

Appendix 3: List of Subprojects for LGED (Rural Road)

Appendix 3: List of Subprojects for LGED (Rural Road)																
Ranking	District	Upazila	Road Code	Road Name	Existing			Plan					Resettlement number of people	Land Acquisition (m2)		
					Beneficiary	Length (km)		Road Class	Bridge (m)	Culvert (m)	BWDB Sub Project No.					
					Submergible	Non-submergible	Total									
1	Habiganj	Baniachang	636113013	Subidpur Up office-Aowar Mohal Bazar Via Kahirpur, Niamat pur	350,000	0.00	7.40	7.40	UNR	30	20	R13	0	20,350		
2	Habiganj	Sadar	636444065	Bohula 2no word Pitbari - Paschim Haor Road	120,000	0.00	3.00	3.00	VRB	0	10	R13	0	5,010		
3	Kishoreganj	Karimganj	348422008	Niamatpur-Gundhar GC Road via Fazilkhali Bazar	50,000	0.00	12.90	12.90	UZR	0	0	N9	2			
4	Netrokona	Purbadhala	372833012	Ghagra UP (Kapsashia)-Jaria Bazar road via Katwari	50,000	0.00	6.00	6.00	UNR	0	0	R1	5	11,100		
5	Sunamganj	Sunamganj-sadar	690892009	R&H (Rebarbar)-Baisheer-Joynagar GC Road (Laxmansree/Mohampur)	50,000	8.30	0.00	8.30	UZR	0	23	N12	0	22,825		
6	Habiganj	Baniachang	636112007	Kadir Goni Ge-Paharpur Ge Via Karcha	50,000	0.00	5.00	5.00	UZR	50	20	R8	0	13,750		
7	Habiganj	Baniachang	636113017	Bitthangal Ge-Hobiganj - Sujathpur Road Via Monduri Up office, Bijoypur, Agua & Tuplajuri	50,000	1.50	1.50	3.00	UNR	100	30	R10	0	8,820		
8	Habiganj	Azniriganj	636024002	Pirajpur Lanchghat-Jalsuka bazar Rd.	46,200	2.00	0.00	2.00	VRB	0	10	R8	0	1,340		
9	Netrokona	Khalilajuri	372384012	Heyatpur-Chanpur via Khushalpur	45,000	0.00	5.00	5.00	VRB	0	0	R15	0	3,350		
10	Sunamganj	Dakshin Sunamganj	690932011	Santiganj bazar (UZ H.Q.)-Rajiganj bazar (Patharia GC) via Dungria Road	45,000	15.13	0.00	15.13	UZR	185	45	N12	0	3,783		
11	Kishoreganj	Austagram	348022002	Austagram-Mithamoin Road	40,200	10.20	0.00	10.20	UZR	0	0	N6	1	2,550		
12	Kishoreganj	Pakundia	348793006	Hossendi UP-Ashutia old bazar Rd via Monglabaria and Thuturja	40,000	0.00	11.93	11.93	UNR	0	0	R5	4	16,597		
13	Kishoreganj	Pakundia	348793007	Pakundia UP-Mosua hat via Saluadi	40,000	0.00	9.97	9.97	UNR	0	0	R5	5	21,436		
14	Kishoreganj	Itha	348332004	Itha-Kakalichew Road	40,000	13.37	0.00	13.37	UZR	0	0	N9	1	16,980		
15	Kishoreganj	Sadar	348494052	Baratopa-Thadapara Bazar Road	40,000	2.33	2.33	4.66	VRB	0	0	R4	3	3,122		
16	Kishoreganj	Nikli	348764005	Jariatata UP office-Chetra Road	40,000	0.00	2.00	2.00	VRB	0	0	N1	2	2,460		
17	Kishoreganj	Hossainpur	348274038	Gangahatia bazar-Janata bazarvia Abdul Aziz H/S road	40,000	0.00	4.87	4.87	VRB	0	0	R4	4	3,263		
18	Kishoreganj	Mithamoin	348593001	Mithamoin Noya hat-Dhaki UP Office Rd	40,000	9.59	0.00	9.59	UNR	0	0	N2	2	13,906		
19	Kishoreganj	Hossainpur	348273007	Char Pundi bazar-Pundi UP H/Q Road	38,000	0.00	4.45	4.45	UNR	0	0	R4	3	4,673		
20	Habiganj	Azniriganj	636025034	Anandopur Ghat - Anadopur Village	36,000	1.80	0.00	1.80	VRB	55	10	R9	0	2,106		
21	Kishoreganj	Austagram	348023004	Austagram-Badha ghat-Kalma UP office road	35,000	9.53	0.00	9.53	UNR	0	0	N6	1	13,247		
22	Kishoreganj	Hossainpur	348273010	Gobindapur UP H/Q-Janata bazar Road	35,000	0.00	4.00	4.00	UNR	0	0	R4	4	1,000		
23	Kishoreganj	Kuliarchar	348543006	Dumrakanda Bazar-Randi UP Office Rd.	35,000	0.00	5.38	5.38	UNR	0	0	R9	5	915		
24	Sunamganj	Sunamganj-sadar	690893001	R&H road Jamigan-Joynagar Bazar Road (Laxmansree/Mohampur)	35,000	3.85	3.85	7.70	UNR	0	10	N12	0	19,635		
25	Habiganj	Azniriganj	636022003	Azniriganj - Paharpur road.	35,000	0.00	14.06	14.06	UZR	0	0	R8	0			
26	Kishoreganj	Austagram	348023005	Austagram-Mohishietilla-Gagra UP office Rd	34,000	11.37	0.00	11.37	UNR	0	0	N6	2	27,174		
27	Habiganj	Azniriganj	636022005	Paharpur - Baniachong Via Jhilsuk.	31,200	7.02	0.00	7.02	UZR	0	63	R13	0	22,815		
28	Kishoreganj	Bajitpur	348063001	Ujanchar bazar-Talimpur UP Rd	30,000	0.00	7.06	7.06	UNR	0	0	N8	4	16,238		
29	Kishoreganj	Itha	348335041	Mowra-Chandrapur hat Rd.	30,000	3.00	0.00	3.00	VRB	0	0	N7	1	30		
30	Kishoreganj	Mithamoin	348592002	Mithamoin Sadar-Karimganj Boardar Balichola Road	30,000	10.00	0.00	10.00	UZR	0	0	N2	2	7,500		
31	Kishoreganj	Mithamoin	348594001	Singua Ferry ghat-Begadia Bazar Rd.	30,000	3.00	0.00	3.00	VRB	0	0	N2	3	1,110		
32	Kishoreganj	Tarail	348923004	Thana H.Q-Dhamtha Bazar	30,000	0.00	3.54	3.54	UNR	0	0	N7	4	7,257		
33	Sunamganj	Derai	690292004	Derai Bazar-Dhol-Marcuti Road	30,000	0.92	0.92	1.84	UZR	0	10	R8	0	3,772		
34	Habiganj	Bahubal	636053004	Satkapan UP Office (Chalitatala)-Bakterpur via Shoaia bazar Rd	30,000	0.00	4.50	4.50	UNR	0	0	R13	0	4,725		

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Ranking	District	Upazila	Road Code	Road Name	Existing		Plan				BWDB Sub Project No.	Resettlement number of people	Land Acquisition (m2)	
					Beneficiary	Length (km)			Road Class	Bridge (m)				Culvert (m)
						Submergible	Non-submergible	Total						
35	Habiganj	Baniachang	636114049	Pulka Up office -Kandipura village Riad Via Darowa, Sathigan High School	30,000	0.00	3.13	3.13	VRA	0	10	R13	0	3,662
36	Kishoreganj	Ima	348333007	Badia UP-Barshikura Hat Road	25,000	3.00	0.00	3.00	UNR	0	0	N7	2	4,350
37	Kishoreganj	Tarail	348923010	Javer UP-Dhamitah UP via Echpashtar	25,000	3.31	0.00	3.31	UNR	0	0	N6	5	6,455
38	Kishoreganj	Kuliarchar	348543002	Chhaysuti UP Office(R&H)-Patia Bazar via Madhobdi, Pailampur R	25,000	0.00	4.97	4.97	UNR	0	0	R7	6	845
39	Netrokona	Purbadhala	372833002	Purbadhala (Kaldhar)-Ghagra UP (Kapashtia) road via Ghagra bazar	25,000	0.00	3.36	3.36	UNR	0	0	R1	8	1,277
40	Sumangani	Jamalgunj	690502004	Sachna Bazar - Beheli GC - Taherpur	25,000	0.15	0.00	0.15	UZR	20	0	N12	0	38
41	Habiganj	Azmitiganj	636025035	Soloti - Shilpashtia	25,000	8.50	0.00	8.50	VRB	0	12.7	R8	0	9,945
42	Habiganj	Baniachang	636114013	Habiganj-Banyachong RHD to Sunaru vill	25,000	0.00	1.00	1.00	VRA	30	15	R13	0	1,670
43	Habiganj	Baniachang	636114019	Shibgonj Bazar to halderpur Chhitori road	25,000	0.00	3.00	3.00	VRA	0	10	N13	0	6,510
44	Habiganj	Azmitiganj	636025026	Kamulpur Ghat - Kamulpur Pry School.	21,900	2.75	0.00	2.75	VRB	0	10	R9	0	3,905
45	Sumangani	Dharmapasha	690322007	Joysee-Moddhanagar Via Ramdiga Road.	20,400	8.73	8.73	17.46	UZR	0	100	N4	0	35,793
46	Kishoreganj	Pakundia	348793005	Hossendi UP-Morkhola GC Via Alandi	20,000	0.00	8.30	8.30	UNR	0	0	R5	3	3,735
47	Kishoreganj	Nikli	348765009	Guroi UP office-Chapirhar Rd	20,000	0.00	0.64	0.64	VRB	0	0	N8	4	13
48	Kishoreganj	Hossainpur	348273005	Gobindapur Chowrasta bazar-Gobindapur UP H/Q Road	20,000	0.00	2.08	2.08	UNR	0	0	R4	3	2,392
49	Kishoreganj	Hossainpur	348273009	Adu Master bazar-Shahedal UP H/Q Road	20,000	0.00	3.00	3.00	UNR	0	0	R4	5	1,650
50	Kishoreganj	Katiadi	348453007	Achimtia UP H/Q-Pong Masua bazar Rd.	20,000	0.00	2.10	2.10	UNR	0	0	R6	6	2,940
51	Netrokona	Purbadhala	372834065	Kalihar R&H-Dampara via Chander Bazar	20,000	0.00	3.00	3.00	VRA	60	0	R1	5	2,010
52	Netrokona	Purbadhala	372835039	Shahala-Harkhala Bazar	20,000	0.00	3.20	3.20	VRB	0	0	R1	6	2,944
53	Netrokona	Barhatta	372092007	Amalia-Samaj GC Road (Barhatta Portion)	20,000	6.24	0.00	6.24	UZR	0	0	N5	0	8,424
54	Sumangani	Sumangani-sadar	690894005	Tokerghat-Bahadurpur Rd (Laxmansree)	20,000	3.60	0.00	3.60	VRA	0	10	N12	0	6,012
55	Habiganj	Bahubal	636054079	Guharia Pry. School - Panchpara Road Via Sluice gate Durga pur.	20,000	0.00	5.00	5.00	VRA	0	20	R13	0	
56	Habiganj	Azmitiganj	636023001	Pastichimbang - Azmitiganj Road.	19,200	4.23	4.22	8.45	UNR	0	50	R8	0	21,548
57	Habiganj	Azmitiganj	636025012	G C C Road - Ronia Road.	18,500	2.10	0.00	2.10	VRB	0	10	R8	0	1,407
58	Habiganj	Azmitiganj	636025008	Pituarikandi Ghat - Shaila Highschool.	17,600	3.65	0.00	3.65	VRB	0	10	R8	0	621
59	Habiganj	Azmitiganj	636025027	Kaklisow Bazar - Kahala Rd.	16,500	2.25	0.00	2.25	VRB	0	10	R9	0	1,958
60	Kishoreganj	Sadar	348493009	Danapani UP-Jalia bazar	15,000	0.00	2.61	2.61	UNR	0	0	N1	5	444
61	Netrokona	Aprara	372045037	Suktari Badirakola	15,000	2.00	0.00	2.00	VRB	0	0	N11	0	3,340
62	Sumangani	Dera	690294018	Nagegaon Ferryghat-Nasimbazar	15,000	2.00	0.00	2.00	VRA	0	0	R8	0	2,340
63	Sumangani	Dera	690294019	Akitha Bazar-Nagegaon via Kulanje	15,000	2.00	0.00	2.00	VRA	0	40	R8	0	1,340
64	Sumangani	Dera	690294020	Akitha Bazar-Nasni Bazar	15,000	0.00	1.25	1.25	VRA	20	20	R8	0	1,463
65	Habiganj	Sadar	636444035	Poti-Pachparia Rd.	15,000	0.00	4.20	4.20	VRB	0	0	R13	0	714
66	Habiganj	Bahubal	636055058	Shitayabazar-Ruvail	15,000	6.00	0.00	6.00	VRB	10	100	R13	0	4,020
67	Habiganj	Azmitiganj	636025006	Bong rd - Paddy land Rd	13,400	5.10	0.00	5.10	VRB	0	10	R8	0	3,417
68	Netrokona	Barhatta	372094015	Rambhadrapur FRB-Naitati Bazar Rd	13,000	0.00	4.39	4.39	VRA	0	0	N5	11	3,293
69	Sumangani	Dakin Sumangani	690934021	Gantiganj RHD-Jibdara Road.	12,000	4.70	0.00	4.70	VRA	0	19	N12	0	

Appendix 3: List of Subprojects for LGED (Rural Road)

Appendix 3: List of shop owners for 2023 (Sector in recovery)														
Ranking	District	Upazila	Road Code	Road Name	Existing							Resettlement		Land Acquisition (m2)
					Beneficiary	Length (km)			Road Class	Bridge (m)	Culvert (m)	BWDB Sub Project No.	number of people	
						Submergible	Non-submergible	Total						
70	Habiganj	Bahubal	636054010	Khagaura Bagdair Road	12,000	0.00	5.80	5.80	VRA	0	10	R13	0	3,886
71	Habiganj	Azmiriganj	636025023	Kakilsow GCCR - Rosulpur.	11,250	2.10	0.00	2.10	VRB	0	10	R9	0	1,407
72	Sunamganj	Dharmapasha	690323005	Modhayanagar bazar-Golha Rd	10,500	8.00	0.00	8.00	UNR	0	42	N4	0	16,400
73	Netrokona	Purbadhala	372835052	Jaria Purbopara-Jaria Switch Gate via RPSchool Rd.	10,000	3.00	0.00	3.00	VRB	0	0	R2	0	3,510
74	Netrokona	Alpara	372045034	Ukrakhal Road	10,000	1.75	0.00	1.75	VRB	0	0	N11	2	2,923
75	Netrokona	Alpara	372045036	Duez bazar road	10,000	1.50	0.00	1.50	VRB	0	0	N11	3	1,755
76	Netrokona	Khatlajuri	372383009	Upazila HQ - Gazipur UP office rd.	10,000	4.25	4.25	8.50	UNR	450	20	R15	7	161
78	Sunamganj	Jamalganj	690505037	Sukdebpur - Radanagar Road	10,000	0.00	0.04	0.04	VRB	20	10	N12	0	1,340
79	Sunamganj	Derai	690294012	Tarapasa-Tongor	10,000	2.00	0.00	2.00	VRA	0	20	R8	0	2,340
80	Sunamganj	Derai	690294017	Boalia Bazar-Bhairagon	10,000	0.00	2.00	2.00	VRA	0	0	R8	0	2,340
81	Sunamganj	Sunamganj-sadar	690894022	RHD(Habiganj)-Islampur (Laxmansree)	10,000	2.20	0.00	2.20	VRA	0	0	N12	0	3,674
82	Sunamganj	Sunamganj-sadar	690894073	Bahaderpur RHD to Nurulla Village Road (Laxmansree/Mohampur)	10,000	4.00	0.00	4.00	VRA	0	0	N12	0	6,680
83	Sunamganj	Sunamganj-sadar	690895111	Katari joynagar GC road (Noaggon)-Kandigan village road (Katari)	10,000	3.00	0.00	3.00	VRB	0	0	N12	0	5,010
84	Sunamganj	Sunamganj-sadar	690895038	Katari-Joynagar Road to Narkla GPS (Mohampur)	10,000	0.00	2.00	2.00	VRB	0	0	N12	0	4,340
85	Sunamganj	Dakin Sunamganj	690934048	Ashammura Pry. School-Puran -Kandigan Road.	10,000	3.81	0.00	3.81	VRA	0	10	N12	0	
				Total									139	506,733

Appendix 3: List of Subprojects for LGED (Rural Market and Growth Center)

No.	District	Upazila	Union name	Market name	Type	New/Rehabilitated	BWDB sub project No.	Resettlement number	Land Acquisition (m ²)
1	Kishoreganj	Pakundia	Agarosindur	Bahabadia	RM	New	R5	4	2,464
2	Kishoreganj	Ita	Joyiddhi	Mudirgaon	RM	New	N9	5	2,464
3	Kishoreganj	Sadar	Danapatuli	Kaliar Kanda Bazar	RM	New	N1	3	2,464
4	Kishoreganj	Sadar	Danapatuli	Pundi bazar	RM	New	R4	4	2,464
5	Kishoreganj	Sadar	Danapatuli	Adu master bazar	RM	New	R4	3	2,464
6	Kishoreganj	Sadar	Danapatuli	Nimeukhali bazar	RM	New	R4	5	2,464
7	Kishoreganj	Sadar	Saharam Dhuldia	Dhuldia Hat	GC	Rehabilitation	N1	4	0
8	Kishoreganj	Sadar	Gopdihi	Bogadia	RM	New	N2	6	2,464
9	Kishoreganj	Sadar	Joyka	Shadakhali	RM	New	N1	5	2,464
10	Netrokona	Purbadhala	Hogla	Patra Bazar	RM	New	R1	5	2,464
11	Netrokona	Purbadhala	Ghagra	Ghagra Bazar	RM	New	R1	12	2,464
12	Netrokona	Khaliajuri	MENDIPUR	Satgoan Bazar	RM	New	R15	11	2,464
13	Sunamganj	Dharmapasha	Selborash	Badshagonj	RM	New	N4	0	2,464
14	Sunamganj	Sunamganj Sadar	Mohampur	Joyagar	GC	Rehabilitation	N12	0	0
15	Habiganj	HABIGANJ-S	Poil	Poil Natun Bazar	RM	Rehabilitation	R13	0	0
16	Habiganj	Bahubal	Putijuri up	Digoambar	RM	New	R13	0	2,464
17	Habiganj	Bahubal	Satkapon up	Shoala Bazar	RM	New	R13	0	2,464
18	Habiganj	AZMIRIGANJ	Badolpur	Paharpur	GC	Rehabilitation	R8	0	0
19	Habiganj	AZMIRIGANJ	Kakaisew	Nischintopur	RM	New	R9	0	2,464
20	Habiganj	Baniachong	Pukra	Baniachong Bazar	RM	New	R13	0	2,464
21	Habiganj	Baniachong	Sujatpur	Sujatpur Bazar	GC	Rehabilitation	R10	0	0
22	Habiganj	Baniachong	Muradpur	Muradpur Bazar	RM	New	R9	0	2,464
Total							67		41,888

RM: Rural Market, GC: Growth Center

Appendix 3: List of Subprojects for LGED (Ghat)

No.	District	Upazila	Ghat name	BWDB sub project No.	Resettlement number	Land Acquisition (m2)
1	Kishoreganj	Ima	Bashikura bazar	N7	3	12
2	Kishoreganj	Ima	Joyiddhi bazar	R9	4	12
3	Kishoreganj	Sadar	Kaliakanda Bazar Ghat	N1	2	12
4	Kishoreganj	Sadar	Char Pundi bazar Ghat	R4	3	12
5	Kishoreganj	Sadar	Rampur bazar Ghat	R4	3	12
6	Kishoreganj	Sadar	Char Katthal	R9	4	12
7	Kishoreganj	Sadar	Olua	N2	3	12
8	Kishoreganj	Sadar	Kacharighat	R7	3	12
9	Kishoreganj	Sadar	Panahar bazar Ghat	N1	4	12
10	Kishoreganj	Sadar	shudi bazar Ghat	N1	5	12
11	Netrokona	Purbadhala	Patra Ghat	R1	0	12
12	Netrokona	Purbadhala	Ghagra Ghat	R1	0	12
13	Netrokona	Purbadhala	Moheshpotti Ghat	R1	0	12
14	Sunamganj	Sulla	Rahutola Bazar Ghat	R14	0	12
15	Sunamganj	Derai	Boalia	R8	0	12
16	Sunamganj	SUNAMGANJ-SADAR	Joyagar Ghat	N12	0	12
17	Sunamganj	Dakshin Sunamganj	Pathariabazar GC	N12	0	12
18	Sunamganj	Dakshin Sunamganj	Birgaonbazar	N12	0	12
19	Habiganj	HABIGANJ-S	Purbo Poil Bazar Ghat	R13	0	12
20	Habiganj	HABIGANJ-S	Poil Natun Bazar Ghat	R13	0	12
21	Habiganj	Baniachonj	Suiath pur Bazar	R10	0	12
Total					34	252

Appendix 4: Planned activities for agriculture promotion activities

Target Group	Primary	Description	Program/Activity
Upazila 2/ Target	Primary	1. Agriculture Promotion Support Sub-component (APSS)	1. Field Program
			1.1 Adaptive Trial (rice)
			1.2 Adaptive Trial (upland crops & vegetables)
			1.3 Adaptive Trial (cropping pattern)
			1.4 Demonstration Plot (rice)
			1.5 Demonstration Field (rice)
			1.6 Demonstration Area (rice)
			1.7 Water Management Demonstration Area (rice)
			1.8 Demonstration Plot (upland crops/vegetables)
			1.9 Cropping Pattern Demonstration
			1.10 IPM FFS/ICM FFS (rice)
			1.11 Seed Multiplication (rice)
			1.12 Research-Extension-Farmer Dialog
			- Seed multiplication by farmers to improve seed supply in the sub-project areas
Non-HILLP	SFH	2. Farmer Training Program	2.1 Farmer Training
			- Farmer Training
			- Study Tour/Exchange Visit
			- Visit to advanced areas, successful project sites, etc. (1 day; 25 participants/program)
			- Mass guidance/field campaign (1 day; 40 & 80 participants/program)
			- Exhibition of agricultural products, appropriate agriculture practices introduced
			- Training of executive members on group management, leadership, financial issues, marketing, etc. (5 executive members/FO x 5 Foes = 25 participants)
			- Provision of continuous guidance & monitoring
			- Formation of farmers organizations on need basis & training of executive
			2.3 Formation & Empowerment of Farmer Organizations (FO)
			2.2 Empowerment of Existing Farmer Organizations (FO)
			- Staff training at the kick-off stage of the project
			- Annual refresher training & evaluation meeting
			- Visit to advanced areas, successful project sites, etc. (3 days, 25 participants)
All upazilas	Progressive Farmers	4. Farm Machinery & Facility Support	4.1 Farm Machinery Hiring Services
			- Formation of machinery hiring service providers group
			- Training of group members (3 months)
			- Provision of machinery at subsidized rate
			- Provision of machinery hiring services
			- Construction of drying floor & seed storage facility in farm land area for community use
			- Drying floor is for drying paddy preserved for seed only
			- Scale depending on availability of land
			- Standard: 40m ² & storage 20 m ²
			5. Technology Development Program
			5.1 Field Trial on Rice
			5.2 Field Trial on Non-rice Crops
			- Simple trial on new rice varieties prior to adaptive trial (2 sites for 5 years)
			- Simple trial on non-rice crops prior to adaptive trial (1 site for 5 years)
Non-HILLP	MFH/AL	II. Small-scale Income Generation Sub-component (SIGS)	1. Floating Bed Vegetable Culture Scheme
			- CIG formation (3 CIGs x 8 members/CIG = 24 beneficiaries FHH/unit)
			- Provision of bed making materials, vegetable seeds & 2 days training
			2. Small-scale Vegetable Production Support
			- CIG formation (3 CIGs x 8 members/CIG = 24 beneficiaries FHH/unit)
			- Plot size: 1 decimal (40m ² /FHH)
			- Provision of farm inputs & fencing materials etc; 1 day training
			3. Fruit Production Support Scheme
			- CIG formation (3 CIGs x 8 members/CIG = 24 beneficiaries FHH/unit)
			- Provision of fruit saplings, farm inputs, fencing materials & 1 day training
			- Candidate saplings: Jujube (ku), litchi, guava, mango, mandarin orange etc.
			- Provision of packages of chicks or ducklings, shed materials, feed & 1 day training
			4. Micro Poultry Raising Scheme
			- CIG formation (3 CIGs x 8 members/CIG = 24 beneficiaries FHH/unit)
			- Package: 1 + chicks 9 or 1 + ducklings 9
MFH/AL	MFH/AL	5. Small-scale Mushroom Culture Scheme	- CIG formation (3 CIGs x 8 members/CIG = 24 beneficiaries FHH/unit)
			- Provision of mushroom spawn, shelf materials etc. & 3 days training
			- Package: spoons/FHH
			1. Primary target group; SFH - small farm households including marginal farm households & poor female headed farm households; AL: agriculture labour households
			2. Target upazilas of programs: Non-HILLP upazilas - upazilas not covered by HILLP, All upazilas - both non-HILLP & HILLP upazilas

Sub-components (Programs)	Activities
4. Daudkandi Model Aquaculture	Selection of suitable floodplain area locations (semi-closed waters)
	Identification & mobilization of interested HHs, farmers, fishers, etc.
5. Fish drying & fermentation	Formation of groups & committees, & awareness building on enterprise approach
	Preparation of activity plan, budget, capital formation, etc.
	Land preparation for fish culture and agriculture farming
	Site Selection of fish drying (among HHs and groups)
	Mobilize and organize beneficiaries groups
C. Fisheries Support Services	Training on improved processing and awareness on sanitation and hygiene
	Monitoring and evaluation
D. Trainings/Workshops/Seminars	Empowerment of Fisheries Extension
	Strengthen the capacity of fisheries staff (DFO, UFO) for knowledge, skills and techniques
E. Exchange Visits for Experience Sharing	<ul style="list-style-type: none"> - Skill improvement of resources staff on biodiversity, bee management, aquaculture, livelihood promotion, monitoring, etc. - To inform on programs/activities to relevant agencies and offices - To promote better understands among central & local agencies - To discuss on problems/issues & to find solutions - To disseminate and share findings, new ideas, etc.
F. Monitoring, Legal Support & Studies	<ul style="list-style-type: none"> - Generate data/information to check on performance, efficiency & impact of project activities. - Regular auditing of BVGs for financial performance, etc. - Legal support to protect from legal issues (beel leases, etc.)

A. Community Fishery Resource Management	
Sub-components (Programs)	Activities
Development of Beels	Resource mapping & identification of resources Selection of Beels (in 29 schemes in 5 districts) Collect & prepare beel list from DC office Screen & select the Beels (based on criteria) Map the selected beels at District level (PRA & Consultative meeting) Formation of BUGs Identification & delineation of sanctuary areas Training (on excavation, conserving resources, etc.) of beneficiaries Arrangement process for leasing to BUGs Excavation & setting up (planting of trees, etc. on raised land, etc.)
B. Income Generating Activities	
Floodplain Aquaculture Activities Development (Model/Pilot Projects)	
1. Net-pen fish culture	Selection & delineation of suitable locations Identification of HHS, fishers/farmers & formation of groups Establishing management committee Procuring of materials & setting up (protection measures for fry/fingerlings) Capacity building & training (beneficiaries, fishery staff) Procuring fingerlings 5-6" size fingerlings (carp, etc.) & stocking Monitoring and evaluation
2. Fish cage culture	Selection, identification and delineation of suitable locations Identification of water bodies with mild flow & installing locations Identification of households, fishers/farmers & formation of groups Establishing management committee Providing fish cages & other facilities with demonstration Capacity building and training (beneficiaries and fishery staff) Monitoring and evaluation
3. Backyard pond aquaculture	Monitoring and evaluation Selection of ponds (earthen) Identification of HHS interested in pond culture Group formation, motivation, awareness building Pond renovation (if necessary) & preparation (cleaning, liming, etc.) Fish species selection & stocking Training (pond management, feeding, fertilization, etc.) Monitoring and evaluation

CHAPTER 1 BACKGROUND

1.1 Background

The Upper Meghna River Basin in Bangladesh has been suffered from frequent floodings due to the high inflow runoffs and the limited conveyance capacity of the river channels. The flooded water spreads into the depressed areas in the low lying alluvial fan and forms so called "Haor". In the Haor area, from time to time certain magnitudes of floods occur in the pre-monsoonal period bringing damages to the paddy to be harvested. Flood control in the Haor area has been one of the substantial concerns of the Government of Bangladesh (hereinafter referred to as "GOB"). On the other hand, reinforcement of agriculture and fisheries, and upgrade of rural infrastructure in that area are also the concerns of GOB as the key interventions for improvement of living standard of the residents therein.

GOB has received a loan from the Japan International Cooperation Agency (hereinafter referred to as "JICA") to finance the Haor Flood Management and Livelihood Improvement Project (hereinafter referred to as "the Project") which is to manage the recurrent flood and to enhance living standard through livelihood improvement.

The Project comprises of the following components:

- Component 1: Construction and rehabilitation of flood management infrastructure
- Component 2: Construction and rehabilitation of rural development infrastructure
- Component 3: Implementation of livelihood improvement activities

Component 3 consists of the following sub-components:

- Component 3-1: Agriculture promotion
- Component 3-2: Fishery promotion

Component 1 and 3-1 will be implemented by the Bangladesh Water Development Board (hereinafter referred to as "BWDB"), while Component 2 and 3-2 will be implemented by the Local Government Engineering Department (hereinafter referred to as "LGED").

GOB intends to use part of the proceeds of the loan for eligible payments for consulting services for which this TOR is issued for the BWDB portion of the Project.

1.2 Location of the Project

The Project will be implemented in twenty nine (29) Haor area stretches in five (5) districts namely Sunamganj, Habiganj, Netrokona, Kishoreganj and Brahmanbaria in the northeast of Bangladesh.

1.3 Scope of the Project

The scope of the Project (BWDB portion) is as follows.

The detail project scope: e.g. types of flood management infrastructure, is available at the study referred to 1.5.

The Project (BWDB portion) is expected to be completed by 2023.

1.4 Executing Agency

Bangladesh Water Development Board (BWDB)

1.5 Available Relevant Basic Data and Studies

- Preparatory Survey on Upper Meghna River Basin Watershed Management Improvement Project by JICA
- Data Collection Survey on Water Resources Management in Haor Area of Bangladesh by JICA

CHAPTER 2 OBJECTIVES OF CONSULTING SERVICES

The consulting services shall be provided by an international consulting firm (hereinafter referred to as "the Consultant") in association with national consultants in compliance with Guidelines for the Employment of Consultants under Japanese ODA Loans, April 2012.

The objective of the consulting services is to achieve the efficient and proper preparation and implementation of the Project through the following works:

- (1) Detailed design
- (2) Tender assistance
- (3) Construction supervision
- (4) Facilitation of implementation of Environmental Management Plan (EMP), Environmental Monitoring Plan (EMOP) and Resettlement Action Plan (RAP)
- (5) Facilitation of implementation of Agriculture Promotion Support Sub-project (APSS) and Small-scale Income Generation Sub-project (SIGS)
- (6) Technology Transfer

CHAPTER 3 SCOPE OF CONSULTING SERVICES

(1) Detailed design

The Consultant shall:

- (a) Review and verify all available primary and secondary data collected during the JICA's preparatory survey for the Project;

- (d) Review and recommend BWDB for approval of the proposals submitted by the contractors security and required insurances;
- (c) Recommend BWDB for acceptance of the Contractor Performance security, advance payment
- (b) Recommend BWDB to issue the commencement order to the Contractors;
- (a) Recommend BWDB concerning variations and claims;

shall:

The Consultant shall perform his duties during the construction period in accordance with the contracts to be executed between the Employer and the contractors. In this context, the Consultant

(3) Construction supervision

- (e) Assist BWDB in preparation of a draft and final contract agreement.
- (d) Assist BWDB in contract negotiation by preparing agenda and facilitating negotiations including preparation of minutes of negotiation meeting; and
- (c) Assist BWDB in issuing bid invitation, conducting pre-bid conferences, issuing addendum/corrigendum, and clarifications to bidders' queries;
- (b) Prepare bidding documents which includes the clauses to have Contractor comply with the requirement of the Environmental Management Plan (EMP) and JICA Guidelines for environmental and social considerations (April 2010) (JICA Environmental Guidelines);
- (a) Prepare bidding documents in accordance with the latest version of Standard Bidding Documents by Central Procurement Technical Unit (hereinafter referred to as "CPTU") of Bangladesh for National Procurement of Works together with all relevant specifications, drawings and other documents;

The Consultant shall:

(2) Tender assistance

- (e) Assist BWDB to formulate Water Management Organizations (WMOs) and to prepare O&M guideline/manual
- (d) Prepare the detailed design of the Project in sufficient detail to ensure clarity and understanding by BWDB, contractors and other relevant stakeholders. All the design should be in conformity with the Bangladeshi Standards, or with the appropriate international standards. The detailed design will, as a minimum, include construction drawings, detailed cost estimates, necessary calculations to determine and justify the engineering details for the Project, associated contract documentation to include detailed specifications, bill of quantities (BOQ), implementation schedule for the Project. Such detailed specifications will contain those in relation to i) quality control of materials and workmanship, ii) safety, and iii) protection of the environment. The detailed design shall be prepared in close consultation with, and to meet the requirements of BWDB and will be incorporated into the detailed design report to be submitted for approval of JICA; and
- (c) Prepare detailed work plan, progress reports and implementation schedule for the Project to ensure effective monitoring and timely project outputs, and regularly update the same;
- (b) Carry out the required surveys and investigations such as topographical survey, geotechnical survey, material availability survey, and baseline survey for project evaluation, as applicable to the concerned project components.

which include work program, method statements, material sources, manpower and equipment deployment. In light of Section 3.03 of Guidelines for the Employment of Consultants under Japanese ODA Loans, April 2012, the Consultant shall review the program submitted by the contractors in particular from the point of view of securing the safety during the construction and require them to submit further details, if necessary;

(e) Recommend BWDB to explain and/or adjust ambiguities and/or discrepancies in the Contract Documents and issue any necessary clarifications or instructions;

(f) Review, verify and further detail the design of the works, recommend BWDB to approve the Contractors' working drawings and, if necessary, issue further drawings and/or give instructions to the Contractor;

(g) Recommend BWDB to liaise with the appropriate authorities to ensure that all the affected utility services are promptly relocated;

(h) Carry out field inspections on the contractor's setting out to ensure that the works are carried out in accordance with drawings and other design details;

(i) Regularly monitor physical and financial progress against the milestones as per the contract so as to ensure completion of contract in time;

(j) Supervise the works so that all the contractual requirements will be met by the contractors, including those in relation to i) quality of the works, ii) safety and iii) protection of the environment. In light of Section 3.03 of Guidelines for the Employment of Consultants under Japanese ODA Loans (April 2012), the Consultant shall confirm that an accident prevention officer proposed by contractor is duly assigned at the project site and that construction works are carried out according to the safety plan as well as the safety measures prescribed in the work program. If the consultants recognize any questions regarding the safety measures in general including the ones mentioned above, the consultants shall require the contractors to make appropriate improvements;

(k) Supervise field tests, sampling and laboratory test to be carried out by the contractors;

(l) Inspect the construction method, equipment to be used, workmanship at the site in accordance with the specifications;

(m) Survey and measure the work output performed by the contractors and recommend BWDB to issue payment certificates such as interim payment certificates and final payment certificate as specified in the contract;

(n) Recommend BWDB to coordinate the works among different contractors employed for the Project;

(o) Modify the designs, technical specifications and drawings, relevant calculations and cost estimates as may be necessary in accordance with the actual site conditions, and recommend BWDB to issue variation orders;

(p) Carry out timely reporting to BWDB for any inconsistency in executing the works and suggesting appropriate corrective measures to be applied;

(q) Inspect, verify and recommend BWDB to determine claims issued by the parties to the contract (i.e. BWDB and contractors) in accordance with the civil works contract;

(r) Perform the inspection of the works and recommend BWDB to issue certificates such as the Taking-Over Certificate, Performance Certificate as specified in the civil works contract;

(s) Provide periodic and/or continuous inspection services during defects liability period and if any

- defects are noted, instruct the contractor to rectify;
- (t) Check and certify as-built drawings for the parts of the works designed by the contractors, if any;
- (u) Assist BWDB to prepare and submit an operation and maintenance manual for the facilities constructed in the Project to BWDB;
- (v) Provide periodic and/or continuous inspection services for the completed works and if any damages, other than defects, are identified, recommend BWDB to provide necessary maintenance works;
- (w) Prepare and submit reports to BWDB, which are detailed in Chapter 6 in relation to the implementation of the Project; and
- (x) Assist BWDB to provide training program for WMOs.
- (4) Facilitation of implementation of Environmental Management Plan (EMP), Environmental Monitoring Plan (EMoP) and Resettlement Action Plan (RAP)**
- The Consultant shall:
- (a) Prepare the draft of EIA/IEB including EMP and EMoP in accordance with Environmental Conservation Rules 1997 in Bangladesh;
- (b) Assist BWDB in dissemination and explanation of additionally confirmed and identified environmental issues to public including holding public consultations;
- (c) Assist BWDB in obtaining Environmental Clearance from Department of Environment (DOE), Ministry of Environment and Forest in accordance with the planned implementation schedule;
- (d) During the preparation of bidding documents, clearly identify environmental responsibilities as explained in the EIA/IEB and EMP;
- (e) Assist BWDB to review the 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;
- (f) Assist BWDB to implement the measures identified in the EMP;
- (g) Monitor the effectiveness of EMP and negative impacts on environment caused by the construction works, and provide technical advices, including a feasible solution, so that BWDB can improve situation when necessary;
- (h) Assist BWDB in monitoring the compliance with conditions stated in the EPC and the requirements under EMP and JICA Environmental Guidelines;
- (i) Prepare the draft of RAP as necessary by sub-contracting a local firm/NGO 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);
- (j) Assist BWDB through sub-contractor in identifying the eligible PAPs, and prepare/update the draft 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;
- (k) 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). The following contents should be included in the plans;

- i. Skills Training
- ii. Project related Job Opportunities
- iii. Provision of social welfare grant
- iv. Provision of Agricultural Extension Services
- v. Provision of the special allowance to vulnerable PAFs

- (l) Assist BWDB to implement the measures identified in the revised RAP;
- (m) Assist in procurement of Implementation NGO (INGO);
- (n) Monitor land acquisition and compensation activities being undertaken by BWDB and INGO and/or competent authorities, and report the results in monthly progress reports;
- (o) Assist BWDB in facilitating stakeholder's participation (including focus group discussions for vulnerable PAFs) and providing feedback their comments on RAP;
- (p) Assist BWDB in establishment of grievance redress mechanism including formation of Grievance Redress Committee;
- (q) Assist BWDB to ensure that the PAFs 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
- (r) Provide technical services with grievance redress committee for keeping and updating records when necessary.

(5) Facilitation of Implementation of Agriculture Promotion Support Sub-project (APSS) and Small-scale Income Generation Sub-project (SIGS)

Detailed Design Stage

The Consultant shall:

- (a) Prepare technical guideline and operation manuals for APSS and SIGS;
- (b) Review & update, if necessary, the overall work plan for APSS & SIGS prepared under the Preparatory Survey;
- (c) Prepare monitoring & evaluation forms for APSS & SIGS and assist BWDB in establishing APSS & SIGS monitoring & evaluation system;
- (d) Assist BWDB in the preparation of APSS & SIGS Annual Work Plan for 2017/18;
- (e) Assist the inception training of project field staff and staff of concerned line agencies on APSS & SIGS conducted by BWDB;
- (f) Support the establishment of coordination and collaboration system for the implementation of APSS & SIGS among BWDB and line agencies concerned.

Implementation Stage

The Consultant shall:

- (a) Review and update, if necessary, technical guideline and operation manuals for APSS and SIGS;
- (b) Prepare technical guideline and operation manuals for new APSS and SIGS programs & activities;
- (c) Implement mid-term review on APSS & SIGS and assist the preparation of the overall work

Key Activities	Date	Duration in Months
Commencement of Consulting Services	1 February "Year 2"	19 months
Completion of detailed design, preparation of drawings and tender documents	31 August "Year 3"	
Tender processing	1 September "Year 3" – 31 October "Year 4"	14 months
Component-1	Commencement of construction work	1 November "Year 4"
	End of construction	30 April "Year 9"
Defect Liability Period	–30 April "Year 10"	12 months
Termination of Consulting Services	30 April "Year 10"	
Component-3		
Commencement of activities	1 August "Year 2"	
End of activities	30 April "Year 9"	67 months

Table 4.1 Implementation Schedule Expected

The consulting services will be commenced in 1 February "Year 2". The total duration of consulting services will be 99 months which includes 12 months of defects liability period. The implementation schedule expected is as shown in Table 4.1 and bar chart is Attachment-1.

CHAPTER 4 EXPECTED TIME SCHEDULE

The Consultant shall carry out the technology transfer as an important aspect in design and supervision works. The Consultant shall provide the opportunity to BWDB officers and staffs to be involved in the working team of the Consultant during the design, contract administration and supervision works for their capacity building wherever possible. If requested by BWDB, the Consultant shall brief and demonstrate the survey and design procedure, the construction supervision and contract management process and procedures. The consultant shall assist BWDB and its staff to build their capacity as a part of on the job training under the Project.

(6) Technology transfer

- plan of APSS & SIGS for the remaining period;
- Assist BWDB in the preparation of APSS & SIGS Annual Work Plans;
 - Assist the refresher 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 by BWDB, and
 - Support the strengthening of coordination and collaboration system for the implementation of APSS & SIGS among BWDB and line agencies concerned.

CHAPTER 5 STAFFING

5.1 General

Consulting services are combined by component 1 (infrastructure) and component 3-1 (agricultural activities) and each component has 2 stages; detailed design and supervision stage. The design stage involves the detailed design stage, preparing the tender documents, and assistance of tendering and evaluation. The estimated men-months of the consultant personnel for its services are 395 M/M in total, consist of 71 M/M of international, 324 M/M of national engineers or experts as shown in the below.

Component 1

Engineers		M/M
International Engineer (Pro-A)		
a-1	Team Leader	46
a-2	Soil Engineer	2
a-3	Hydraulic Engineer	7
a-4	Construction Plan & Cost Estimator	1
a-5	Mechanical Engineer	2
a-6	Safe Guard Expert	6
Total		64
National Engineer (Pro-B)		
b-1	Co-Team Leader (River Engineer)	68
b-2	Embankment Design Engineer	5
b-3	Structure Engineer	10
b-4	Soil Engineer	6
b-5	Geodetic Engineer	6
b-6	Hydraulic Engineer	10
b-7	Construction Plan & Cost Estimator	3
b-8	Mechanical Engineer	3
b-9	Environment & Social Specialist	20
b-10	Land acquisition & Resettlement Specialist	22
b-11	Procurement and Contract Engineer	3
b-12	O&M Specialist	10
b-13	Supervisor I	78
Total		244
Gross total		308

- 3) Hydraulic Engineer: Pro-A
the structures to prepare detailed engineering design in similar project.
The Soil Engineer will have at least 10 years of experience in the soil mechanic analysis for
- 2) Soil Engineer: Pro-A
experiences as team leader and/or deputy team leader in similar project at least 5 years.
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
- 1) Team Leader (River Engineer): Pro-A
(1) Component-1
- 5.2.1. Qualification of key team members (Pro-A)**

5.2. Detailed Design Stage (component-1 and 3-1)
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.

Engineers	M/M
International Engineer (Pro-A)	
Component-1	64
Component-3-1	7
Total	71
National Engineer (Pro-B)	
Component-1	244
Component-3-1	80
Total	324
Gross total	395

Component 1 + 3-1

Engineers	M/M
International Engineer (Pro-A)	
a-7 Agriculture Support Services Specialist	7
Total	7
National Engineer (Pro-B)	
b-14 Agronomist/Field Extension Services Specialist	40
b-15 Agriculture Training Specialist	40
Total	80
Gross total	87

Component 3-1

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	B.Sc. / Civil Engineering, higher degree preferable
a-2	Soil Engineer	M.Sc. / Soil Engineering
a-3	Hydraulic Engineer	B.Sc. / Civil Engineering, higher degree

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.

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

Component 3-1

No.	Engineers	Requirement
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 Engineering with experience of environmental and social consideration
	National Engineer (Pro-B)	
b-1	Co-Team Leader	B.Sc. / Civil Engineering, higher degree preferable
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	B.Sc. / Civil Engineering, higher degree preferable, 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 Engineering 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	B.Sc. / Civil Engineering, higher degree preferable

5.2.2. 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 I

No.	Position	Major Tasks and Duties
a-1	Team Leader (River Engr) (Pro-A)	<ul style="list-style-type: none"> - 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. - 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)	<ul style="list-style-type: none"> - 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)	<ul style="list-style-type: none"> - 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)	<ul style="list-style-type: none"> - Investigate the site condition for examination of construction plan. - Prepare construction plan and schedule showing

No	Position	Major Tasks and Duties
a-5	Mechanical Engineer (Pro-A)	<ul style="list-style-type: none"> - 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)	<ul style="list-style-type: none"> - Preparation of EIA/IEB 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 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/IEB 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

No	Position	Major Tasks and Duties
-	National Engineer	<ul style="list-style-type: none"> - 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 PAFs if necessary. - Assist in the preparation and review of the inception report, progress reports and ensure that these reports meet environmental and social requirements.
b-1	Co-team Leader (River Engineer) (Pro-B)	<ul style="list-style-type: none"> - 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 BWDB, 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)	<ul style="list-style-type: none"> - 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)	<ul style="list-style-type: none"> - Establish design criteria for structural design. - Investigate the existing conditions of the structures to be rehabilitated. - Prepare the detailed design, drawings, structural analysis, quantity calculation and technical

No	Position	Major Tasks and Duties
b-4	Soil Engineer (Pro-B)	<ul style="list-style-type: none"> - 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)	<ul style="list-style-type: none"> - 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)	<ul style="list-style-type: none"> - 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)	<ul style="list-style-type: none"> - 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

No.	Position	Major Tasks and Duties
b-8	Mechanical Engineer (Pro-B)	<ul style="list-style-type: none"> - 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)	<ul style="list-style-type: none"> - 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 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)	<ul style="list-style-type: none"> - 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

No.	Position	Major Tasks and Duties
b-11	Procurement and Contract Specialist (Pro-B)	<ul style="list-style-type: none"> - Assist in the preparation and review of the inception report, progress reports, and completion report and ensure that these reports meet social requirements. - Prepare bid documents in compliance with appropriate procurement guidelines selected on the discussion with BWDB. Bid documents will be prepared for LCB for subprojects. - 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.
b-12	O&M Specialist (Pro-B)	<ul style="list-style-type: none"> - 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)	<ul style="list-style-type: none"> - 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,
b-14	Agonomist/Field Extension Services Specialist (Pro-B)	<ul style="list-style-type: none"> - 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

No.	Position	Major Tasks and Duties
		<ul style="list-style-type: none"> - Support the establishment & strengthening of coordination and collaboration system for the implementation of APSS & SIGS among BWDB and Annual Work Plan,
b-15	Agricultural Training Specialist (Pro-B)	<ul style="list-style-type: none"> - 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,

5.3. 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 Attachment-3.

5.3.2. Qualification of key team members

(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/IB 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	B.Sc. / Civil Engineering, higher degree preferable
	National Engineer (Pro-B)	
b-1	Co-Team Leader	B.Sc. / Civil Engineering, higher degree preferable
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	B.Sc. / Civil Engineering, higher degree preferable
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.

5.3.3. 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
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-	Foreign Engineer	
a-1	Team Leader (Pro-A)	<ul style="list-style-type: none"> - 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 BWBD, 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.

-	National Engineer	
b-1	Co-Team Leader (Pro-B)	<ul style="list-style-type: none"> - 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 BWBD, 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

No.	Position	Major Tasks and Duties
		<ul style="list-style-type: none"> - 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 I (Pro-B)	<ul style="list-style-type: none"> - 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 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	<ul style="list-style-type: none"> - Assist BWDB to review the Construction Contractor's

No.	Position	Major Tasks and Duties
b-10	Land acquisition and Resettlement Specialist (Pro-B)	<ul style="list-style-type: none"> - 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 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)	<ul style="list-style-type: none"> - Assist BWDB to provide training and support for WMO in one year trial O&M works.
a-7	Agricultural Support Services Specialist	<ul style="list-style-type: none"> - Prepare technical guideline and operation manuals for APSS and SIGs,

Component-3

No.	Position	Major Tasks and Duties
	(Pro-A)	<ul style="list-style-type: none"> - 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)	<ul style="list-style-type: none"> - 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)	<ul style="list-style-type: none"> - 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,

No.	Position	Major Tasks and Duties
		<ul style="list-style-type: none"> - 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 by BWDB, - Support BWDB in formation and empowerment of farmer groups/community organizations under APSS and SIGS and empowerment of existing farmer groups/community organization, - Preparation of annual status report on APSS & SIGS, and - Preparation of completion report on APSS & SIGS.

CHAPTER 6 REPORTING

Within the scope of the consulting services, the Consultant shall prepare and submit reports and documents to BWDB as shown in the below. The Consultant shall provide electronic copy of each of these reports.

Table 6.1 Submitted reports and documents to BWDB

Status	Type of Report	Timing	No. of Copies
Detailed Design	Inception Report	1 month after commencement of the services	20
	Monthly Progress report	Every month	20
	Draft Detailed Design Report	18 month after commencement of the service	20
	Cost Estimate Report	18month after commencement of the service	20
	Final Detailed Design Report	19month after commencement of the service	20
	Bidding Document Report	19month after commencement of the service	20
	Land acquisition and Resettlement Monitoring Report	Every month during these implementation period	20
	Environmental Report	At the end of Detailed Design stage	20
	Social Plan Report	At the end of Detailed Design stage	20
	Operation and Maintenance Manual	Within supervision period	20
Supervision	Environmental Monitoring Report	Every 3 months	20
	RAP Monitoring Report	Every 3 month	20
	Construction Completion Report	3 month after completion of	20

	Service Completion Report	End of Consulting engineering services	20
		construction	

6.1 Detailed Design Stage

- a) Monthly Progress Report (20 copies): The Consultant will submit a Monthly Progress Report in the accepted form describing briefly and concisely all activities and progress for the previous month by the 10th day of each month. Problems encountered or anticipated will be clearly stated, together with actions to be taken or recommendations on remedial measures for correction. It will also indicate the work to be performed during the coming month.

- b) Inception Report (20 copies), to be submitted in the 1st month after the commencement of the services, presenting the methodologies, schedule, organization, etc.
- c) Draft Detailed Design Report (20 copies), to be submitted in the 18th month after the commencement of the services, presenting detailed engineering design.
- d) Cost Estimate Report (20 copies), to be submitted in the 18th month after the commencement of the services, presenting detailed cost estimate.
- e) Final Detailed Design Report (20 copies), to be submitted in the 19th month after the commencement of the services, compiling all the items carried out during the services.
- f) Bidding Document Report (20 copies), to be submitted in the 19th month after the commencement of the services, presenting the bidding documents and bid evaluation criteria.
- g) Land Acquisition and Resettlement Monitoring Report (20 copies), to be submitted at every month during land acquisition and resettlement implementation period. RAP monitoring form will be filled and attached to the Report.
- h) Environmental Report (20 copies), to be submitted by the end of the detailed design stage, presenting the draft of EIA, EMP and EMOP prepared.
- i) Social Plan Report (20 copies), to be submitted by the end of the detailed design stage, presenting the draft of RAP prepared.

6.2 Construction Supervision Stage

- a) Monthly Progress Report (20 copies), to present the details of expert personnel mobilization, progress of work, financial man-month used, problems encountered and the anticipated services for the next period of the services, including progress on resettlement activities.
- b) Quarterly Progress Report (20 copies) to present the project progress status.
- c) Operation and Maintenance Manual (20 copies) containing technical procedures for the appropriate operation and maintenance of all project facilities.
- d) Environmental Monitoring Report (20 copies) to be submitted at every three (3) months after the commencement of the services, presenting the environmental impacts and implementation of environmental mitigation measures during and after the construction stage. Environmental monitoring forms will be filled and attached to the report.
- e) RAP Monitoring Report (20 copies) to be submitted at every three (3) months. RAP monitoring form will be filled and attached to the report.

- f) Construction Completion Report (20 copies), to be submitted within three (3) month after completion of construction, which comprises a full size of as-built drawings for all the structures and facilities completed, and the final details of the construction completed together with all data, records, material tests results, field books, etc.
- g) Service Completion Report (20 copies), at the completion of all the consulting engineering services.

CHAPTER 7 OBLIGATION OF BWDB

BWDB is prepared to provide the following to the Consultant in support of the consulting services:

(1) Report, data, information and available documents relevant to the Project.

(2) Cooperation and Counterpart staff

(3) Assistance and exemption

Use its best efforts to ensure that the assistance and exemption, as described in the Standard Request for Proposal issued by JICA, will be provided to the Consultant, in relation to

- work permit and such other documents;
- entry and exit visas, residence permits, exchange permits and such other documents
- clearance through customs;
- instructions and information to officials, agent and representatives of Bangladesh;
- exemption from any requirement for registration to practice their profession;
- privilege pursuant to the applicable law in Bangladesh.

(4) Office space for the Consultant in BWDB Headquarter in Dhaka

(Project schedule and Men-months schedule will be attached as Attachment.)

CHAPTER I BACKGROUND

1.1 Background

The Upper Meghna River Basin in Bangladesh has been suffered from frequent floodings due to the high inflow runoffs and the limited conveyance capacity of the river channels. The flooded water spreads into the depressed areas in the low lying alluvial fan and forms so called "Haor". In the Haor area, from time to time certain magnitudes of floods occur in the pre-monsoon period bringing damages to the paddy to be harvested. Flood control in the Haor area has been one of the substantial concerns of the Government of Bangladesh (hereinafter referred to as "GOB"). On the other hand, reinforcement of agriculture and fisheries, and upgrade of rural infrastructure in that area are also the concerns of GOB as the key interventions for improvement of living standard of the residents therein.

GOB has received a loan from the Japan International Cooperation Agency (hereinafter referred to as "JICA") to finance the Haor Flood Management and Livelihood Improvement Project (hereinafter referred to as "the Project") which is to manage the recurrent flood and to enhance living standard through livelihood improvement.

The Project comprises of the following components:

- Component 1: Construction and rehabilitation of flood management infrastructure
- Component 2: Construction and rehabilitation of rural development infrastructure
- Component 3: Implementation of livelihood improvement activities

Component 3 consists of the following sub-components:

- Component 3-1: Agriculture promotion
- Component 3-2: Fishery promotion

Component 1 and 3-1 will be implemented by the Bangladesh Water Development Board (hereinafter referred to as "BWDB"), while Component 2 and 3-2 will be implemented by the Local Government Engineering Department (hereinafter referred to as "LGED"). GOB intends to use part of the proceeds of the loan for eligible payments for consulting services for which this ToR is issued for the LGED portion of the Project.

1.2 Location of the Project

The Project will be implemented in twenty nine (29) Haor area stretches in five (5) districts namely Sunamganj, Habiganj, Netrokona, Kishoreganj and Brahmanbaria in the northeast of Bangladesh.

1.3 Scope of the Project

The scope of the Project (LGED portion) is as follows.

- (b) Carry out the required surveys and investigations such as topographical survey, geotechnical preparatory survey for the Project;
- (a) Review and verify all available primary and secondary data collected during the JICA's The Consultant shall:

(1) Detailed design

CHAPTER 3 SCOPE OF CONSULTING SERVICES

- (6) Technology Transfer
- Aquaculture Activities (FAA) and Fisheries Support Services (FSS)
- (5) Facilitation of implementation of Community-Base Resource Management (CRM), Floodplain Monitoring Plan (EMoP) and Resettlement Action Plan (RAP)
- (4) Facilitation of implementation of Environmental Management Plan (EMP), Environmental
- (3) Construction supervision
- (2) Tender assistance
- (1) Detailed design
- implementation of the Project through the following works:
- The objective of the consulting services is to achieve the efficient and proper preparation and Employment of Consultants under Japanese ODA Loans, April 2012.

The consulting services shall be provided by an international consulting firm (hereinafter referred to as "the Consultant") in association with national consultants in compliance with Guidelines for the

CHAPTER 2 OBJECTIVES OF CONSULTING SERVICES

- 1.5 Available Relevant Basic Data and Studies
- Preparatory Survey on Upper Meghna River Basin Watershed Management Improvement Project by JICA
 - Data Collection Survey on Water Resources Management in Haor Area of Bangladesh by JICA

Local Government Engineering Department (LGED)

1.4 Executing Agency

The Project (LGED portion) is expected to be completed by 2022.

Detail works are available in the study report referred to 1.5.

Component	Item
Component 2	<ul style="list-style-type: none"> - Construction and rehabilitation of rural road - Construction and rehabilitation of hat - Construction and rehabilitation of ghat
Component 3-2	<ul style="list-style-type: none"> - Community-Base Resource Management (CRM) - Floodplain Aquaculture Activities (FAA) - Fisheries Support Services (FSS)

- survey, material availability survey, investigation on the existing facilities and baseline survey for project evaluation, etc, as applicable to the concerned project components;
- (c) Prepare detailed work plan, progress reports and implementation schedule for the Project to ensure effective monitoring and timely project outputs, and regularly update the same; and
- (d) Prepare the detailed design of the Project in sufficient detail to ensure clarity and understanding by LGED, contractors and other relevant stakeholders. All the design should be in conformity with the Bangladesh Standards, or with the appropriate international standards. The detailed design will, as a minimum, include construction drawings, detailed cost estimates, necessary calculations to determine and justify the engineering details for the Project, associated contract documentation to include detailed specifications, bill of quantities (BOQ), implementation schedule for the Project. Such detailed specifications will contain those in relation to i) quality control of materials and workmanship, ii) safety, and iii) protection of the environment. The detailed design shall be prepared in close consultation with, and to meet the requirements of LGED and will be incorporated into the detailed design report to be submitted for approval of JICA.
- (2) Tender assistance**
- The Consultant shall:
- (a) Prepare bidding documents in accordance with the latest version of Standard Bidding Documents by Central Procurement Technical Unit (hereinafter referred to as "CPTU") of Bangladesh for National Procurement of Works together with all relevant specifications, drawings and other documents;
- (b) Prepare bidding documents which includes the clauses to have Contractor comply with the requirement of the Environmental Management Plan (EMP) and JICA Guidelines for environmental and social considerations (April 2010) (JICA Environmental Guidelines)
- (c) Assist LGED in issuing bid invitation, conducting pre-bid conferences, issuing addendum/corrigendum, and clarifications to bidders' queries;
- (d) Assist LGED in contract negotiation by preparing agenda and facilitating negotiations including preparation of minutes of negotiation meeting;
- (e) Assist LGED in formulation of Labor Contracting Society (hereinafter referred to as "LCS") contract and associated committee; and
- (f) Assist LGED on preparation of a draft and final contract agreement.
- (3) Construction supervision**
- The Consultant shall perform his duties during the construction period in accordance with the contracts to be executed between the Employer and the contractors including LCS. In this context, the Consultant shall:
- (a) Recommend LGED concerning variations and claims;
- (b) Recommend LGED to issue the commencement order to the Contractors and LCS;
- (c) Recommend LGED for acceptance of the Contractor Performance security, advance payment security and required insurances;
- (d) Review and recommend LGED for approval of the proposals submitted by the contractors which include work program, method statements, material sources, manpower and equipment

- deployment. In light of Section 3.03 of Guidelines for the Employment of Consultants under Japanese ODA Loans, April 2012, the Consultant shall review the program submitted by the contractors in particular from the point of view of securing the safety during the construction and require them to submit further details, if necessary;
- (e) Recommend LGED to explain and/or adjust ambiguities and/or discrepancies in the Contract Documents and issue any necessary clarifications or instructions;
- (f) Review, verify and further detail the design of the works, recommend LGED to approve the Contractors' working drawings and, if necessary, issue further drawings and/or give instructions to the Contractor;
- (g) Recommend LGED to liaise with the appropriate authorities to ensure that all the affected utility services are promptly relocated;
- (h) Assist LGED to establish and improve quality control system, assess and improve the construction supervision system by LGED and provide training program to LGED staff.
- (i) Assist LGED to formulate required committees for LCS-works and provide training program of construction/maintenance works to LCS members.
- (j) Carry out field inspections on the contractor's and LCS's setting out to ensure that the works are carried out in accordance with drawings and other design details;
- (k) Regularly monitor physical and financial progress against the milestones as per the contract so as to ensure completion of contract in time;
- (l) Supervise the works so that all the contractual requirements will be met by the contractors and LCS, including those in relation to i) quality of the works, ii) safety and iii) protection of the environment. In light of Section 3.03 of Guidelines for the Employment of Consultants under Japanese ODA Loans (April 2012), the Consultant shall confirm that an accident prevention officer proposed by contractor is duly assigned at the project site and that construction works are carried out according to the safety plan as well as the safety measures prescribed in the work program. If the consultants recognize any questions regarding the safety measures in general including the ones mentioned above, the consultants shall require the contractors to make appropriate improvements;
- (m) Supervise field tests, sampling and laboratory test to be carried out by the contractors;
- (n) Inspect the construction method, equipment to be used, workmanship at the site in accordance with the specifications;
- (o) Survey and measure the work output performed by the contractors and LCS, and recommend LGED to issue payment certificates such as interim payment certificates and final payment certificate as specified in the contract;
- (p) Recommend LGED to coordinate the works among different contractors and LCS employed for the Project;
- (q) Modify the designs, technical specifications and drawings, relevant calculations and cost estimates as may be necessary in accordance with the actual site conditions, and recommend LGED to issue variation orders ;
- (r) Carry out timely reporting to LGED for any inconsistency in executing the works and suggesting appropriate corrective measures to be applied;
- (s) Inspect, verify and recommend LGED to determine claims issued by the parties to the contract (i.e. LGED and contractors) in accordance with the civil works contract;

- (t) Perform the inspection of the works and recommend LGED to issue certificates such as the Taking-Over Certificate, Performance Certificate as specified in the civil works contract;
- (u) Provide periodic and/or continuous inspection services during defects liability period and if any defects are noted, instruct the contractor and LCS to rectify;
- (v) Check and certify as-built drawings for the parts of the works designed by the contractors, if any;
- (w) Provide periodic and/or continuous inspection services for the completed works and if any damages, other than defects, are identified, recommend LGED to provide necessary maintenance works;
- (x) Prepare strategy to provide isolated or poor women opportunities of participation to the project and access to social infrastructure built in the project, and monitoring it;
- (y) Carry out required baseline survey. Establish and implement monitoring & evaluation programs.
- (z) Prepare and submit reports to LGED, which are detailed in Chapter 6 in relation to the implementation of the Project;
- (aa) Collect information and regarding organizing LCS, community and natural resource management, participation of women to the project, and report lesson learn for future project regarding organizing LCS, community and natural resource management, participation of women to the project; and
- (bb) Design and establish monitoring and evaluation program based on the baseline survey, and carry out monitoring and evaluation activities periodically reviewing the program.
- (4) Facilitation of implementation of Environmental Management Plan (EMP), Environmental Monitoring Plan (EMOP) and Resettlement Action Plan (RAP)**
- The Consultant shall:
- (a) Prepare the draft of EIA/IEE including EMP and EMOP in accordance with Environmental Conservation Rules 1997 in Bangladesh;
- (b) Assist LGED in dissemination and explanation of additionally confirmed and identified environmental issues to public including holding public consultations;
- (c) Assist LGED in obtaining Environmental Clearance from Department of Environment (DOE), Ministry of Environment and Forest in accordance with the planned implementation schedule;
- (d) During the preparation of bidding documents, clearly identify environmental responsibilities as explained in the EIA/IEE and EMP;
- (e) 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;
- (f) Assist LGED to implement the measures identified in the EMP;
- (g) 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;
- (h) Assist LGED in monitoring the compliance with conditions stated in the EPC and the requirements under EMP and JICA Environmental Guidelines;
- (i) Prepare the draft of RAP as necessary by sub-contracting a local firm/NGO based on detailed design in accordance with the agreed resettlement framework, including entitlement matrix and

- (e) Assist LGED in preparation of training plan and implementation of the inception training of
- (d) Assist LGED in preparation of CRM, FAA & FSS Annual Work Plan for 2017/18;
- (c) Prepare monitoring & evaluation forms for CRM, FAA & FSS and assist LGED in establishing CRM, FAA & FSS monitoring & evaluation system;
- (b) Review & update, if necessary, the overall work plan for CRM, FAA & FSS prepared under the Preparatory Survey;
- (a) Prepare technical guideline and operation manuals for CRM, FAA & FSS;

The Consultant shall:

Detailed Design Stage

Floodplain Aquaculture Activities (FAA) and Fisheries Support Services (FSS)

(5) Facilitation of implementation of Community-Base Resource Management (CRM)

- (r) Provide technical services with grievance redress committee for keeping and updating records when necessary.
- (q) 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
- (p) Assist LGED in establishment of grievance redress mechanism including formation of Grievance Redress Committee;
- (o) Assist LGED in facilitating stakeholder's participation (including focus group discussions for vulnerable PAPs) and providing feedback their comments on RAP;
- (n) Monitor land acquisition and compensation activities being undertaken by LGED and INGO and/or competent authorities, and report the results in monthly progress reports.
- (m) Assist LGED to implement the measures identified in the revised RAP; and
- (l) Assist LGED to implement the measures identified in the revised RAP; and

v. Provision of the special allowance to vulnerable PAPs

iv. Provision of Agricultural Extension Services

iii. Provision of social welfare grant

ii. Project related Job Opportunities

i. Skills Training

- (k) 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). The following contents should be included in the plans;
 - i. Skills Training
 - ii. Project related Job Opportunities
 - iii. Provision of social welfare grant
 - iv. Provision of Agricultural Extension Services
 - v. Provision of the special allowance to vulnerable PAPs
- (j) Assist LGED through sub-contractor 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;
- (i) 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). The following contents should be included in the plans;
 - i. Skills Training
 - ii. Project related Job Opportunities
 - iii. Provision of social welfare grant
 - iv. Provision of Agricultural Extension Services
 - v. Provision of the special allowance to vulnerable PAPs
- (h) 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). The following contents should be included in the plans;
 - i. Skills Training
 - ii. Project related Job Opportunities
 - iii. Provision of social welfare grant
 - iv. Provision of Agricultural Extension Services
 - v. Provision of the special allowance to vulnerable PAPs
- (g) 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). The following contents should be included in the plans;
 - i. Skills Training
 - ii. Project related Job Opportunities
 - iii. Provision of social welfare grant
 - iv. Provision of Agricultural Extension Services
 - v. Provision of the special allowance to vulnerable PAPs
- (f) 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). The following contents should be included in the plans;
 - i. Skills Training
 - ii. Project related Job Opportunities
 - iii. Provision of social welfare grant
 - iv. Provision of Agricultural Extension Services
 - v. Provision of the special allowance to vulnerable PAPs
- (e) 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). The following contents should be included in the plans;
 - i. Skills Training
 - ii. Project related Job Opportunities
 - iii. Provision of social welfare grant
 - iv. Provision of Agricultural Extension Services
 - v. Provision of the special allowance to vulnerable PAPs
- (d) 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). The following contents should be included in the plans;
 - i. Skills Training
 - ii. Project related Job Opportunities
 - iii. Provision of social welfare grant
 - iv. Provision of Agricultural Extension Services
 - v. Provision of the special allowance to vulnerable PAPs
- (c) 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). The following contents should be included in the plans;
 - i. Skills Training
 - ii. Project related Job Opportunities
 - iii. Provision of social welfare grant
 - iv. Provision of Agricultural Extension Services
 - v. Provision of the special allowance to vulnerable PAPs
- (b) 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). The following contents should be included in the plans;
 - i. Skills Training
 - ii. Project related Job Opportunities
 - iii. Provision of social welfare grant
 - iv. Provision of Agricultural Extension Services
 - v. Provision of the special allowance to vulnerable PAPs
- (a) 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). The following contents should be included in the plans;
 - i. Skills Training
 - ii. Project related Job Opportunities
 - iii. Provision of social welfare grant
 - iv. Provision of Agricultural Extension Services
 - v. Provision of the special allowance to vulnerable PAPs

- (f) Support the establishment of coordination and collaboration system for the implementation of CRM, FAA & FSS among LGED and line agencies concerned.
- Implementation Stage
- The Consultant shall:

- (a) Review and update, if necessary, technical guideline and operation manuals for CRM, FAA & FSS;
- (b) Prepare technical guideline and operation manuals for new CRM, FAA & FSS programs & activities;
- (c) Implement mid-term review on CRM, FAA & FSS and assist the preparation of the overall work plan of CRM, FAA & FSS for the remaining period;
- (d) Assist LGED in the preparation of CRM, FAA & FSS Annual Work Plans;
- (e) Assist the refresher training of project field staff and staff of concerned line agencies on CRM, FAA & FSS conducted by LGED;
- (f) Assist and advise the execution of the overall implementation of CRM, FAA & FSS;
- (g) Assist the monitoring & evaluation of CRM, FAA & FSS conducted by LGED, and
- (h) Support the strengthening of coordination and collaboration system for the implementation of CRM, FAA & FSS among LGED and line agencies concerned.

(6) Technology transfer

The Consultant shall carry out the technology transfer as an important aspect in design and supervision works. The Consultant shall provide the opportunity to LGED officers and staffs to be involved in the working team of the Consultant during the design, contract administration and supervision works for their capacity building wherever possible. If requested by LGED, the Consultant shall brief and demonstrate the survey and design procedure, the construction supervision and contract management process and procedures. The consultant shall assist LGED and its staff to build their capacity as a part of on the job training under the Project.

Key Activities	Date	Duration in Months
Commencement of Consulting Services	1 February "Year 2"	28 months (intermittently)
Completion of detailed design, preparation of drawings and tender documents	31 May "Year 4"	
Tender processing	1 May "Year 2" – 30 June "Year 6"	50 months (intermittently)
Component-2		
Commencement of construction work	1 November "Year 2"	54 months
End of construction	30 April "Year 7"	
Defect Liability Period	–30 April "Year 8"	12 months
Termination of Consulting Services	30 April "Year 8"	
Component-3		
Commencement of Activities	1 August "Year 2"	79 months
End of Activities	30 April "Year 9"	

Table 4.1 Implementation Schedule Expected

The consulting services will be commenced in 1 February "Year 2". The total duration of consulting services will be 87 months which includes 12 months of defects liability period. The implementation schedule expected is as shown in Table 4.1 and bar chart is attachment-1.

CHAPTER 4 EXPECTED TIME SCHEDULE

CHAPTER 5 STAFFING

5.1 General

Consulting services are combined by component 2 (infrastructures) and component 3-2 (fisheries promotion) and component 2 has 2 stages; detailed design and supervision stage. The design stage involves the detailed design stage, preparing the tender documents, and assistance of tendering and evaluation. The estimated men-months of the consultant personnel for its services are 351 M/M in total, consist of 24 M/M of international, 327 M/M of national engineers or experts as shown in the below.

Component 2

Engineers	M/M	International Engineer (Pro-A)		
a-1	Team Leader (Civil Engineer/Natural Resource Management)	21		
a-2	Knowledge Management Expert	3		
Total		24		
National Engineer (Pro-B)				
b-1	Co-Team Leader (Civil Engineer/Management Consultant)	62		
b-2	Structure Engineer	12		
b-3	Soil Engineer	5		
b-4	Environmental Specialist	12		
b-5	Land Acquisition & Resettlement Specialist	12		
b-6	Procurement and Contract Engineer	12		
b-7	Quality Control Specialist	36		
b-8	Supervisor	12		
b-9	Infrastructure Management Specialist	10		
b-10	Knowledge Management Specialist	12		
b-11	Gender Specialist	12		
b-12	Monitoring and Evaluation Specialist	30		
Total		227		
Gross total		251		

Component 3-2

Engineers		M/M	International Engineer (Pro-A)		
Total		0	National Engineer (Pro-B)		
b-1	Aquatic Biodiversity & Fisheries Management Specialist	60			
b-2	Fisheries Livelihood & Management Specialist	40			
Total		100			
Gross total		100			

Engineers	M/M
International Engineer (Pro-A)	
Component-2	24
Component-3-2	0
Total	24
National Engineer (Pro-B)	
Component-2	227
Component-3-2	100
Total	327
Gross total	351

5.2. 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 Attachment -2.

5.2.1. 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/IEB in

accordance with the rules and guideline in Bangladesh.

- 6) 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 Engineering 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)		

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

National Engineer (Pro-B)		
b-1	Aquatic Biodiversity & Fisheries Management Specialist	M.Sc. / Fishery
b-2	Fisheries Livelihood & Management Specialist	M.Sc. / Fishery

5.2.2. 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)	<ul style="list-style-type: none"> - 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)	<ul style="list-style-type: none"> - 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)	<ul style="list-style-type: none"> - 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

No	Position	Major Tasks and Duties
b-3	Soil Engineer (Pro-B)	<ul style="list-style-type: none"> - Prepare the technical specification of geotechnical survey and soil investigation, procure and supervise the contractor for geotechnical survey and soil investigation. - 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)	<ul style="list-style-type: none"> - Prepare the draft of EIA/IEB 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/IEB and EMP;
b-5	Land acquisition and Resettlement Specialist (Pro-B)	<ul style="list-style-type: none"> - 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

No.	Position	Major Tasks and Duties
b-6	Procurement and Contract Specialist (Pro-B)	<ul style="list-style-type: none"> - 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). - 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)	<ul style="list-style-type: none"> - 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 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/PVO 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.

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

5.2.1. Qualification of key team members

in Attachment -3.

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

5.2. Supervision Stage

No.	Position	Major Tasks and Duties
b-14	Fisheries Livelihood & Management Specialist (Pro-B)	<ul style="list-style-type: none"> - 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. - 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.

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 Engineering 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 Engineering 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

5.2.2. 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)	<ul style="list-style-type: none"> - 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.

No.	Position	Major tasks and duties
a-2	Knowledge Management Expert	<ul style="list-style-type: none"> - 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.
- National Engineer		
b-1	Co-Team (Pro-B)	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - Advise and assist in formulating and operationalizing

No.	Position	Major Tasks and Duties
	Specialist (Pro-B)	<ul style="list-style-type: none"> - 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 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 personnel and LCS member and different levels needed for the project. - Assist PMO in construction monitoring check.
b-8	Supervisor (Pro-B)	<ul style="list-style-type: none"> - 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

No.	Position	Major Tasks and Duties
b-9	Infrastructure Management Specialist (Pro-B)	<ul style="list-style-type: none"> - 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 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)	<ul style="list-style-type: none"> - 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 learned from the information above for dissemination of the experiences to future projects.
b-11	Gender Specialist (Pro-B)	<ul style="list-style-type: none"> - Prepare a strategy to provide opportunities to socially isolated and poor women to access special quotas in employment and services 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 learned regarding assessment for gender issues and improvement in the project related to knowledge management.
b-12	Monitoring and Evaluation Specialist (Pro-B)	<ul style="list-style-type: none"> - Review and provide recommendations regarding the of 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.

(2) Component 3-2

Scope of works of the specialists on Component-3 is same as section 5.1.2.

No.	Position	Major tasks and Duties
b-4	Environmental Specialist (Pro-B)	<ul style="list-style-type: none"> - 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)	<ul style="list-style-type: none"> - 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.

CHAPTER 6 REPORTING

Within the scope of the consulting services, the Consultant shall prepare and submit reports and documents to LGED as shown in the below. The Consultant shall provide electronic copy of each of these reports.

Table 6.1 Submitted reports and documents to LGED

Status	Type of Report	Timing	No. of Copies
Detailed Design	Inception Report	1 month after commencement of the services	20
	Monthly Progress report	Every month	20
	Draft Detailed Design Report	3, 15, 27 month after commencement of the service	20 each (60 in total)
	Cost Estimate Report	3, 15, 27 month after commencement of the service	20 each (60 in total)
	Final Detailed Design Report	4, 16, 28 month after commencement of the service	20 each (60 in total)
	Bidding Document	4, 16, 28 month after commencement of the service	20 each (60 in total)
	Land acquisition and Resettlement Monitoring Report	Every month during these implementation period	20
	Environmental Report	At the end of Detailed Design stage	20
	Social Plan Report	At the end of Detailed Design stage	20
	Supervision	Operation and Maintenance Manual Every 3 months RAP Monitoring Report Every 3 months Construction Completion Report 3 month after completion of construction Service Completion Consulting engineering services	20 20 20 20 20 20 20

6.1

Detailed Design Stage

- a) Monthly Progress Report (20 copies): The Consultant will submit a Monthly Progress Report in the accepted form describing briefly and concisely all activities and progress for the previous month by the 10th day of each month. Problems encountered or anticipated will be clearly stated, together with actions to be taken or recommendations on remedial measures for correction. It will also indicate the work to be performed during the coming month.
- b) Inception Report (20 copies), to be submitted in the 1st month after the commencement of the services, presenting the methodologies, schedule, organization, etc.

- c) Draft Detailed Design Report (60 copies), to be submitted in the 3rd, 15th, 27th month after the commencement of the services, presenting detailed engineering design.
- d) Cost Estimate Report (60 copies), to be submitted in the 3rd, 15th, 27th month after the commencement of the services, presenting detailed cost estimate.
- e) Final Detailed Design Report (60 copies), to be submitted in the 4th, 16th, 28th month after the commencement of the services, compiling all the items carried out during the services.
- f) Bidding Document Report (60 copies), to be submitted in the 4th, 16th, 28th month after the commencement of the services, presenting the bidding documents and bid evaluation criteria.
- g) Land Acquisition and Resettlement Monitoring Report (20 copies), to be submitted at every month during land acquisition and resettlement implementation period. RAP monitoring form will be filled and attached to the Report.
- h) Environmental Report (20 copies), to be submitted by the end of the detailed design stage, presenting the draft of EIA, EMP and EMOP prepared.
- i) Social Plan Report (20 copies), to be submitted by the end of the detailed design stage, presenting the draft of RAP prepared.

6.2 Construction Supervision Stage

- a) Monthly Progress Report (20 copies), to present the details of expert personnel mobilization, progress of work, financial man-month used, problems encountered and the anticipated services for the next period of the services, including progress on resettlement activities.
- b) Quarterly Progress Report (20 copies) to present the project progress status.
- c) Operation and Maintenance Manual (20 copies) containing technical procedures for the appropriate operation and maintenance of all project facilities.
- d) Environmental Monitoring Report (20 copies) to be submitted at every three (3) months after the commencement of the services, presenting the environmental impacts and implementation of environmental mitigation measures during and after the construction stage. Environmental monitoring forms will be filled and attached to the report.
- e) RAP Monitoring Report (20 copies) to be submitted at every three (3) months. RAP monitoring form will be filled and attached to the report.
- f) Construction Completion Report (20 copies), to be submitted within three (3) month after completion of construction, which comprises a full size of as-built drawings for all the structures and facilities completed, and the final details of the construction completed together with all data, records, material tests results, field books, etc.
- g) Service Completion Report (20 copies), at the completion of all the consulting engineering services.

CHAPTER 7 OBLIGATION OF LGED

LGED is prepared to provide the following to the Consultant in support of the consulting services:

- (1) Report, data, information and available documents relevant to the Project.
- (2) Cooperation and Counterpart staff
- (3) Assistance and exemption
 - Use its best efforts to ensure that the assistance and exemption, as described in the Standard Request for Proposal issued by JICA, will be provided to the Consultant, in relation to
 - work permit and such other documents;
 - entry and exit visas, residence permits, exchange permits and such other documents
 - clearance through customs;
 - instructions and information to officials, agent and representatives of Bangladesh;
 - exemption from any requirement for registration to practice their profession;
 - privilege pursuant to the applicable law in Bangladesh.

- (4) Office space for the Consultant in LGED Headquarter in Dhaka

(Project schedule and Men-months schedule will be attached as Attachment.)

