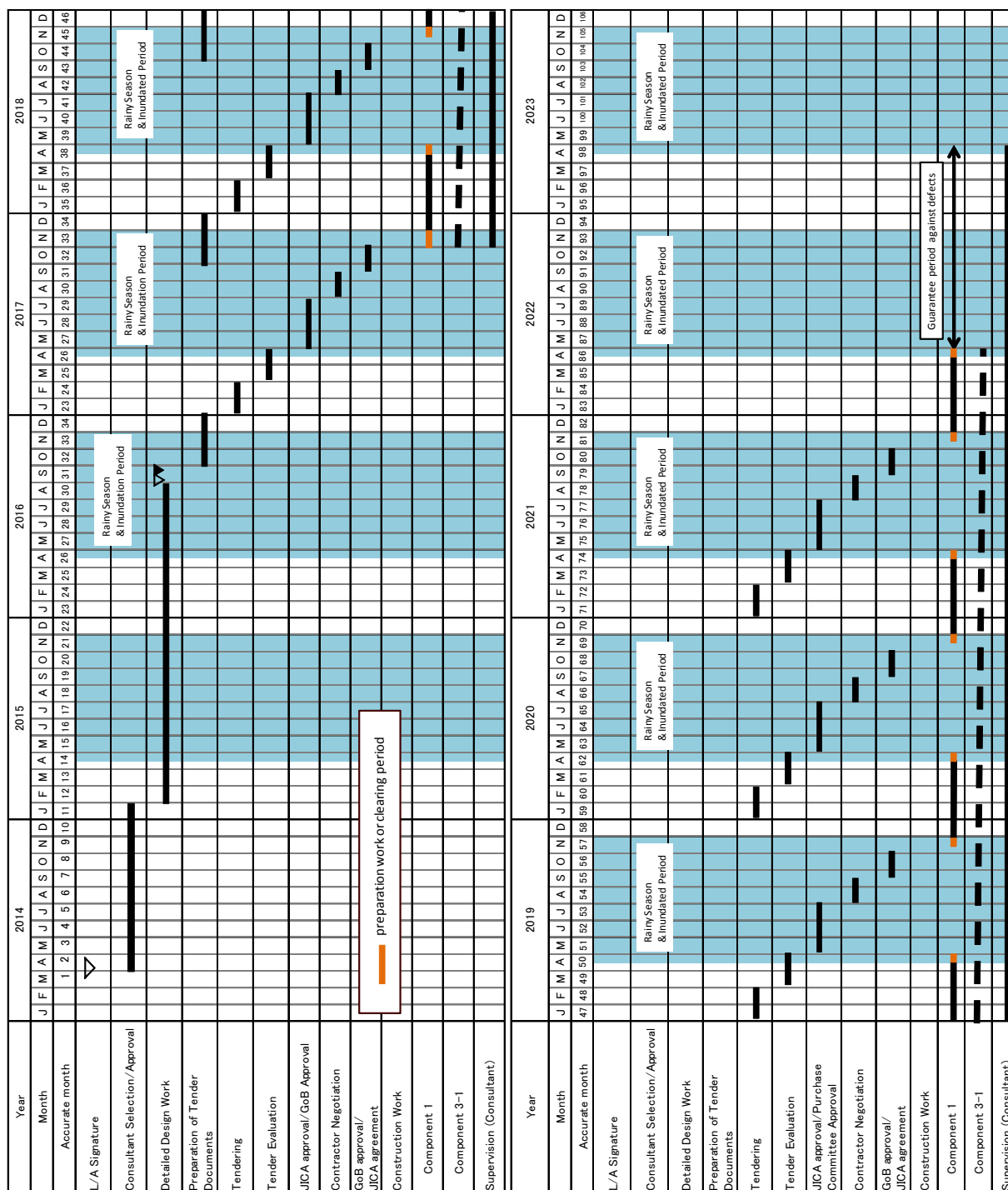
No.	Position	Major Tasks and Duties
		transparently before they go to the redress committee or the courts of law; and - Provide technical services with grievance redress committee for keeping and updating records when necessary.
b-12	O&M Specialist (Pro-B)	- Assist BWDB to provide training and support for WMO in one year trial O&M works.

Component-3

No.	Position	Major Tasks and Duties
a-7	Agricultural Support Services Specialist (Pro-A)	- Prepare technical guideline and operation manuals for APSS and SIGS, - Implement mid-term review on APSS & SIGS and assist the preparation of the overall work plan of APSS & SIGS for the remaining period, - Assist the implementation agency in the preparation of APSS & SIGS Annual Work Plan, - Assist training of project field staff and staff of concerned line agencies on APSS & SIGS conducted by BWDB, - Support the establishment & strengthening of coordination and collaboration system for the implementation of APSS & SIGS among BWDB and line agencies concerned, - Assist and advise the execution of the overall implementation of APSS & SIGS, - Assist the monitoring & evaluation of APSS & SIGS conducted by BWDB, - Preparation of annual status report on APSS & SIGS, and - Preparation of completion report on APSS & SIGS..
b-14	Agronomist/Field Extension Services Specialist (Pro-B)	- Prepare technical guideline and operation manuals for APSS and SIGS, - Review & update, if necessary, the overall work plan for APSS & SIGS prepared under the Preparatory Survey, - Implement mid-term review on APSS & SIGS and assist the preparation of the overall work plan of APSS & SIGS for the remaining period, - Assist BWDB in the preparation of APSS & SIGS Annual Work Plan, - Assist training of project field staff and staff of concerned line agencies on APSS & SIGS conducted by BWDB, - Assist and advise the execution of the overall implementation of APSS & SIGS, - Assist the monitoring & evaluation of APSS & SIGS conducted BWDB, - Preparation of annual status report on APSS & SIGS, and - Preparation of completion report on APSS & SIGS.
b-15	Agricultural Training Specialist (Pro-B)	- Prepare technical guideline and operation manuals for APSS and SIGS, - Review & update, if necessary, the overall work plan for APSS & SIGS prepared under the Preparatory Survey, - Implement mid-term review on APSS & SIGS and assist the preparation of the overall work plan of APSS & SIGS for the remaining period, - Assist BWDB in the preparation of APSS & SIGS Annual Work Plan, - Assist training of project field staff and staff of concerned line

No.	Position	Major Tasks and Duties
		agencies on APSS & SIGS conducted by BWDB, - Assist and advise the execution of the overall implementation of APSS & SIGS, - Assist the monitoring & evaluation of APSS & SIGS conducted by BWDB, - Support BWDB in formation and empowerment of farmer groups/community organizations under APSS and SIGS and empowerment of existing farmer groups/cimmunity organization, - Preparation of annual status report on APSS & SIGS, and - Preparation of completion report on APSS & SIGS.

A12.1.2 Time Table



Detailed Design Stage Men-Months Schedule

Position	2015 Year-2												2016 Year-3												2017 Year-4												Total
	2015 Year-2												2016 Year-3												2017 Year-4												
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
Component-1 (Flood Control)																																					
a 1 Team Leader (River Eng. Proc & Contract)																																					
a 2 Soil Engineer																																					
a 3 Hydraulic Engineer																																					
a 4 Construction Plan & Cost Estimator																																					
a 5 Mechanical Engineer																																					
a 6 Safe Guard Expert																																					
b 1 Co-Team Leader (River Engineer)																																					
b 2 Embankment design Engineer																																					
b 3 Structure Engineer																																					
b 4 Soil Engineer																																					
b 5 Geodetic Engineer																																					
b 6 Hydraulic Engineer																																					
b 7 Construction Plan & Cost Estimator																																					
b 8 Mechanical Engineer																																					
b 9 Environment Specialist																																					
b 10 Land acquisition & Resettlement Specialist																																					
b 11 Procurement and Contract Engineer																																					
b 12 O&M Specialist																																					
Component-3-1(Agriculture Promotion)																																					
a 7 Agriculture Support Services Specialist																																					
b 14 Agronomist/Field Extension Services Specialist																																					
b 15 Agriculture Training Specialist																																					

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A12.2.1 STAFFING AND QUALIFICATION

I Detailed Design Stage

For component-2, 1 of Professional (A) (hereinafter referred to as 'Pro-A') consultants and 8 of Professional (B) (hereinafter referred to as 'Pro-B') consultants will be engaged over 28 months' duration of the consulting services, for a total of 9 man-months for Professional(A) and 69 man-months for Professional (B) consultants for component-2, respectively. Total consulting input is 78 man-months. For component 3-2, 2 of Professional (B) (hereinafter referred to as 'Pro-B') consultants will be engaged over 67 months' duration of the consulting services, for a total of 100 man-months for Professional (B) consultants. A detailed schedule of consulting services and distribution of man-months is shown in A12.2.2.

I-1 Qualification of key team members (Pro-A)

(1) Component 2

1) Team Leader (Civil Engineer/Natural Resource Management) : Pro-A

The Team Leader (Civil Engineer/Natural Resource Management) will have at least fifteen (15) years of experience in study or detailed engineering design of new or improvement of rural infrastructure project and at least five (5) years of experience in study of natural resource management for livelihood improvement. He / she will have experiences as team leader and/or deputy team leader in similar project at least five (5) years.

2) Co-team Leader (Civil Engineer/Management Consultant : Pro-B

The Co-Team Leader (Civil Engineer/Management Consultant) will have at least 20 years of experience in study and detailed engineering design of rural infrastructure project and at least 5 years of experience in study of natural resource management for livelihood improvement. He/she will have experiences of projects in the Haor area at least for 5 years.

3) Structure Engineer : Pro-B

Structure Engineer will have at least 10 years of experience in detail design of reinforced concrete works.

4) Soil Engineer : Pro-B

Soil Engineer will have at least 10 years of experience in foundation ground survey and soil investigation.

5) Environmental Specialist : Pro-B

Environmental Specialist will have at least 15 years of experience in preparing EIA/IEE in accordance with the rules and guideline in Bangladesh.

6) Land Acquisition and Resettlement Specialist : Pro-B

Land Acquisition and Resettlement Specialist will have at least 15 years of experience in preparing RAP and assisting implementation agencies in land acquisition and resettlement. He/she will have experiences of at least one project in the Haor area.

7) Procurement and Contract Specialist : Pro-B

Procurement and Contract Specialist will have at least 15 years of experience in preparing tender document, evaluation of bidder and preparing contract document.

(2) Component-2

1) Aquatic Biodiversity and Community Based Fishery Management Specialist : Pro-B

The Aquatic Biodiversity and Community Based Fishery Management Specialist will have at least 15 years of experience in fishery promotion support for income generating activities project. He/she will have at least 3 years of experience of project in the Haor area.

2) Fishery Livelihood & Management Specialist : Pro-B

The Fishery Livelihood & Management Specialist will have at least 15 years of experience in fishery promotion support for income generating activities project. He/she will have at least 3 years of experience of project in the Haor area.

The requirements for education and specialty are as follows;

Component 2

No.	Engineers	Requirement
International Engineer (Pro-A)		
a-1	Team Leader (Civil Engineer/Natural Resource Management)	M.Sc. / Civil Engineering with experience of natural resource management
National Engineer (Pro-B)		
b-1	Co-Team Leader (Civil Engineer/Management Consultant)	M.Sc. / Civil Engineering
b-2	Structure Engineer	M.Sc. / Civil Engineering
b-3	Soil Engineer	M.Sc. / Soil Engineering or Geotechnical Engineer
b-4	Environmental Specialist	Master in Civil Engineer with experience of environmental consideration
b-5	Land Acquisition & Resettlement Specialist	Master in Civil Engineering with experience of social consideration
b-6	Procurement and Contract Engineer	B.Sc. / Civil Engineering

Component 3-2

No.	Engineers	Requirement
International Engineer (Pro-A)		
National Engineer (Pro-B)		
b-1	Aquatic Biodiversity & Fisheries Management Specialist	M.Sc. / Fishery
b-2	Fisheries Livelihood & Management Specialist	M.Sc. / Fishery

Consultant may propose other experts and supporting staffs required to accomplish the tasks outline in the ToR. It is the Consultant's responsibility to select the optimum team and to propose the professionals which he believes best meets the need of LGED

I-2 Scope of works for the respective personnel

Detailed information on the major tasks and duties each member of the detailed engineering team shall perform is provided as follows:

(1) Component 2

No.	Position	Major Tasks and Duties
- Foreign Engineer		
a-1	Team Leader (Civil Engr/Natural Resource Management) (Pro-A)	- Lead the detailed design task and national resource management activities. Ensure all deliverables are prepared in accordance with quality and time constraints. - Administer and supervise design and documentation activities for civil works and fishery promotion works contracts. - Liaise with JICA and LGED, and coordinate project activities with both agencies. - Prepare detailed work plan, progress reports and implementation schedule of the Project. - Prepare the detailed design of the Project. - Prepare the bidding documents of the Project. - Assist LGED in the bidding procedure.
- National Engineer		
b-1	Co-team Leader (Civil Engineer/Management Consultant) (Pro-B)	- Assist Team Leader with the detailed design task and national resource management activities. Ensure all deliverables are prepared in accordance with quality and time constraints. - Represent Team Leader in the no assignment period of Team Leader. - Liaise with JICA and LGED, and coordinate project activities with both agencies. - Prepare detailed work plan, progress reports and implementation schedule of the Project. - Prepare the detailed design of the Project. - Prepare the bidding documents of the Project. - Assist LGED in the bidding procedure.
b-2	Structural Engineer (Pro-B)	- Establish design criteria for structural design. - Prepare the technical specification of topographic survey, procure and supervise the contractor for topographic survey. - Investigate the existing conditions of the structures to be rehabilitated. - Prepare the detailed design, drawings, structural analysis, quantity calculation and technical specifications for structures including bridges and drainage structures.
b-3	Soil Engineer (Pro-B)	- Prepare the technical specification of geotechnical survey and soil investigation, procure and supervise the contractor for geotechnical survey and soil investigation.

No.	Position	Major Tasks and Duties
		- Prepare the detailed design reports and drawings about geotechnical condition and soil. - Examine the suitability of locally available construction materials. - Analysis and establish the physical design value for stability analysis of the structures. - Prepare the detailed design, drawings and technical specifications for foundation of road and structures.
b-4	Environment Specialist (Pro-B)	- Prepare the draft of EIA/IEE including EMP and EMoP in accordance with Environmental Conservation Rules 1997 in Bangladesh; - Assist LGED in dissemination and explanation of additionally confirmed and identified environmental issues to public including holding public consultations; - Assist LGED in obtaining Environmental Clearance from DOE in accordance with the planned implementation schedule; - During the preparation of bidding documents, clearly identify environmental responsibilities as explained in the EIA/IEE and EMP;
b-5	Land acquisition and Resettlement Specialist (Pro-B)	- Prepare the draft of RAP as necessary based on detailed design in accordance with the agreed resettlement framework, including entitlement matrix and compensation plan; coordinate with various agencies in preparing the procedures for timely land acquisition and disbursement of compensation to project affected persons (PAPs); - Assist LGED in identifying the eligible PAPs, and in preparation/updating of the list of eligible PAPs and 'Payment Statement' for individual eligible PAPs. The places where each eligible PAPs will relocate to are necessary to be recorded so that the Executing Agency could implement monitoring on income and living conditions of resettled persons; - Assist LGED in conducting social assessment during early stage of the detailed design stage and review the existing income restoration plan and special assistance plan for vulnerable PAPs and revise/update the contents of the plans if necessary based on priorities identified with support of relevant government agencies and Non-Governmental Organizations (NGOs).
b-6	Procurement and Contract Specialist (Pro-B)	- Prepare bid documents in compliance with appropriate procurement guidelines selected on the discussion with LGED. Bid documents will be prepared for LCB for subprojects.

(2) Component 3-2

No.	Position	Major Tasks and Duties
b-13	Aquatic Biodiversity and Community Based Fishery Management Specialist (Pro-B)	- Review & update the overall work plan for Community Resource Management (CRM) and Livelihood Enhancement (income generating activities) prepared by the Implementing organization and supported by respective line agencies. - The formulation of fishers' community/groups for resource management and income generation (livelihood) activities. - Guide and supervise project staff on program designing and implementation. - Plan and promote appropriate technologies for better management of beel resources such as improved conservation, efficient

No.	Position	Major Tasks and Duties
		harvesting, value adding through processing (drying), better marketing to assist beneficiaries to get higher income. - Prepare technical guideline and operation manuals for community resource management (CRM) and livelihood component. - The project monitoring and evaluation in collection of baseline, impact and other monitoring data/information - Prepare report of the process and progress of the component - Provide technical and supervisory services to PMO/PIU/PUO for better implementation of the components. - Initiate measures for restoring/conserving the fish habitat, and plan to introduce improved technologies for increasing production of beel fisheries with sustainability. - Review and examine the survey implemented by knowledge management team, etc. for the progress of beel production and fish species diversity. - Train staff and fisher community in sustainable open water fisheries management. - Coordinate with external survey/study of beel fish production and biodiversity. - Arrange workshop and seminar for knowledge sharing on beel resource management and aquaculture activities in flood plain areas.
b-14	Fisheries Livelihood & Management Specialist (Pro-B)	- Provide technical and supervisory services to PMO/PIU/PUO for better implementation of the components. - Prepare annual work plan and implementation manual and training modules - Conduct survey for livelihoods needs, and plan to initiate the activities considering the conditions of the project areas (locations and sites). - Assist PMO/PIU in preparing program on improving the profit benefit share or maximization of the poor stakeholders in fisheries value chain (activities such as to fish traders, input suppliers, etc.) - Prepare guideline to establish linkage with producers (fishers/farmers) and entrepreneurs - Prepare manual and training modules to improve the capacity of the beneficiaries to achieve the project objectives. - Initiate proper methods for effective dissemination of technologies and improved production - Coordinate with project staff and stakeholders, and assist in arranging training/workshops/seminars. - Prepare process documents and progress reports.

II Supervision Stage

2 of Professional(A) consultants and 9 of Professional (B) consultants will be engaged over 66 months' duration of the consulting services, for a total of 15 man-months for Professional(A) and 158 man-months for Professional (B) consultants, respectively. Total consulting input is 173 man-months. A detailed schedule of consulting services and distribution of man-months is shown in Attachment -3.

II-1 Qualification of key team members (Pro-A)

1) Team Leader (Civil Engineer/Natural Resource Management) : Pro-A

The Team Leader / Construction Management Specialist should have at least fifteen (15) years of experience in construction supervision in rural infrastructure works and structures and at least five (5) years of experience in study of natural resource management for livelihood improvement. He / she should have experiences as team leader and/or deputy team leader in similar project for at least five (5) years.

2) Knowledge Management Expert : Pro-A

The Knowledge Management Expert will have at least ten (10) years of experience in knowledge management regarding community resource management, natural resource management participation of women.

3) Co-team Leader (Civil Engineer/Management Consultant) : Pro-B

The Co-Team Leader (Civil Engineer/Management Consultant) will have at least 20 years of experience in construction supervision of rural infrastructure project and at least 5 years of experience in study of natural resource management for livelihood improvement. He/she will have experiences of projects in the Haor area at least for 5 years.

4) Quality Control Specialist : Pro-B

Quality Control Specialist will have at least 15 years of experience in construction supervision and quality control of rural infrastructure project.

5) Supervisor : Pro-B

The Supervisor should have at least 10 years of experience in construction supervision of rural infrastructure project.

6) Infrastructure Management Specialist : Pro-B

The Infrastructure Management Specialist should have at least 15 years of experience in infrastructure management. He/she will have experience of at least one project of LCS in the Haor area.

7) Knowledge Management Specialist : Pro-B

The Knowledge Management Specialist will have at least 10 years of experience in knowledge management regarding community resource management, natural resource management participation of women.

8) Gender Specialist : Pro-B

The Gender Specialist will have at least 10 years of experience in equality of the sexes and participation of women.

9) Monitoring and Evaluation Specialist : Pro-B

The Monitoring and Evaluation Specialist will have at least 15 years of experience in monitoring and evaluation activities in rural infrastructure projects

10) Environmental Specialist : Pro-B

Environmental Specialist will have at least 15 years of experience in preparing EIA/IEE in accordance with the rules and guideline in Bangladesh.

11) Land Acquisition and Resettlement Specialist : Pro-B

Land Acquisition and Resettlement Specialist will have at least 15 years of experience in preparing RAP and assisting implementation agencies in land acquisition and resettlement. He/she will have experiences of at least one project in the Haor area.

The requirements for education and specialty are as follows;

Component 2

No.	Engineers	Requirement
International Engineer (Pro-A)		
a-1	Team Leader (Civil Engineer/Natural Resource Management)	M.Sc. / Civil Engineering with experience of natural resource management
a-2	Knowledge Management Expert	Master in Sociology
National Engineer (Pro-B)		
b-1	Co-Team Leader (Civil Engineer/Management Consultant)	M.Sc. / Civil Engineering
b-4	Environmental Specialist	Master in Civil Engineer with experience of environmental consideration
b-5	Land Acquisition & Resettlement Specialist	Master in Civil Engineering with experience of social consideration
b-7	Quality Control Specialist	B.Sc. / Civil Engineering
b-8	Supervisor	B.Sc. / Civil Engineering
b-9	Infrastructure Management Specialist	B.Sc. / Civil Engineering
b-10	Knowledge Management Specialist	Master in Sociology
b-11	Gender Specialist	Master in Sociology
b-12	Monitoring and Evaluation Specialist	Master in Civil Engineer with experience of environmental and social consideration

Consultant may propose other experts and supporting staffs required to accomplish the tasks outline in the ToR. It is the Consultant's responsibility to select the optimum team and to propose the professionals which he believes best meets the need of LGED

II-2 Scope of works for the respective personnel

Detailed information on the major tasks and duties each member of the construction supervision team shall perform is provided as follows:

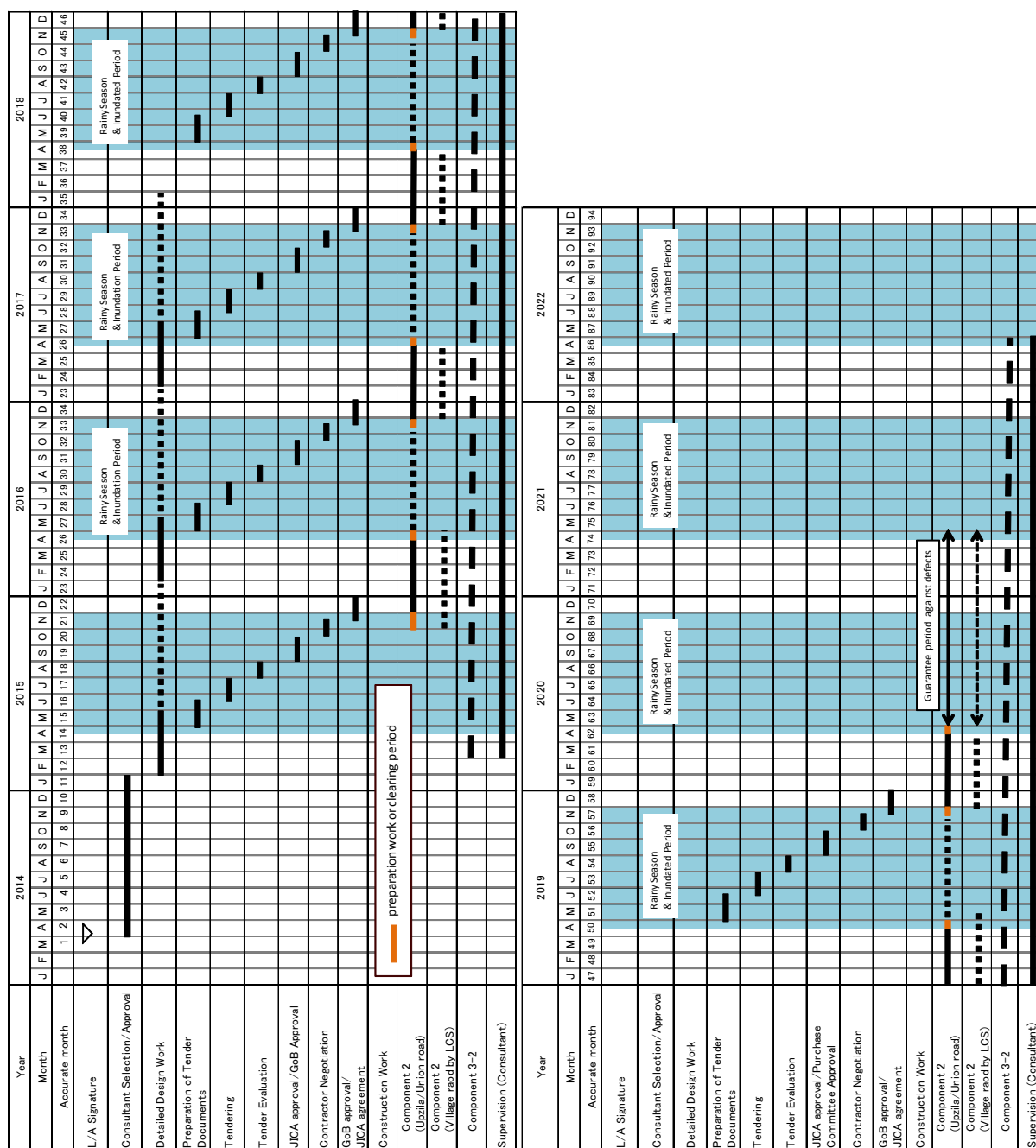
(1) Component 2

No.	Position	Major Tasks and Duties
- Foreign Engineer		
a-1	Team Leader (Pro-A)	- Lead the construction supervision task teams. Ensure all deliverables are prepared in accordance with quality and time constraints. - Administer and supervise design and documentation activities for civil works contracts. - Liaise with JICA and LGED, and coordinate project activities with both agencies. - Assist LGED in the bidding procedure. - Establish construction management system. - Review the proposals submitted by the contractors which include work program, method statements, material sources, manpower and equipment deployment. - Monitor physical and financial progress against the milestones. - Supervise the works so that all the contractual requirement will be met by the contractors. - Provide assistance to LGED in issuing interim and final payment certificates, and in preparing loan withdrawal documentation for submission to JICA through PMO.
a-2	Knowledge Management Expert	- Collecting project data, information and results regarding formation and management of LCS, community resource management, natural resource management, participatory of women, monitoring and evaluation - Reporting lesson learn drawn from the data, information and results mentioned above to disseminate the experiences to future projects.
- Local Engineer		
b-1	Co-Team Leader (Pro-B)	- Assist Team Leader with the construction supervision task team. Ensure all deliverables are prepared in accordance with quality and time constraints. - Represent Team Leader in the no assignment period of Team Leader. - Liaise with JICA and LGED, and coordinate project activities with both agencies. - Administer and supervise design and documentation activities for civil works contracts. - Assist LGED in the bidding procedure. - Establish construction management system. - Review the proposals submitted by the contractors which include work program, method statements, material sources, manpower and equipment deployment. - Monitor physical and financial progress against the milestones. - Supervise the works so that all the contractual requirement will be met by the contractors. - Provide assistance to LGED in issuing interim and final payment certificates for submission to LGED, and in preparing loan withdrawal documentation for submission to JICA through PMO.
b-7	Quality Control Specialist (Pro-B)	- Advise and assist in formulating and operationalizing effective quality control systems for implementing; - Review design and construction quality control systems, propose improvements to ensure that the systems are functioning as designed; - Review and assess current practices and standards applied by LGED

No.	Position	Major Tasks and Duties
		for (a) design and construction management including contract administration, scheduling, supervision, quality control, quantity and quality recording at key stages at the field level, and (b) internal financial and engineering auditing arrangements at the supervisory level including the arrangements for reporting and for taking corrective measures, based on the review of guidelines and manuals used by LGED and on an examination of field practice; - Assist and review the training programmes and training materials on design, construction, quality control system and maintenance issues for LGED personal and LCS member and different levels needed for the project. - Assist PMO in construction monitoring check.
b-8	Supervisor (Pro-B)	- Assist LGED to provide the contractors with all necessary survey data and reference for setting out the works. - Maintain regular estimates of the cost to completion and time to completion for each contract. - Keep full and detailed permanent site records, which will include site correspondence, survey data, quality acceptance data, day work records, site diaries, measurement and other - Managing quantity and cost. - Assist the engineer and engineer's representative for assessing contractor's claims. - Prepare data presented in regular monthly progress reports. - Provide measurement and inspection data required for interim payments. - Ensure that as-built drawings are prepared for construction works. - Undertake day-to-day field contract supervision, quality control and measurements at the site. - Receive, assess and approve the contractors' implementation work plans and programs. - Ensure that the construction works are executed in accordance with all the provisions of the contract, including those concerning standards of workmanship, and other safety provisions and protection of the environment. - Provide assistance to LGED to approve or disapprove the materials to be used by the contractors in accordance with the contract and technical specifications. - Assist in preparing quality assurance reports to be submitted monthly or attached to the interim certificates, if so required.
b-9	Infrastructure Management Specialist (Pro-B)	- Assist LGED in formation of LCS and prepare contract document for LCS. - Training LGED staff and LCS members for construction and maintenance of structures. - Report on infrastructure management by LCS related to knowledge management.
b-10	Knowledge Management Specialist (Pro-B)	- Accumulating and Collecting project data, information and results regarding formation and management of LCS, community resource management, natural resource management, participatory of women, monitoring and evaluation - Report lesson learns drawn from the information above for dissemination of the experiences to future projects.
b-11	Gender Specialist (Pro-B)	- Prepare a strategy to provide opportunities to socially isolated and poor women to access special quotas in employment and services

No.	Position	Major Tasks and Duties
		generated by the project. - Monitoring on women's participation to the project and access to social services and infrastructure generated by the project. - Report on lesson learns regarding assessment for gender issues and improvement in the project related to knowledge management.
b-12	Monitoring and Evaluation Specialist (Pro-B)	- Review and provide recommendations regarding the monitoring and evaluation, and determine the optimum type of monitoring program for project implementation. - Design a monitoring system based on measurable inputs, outputs and outcomes. The system shall include road traffic, market, household and bio-diversity characteristics survey. - Assist in recruiting guiding an agency or institution to undertake baseline survey and monitoring activity. - Periodically review monitoring activities during project implementation. - Review subproject profile including baseline data and detail design for construction works from the viewpoint of project monitoring and evaluation. - Assist in the preparation and review of the inception report, progress reports, and completion report and ensure that these reports meet monitoring and evaluation requirements.
b-4	Environmental Specialist (Pro-B)	- Assist LGED to review the Construction Contractor's Environmental Program to be prepared by the contractor in accordance with EMP, relevant plans and JICA Environmental Guidelines and to make recommendations to LGED regarding any necessary amendments for its approval; - Assist LGED to implement the measures identified in the EMP; - Monitor the effectiveness of EMP and negative impacts on environment caused by the construction works and provide technical advice, including a feasible solution, so that LGED can improve situation when necessary; - Assist LGED in monitoring the compliance with conditions stated in the EC and the requirements under EMP and JICA Environmental Guidelines;
b-5	Land acquisition and Resettlement Specialist (Pro-B)	- Assist LGED to implement the measures identified in the revised RAP; - Monitor land acquisition and compensation activities being undertaken by LGED and/or competent authorities, and report the results in monthly progress reports; - Assist in procurement of Implementation NGO (INGO).; - Assist LGED in facilitating stakeholder's participation (including focus group discussions for vulnerable PAPs) and providing feedback their comments on RAP; - Assist LGED in establishment of grievance redress mechanism including formation of Grievance Redress Committee; - Assist LGED to ensure that the PAPs are fully aware of the grievance redress procedure and the process of bringing their complaints, investigate the veracity of the complaints, and recommends actions/measures to settle them amicably, fairly and transparently before they go to the redress committee or the courts of law; and - Provide technical services with grievance redress committee for keeping and updating records when necessary.

A12.2.2 Time Table



[illegible]

Supervision Stage Men-Months
Schedule

Appendixes 13.1 to 13.14

Appendix 13 Economic and Financial Analysis

Appendix 13.1: 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
14. Economic farm gate price			20.4

*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 13.2: 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/Ta xi	Auto Ricksh	Motor Cycle	Bycyle	Ricksh aw/van	Cart		
					Difference of Economic VOC between IRI 4 and 16 (TK/km)	14.34	26.11	16.55	10.26	2.06	0.96	2.22	3.32	8.68		
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	3,414	
4	2-4	Netrokona	Purbadhala	372833012	Ghagra UP (Kapashia)-Jaria Bazar road via Katwari	0	0	0	0	0	16	79	51	0	131	
5	3-64	Sunamganj	Sunamganj-Sadar	690892009	R&H (Rabarbari)-Baishber-Joynagar GC	0	0	28	0	36	70	144	209	0	591	
6	4-100	Habiganj	Baniachang	636112007	Kadir Gonj Gc-Paharpur Gc Via Karcha	0	0	0	0	5	30	158	162	75	576	
7	4-105	Habiganj	Baniachang	636113017	Bithangal Gc-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	22	
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 Dunga	128	8	166	38	412	350	395	569	30	3,428	
11	1-21	Kishoreganj	Austagram	348022002	Austagram-Mitamoim Road	0	0	66	0	70	37	38	64	53	741	
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	863	
13	1-4	Kishoreganj	Pakundia	348793007	Pakundia UP-Mosua hat via Saluadi	38	1	44	4	3	66	126	142	11	824	
14	1-9	Kishoreganj	Itna	348332004	Itna-Kakailchew Road	8	0	0	0	20	25	27	41	77	381	
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	105	
19	1-26	Kishoreganj	Hossainpur	348273007	Char Pundi bazar-Pumdi UP H/Q Road	43	0	0	6	12	55	139	77	0	482	
20	4-54	Habiganj	Azmiriganj	636025034	Anandopur Ghat - Anadopur Village	0	0	0	0	0	0	0	0	0	-	
21	1-22	Kishoreganj	Austagram	348023004	Austagram-Badha ghat-Kalma UP office road	0	0	0	0	51	40	31	36	29	213	
22	1-28	Kishoreganj	Hossainpur	348273010	Gobindapur UP H/Q-Janata bazar Road	31	0	0	3	19	57	139	132	0	480	
23	1-48	Kishoreganj	Kuliarchar	348543006	Dumrakanda Bazar-Ramdi UP Office Rd.	5	29	40	50	114	96	135	261	0	1,276	
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	204	
25	4-47	Habiganj	Azmiriganj	636022003	Azmiriganj - Paharpur road.	2	0	10	0	16	209	366	59	1	527	
26	1-23	Kishoreganj	Austagram	348023005	Austagram-Mohishertilla-Gagra UP office Rd	0	0	0	0	47	33	24	47	41	253	
27	4-49	Habiganj	Azmiriganj	636022005	Paharpur - Baniachong Via Jhilsuik.	0	0	5	0	14	79	131	21	0	200	
28	1-5	Kishoreganj	Basitpur	348063001	Ujanchar bazar-Halimpur UP Rd	34	0	67	40	39	158	402	219	40	1,535	
29	1-8	Kishoreganj	Itna	348335041	Mowra-Chandrapur hat Rd.	0	0	0	0	0	5	34	0	55	204	
30	1-34	Kishoreganj	Mithamoim	348592002	Mithamoim Sadar-Karimganj Boardar Balikhola Road	0	0	0	0	13	59	142	50	0	206	
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	1,131	
33	3-47	Sunamganj	Derai	690292004	Derai Bazar-Dhol-Marculi Road	22	26	65	18	92	116	86	695	0	1,845	
34	4-8	Habiganj	Bahubal	636053004	Satkanpur UP Office (Chalitatala)-Bakterpur via Shoaia bazar Rd	3	0	14	12	335	89	359	589	0	1,433	
35	4-109	Habiganj	Baniachang	636114049	Pukra 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	256	
37	1-39	Kishoreganj	Tarail	348923010	Jawer UP-Dhamiha UP via Echaphashar	5	4	5	3	47	34	141	72	0	354	
38	1-47	Kishoreganj	Kuliarchar	348543002	Chhaysuti UP Office[R&H]-Paltia Bazar via Madhobdi, Pailanpur	28	42	89	135	144	267	261	100	0	2,125	
39	2-3	Netrokona	Purbadhala	372833002	Purbadhala (Kalduar)-Ghagra UP (Kapashia) road via Ghagra bazar	136	30	117	36	382	728	544	738	22	3,786	
40	4-53	Habiganj	Azmiriganj	636025035	Solori - Shibpasha.	0	0	0	0	0	0	0	0	0	-	
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	551	
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	618	
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	3,369	
47	1-27	Kishoreganj	Hossainpur	348273009	Adu Master bazar-Shahedal UP H/Q Road	51	0	0	16	34	64	140	171	0	696	
48	1-32	Kishoreganj	Katiadi	348453007	Achmita UP H/Q.-Pong Masua bazar Rd.	14	6	0	13	42	95	217	69	18	560	
49	2-6	Netrokona	Purbadhala	372834065	Kalihor R&H-Dampara via Chander Bazar											
50	2-7	Netrokona	Purbadhala	372835039	Shahala-Hatkhal Bazar											
51	2-20	Netrokona	Barhatta	372092007	Amtala-Samaj GC Road (Barhatta Portion)	58	0	57	2	53	55	70	31	0	809	
52	3-73	Sunamganj	Sunamganj-Sadar	690894005	Tokerghat-Bahadurpur Rd.(Laxmansree)	0	0	0	0	0	15	52	57	0	116	
53	4-10	Habiganj	Bahubal	636054079	Guharna Pry. School - Panchpara Road Via Sluice gate Durga pur .											
54	4-48	Habiganj	Azmiriganj	636023001	Pashchimbag - Azmiriganj Road.	0	0	0	0	52	175	106	16	0	206	
55	4-59	Habiganj	Azmiriganj	636025012	G C C Road - Ronia Road.	0	0	0	0	0	0	0	0	0	-	
56	4-57	Habiganj	Azmiriganj	636025008	Pituarandi Ghat - Shalla Highschool.	0	0	0	0	0	0	0	0	0	-	
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	1,409	
59	2-11	Netrokona	Atpara	372045037	Sukari Badirakola											
60	3-60	Sunamganj	Derai	690294018	Nagergaon Ferryghat-Nasnibazar	0	0	0	0	0	23	51	23	0	77	
61	3-61	Sunamganj	Derai	690294019	Akilha Bazar-Nagergaon via Kulanje	0	0	0	0	5	27	47	16	0	71	
62	3-62	Sunamganj	Derai	690294020	Akilha Bazar-Nasni Bazar	0	0	0	0	10	36	50	0	0	61	
63	4-4	Habiganj	Sadar	636444035	Poil-Pachpara Rd.	0	0	0	0	2	18	29	13	0	47	
64	4-15	Habiganj	Bahubal	636055058	Shuaitabazar-Ruyail											
65	4-56	Habiganj	Azmiriganj	636025006	Bong rd - Paddy land Rd	0	0	11	0	0	0	0	7	0	75	
66	2-28	Netrokona	Barhatta	372094015	Rambhadrapur FRB-Naihati Bazar Rd	0	19	12	32	176	284	386	316	110	1,649	
67	3-107	Sunamganj	Dakhin Sunamganj.	690934021	Ganiganj RHD-Jibdara Road.	0	0	21	0	158	291	342	69	0	708	
68	4-12	Habiganj	Bahubal	636054010	Khagura Baglair Road											
69	4-51	Habiganj	Azmiriganj	636025023	Kakilsow GCCR - Rosulpur.											
70	2-5	Netrokona	Purbadhala	372835052	Jaria Purbonara-Jaria Switch Gate via RPSchool Rd.											

Appendix 13.3: AADT (Annual Average Daily Traffic) data provided by LGED (2/2)

Ran king	No.	District	Upazila	Road Code	Road Name	AADT									Total (1000 TK/year)	
						Motorizd						Non-motorized				
						Truck	Bus	Utility/ Jeep	Car/Ta xi	Auto Ricksh	Motor Cycle	Byicle	Ricksh aw/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(Haluargon)-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 joynagor GC road (Noagion)-Kandigoan village road.(Katair)											
80	3-93	Sunamganj	Sunamganj-Sadar	690895038	Katair-Joynagar 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 1no word Care Road - Moiltarpar Road											
83	4-9	Habiganj	Bahubal	636053005	Snanghat UP Office-Bagdari 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	Kandagion 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	Gopalsaram-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	Atitpur 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-Jogjinpur road.											
101	3-95	Sunamganj	Sunamganj-Sadar	690895039	Katair Joynagar 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	Muzafarpur 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 - Muktaakhal - Joynagar 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	Nabiganj	636775068	Muktahar brdge-Shakua bazar road											

Appendix 13.4: 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)	1.73	8.58	21.83	17.46	11.99	8.32	0.80	6.53	13.84	7.26	2.77	1.86

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

Appendix 13.5: 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)	2.06	10.26	26.11	20.88	14.34	9.95	0.96	7.81	16.55	8.68	3.32	2.22

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

Appendix 13.6: 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 13.7: 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 13.8: 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 13.9: 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 13.10: Economic Cost and Benefit of BWDB Part (unit: BDT million)

Year	Item	unit	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
Economic Cost																																			
Project Cost	Total																																		
BWDB portion	-6,418.5	mil. BDT	-130.2	-538.1	-608.4	-1316.3	-1316.3	-1312.3	-889.1	-304.7	-3.1																								
	-6,418.5	mil. BDT	-130.2	-538.1	-608.4	-1316.3	-1316.3	-1312.3	-889.1	-304.7	-3.1																								
		Share	2.0%	8.4%	9.5%	20.5%	20.5%	20.4%	13.9%	4.7%	0.0%																								
		Accumulated	2.0%	10.4%	19.9%	40.4%	60.9%	81.4%	95.2%	100.0%	100.0%																								
O&M Cost	Annual Value in 2013		0.00	0.02	0.10	0.20	0.40	0.61	0.81	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
15 Rehabilitation Projects	21.1	mil. BDT	0.0	-0.4	-2.2	-4.2	-8.5	-12.8	-17.2	-20.1	-21.1	-21.1	-21.1	-21.1	-21.1	-21.1	-21.1	-21.1	-21.1	-21.1	-21.1	-21.1	-21.1	-21.1	-21.1	-21.1	-21.1	-21.1	-21.1	-21.1	-21.1	-21.1	-21.1	-21.1	
14 New Projects	32.5	mil. BDT	0.0	-0.7	-3.4	-6.4	-13.1	-19.8	-26.4	-30.9	-32.5	-32.5	-32.5	-32.5	-32.5	-32.5	-32.5	-32.5	-32.5	-32.5	-32.5	-32.5	-32.5	-32.5	-32.5	-32.5	-32.5	-32.5	-32.5	-32.5	-32.5	-32.5	-32.5	-32.5	
	53.6	mil. BDT	0.0	-1.1	-5.6	-10.6	-21.6	-32.6	-43.6	-51.0	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	
Replacement Cost	25.1	mil. BDT																																	
Total Cost		mil. BDT	-130.2	-539.2	-614.0	-1,326.9	-1,337.9	-1,344.9	-932.7	-355.7	-56.7	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-78.7	-53.6	-53.6	-31.5
Benefit																																			
Occurrence Rate			0.00	0.02	0.10	0.20	0.40	0.61	0.81	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
	Increase Rate																																		
Yield Increase Assumption	1.5%	%/year	1.03	1.05	1.06	1.08	1.09	1.11	1.12	1.14	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	
Benefits	Annual Value in 2013																																		
15 Rehabilitation Projects	633.5	mil. BDT	0.0	13.2	69.8	134.8	278.3	426.3	576.8	684.5	728.5	728.5	728.5	728.5	728.5	728.5	728.5	728.5	728.5	728.5	728.5	728.5	728.5	728.5	728.5	728.5	728.5	728.5	728.5	728.5	728.5	728.5	728.5	728.5	
14 New Projects	337.4	mil. BDT	0.0	7.1	37.2	71.8	148.2	227.1	307.2	364.6	388.0	388.0	388.0	388.0	388.0	388.0	388.0	388.0	388.0	388.0	388.0	388.0	388.0	388.0	388.0	388.0	388.0	388.0	388.0	388.0	388.0	388.0	388.0	388.0	
Total Benefit	970.9	mil. BDT	0.0	20.3	107.0	206.7	426.5	653.4	884.1	1,049.1	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	
Balance	NPV (D.R.=12%)																																		
Economic Cost	-4,003.7	mil. BDT	-130.2	-539.2	-614.0	-1,326.9	-1,337.9	-1,344.9	-932.7	-355.7	-56.7	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-78.7	-53.6	-53.6	-31.5	
Economic Benefit	5,157.2	mil. BDT	0.0	20.3	107.0	206.7	426.5	653.4	884.1	1,049.1	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	
Balance (Base Case)	1,153.5	mil. BDT	-130.2	-518.9	-506.9	-1,120.3	-911.4	-691.6	-48.6	693.3	1,059.8	1,062.9	1,062.9	1,062.9	1,062.9	1,062.9	1,062.9	1,062.9	1,062.9	1,062.9	1,062.9	1,062.9	1,062.9	1,062.9	1,062.9	1,062.9	1,062.9	1,062.9	1,062.9	1,062.9	1,037.8	1,062.9	1,062.9	1,085.0	
Economic Cost +10%	-4,404.1	mil. BDT	-143.2	-593.1	-675.4	-1,459.6	-1,471.7	-1,479.4	-1,025.9	-391.3	-62.4	-59.0	-59.0	-59.0	-59.0	-59.0	-59.0	-59.0	-59.0	-59.0	-59.0	-59.0	-59.0	-59.0	-59.0	-59.0	-59.0	-59.0	-59.0	-59.0	-86.6	-59.0	-59.0	-34.7	
Economic Benefit -10%	4,641.5	mil. BDT	0.0	18.3	96.3	186.0	383.8	588.0	795.7	944.2	1,004.9	1,004.9	1,004.9	1,004.9	1,004.9	1,004.9	1,004.9	1,004.9	1,004.9	1,004.9	1,004.9	1,004.9	1,004.9	1,004.9	1,004.9	1,004.9	1,004.9	1,004.9	1,004.9	1,004.9	1,004.9	1,004.9	1,004.9		
Banance (Case 1)	753.1	mil. BDT	-143.2	-572.8	-568.3	-1,252.9	-1,045.2	-826.1	-141.9	657.8	1,054.2	1,057.6	1,057.6	1,057.6	1,057.6	1,057.6	1,057.6	1,057.6	1,057.6	1,057.6	1,057.6	1,057.6	1,057.6	1,057.6	1,057.6	1,057.6	1,057.6	1,057.6	1,057.6	1,030.0	1,057.6	1,057.6	1,081.9		
Balance (Case 2)	637.8	mil. BDT	-130.2	-520.9	-517.6	-1,140.9	-954.1	-756.9	-137.0	588.4	948.2	951.3	951.3	951.3	951.3	951.3	951.3	951.3	951.3	951.3	951.3	951.3	951.3	951.3	951.3	951.3	951.3	951.3	951.3	926.2	951.3	951.3	973.4		
Balance (Case 3)	237.4	mil. BDT	-143.2	-574.8	-579.0	-1,273.6	-1,087.9	-891.4	-230.3	552.9	942.5	945.9	945.9	945.9	945.9	945.9	945.9	945.9	945.9	945.9	945.9	945.9	945.9	945.9	945.9	945.9	945.9	945.9	945.9	918.3	945.9	945.9	970.2		
	EIRR	B/C	ENPV (mil. BDT)																																
Base Case	16.1%	1.29	1,153																																
Case 1 (Cost +10%)	14.4%	1.17	753																																
Case 2 (Benefit -10%)	14.3%	1.16	638																																
Case 3 (Worst Case)	12.8%	1.05	237																																

Appendix 13.11: Economic Cost and Benefit of LGED Part (unit: BDT million)

Year	Item	unit	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Economic Cost																									
Project Cost	Total																								
LGED portion	-5,683.1	mil. BDT	-292.9	-1211.1	-1205.1	-1201.2	-1168.9	-450.5	-104.3	-49.1	0.0														
Total	-5,683.1	mil. BDT	-292.9	-1211.1	-1205.1	-1201.2	-1168.9	-450.5	-104.3	-49.1	0.0														
	Share		5.2%	21.3%	21.2%	21.1%	20.6%	7.9%	1.8%	0.9%	0.0%														
	Accumulate		5.2%	26.5%	47.7%	68.8%	89.4%	97.3%	99.1%	100.0%	100.0%														
O&M Cost	Annual Value in 2013		0.00	0.05	0.26	0.48	0.69	0.89	0.97	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Component 2 (Rural Infrastructure)	113.6	mil. BDT	0.0	-5.8	-30.0	-54.1	-78.2	-101.4	-110.5	-112.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6
Total Cost		mil. BDT	-292.9	-1,216.9	-1,235.1	-1,255.3	-1,247.1	-551.9	-214.8	-161.7	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6
Economic Benefit																									
Occurrence Rate			0.00	0.05	0.26	0.48	0.69	0.89	0.97	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	Increase Rate																								
Traffic Increase Assumption	6.1%	%/year	1.13	1.20	1.27	1.35	1.43	1.51	1.61	1.70	1.81	1.92	2.04	2.16	2.29	2.43	2.58	2.74	2.90	3.08	3.27	3.47	3.68	3.90	4.14
Trading Increase Assumption	6.1%	%/year	1.13	1.20	1.27	1.35	1.43	1.51	1.61	1.70	1.81	1.92	2.04	2.16	2.29	2.43	2.58	2.74	2.90	3.08	3.27	3.47	3.68	3.90	4.14
Benefits	Annual Value in 2013																								
VOCs of Rural Roads	413.5	mil. BDT	0.0	25.2	138.4	264.7	406.0	559.1	646.2	698.3	747.6	793.1	841.5	892.7	947.3	1,005.2	1,066.4	1,131.3	1,200.4	1,273.6	1,351.3	1,433.6	1,520.9	1,613.5	1,711.9
Spoilage Reduction of Market	64.7	mil. BDT	0.0	3.9	21.7	41.4	63.5	87.5	101.1	109.3	117.0	124.1	131.7	139.7	148.2	157.3	166.9	177.0	187.8	199.3	211.4	224.3	238.0	252.5	267.9
Fisheries Production	118.4	mil. BDT	0.0	5.1	9.1	26.1	47.1	66.9	90.5	118.4	118.4	118.4	118.4	118.4	118.4	118.4	118.4	118.4	118.4	118.4	118.4	118.4	118.4	118.4	118.4
Total Benefit			0.0	34.2	169.2	332.3	516.6	713.4	837.8	925.9	983.0	1,035.6	1,091.5	1,150.8	1,214.0	1,280.9	1,351.7	1,426.8	1,506.6	1,591.3	1,681.2	1,776.3	1,877.2	1,984.3	2,098.1
Balance	NPV (D.R.=12%)																								
Economic Cost	-4,370.7	mil. BDT	-292.9	-1,216.9	-1,235.1	-1,255.3	-1,247.1	-551.9	-214.8	-161.7	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6
Economic Benefit	5,381.7	mil. BDT	0.0	34.2	169.2	332.3	516.6	713.4	837.8	925.9	983.0	1,035.6	1,091.5	1,150.8	1,214.0	1,280.9	1,351.7	1,426.8	1,506.6	1,591.3	1,681.2	1,776.3	1,877.2	1,984.3	2,098.1
Balance (Base Case)	1,011.0	mil. BDT	-292.9	-1,182.6	-1,065.9	-923.0	-730.5	161.5	622.9	764.2	869.4	922.0	977.9	1,037.2	1,100.4	1,167.3	1,238.1	1,313.2	1,393.0	1,477.7	1,567.6	1,662.7	1,763.6	1,870.7	1,984.5
Economic Cost +10%	-4,807.8	mil. BDT	-322.2	-1,338.6	-1,358.6	-1,380.8	-1,371.8	-607.1	-236.3	-177.8	-125.0	-125.0	-125.0	-125.0	-125.0	-125.0	-125.0	-125.0	-125.0	-125.0	-125.0	-125.0	-125.0	-125.0	-125.0
Economic Benefit -10%	4,843.5	mil. BDT	0.0	30.8	152.3	299.0	464.9	642.1	754.0	833.3	884.7	932.0	982.4	1,035.8	1,092.6	1,152.8	1,216.5	1,284.1	1,356.0	1,432.1	1,513.0	1,598.7	1,689.5	1,785.9	1,888.3
Balance (Case 1)	573.9	mil. BDT	-322.2	-1,304.3	-1,189.4	-1,048.5	-855.2	106.3	601.4	748.1	858.0	910.6	966.6	1,025.9	1,089.0	1,155.9	1,226.7	1,301.8	1,381.7	1,466.3	1,556.2	1,651.4	1,752.3	1,859.4	1,973.2
Balance (Case 2)	472.8	mil. BDT	-292.9	-1,186.1	-1,082.8	-956.2	-782.1	90.1	539.1	671.6	771.1	818.4	868.8	922.2	979.0	1,039.2	1,102.9	1,170.5	1,242.4	1,318.5	1,399.4	1,485.1	1,575.9	1,672.3	1,774.7
Balance (Case 3)	35.8	mil. BDT	-322.2	-1,307.8	-1,206.3	-1,081.8	-906.8	34.9	517.7	655.5	759.7	807.1	857.4	910.8	967.6	1,027.9	1,091.6	1,159.1	1,231.0	1,307.2	1,388.1	1,473.7	1,564.5	1,660.9	1,763.4
	EIRR	B/C	ENPV (mil. BDT)																						
Base Case	15.2%	1.23		1,011																					
Case 1 (Cost +10%)	13.7%	1.12		574																					
Case 2 (Benefit -10%)	13.5%	1.11		473																					
Case 3 (Worst Case)	12.1%	1.01		36																					

Appendix 13.12: Economic Cost and Benefit of Whole Project (unit: BDT million)

Year	Item	unit	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
Economic Cost	NPV (D.R.=12%)																																		
BWDB Part	-4,003.7	mil. BDT	-130.2	-539.2	-614.0	-1,326.9	-1,337.9	-1,344.9	-932.7	-355.7	-56.7	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-53.6	-78.7	-53.6	-53.6	-31.5		
LGED Part	-4,370.7	mil. BDT	-292.9	-1,216.9	-1,235.1	-1,255.3	-1,247.1	-551.9	-214.8	-161.7	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	-113.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Cost	-8,374.4	mil. BDT	-423.1	-1,756.1	-1,849.1	-2,582.2	-2,585.0	-1,896.9	-1,147.5	-517.4	-170.3	-167.2	-167.2	-167.2	-167.2	-167.2	-167.2	-167.2	-167.2	-167.2	-167.2	-167.2	-167.2	-167.2	-167.2	-53.6	-53.6	-53.6	-53.6	-53.6	-78.7	-53.6	-53.6	-31.5	
Economic Benefit	NPV (D.R.=12%)																																		
BWDB Part	5,157.2	mil. BDT	0.0	20.3	107.0	206.7	426.5	653.4	884.1	1,049.1	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	
LGED Part	5,381.7	mil. BDT	0.0	34.2	169.2	332.3	516.6	713.4	837.8	925.9	983.0	1,035.6	1,091.5	1,150.8	1,214.0	1,280.9	1,351.7	1,426.8	1,506.6	1,591.3	1,681.2	1,776.3	1,877.2	1,984.3	2,098.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Benefit	10,538.9	mil. BDT	0.0	54.5	276.2	538.9	943.1	1,366.8	1,721.8	1,975.0	2,099.5	2,152.1	2,208.1	2,267.4	2,330.5	2,397.4	2,468.2	2,543.3	2,623.1	2,707.8	2,797.7	2,892.9	2,993.8	3,100.9	3,214.7	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	
Balance	NPV (D.R.=12%)																																		
Economic Cost	-8,374.4	mil. BDT	-423.1	-1,756.1	-1,849.1	-2,582.2	-2,585.0	-1,896.9	-1,147.5	-517.4	-170.3	-167.2	-167.2	-167.2	-167.2	-167.2	-167.2	-167.2	-167.2	-167.2	-167.2	-167.2	-167.2	-167.2	-167.2	-53.6	-53.6	-53.6	-53.6	-53.6	-78.7	-53.6	-53.6	-31.5	
Economic Benefit	10,538.9	mil. BDT	0.0	54.5	276.2	538.9	943.1	1,366.8	1,721.8	1,975.0	2,099.5	2,152.1	2,208.1	2,267.4	2,330.5	2,397.4	2,468.2	2,543.3	2,623.1	2,707.8	2,797.7	2,892.9	2,993.8	3,100.9	3,214.7	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	1,116.5	
Balance (Base Case)	2,164.5	mil. BDT	-423.1	-1,701.5	-1,572.9	-2,043.3	-1,641.9	-530.1	574.3	1,457.6	1,929.2	1,984.9	2,040.9	2,100.2	2,163.3	2,230.2	2,301.0	2,376.1	2,455.9	2,540.6	2,630.5	2,725.7	2,826.6	2,933.7	3,047.5	1,062.9	1,062.9	1,062.9	1,062.9	1,062.9	1,037.8	1,062.9	1,062.9	1,085.0	
Economic Cost +10%	-9,211.8	mil. BDT	-465.4	-1,931.7	-2,034.0	-2,840.4	-2,843.5	-2,086.6	-1,262.3	-569.1	-187.3	-183.9	-183.9	-183.9	-183.9	-183.9	-183.9	-183.9	-183.9	-183.9	-183.9	-183.9	-183.9	-183.9	-183.9	-59.0	-59.0	-59.0	-59.0	-59.0	-86.6	-59.0	-59.0	-34.7	
Economic Benefit -10%	9,485.0	mil. BDT	0.0	49.1	248.6	485.0	848.8	1,230.1	1,549.6	1,777.5	1,889.6	1,936.9	1,987.3	2,040.6	2,097.4	2,157.7	2,221.4	2,289.0	2,360.8	2,437.0	2,517.9	2,603.6	2,694.4	2,790.8	2,893.2	1,004.9	1,004.9	1,004.9	1,004.9	1,004.9	1,004.9	1,004.9	1,004.9	1,004.9	
Balance (Case 1)	1,327.0	mil. BDT	-465.4	-1,877.1	-1,757.8	-2,301.5	-1,900.4	-719.8	459.6	1,405.9	1,912.2	1,968.2	2,024.2	2,083.4	2,146.6	2,213.5	2,284.3	2,359.4	2,439.2	2,523.9	2,613.8	2,708.9	2,809.8	2,917.0	3,030.8	1,057.6	1,057.6	1,057.6	1,057.6	1,057.6	1,030.0	1,057.6	1,057.6	1,081.9	
Balance (Case 2)	1,110.6	mil. BDT	-423.1	-1,707.0	-1,600.5	-2,097.2	-1,736.2	-666.8	402.1	1,260.1	1,719.3	1,769.7	1,820.1	1,873.4	1,930.2	1,990.5	2,054.2	2,121.8	2,193.6	2,269.8	2,350.7	2,436.4	2,527.2	2,623.6	2,726.0	951.3	951.3	951.3	951.3	951.3	926.2	951.3	951.3	973.4	
Balance (Case 3)	273.1	mil. BDT	-465.4	-1,882.6	-1,785.4	-2,355.4	-1,994.7	-856.5	287.4	1,208.4	1,702.2	1,753.0	1,803.3	1,856.7	1,913.5	1,973.8	2,037.5	2,105.0	2,176.9	2,253.1	2,334.0	2,419.6	2,510.5	2,606.9	2,709.3	945.9	945.9	945.9	945.9	945.9	918.3	945.9	945.9	970.2	

	EIRR	B/C	ENPV (mil. BDT)
Base Case	15.6%	1.26	2,164
Case 1 (Cost +10%)	14.0%	1.14	1,327
Case 2 (Benefit -10%)	13.9%	1.13	1,111
Case 3 (Worst Case)	12.4%	1.03	273

Appendix 13.13: 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: 12m²
- 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: 40m²
- 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, jujubee, 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 & 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 13.14: 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			
Total Production				1,051,774			1,123,607
Loss due to Flood		1,123,607	-	1,051,774	= 71,833 ton		
Damage Rate		71,833	/	1,051,774.0	= 6.4 %		

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			
Total Production				827,341			1,123,607
Loss due to Flood		1,123,607	-	827,341	= 296,266 ton		
Damage Rate		296,266	/	827,341.0	= 26.4 %		

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			
Total Production				718,350			1,123,607
Loss due to Flood		1,123,607	-	718,350	= 405,257 ton		
Damage Rate		405,257	/	718,350.0	= 36.1 %		