,		١	9	01417	7.00	4.50	0.00	30,000	1004 Satkapan UP Office (Chalitatala)-Bakterpur via Shoaia bazar Kd	bal 636053004	Bahubal	Habiganj	34
ہ ≎	E13	2 3	2 4	╗		0.32	26.0	50,000		ai 690292004	Derai	Sunamganj	33
э .	R ₈	5 6	ə (420			5 5	30,000		il 348923004	j Tarail	Kishoregan	32
4	Z	5 0	0		3 54	2 67	2.00	30,000	001 Singua Ferry ghat-Bagadia Bazar Rd.	noin 348594001	j Mithamoin	Kishoreganj	31
۱ ۱	£ 2		5 0		10.00	0.00	10.00	30,000	1002 Mithamoin Sadar-Karimganj Boardar Balikhola Road	noin 348592002	j Mithamoin	Kishoreganj	30
	3 3	-		1776	10.00	0.00	5.00	30,000	348335041 Mowra-Chandrapur hat Rd.		Itna	Kishoregani	29
- 4	N7			MAC	2 2	2.06	0.90	30,000	001 Ujanchar bazar-Halimpur UP Rd	ur 348063001	j Bajitpur	Kishoreganj	28.
<u> </u>	Nie Z	2 8	2 0	$\neg \vdash$	70.02	0.00	7.02	31,200	_	ganj 636022005		Habiganj	27
5 6	110	3 0	5 6	┰	11.5/	0.00	11.37	34,000		ram 348023005		Kishoregan	26
s د	N 8	2 0	٥	Т	14.06	14.06	0.00	35,000		ganj 636022003	Azmiriganj	Habiganj	25
> <	N1Z	2 5) c	\neg	7.70	3.85	3.85	35,000		\rightarrow	Su	Sunamganj	24
٥	Ž .	5 0	₂ c	┰	5.38	5.38	0.00	35,000	006 Dumrakanda Bazar-Ramdi UP Office Rd.		+	Kishoregani	23
n +	B 4	٥	, c	1	4.00	4.00	0.00	35,000			_	Kishoregani	22
. -	2 10)	, c	\top	9.53	0.00	9.53	35,000	_		+	Kishoregani	2]
- -	7	5	> 2	Т	1.80	0.00	1.80	36,000	034 Anandopur Ghat - Anadopur Village	ganj 636025034	+	Habigani	20
5 L	3 4	5 0	3 0		4.45	4.45	0.00	38,000	1			Kishoregani	19
2 6	22 22	5 0	,	UNK	9.59	0.00	9.59	40,000	001 Mithamoin Noya hati-Dhaki UP Office Rd.	\Box	+	Kishoregani	18
4 c	3 3		,	VRA	4.87	4.87	0.00	40,000	348274038 Gangahatia bazar-Janata bazarvia Abdul Aziz H/S road		Ŧ	Kishoregan	17
۸ ۱	2 2	2 C		VRA	2.00	2.00	0.00	40,000		li 348764005		Kishoregani	<u>-</u>
ى <u>د</u>	4	0 0	, c	VRA	4.66	2.33	2.33	40,000				Kishoregani	5
3 -	Z V	,	٥	UZR	13.37	0.00	13.37	40,000			\top	Kishoregani	14
ں ،	5	· c	c	UNIX	9.97	9.97	0.00	40,000		_		K ishoregan	i
4 1	7 7	, 0	0	SNR	11.93	11.93	0.00	40,000			Pakundia	Kishoregani	12
. -	16 16	0	0	UZR	10.20	0.00	10.20	40,200			Day.	Vichoregan	= =
0	N12	45	185	UZR	15.13	0.00	15.13	45,000			Dakhin Sunam	Netrokona	5 4
٥	KIS	c	С			5.00	0.00	45,000		\downarrow	Khailai	Netrokona	- c
	7; &	, <u>-</u>	0			0.00	2.00	46,200	_	rani 636024002	Azmirigani	Hahioani	»
0	R10	30	100	1	3.00	1.50	1.50	50,000		nang 636113017	Baniachang	Habiganj	7
c	20	20	2	72X	5.00	5.00	0.00	50,000			Baniachang	Habigani	9 6
	2117	3 6	3 0			0.00	8.30	50,000		-+	Sunamgani-sadar	Sunamgani	л .
5 0	Z	3 0	> <	Т		6.00	0.00	50,000		\perp	Purbadhala	Netrokona	7 4
7 1	10	<u> </u>	- ·	┰	700	12.30	0.00	000,000	008 Niamatpur-Gundhar GC Road via Fazilkhali Bazar	anj 348422008	Karimganj	Kishoregan	ω
2	NO S	0 2)	1178 1178	13 05	1,00	9.90	120,000		r 636444065	Sadar	Habiganj	2
ء (د	R13	5 6	o 8	Т	3 /·	1 20	0.00	350,000	013 Subidpur Up office-Aowar Mohal Bazar Via Kabirpur, Niamat pur	ang 636113013	Baniachang	Habigani	-
O	-	<u> </u>	3 (\neg	Loral	submergible	- 0					ì	ing
6	BWDB Sub	Culvert 1	Bridg C	Road		Non-	_	Beneficiary	ode Road Name	ia Road Code	Upazila	District	ank
number of	NO.		-	Fian				Existing			-		144
Resettlement	Res			TM					Road)	ppendix 3: List of Subprojects for LGED (Rural Road)	Subprojects fo	ndix 3: List of	.ppei

:ppei	ıdix 3: List of S	sppendix 3: List of Subprojects for LGED (Rural Road)	D (Rural Roa	d)						9			Dasationant	I and
			٠		Existing			 	TENT.				Vesement	
(ank)	T I and all a	Dand Cade	Road Name			Length (km)				Culvert B	3WDB Sub	number of	Acquisition
gai	District	Opaziia	Noad Code		Beneficiary	Submergible	Non- submergible	Total	Class	3		Project No.	people	(m2)
35	Hahigani	Baniachang	636114049	Pukra Up office -Kandipura village Riad Via Darowa, Sathgran High School	30,000	0.00	3.13	3.13	VRA	0	 <u>=</u>	R13	0	3,662
3	Kishoregani	ľtna	348333007	Badla UP-Barshikura Hat Road	25,000	3.00	0.00	3.00	UNR	0	0	Ŋ	2	4,350
37	Kishoregani	Tarail	348923010	Jawer UP-Dhamiha UP via Echapashar	25,000	3.31	0.00	3.31	UNR	0	0	1 %	5	6,455
38	Kishoregani	Kuliarchar	348543002	Chhaysuti UP Office[R&H]-Paltia Bazar via Madhobdi, Pailanpur R	25,000	0.00	4.97	4.97	SNR	0	0	2	6	845
39	Netrokona	Purbadhala		Purbadhala (Kalduar)-Ghagra UP (Kapashia) road via Ghagra bazar	25,000	0.00	3,36	3.36	UNR.	0	0	2	8	1,277
40	Sunameani	Jamaleani		Sachna Bazar - Beheli GC - Taherpur	25,000	0.15	0.00	0.15	UZR	20	0	N12	0	38
41	Hahioani	Azmirigani		Solori - Shibpasha.	25,000	8.50	0.00	8.50	VRB	0	12.7	R8	0	9,945
43	Habigani	Baniachang	636114013	Habigonj-Baniyachong RHD to Sunaru vill	25,000	.0.00	1.00	1.00	VRA	30	15	R13	0	1,670
43	Habigani	Baniachang	636114019	Shibgonj Bazar to halderpur Chilori road	25,000	0.00	3.00	3.00	VRA	0	ō	N13	0	6,510
44	Habigani	Azmirigani	636025026	Kamulpur Ghat - Kamulpur Pry School.	21,900	2.75	0.00	2.75	VRB	0	ō	R9	C	3,905
45	Sunamgani	Dharmapasha	690322007	Joysree-Moddhanogar Via Ramdiga Road.	20,400	8.73	8.73	17.46	UZR	0	100	4	C	35,793
46	Kishoreganj	Pakundia	348793005	348793005 Hossendi UP-Motkhola GC Via Alamdi	20,000	0.00	8.30	8.30	UNR	0	c	2		3,/35
47	Kishoreganj	Nikli	348765009	348765009 Guroi UP office-Chapirchar Rd	20,000	0.00	0.64	0.64	Ý.	- -	- -	N) 4	15
48	Kishoreganj	Hossainpur	348273005	Gobindapur Chowrasta bazar-Gobindapur UP H/Q Road	20,000	0,00	2.08	2.08	UNK	, c	, c	? 4	5	2,392
49	Kishoreganj	Hossainpur	348273009	Adu Master bazar-Shahedal UP H/Q Road	20,000	0.00	3.00	3.00	CNR	c	<u> </u>	2	U	0.50,1
50	Kishoreganj	Katiadi	348453007	Achmita UP H/QPong Masua bazar Rd.	20,000	0,00	2.10	2.10	SN) c	, <u>-</u>	3	0	2,940
51	Netrokona	Purbadhala	372834065	Kalihor R&H-Dampara via Chander Bazar	20,000		3.00	3.00	Ş.A	<u> </u>	٥	? 2	U	2010
52	Netrokona	Purbadhala	372835039	Shahala-Hatkhala Bazar	20,000		3.20	3.20	Į,) <u>c</u>) 0	<u> </u>	o	2,944
53	Netrokona	Barhatta	372092007	Amtala-Samaj GC Road (Barhatta Portion)	20,000		0.00	6.24	SZ R) c	 -	3 3		8,424
54	Sunamganj	Sunamganj-sadar	690894005	Tokerghat-Bahadurpur Rd.(Laxmansree)	20,000		0.00	3.00	i k) - -	3 5	713 N		2100
55	Habiganj	Bahubal	636054079	Guharua Pry. School - Panchparia Road Via Sluice gate Durga pur.	20,000		5.00	5.00	I KA) c	2 0	D _o	0	21 640
56	Habiganj	Azmiriganj	636023001	Pashchimbag - Azmirigonj Road.	19,200		4.22	8.40	V CINK) c	2 0	200	0	1 407
57	Habiganj	Azmiriganj	636025012	G C C Road - Ronia Road.	18,500		0.00	7.10	i i	2 5	5 5	8	0	1, 10
58	Habiganj	Azmiriganj	636025008	Pituarkandi Ghat - Shalla Highschool.	17,600		0.00	3.63		2 5	5 5	3		1000
59	Habiganj	Azmiriganj	636025027	Kakilsow Bazar - Rahala Rd.	16,500		0.00	C7.7	į į	2 2	5	3	, ,	1,770
60	Kishoreganj	Sadar	348493009	348493009 Danapatuli UP-Jalia bazar	15,000		2.61	2.61	CNX	5 =	, =	N	2 0	2 7 40
61	Netrokona	Atpara	372045037	372045037 Sukari Badirakola	15,000		0.00	2.00		عاد	٥	NI		0,040
62	Sunamganj	Derai	690294018	Nagergaon Ferryghat-Nasnibazar	15,000		0.00	2.00	Š	ء اد	٥	3 3		1,040
63	Sunamganj	Derai	690294019	Akilha Bazar-Nagergaon via Kulanje	15,000		0.00	2.00	¥R.A	<u> </u>	8 8	2 2	0	1,340
64	Sunamganj	Derai	690294020	Akilha Bazar-Nasni Bazar	15,000	0.00	1.25	1.25	VRA	20:	20	: æ	ò	1,463
65	Habiganj	Sadar	636444035	Poil-Pachparia Rd.	15,000		4.20	4.20	\ RA	٥		RIG	ò	714
66	Habiganj	Bahubal	636055058	Shuaiyabazar-Ruyail	15,000		0.00	6,00	VRE	<u> </u>	<u> </u>	RI3	, c	4,020
67	Habiganj	Azmiriganj	636025006	Bong rd - Paddy land Rd	13,400		0.00	5.10	¥ Œ	٥	0.0	X	; c	3,41/
68	Netrokona	Barhatta	372094015	Rambhadrapur FRB-Naihati Bazar Rd	13,000		4.39	4.39	Ý.	ء اح	٥	2	ì	دلاكرد
69	Sunamgani	Dakhin Sunamganj.	690934021	Ganiganj RHD-Jibdara Road.	12,000	4.70	0.00	4.70	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	<u> </u>	19	NIZ	0	

	85	84	83	82	∞_	80	79	78	76	75	74	73	72	71	č	3	6		ank	madd
	Sunamgani	Sunamganj	Sunamganj	Sunamganj	Sunamganj	Sunamganj	Sunamganj	Sunamganj	Netrokona	Netrokona	Netrokona	Netrokona	Sunanganj	Habiganj	fregion	Ushimmi		District		CHA J. LIST OF
	Dakhin Sunamganj	Sunamganj-sadar	Sunamganj-sadar	Sunamganj-sadar	Sunamganj-sadar	Derai	Derai	Jamalganj	Khailajuri	Atpara	Atpara	Purbadhala	Dharmapasha	Azmiriganj	Dallacar	Rahnhal		Upaziia		plema of male of section of the section of
	690934048	690895038	690895111	690894073	690894022	690294017	690294012	690505037	372383009	372045036	372045034	372835052	690323005	636025023		636054010	-	Road Code		
Total	Dakhin Sunamgani, 690934048 Ashammura Pry. School-Puran -Kandigoan Road.	690895038 Katair-Joynagar Road to Narkila GPS.(Mohanpur)	690895111 Katair joynagor GC road (Noagaon)-Kandigoan village road.(Katair)	690894073 Bahaderpur RHD to Nurulla Village Road.(Laxmansree/Mohanpur)	690894022 RHD(Hahuargoan)-Islampur (Laxmansree)	690294017 Boalia Bazar-Bhaitgaon	690294012 Tarapasa-Tongor	690505037 Sukdebpur - Radanagar Road	Upazila HQ - Gazipur UP office rd.	372045036 Duaz bazar road	372045034 Ukrakhal Road	Jaria Purbopara-Jaria Switch Gate via RPSchool Rd.	690323005 Modhayanagar bazar-Golha Rd.	Kakilsow GCCR - Rosulpur.	Book of the Comment o	636054010 Khapaura Bagdair Road		Nuan Ivanic	Tool Name	
	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,500	11,230	11 250	12,000		Beneficiary		Existing
	3.81	0.00	3.00	4.00	2.20	0.00	2.00	0.00	4.25	1.50	1.75	5.00	3.00	2.10	3 10	0.00	Submergible			
	0.00	2.00	0.00	0.00	0.00	2.00	0.00	0.04	4.25	0,00	0.00	0.00	0.00	9.00	000	5.80	submergible	Non-	Length (km)	
	3.81	2.00	3.00	4.00	2.20	2.00	2.00	0.04	8.50	1.50	1./5		00.00	0 20	010	5,80	Total			
	VRA	VRB	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	VRA	VRA	V.K.A	¥R⁄A	\ E	UNR	É	É	Š	CIAN		VRR	VRA			Plan	
	0	0	0	<u> </u>	c	٥	, c	20	450	ے) c	2 5	2 6	5 6	o	0	(E		Bride	
	10	0	٥	٥	ء اد	٥	, 20	10	20	_	عاد	0 0	o f	<u>ا</u> د	5	10	()	Culvert	
	N12	NIZ	N12	NIZ	NIZ		\$ 8	NI2	RIS.	Z	Z	<u> </u>	2 4		R9	R13 ·	i kojoce 140.	Project No	BWDB Sub	
139	0	0	C	c	C		0	0	, '	u u	2 1	2			>	0	people	1	number of	Resettlement
506,733		4,340	5,010	6,680	3,674	2,540	1,540		191	1,/33	2,723	01000	2 510	15,100	1 407	3,886	(zm))	Acqusition	Land

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

Upaziia Union name Market name Type New Kenabil B W LDS sur kosetulement. Restruction mumber Pakumdia Agarosindur Bahahadia RM New R5 4 Ima Joysiddhi Mudirgaon RM New N9 5 Sadar Danapatuli Kaliar Kanda Bazar RM New N1 3 Sadar Danapatuli Pumdi bazar RM New R4 4 Sadar Danapatuli Nimeukhali bazar RM New R4 3 Sadar Danapatuli Nimeukhali bazar RM New R4 3 Sadar Joyka Bogadia RM New R4 5 Sadar Joyka Bogadia RM New R4 5 Sadar Joyka Bogadia RM New R1 5 Sadar Horbadhala Horbadhala Ragras Bazar RM New R1 5 Kha	41,888	. 67	Total			The construction of the second	the second second and the second second second second second			
Upazila Union name Market name Type New Kenabil Bw Lbs un project No. Immber Restrictment Pakumdia Agarosindur Bahahadia RM New R5 4 Jina Joysiddhi Mudirgaon RM New N5 4 Sadar Danapatuli Kaliar Kanda Bazzar RM New N1 3 Sadar Danapatuli Pumdi bazzar RM New R4 4 Sadar Danapatuli Nimeukhali bazzar RM New R4 3 Sadar Danapatuli Nimeukhali bazzar RM New R4 3 Sadar Danapatuli Nimeukhali bazzar RM New R4 3 Sadar Gopdighi Bogadia RM New R4 3 Sadar Jopangar Shadakhali RM New N1 4 Sadar Jopangar RM New R1 5 Sadar Jopangar	2,464	0	R9	New	RM	Muradpur Bazar	Muradpur	Baniachong	Habigani	22
Upazila Union name Market name Type New Kenabul Bw Ds volument in project No. Resentment in project No. Resentment in project No. Resentment in project No. Resentment in project No. Mumber in project No. Administration in project No. R.M. New N.I. Administration in project No. M.I. Administration in proj		C	R10	Rehabilitation	GC	Sujatpur Bazar	Sujatpur	Baniachong	Habiganj	21
Upazila Union name Market name Type New/Renabl Project No. number project No. number project No. number Restructment project No. number New/Renabl Project No. number New project No. number Restructment project No. number Palkundia Agarosindur Bahahadia RM New RS 4 Sadar Danapatuli Kaliar Kanda Bazar RM New N1 3 Sadar Danapatuli Pumdi bazar RM New R4 4 Sadar Danapatuli Nimeukhali bazar RM New R4 4 Sadar Danapatuli Nimeukhali bazar RM New R4 4 Sadar Danapatuli Nimeukhali bazar RM New R4 4 Sadar Gopdighi Bogadia RM New R4 5 Sadar Hogiah Patra Bazar RM New R1 5 Purbadhala Ghagra Bazar RM New R1 12 Patra Ba	2,464	0	R13.	New	RM	Crowdt Ivronar	Pukra	Baniachong	Habiganj	20
Upazila Union name Market name Type New Rehabil by Dispect No. Rumber number number Pakundia Agarosindur Bahahadia RM New 1 project No. number number Ifma Joysiddhi Mudirgaon RM New N9 5 Sadar Danapatuli Kaliar Kanda Bazai RM New N1 3 Sadar Danapatuli Pundi bazar RM New N1 3 Sadar Danapatuli Adu master bazar RM New R4 4 Sadar Danapatuli Nimeukhali bazar RM New R4 3 Sadar Danapatuli Nimeukhali bazar RM New R4 3 Sadar Joyanapatuli Mineukhali bazar RM New R4 3 Sadar Gabaran Dhuldia Dhuldia Hat GC Rehabilitation N1 4 Sadar Hogela Patra Bazar RM New R1	2,464	0	R9	New	RM	Nischintopur	Kakailsew	AZMIRIGANJ	Habiganj	19
Upazila Union name Market name Type New/Kenabil Bub sub in project No. Restituental Pakundia Agarosindur Bahahadia RM New RS 4 Ima Joysiddhi Mudirgaon RM New N9 5 Sadar Danapatuli Pumdi bazar RM New N1 3 Sadar Danapatuli Pumdi bazar RM New N1 3 Sadar Danapatuli Nimeukhali bazar RM New R4 4 Sadar Danapatuli Dinlidia Hat GC Rehabilitation N1 4 Sadar Saharam Dhuldia Dinlidia Hat GC Rehabilitation N1 4 Sadar Joyka Bogadia RM New N2 6 Sadar Joyka Sinadakhali RM New N1 5 Purbadhala Hogla Patra Bazar RM New R1 5	2	Û	R8	Rehabilitation	GC	Paharpur	Badolpur	AZMIRIGANJ	Habiganj	18
Upazila Union name Market name Type New/kenabil by Discording to project No. Restruement number n	2,404	0	R13	New	RM	Shoaia Bazer	Satkapon up	Bahubal	Habiganj	17
Upazila Union name Market name Type New/Renabil by Using project No. Regentlement project No. number Bakaram II Joysiddhi Mudirgaon RM New RS 4 Sadar Danapatuli Radi master bazar RM New R4 3 Sadar Danapatuli Nimeukhali bazar RM New R4 3 Sadar Danapatuli Nimeukhali bazar RM New R4 3 Sadar Danapatuli Dhuldia Hat GC Rehabilitation N1 4 Sadar Gopdighi Bogadia RM New R4 3 Sadar Joyka Shadakhali RM New N1 4 Purbadhala Hogla Patra Bazar RM New R1	2,404) O	R13	New	RM	Digoambar	Putijuri up	Bahubal	Habiganj	16
Upazila Union name Market name Type i project No. number Pakundia Agarosindur Bahahadia RM New RS 4 Itna Joysiddhi Mudirgaon RM New N9 5 Sadar Danapatuli Kaliar Kanda Bazar RM New N1 3 Sadar Danapatuli Adu master bazar RM New R4 4 Sadar Danapatuli Nimeukhali bazar RM New R4 3 Sadar Danapatuli Nimeukhali bazar RM New R4 3 Sadar Gopdighi Bogadia RM New R4 5 Sadar Joyka Shadakhali RM New N2 6 Sadar Joyka Shadakhali RM New N1 5 Purbadhala Hogla Patra Bazar RM New R1 5 Purbadhala Ghagra Badshagonj RM New R1 12 Dharmapasha	2) O	R13	Rehabilitation	RM	Poil Natun Bazar	Poil	HABIGANJ-S	Habiganj	15
Upazila Union name Market name Type New/kenabil BwLb sud project No. Kesethement Pakundia Agarosindur Bahahadia RM New R5 4 Ifma Joysiddhi Mudirgaon RM New N9 5 Sadar Danapatuli Kaliar Kanda Bazar RM New N1 3 Sadar Danapatuli Pumdi bazar RM New R4 4 Sadar Danapatuli Nimeukhali bazar RM New R4 3 Sadar Danapatuli Nimeukhali bazar RM New R4 3 Sadar Saharam Dhuldia Dhuldia Hat GC Rehabilitation N1 4 Sadar Joyka Bogadia RM New N2 6 Sadar Joyka Shadakhali RM New N1 4 Purbadhala Hogla Patra Bazar RM New R1 5 Pubadhala Ghagra Bazar RM New R1 12		0	NI2	Kehabilitation	GC	Joynagar	Mohanpur	Sunamganji Sadar	Sunamganj	14
Upazila Union name Market name Type New/Renabil bw Ds wo for project No. Restrictment number Pakundia Agarosindur Bahahadia RM New R5 4 Pakundia Agarosindur Bahahadia RM New R5 4 Ifma Joysiddhi Mudirgaon RM New N9 5 Sadar Danapatuli Kaliar Kanda Bazar RM New N1 3 Sadar Danapatuli Adu master bazar RM New R4 4 Sadar Danapatuli Nimeukhali bazar RM New R4 3 Sadar Saharam Dhuldia Dhuldia Hat GC Rehabilitation N1 4 Sadar Gopdighi Bogadia RM New N2 6 Sadar Joyka Shadakhali RM New N1 5 Purbadhala Hogla Shadakhali RM New R1 5 Purbadhala Ghagra Bazar RM New R1 5 Khaliajuri MENDIPUR Satgoan Bazar RM New R1 12	2,404	0	NA A	New	RM	Badshagonj	Selborash	Dharmapasha	Sunamganj	13
Upazila Union name Market name Type New/Kenabil Bw Ds sud Resettlement Pakundia Agarosindur Bahahadia RM New R5 4 Pakundia Agarosindur Bahahadia RM New R5 4 Itna Joysiddhi Mudirgaon RM New N9 5 Sadar Danapatuli Kaliar Kanda Bazar RM New N1 3 Sadar Danapatuli Pumdi bazar RM New R4 4 Sadar Danapatuli Adu master bazar RM New R4 3 Sadar Danapatuli Nimeukhali bazar RM New R4 3 Sadar Saharam Dhuldia Dhuldia Hat GC Rehabilitation N1 4 Sadar Joyka Shadakhali RM New N2 6 Purbadhala Hogla Patra Bazar RM New R1 5 Purbadhala Ghagra Bazar RM New R1 12	2,404	11	R15	New	RM	Satgoan Bazar	MENDIPUR	Khaliajuri	Netrokona	12
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Upazila Union name Market name Type New/Renabil by Droject No. Resentement project No. Resentement project No. Resentement project No. New project No. Rumber Pakundia Agarosindur Bahahadia RM New RS 4 Joysiddhi Mudirgaon RM New N9 5 Sadar Danapatuli Kaliar Kanda Bazar RM New N1 3 Sadar Danapatuli Pumdi bazar RM New R4 4 Sadar Danapatuli Nimeukhali bazar RM New R4 3 Sadar Saharam Dhuldia Dhuldia Hat GC Rehabilitation N1 4 Sadar Joyka Shadakhali RM New N1 5	2,404	3	R1	New	RM	Patra Bazar	Hogla	Purbadhala	Netrokona	10
Upazila Union name Market name Type New/Renabil by Dro gect No. Resentement project No. Resentement project No. Resentement project No. New number Pakundia Agarosindur Bahahadia RM New RS 4 Ifma Joysiddhi Mudirgaon RM New N9 5 Sadar Danapatuli Kaliar Kanda Bazar RM New N1 3 Sadar Danapatuli Pumdi bazar RM New R4 4 Sadar Danapatuli Adu master bazar RM New R4 3 Sadar Danapatuli Nimeukhali bazar RM New R4 5 Sadar Saharam Dhuldia Dhuldia Hat GC Rehabilitation N1 4 Sadar Gopdighi Bogadia RM New N2 6	2,404	U	Z	New	RM	Shadakhali	Joyka	Sadar	Kishoregani	-6
Upazila Union name Market name Type New/Renabil by Dr Sub project No. number Resettlement project No. number Pakundia Agarosindur Bahahadia RM New RS 4 Ifma Joysiddhi Mudirgaon RM New N9 5 Sadar Danapatuli Kaliar Kanda Bazar RM New N1 3 Sadar Danapatuli Pumdi bazar RM New R4 4 Sadar Danapatuli Adu master bazar RM New R4 3 Sadar Danapatuli Nimeukhali bazar RM New R4 3 Sadar Saharam Dhuldia Dhuldia Hat GC Rehabilitation N1 4	2,404	7	711	New	ΚM	Bogadia	Gopdighi	Sadar	Kishoreganj	8
UpazilaUnion nameMarket nameTypeNew/Renabil iBwLb sud project No.Resettlement project No.PakundiaAgarosindurBahahadiaRMNewRS4ItnaJoysiddhiMudirgaonRMNewN95SadarDanapatuliKaliar Kanda BazarRMNewN13SadarDanapatuliPumdi bazarRMNewR44SadarDanapatuliAdu master bazarRMNewR43SadarDanapatuliNimeukhali bazarRMNewR45	V3V C	4		Кепаоппаноп	5	Dhuldia Hat	Saharam Dhuldia	Sadar	Kishoreganj	7
Upazila Union name Market name Type New/Renabil Bwlb suo Resettement Resettement Pakundia Agarosindur Bahahadia RM New R5 4 Ifna Joysiddhi Mudirgaon RM New N9 5 Sadar Danapatuli Kaliar Kanda Bazar RM New N1 3 Sadar Danapatuli Adu master bazar RM New R4 4 Sadar Danapatuli Adu master bazar RM New R4 3	1,101	۸ ر	X1	n-1-1-1-t-	NAME OF THE PROPERTY OF THE PR	Nimeukhali bazar	Danapatuli	Sadar	Kishoreganj	6
UpazilaUnion nameMarket nameTypeNew/RenabilBw Lb SubResettlementPakundiaAgarosindurBahahadiaRMNewR54ItnaJoysiddhiMudirgaonRMNewN95SadarDanapatuliKaliar Kanda BazarRMNewN13SadarDanapatuliPumdi bazarRMNewR44	2,464	h	74	New		Adu master bazar	Danapatuli	Sadar	Kishoreganj	5
UpazilaUnion nameMarket nameTypeNew/kenabilBwLb sub fyeResettlement project No.Resettlement project No.PakundiaAgarosindurBahahadiaRMNewRS4IfnaJoysiddhiMudirgaonRMNewN95SadarDanapatuliKaliar Kanda BazarRMNewN13	7,704	υ ‡	74	New	Z A	Pumdi bazar	Danapatuli	Sadar	Kishoreganj	4
UpazilaUnion nameMarket nameTypeNew/kenabilBwlb sub project No.ResettlementPakundiaAgarosindurBahahadiaRMNewR54ItnaJoysiddhiMudirgaonRMNewN95	2,404	A U	DA NI	New	KM	Kaliar Kanda Bazar	Danapatuli	Sadar	Kishoreganj	w
Upazila Union name Market name Type New/kenabit Bwlb sub kesement Pakundia Agarosindur Bahahadia RM New R5 4	1737 C	ی د	NY NY	New	KM	Mudirgaon	Joysiddhi	Itna	Kishoreganj	2
Upazila Union name Market name Type i project No. number	2,464	4	R5	New	RM	Bahahadia	Agarosindur	Pakundia	Kishoreganj	1
New/Kenabii Bwlb suo Kesememen	(m2)	number	project No.	þd.s	Туре	Market name	Union name	Upazila	District	No.
Delicated and the second and the second	Land Acquisition	Resettlement	BWDB sub	New/Rehabil	3		And the second s			

RM: Rural Market, GC: Growth Center

Appendix 3: List of Subprojects for LGED (Ghat)

0 12 0 12 0 12 0 12 0 12 0 12 0 12 0 12		R10	Sujath pur Bazar	Baniachoni	Hahigani	21
0 12 0 12 0 12 0 12 0 12 0 12 0 12			The Case of the control of the contr	THE POST OF THE CO		
0 12 0 12 0 12 0 12 0 12		R13	Poil Natun Bazar Ghat	HARIGANI-S	Hahigani	20
0 12 0 12 0 12 0 12		R13	Purbo Poil Bazar Ghat	HABIGANJ-S	Habiganj	19
0 12 0 12 0 12		NI2	Birgaonbazar	Dakhin Sunamganj	Sunamganj	28
0 12		21N	Pathariabazar GC	Dakhin Sunamganj	Sunamganj	17
0 12		NI2	Joynagar Ghat	SUNAMGANJ-SADAR	Sunamganj	16
0 12		K8	Boalia	Derai	Sunamganj	15
ב ב		RI4	Rahutola Bazar Ghat	Sulla	Sunamganj	14
7.2		F.	Moheshpotti Ghat	Purbadhala	Netrokona	13
			Ghagra Ghat	Purbadhala	Netrokona	12
12		2 2	Patra Ghat	Purbadhala	Netrokona	11
2 12			shudi bazar Ghat	Sadar	Kishoreganj	10
12		Z	Panahar bazar Ghat	Sadar	Kishoreganj	9
		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Kacharighat	Sadar	Kishoreganj	8
2 12		100	Olua	Sadar	Kishoreganj	7
3 12		CIV.	Char Ixauxuar	Sadar	Kishoreganj	0
4 1 12		R9	Char Katkhal	Codo	VISHOTORan)	Ù
3 12		R4	Rampur bazar Ghat	Cadar	Vichoragani	v 1
3 12		R4	Char Pumdi bazar Ghat	Sadar	Kichoregani	۱ م
2 12		Z	Kaliarkanda Bazar Ghat	Sadar	Kishoregani	در
		K9	Joysiddhi bazar	Itna	Kishoregani	2
10		50/2/	Bashikura bazar	Itna	Kishoreganj	1
2 12		, ,				
number (m2)	nun	project No.	Ghat name	Upazila	District	No.
Resettlement Land Acquisition	Resett	BWDB sub				

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Appendix 4: Planned activities for agriculture promotion activities

	poor female	əlds including marginal farm households; MFH - marginal farm households &	I/:: Primary target group; SFH - small farm househo
		- Ьаскаве: sboons/FHH	
		- Provision of mushroom spoon, shelve materials etc. & 3 days training	İ
1	MFHVAL	- CIG formation (3 CIGs x 8 members/CIG = 24 beneficiaries FHH/unit)	5. Small-scale Mushroom Culture Scheme
		- Package: 1 + chicks 9 or 1 + ducklings 9	
- 1	. 8	- Provision of package of chicks or ducklings, shed materials, feed & 1 day training	·
1	MEHVAL	- CIG formation (3 CIGs x 8 members/CIG = 24 beneficiaries FHH/unit)	4. Micro Poultry Raising Scheme
	11/11/100	- Candidate saplings: Jujube (kul), litchi, guava, moringa, mandarin orange etc.	The state of the s
		- Provision of fruit saplings, farm inputs, fencing materials & 1 day training	9
	TSJ # L.TM		amanaa waddaa maranaa camii c
	MFH/AL	- CIG formation (3 CIGs x 8 members/CIG = 24 beneficiaries HHH/mit)	3. Fruit Production Support Scheme
		- Provision of farm inputs & fencing materials etc; I day training	•
		- Plot size: I decimal (40m2)/FHH	and the manual and age of a second second of
	TA/HTM	- CIG formation (3 CIGs x 8 members/CIG = 24 beneficiaries FHH/unit)	2. Small-scale Vegetable Production Support
		- Provision of bed making materials, vegetable seeds & 2 days training	
	MFH/AL	- CÍO formation (3 CIOs x 8 members/CIO = 24 beneficiaries FHH/unit)	I. Floating Bed Vegetable Culture Scheme
Non-HILD			II. Small-scale Income Generation Sub-component (
- 1	sə1A	- Simple trial on non-rice crops prior to adaptive trial (1 site for 5 years)	2.2 Field Trial on Mon-rice Crops
-	Typical Haor	estray c roi saties (2) sites and settles or roing settles for 5 years)	5.1 Field Trial on Rice
		·	 Technology Development Program
		Standard: 40m2 & storage 20 m2	
ļ		- Scale depending on availability of land	•
		- Drying floor is for drying paddy preserved for seed only	•
		сошшлица лае	Seed Storage Facility
	.Brock	- Construction of drying floor & seed storage facility in farm land area for	4.2 Construction of Community Drying Floor &
		- Provision of machinery hiring services	
		- Provision of machinery at subsidized rate	
	Farmers	- Training of group members (3 months)	· · · · · · · · · · · · · · · · · · ·
	Progressive	- Formation of machinery hiring service providers group	4.1 Farm Machinery Hiring Services
selizequ IIA	,		4 Farm Machinery & Facility Support
11.	Field Staff	- Visit to advanced areas, successful project sites, etc. (3 days, 25 participants)	3.3 Study Tour/Exchange Visit
	35-49 Ft-:21	(5 days, participants 25 staff/class)	tipit/ encodoxillated Tubitto & &
• '	District Distri	gnitəəm notitules & gninist təshəsitər İsuniA - [[20] Analysis 25. stranisitzer, such 2)	Time more to Summer represent and
	Field Staff		That 2 bloiff to gministT radicafted S. E.
	TYPEC PROTE	(5 days, participants 25 stafficlass)	
annanda m .	Tiat2 blai4	- Staff training at the kick-off stage of the Project	That 2 bleiff to gninist T nottoubril 1.6
zslizsqu IIA		9-1-1-1-1	3. Field Staff Empowerment Program
		- Provision of continues guidance & monitoring	(OT) anoitszinsgrO
	O4/H4S	evituses to gainist & sisad been no snoitszinggo enemnit on orisamrof -	2.3 Formation & Empowerment of Farmer
		Provision of continues guidance & monitoring	
	1	issues, marketing, etc. (5 executive members/FO x 5 Foes = 25 participants)	(OT)
	OH	Training of executive members on group management, leadership, financial	2.2 Empowerment of Existing Fermer Organizations
	Public	and the Project activities in the project upazilas	
	Stakeholders	- Exhibition of agricultural products, appropriate agriculture practices introduced	ns∃ əmiluərigA
3	ZŁH	Mass guidance/field campaign (1 day, 40 & 80 participants/program)	- Mass Guidance/Workshop/Campaign
	l	(msrgorq\sinaqiolfraq	
	HAS	- Visit to advanced areas, successful project sites, etc. (I day; 25	- Study Tour/exchange Visit
	HAS	- Practical farmer training in class/field (3 & 5 days, 25 participants/class)	- Farmer Training
		, , , , , , , , , , , , , , , , , , , ,	2.1 Farmer Training
Поп-нп.Р	1	· ·	2. Farmer Training Program
	HAS	- Seed multiplication by farmers to improve seed supply in the sub-project areas	I. I. Research-Extension-Farmer Dialog
	HAS	- Integrated Crop Management (IPM) Farmer Field School (FFS) for rice	1.11 Seed Multiplication (rice)
	HAZ	- Integrated Pest Management (IPM) Farmer Field School (FFS) for rice	1,10 IPM FFS/ICM FFS (rice)
	HAS	25 CS.0) selfatison on cropping partiern of rice & upland crops or vegetables (cst rate of parties of the parti	1.9 Cropping Pattern Demonstration
<u></u>	ZEH	- Demonstration on inproved water management & fairming practices (20 acre) - Demonstration on inproved the property of the property of the provided in the pr	(2017) Horn Morrish and Constant (2017) Annual Mark (2017) Annual (2017)
			1.7 Water Management Demonstration Area (rice)
	SEH	- Demonstration on improved farming practices (10 acre)	l.6 Demonstration Area (nice)
	HHS	- Demonstration on improved farming practices (I acre)	(eoir) bleifi neitstranomed 2.1
	HHS	- Demonstration on improved farming practices (0.25 acre)	l.4 Demonstration Plot (rice)
		Adaptive trial on cropping pattern to as so have a series or vegetables (C.O.)	(metteg gaiggore) lairT svitgsbA E.1
	HAS	(eros 25.0) seldsfegev to agoro brasiqu gnizimorq no Isixi evitqsbA -	(səldstəgəv & agoro brisiqu) isirT əviqqsbA S.1
-	HAS	- Adaptive trial on new rice variety (short/cold tolerant etc.) (0.25 acre)	(aprive Tirisl (rice)
Mon-HILIP			mragor4 bleifi .
	1	in (APSS)	Agriculture Promotion Support Sub-compone
L.	\f səiA\	Description	Program/Activity
Upazila 2/		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	· · · · · · · · · · · · · · · · · · ·
1 arget Vpazila 2/		,	
tagraT Vpazila 2\	Primary Target Group	,	

headed farm households; AL: agriculture labour households
2/: Target upazilas of programs: Non-HILIP upazilas - upazilas not covered by HILIP, All upazilas - both non-HILIP & HILIP upazilas

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etc.)	
- Legal support to protect from legal issues (beel leases,	aroddng mgod -
- Regular auditing of BUGs for financial performance, etc.	- Legal support
efficiency & impact of project activities.	- BUGs auditing
- Generate data/information to check on performance,	A S M tyrad brird -
səih	F. Monitoring, Legal Support & Stu-
	of activities:
naring – To share success/weakness for overall improvement	R Exchange Visits for Experience S
- To disseminate and share findings, new ideas, etc.	
snoitulos bnit ot & seussi/smeldorq no seussib oT -	etc.
	- Seminars on findings, new ideas,
- To promote better understands among central & local	anplecta)
offices	- Morkshops (on need based
To inform on programs/activities to relevant agencies and	NGÓs)
moniforing, etc.	28 sOO) agaiteam metatings -
management, aquaculture, livelihood promotion,	earisionand to grimist -
- Skill improvement of resources staff on biodiversity, beel	ersofficities of project staffofficers
	D. Trainings/Workshops/Seminars
knowledge, skills and techniques	Extension
Strengthen the capacity of fisheries staff (DFO, UFO) for	Empowerment of Fisheries
<u>.</u> ,	C. Fisheries Support Services
Monitoring and evaluation	
sanitation and hygiene	
Training on improved processing and awareness on	•
Mobilize and organize beneficiaries groups	-
Site Selection of fish drying (among HHs and groups)	5. Fish drying & fermentation
Land preparation for fish culture and agriculture farming	
Preparation of activity plan, budget, capital formation, etc.	
on enterprise approach	
Formation of groups & committees, & awareness building	
fishers, etc.	
Identification & mobilization of interested HHs, farmers,	
Waters) Maters Maters Waters Water	_
	4. Daudkandi Model Aquaculture
Selection of suitable floodplain area locations (semi-closed	
Activities	Sub-components (Programs)

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Resource mapping & identification of resources	Community Fishery Resource Ma
	•
	Development of Beels
Selection of Beels (in 29 schemes in 5 districts)	
Collect & prepare beel list from DC office	J. Establishment of
Screen & select the Beels (based on criteria)	sanctuary/nursery
Map the selected beels at District level (PRA &	2. Target 150 beels in 29 schemes
Consultative meeting)	3. Beel connectivity (canal/khal excavation)
Formation of BUGs	· /
Identification & delineation of sanctuary areas	
Training (on excavation, conserving resources, etc.) of	-
репейсізгіез	
Arrangement process for leasing to BUGs	
Excavation & setting up (planting of trees, etc. on raised	
land, etc.)	Income Generating Activities
	oodplain Aquaculture Activities Dev
Selection & delineation of suitable locations	I. Net-pen fish culture
Identification of HHs, fishers/farmers & formation of	
groups Establishing management committee	
Establishing management committee Broquing of materials & setting up (protection pages)	
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	
Selection, identification and delineation of suitable	existing each daid.
locations	2. Fish cage culture
Identification of water bodies with mild flow & installing	
locations	•
Identification of households, fishers/farmers & formation o	
Stonba	
Establishing management committee	
Providing fish cages & other facilities with demonstration	•
Capacity building and training (beneficiaries and fishery	
schoulove bee paraticopy.	
Monitoring and evaluation Selection of ponds (earthen)	3. Backyard pond aquaculture
Identification of HHs interested in pond culture	orminopphp prod purkyoner is
Group formation, motivation, awareness building	
Pond renovation (if necessary)& preparation (cleaning,	· ·
iming, etc.)	
Fish species selection & stocking	

Appendix 6: Terms of Reference for consulting services (for BWDB portion)

BYCKCKONND CHAPTER 1

1.1 Background

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

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

Component 2: Construction and rehabilitation of rural development infrastructure Construction and rehabilitation of flood management infrastructure The Project comprises of the following components:

Component 3: Implementation of livelihood improvement activities

-AComponent 3-1: Agriculture promotion Component 3 consists of the following sub-components:

Component 3-2: Fishery promotion

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

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

1.2 Location of the Project

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

1.3 Scope of the Project

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

Small-scale Income Generation Sub-project (SIGS)	-	
Agriculture Promotion Support Sub-project (APSS)	•	Component 3-1
Construction of new flood management infrastructure	-	
Rehabilitation of existing flood management infrastructure	-	Component 1
ш	iəil	Component

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

- Project by IICA

 Project by IICA
- Project by JICA
 Data Collection Survey on Water Resources Management in Haor Area of Bangladesh by JICA

CHYPTER 2 OBJECTIVES OF CONSULING 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

CHYLLEK3 SCOLE OF CONSULING SERVICES

(1) Detailed design

The Consultant shall:

(a) Review and verify all available primary and secondary data collected during the JICA's

breparatory survey for the Project;

- security and required insurances., (d) Review and recommend BWDB for approval of the proposals submitted by the contractors
- (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;

spall:

The Consultant shall perform his duries 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
- including preparation of minutes of negotiation meeting; and (e) Assist BWDB in preparation of a draft and final contract agreement.
- addendum/corrigendum, and clarifications to bidders' queries; (d) Assist BWDB in contract negotiation by preparing agenda and facilitating negotiations
- environmental and social considerations (April 2010) (JICA Environmental Guidelines); (c) Assist BWDB in issuing bid invitation, conducting pre-bid conferences, issuing
- (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
- Bangladesh for National Procurement of Works together with all relevant specifications, drawings and other documents;
- 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

 Bandadesh for Mational Procurement of Works together with all relevant specifications.
 - (2) Tender assistance

Eniqejine/manusj

- JICA; and (e) Assist BWDB to formulate Water Management Organizations (WMOs) and to prepare O&M
- with the Bangladeshi Standards, or with the appropriate international standards. The detailed design will, as a minimum, include construction drawings, detailed cost estimates, necessary 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
- ensure effective monitoring and timely project outputs, and regularly update the same;

 (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
- the concerned project components.
 (c) Prepare detailed work plan, progress reports and implementation schedule for the Project to
- (b) Carry out the required surveys and investigations such as topographical survey, geotechnical survey, and baseline survey for project evaluation, as applicable to

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 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
- (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;

- 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 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;
- (I) Inspect the construction method, equipment to be used, workmanship at the site in accordance
- issue payment certificates such as interim payment certificates and final payment certificate as with the specifications;

 (m) Survey and measure the work output performed by the contractors and recommend BWDB to with the specifications;
- (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

(f) Check and certify as-built drawings for the parts of the works designed by the contractors, if defects are noted, instruct the contractor to rectify;

(u) Assist BWDB to prepare and submit an operation and maintenance manual for the facilities sul:

damages, other than defects, are identified, recommend BWDB to provide necessary (v) Provide periodic and/or continuous inspection services for the completed works and if any constructed in the Project to BWDB;

maintenance works;

implementation of the Project: and (w) Prepare and submit reports to BWDB, which are detailed in Chapter 6 in relation to the

(x) Assist BWDB to provide training program for WMOs.

(4) Facilitation of implementation of Environmental Management Plan (EMP).

(a) Prepare the draft of EIA/IEE including EMP and EMoP in accordance with Environmental The Consultant shall: Environmental Monitoring Plan (EMoP) and Resettlement Action Plan (RAP)

(b) Assist BWDB in dissemination and explanation of additionally confirmed and identified Conservation Rules 1997 in Bangladesh;

(c) Assist BWDB in obtaining Environmental Clearance from Department of Environment (DOE), environmental issues to public including holding public consultations;

Ministry of Environment and Forest in accordance with the planned implementation schedule;

explained in the EIA/IEE and EMP; (d) During the preparation of bidding documents, clearly identify environmental responsibilities as

and to make recommendations to BWDB regarding any necessary amendments for its approval; by the contractor in accordance with EMP, relevant plans and JICA Environmental Guidelines (e) Assist BWDB to review the Construction Contractor's Environmental Program to be prepared

Assist BWDB to implement the measures identified in the EMP;

construction works, and provide technical advices, including a feasible solution, so that BWGB (g) Monitor the effectiveness of EMP and negative impacts on environment caused by the

(h) Assist BWDB in monitoring the compliance with conditions stated in the EPC and the can improve situation when necessary;

design in accordance with the agreed resettlement framework, including entitlement matrix and (i) Prepare the draft of RAP as necessary by sub-contracting a local firm/NGO based on detailed requirements under EMP and JICA Environmental Guidelines;

compensation plan; coordinate with various agencies in preparing the procedures for timely land

acquisition and disbursement of compensation to project affected persons (PAPs);

Agency could implement monitoring on income and living conditions of resettled persons; where each eligible PAPs will relocate to are necessary to be recorded so that the Executing draft list of eligible PAPs and 'Payment Statement' for individual eligible PAPs. The places (j) Assist BWDB through sub-contractor in identifying the eligible PAPs, and prepare/update the

and revise/update the contents of the plans if necessary based on priorities identified with and review the existing income restoration plan and special assistance plan for vulnerable PAPs (k) Assist BWDB in conducting social assessment during early stage of the detailed design stage

support of relevant government agencies and Non-Governmental Organizations (NGOs). The following contents should be included in the plans;

- Skills Training
- ii. Project related Job Opportunities
- iii. Provision of social welfare grant

(m) Assist in procurement of Implementation NGO (INGO);

- iv. Provision of Agricultural Extension Services
- Provision of the special allowance to vulnerable PAPs
- (I) Assist BWDB to implement the measures identified in the revised RAP;
- (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 PAPs) 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 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

 (r) Provide technical services with grievance redress committee for keeping and updating records
- (5) Facilitation of implementation of Agriculture Promotion Support Sub-project (APSS) and

Small-scale Income Generation Sub-project (SIGS)

APSS & SIGS monitoring & evaluation system;

Detailed Design Stage

when necessary.

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
- (d) Assizi 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;
- & 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

plan of APSS & SIGS for the remaining period;

- (d) Assist BWDB in the preparation of APSS & SIGS Annual Work Plans;
- (e) Assist the refresher training of project field staff and staff of concerned line agencies on APSS & SIGS conducted by BWDB;
- (f) Assist and advise the execution of the overall implementation of APSS & SIGS;
- (g) Assist the monitoring & evaluation of APSS & SIGS conducted by BWDB, and
- (h) Support the strengthening of coordination and collaboration system for the implementation of APSS & SIGS among BWDB 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 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.

CHYLLEK 4 EXECTED TIME SCHEDULE

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.

Table 4.1 Implementation Schedule Expected

30 April "Year 9"	
I August "Year 2"	squom 79
	,
30 April "Year 10"	
-30 April "Year 10"	12 months
30 April "Year 9"	,
l November "Year 4"	squom 45
-	
31 October "Year 4"	
1 September "Year 3" –	sdinom ⁴ l
31 August "Year 3"	!
1 February "Year 2"	sdinom 91
Date	salnol Mononsau C
	1 February "Year 2" 3 August "Year 3" 1 September "Year 4" 30 April "Year 9" 30 April "Year 9" 30 April "Year 9" 1 Movember "Year 10" 31 October "Year 9" 32 April "Year 9" 33 April "Year 9" 34 April "Year 10" 35 April "Year 10" 36 April "Year 10"

CHYPTER 5 STAFFING

General

Consulting services are combined by component I (infrastructures) 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 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

Component 1

I.è

Gross	total	80€
Total		747
61-9	Supervisor 1	87
P-15	O&M Specialist	10
[[-q	Procurement and Contract Engineer	ε
0 I- 9	Land acquisition & Resettlement Specialist	77
6-9	Environment & Social Specialist	70
8-q	Mechanical Engineer	ε
<i>L</i> -9	Construction Plan & Cost Estimator	٤
. 9-q	Hydranlic Engineer	10
ç-q	Geodetic Engineer	9
 ⊅-q	Soil Engineer	9
દ-વ	Structure Engineer	10
7-q	Embankment Design Engineer	ς
Į-q	Co-Team Leader (River Engineer)	89
Nation	al Engineer (Pro-B)	
Total	COMPANY NEW 4-14-14-14-14-14-14-14-14-14-14-14-14-14	7 9
9-e	Safe Guard Expert	9
g-8	Mechanical Engineer	7
p-6	Construction Plan & Cost Estimator	Ţ
g-3	Hydraulic Engineer	L
a-2	Soil Engineer	7
g-J	. Team Leader	97
Internat	ional Engineer (Pro-A)	
	Engineers	M/M

Component 3-1

<i>L</i> 8	total	Gross
08		IstoT
017	silsiooq2 gainistT oruttuoingA	51-d
017	Agronomist/Field Extension Services Specialist	₺ [-q
	nal Engineer (Pro-B)	Nation
L		IstoT
L	tailaiseg sesivres troqque erutlusing A	g-7
	ational Engineer (A-or4)	Intern
M/M	Engineers	,

Component 1 +

Gross total	368
Total	324
Component-3-1	08
Component-1	747
Mational Engineer (Pro-B)	41141414141414141414141414141414141414
Iofal	I.L.
Component-3-1	4
Component-1	7 9
International Engineer (Pro-A)	
Engineers	W/W

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 Professional (B) (hereinafter referred to as 'Pro-B') consultants and 2 of Professional (B) (hereinafter referred to as 'Pro-B') consultants and 2 of 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.

5.2.1. Qualification of key team members (Pro-A)

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

- (1) Component-1
- The Team Leader / River Engineer will have at least 15 years of experience in study and detailed engineering design of flood control / river improvement project. He / she will have

experiences as team leader and/or deputy team leader in similar project at least 5 years.

- Soil Engineer: Pro-A
- The Soil Engineer will have at least 10 years of experience in the soil mechanic analysis for
- the structures to prepare detailed engineering design in similar project.
- 3) Hydraulic Engineer: Pro-A

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

A-orstruction 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

A-orf Engineer: Pro-A

in similar project.

sımılar project.

The Mechanical Engineer will have at least 8 years of experience in detailed engineering

design of river/drainage mechanical structures in similar project

A-ord: tailsiooqZ brangolaZ (d

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 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 δ 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

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

project.

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

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

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

15) Environmental Specialist: Pro-B

Environmental Specialist will have at least 15 years of experience in preparing ELA/IEE in

accordance with the rules and guideline in Bangladesh.

16) Land Acquisition and Resettlement Specialist: Pro-B

preparing RAP and assisting implementation agencies in land acquisition and resettlement. Land Acquisition and Resettlement Specialist will have at least 15 years of experience in

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

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

project in the Haor area.

(2) Component-3

- 1) Agricultural Support Services Specialist: Pro-A
- development projects: 15 years or more and experience in agricultural support services The Agricultural Support Services Specialist will have experiences in overseas agriculture

activities: 5 years or more

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

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

will have at least 3 years of experience of project in the Haor area.

3) Agricultural Training Specialist: Pro-B

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

of experience of project in the Haor area.

The requirements for education and specialty are as follows;

Component 1

	····	
Requirement	Engineers	No.
	(A-orq) rəənignƏ İsnoitsn	nətri
B.Sc. / Civil Engineering, higher degree	rehee I mee'i	ľ-e
preferable	ream reader	T-12
M.Sc. / Soil Engineering	Soil Engineer	2-B
B.Sc. / Civil Engineering, higher degree	Hydraulic Engineer	£-6



B.Sc. \ Agricultuire	Agriculture Training Specialist	çŢ-q	
B.Sc. / Agriculture	Agronomist/Field Extension Services Specialist	⊅ [-9-	句行
	onal Engineer (Pro-B)	Matic	
M.Sc. / Agriculture	Agriculture Support Services Specialist	g1	
Requirement	Engineers (Pro-A)	.oV	
tramerima d	T-5 3-1		
	[2,4000	~ <i>5</i>	
preferable			
B.Sc. / Civil Engineering, higher degree	Talisiza Specialist	P-15	01
B.Sc. / Civil Engineering	Procurement and Contract Engineer	11-9	÷ [5
experience of social consideration	Specialist	01-9	
Master in Civil Engineering with	Land acquisition & Resettlement	רוט	1 14
consideration			, et
of environmental and social	Environment & Social Specialist	6-q	143
Master in Civil Engineer with experience	toonight thousand	0-0	ζ(1 <u>,</u>),
B.Sc. / Civil Engineering B.Sc. / Mechanical Engineer	Construction Plan & Cost Estimator Mechanical Engineer	8-9 <i>L</i> -9	
preferable, with hydraulic experience	notomited the f. Gost Equation	<i>L</i> 4	10
B.Sc. / Civil Engineering, higher degree	Hydraulic Engineer	9-9	
B.Sc. / Civil Engineering	Geodetic Engineer	ς- q	
Engineer		a lana na stanforbila na kata kik	1 ^
M.Sc. / Soil Engineering or Geotechnical	Soil Engineer	∌-q	
B.Sc. / Civil Engineering	Structure Engineer	£-d	i (i
B.Sc. / Civil Engineering	Embankment Design Engineer	7-q	[5
preferable	Co-Textil Textel	[-q	8)
B.Sc. / Civil Engineering, higher degree			
	nal Engineer (Pro-B)	OiteN	<u> </u>
consideration			
or environmental and social	Safe Guard Expert	9-ષ્ટ	
Master in Civil Engineer with experience		~ **	10
B.Sc. / Mechanical Engineer		g-12	💯
B.Sc. / Civil Engineering		4-B	-
Requirement preferable with hydraulic experience		.UVI	
tramarima	Engineers	.oV	_

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.

5.2.2. Scope of works for the respective personnel

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

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Prepare construction plan and schedule showing	-	(A-orf)	
construction plan.		Estimator	
Investigate the site condition for examination of	-	Construction Plan / Cost	₽-₽
analysis			
Prepare the detailed design, drawings and hydraulic	-		
pydraulic calculation.			
Collaborate with the sub-contractor to conduct	-		
ngisəb bəlistəb			
Investigate the hydraulic conditions on the sites for the	-	(A-orq)	
Establish design criteria for hydraulic design.	-	Hydraulic Engineer	8-3
stability analysis of the structures.			
Analysis and establish the physical design value for	-	,	
distance.		•	
assess the quality and quantity of materials and hauling			
necessary, locate new quarties and borrow pits and			
material from re-excavation to embankment, and where			·
materials, especially the possibility of utilizing the			1
Examine the suitability of locally available construction	-		
geotechnical condition and soil.			
Prepare the detailed design reports and drawings about	-		}
availability survey.		(A-orf)	
Plan and supervise the geotechnical survey and material	-	Soil Engineer	2-e
Assist BWDB in the bidding procedure.	-		
Prepare the bidding documents of the Project.	· -		
Prepare the detailed design of the Project.	-		
implementation schedule of the Project.	•		
Prepare detailed work plan, progress reports and	-		
baseline survey for project evaluation.			1
geotechnical survey, material availability survey, and			
investigations such as topographical survey,		,	
Plan and supervise the required surveys and	-		
activities with both agencies.	٠		,
Liaise with JICA and BWBD, and coordinate project	-		
activities for civil works contracts.			
Administer and supervise design and documentation	-	(<u>-</u>	
and time constraints.		(A-or4)	
deliverables are prepared in accordance with quality		(1gnA	
Lead the detailed design task team. Ensure all	ANTENNA ANTENNA	Team Leader (River	
or Tasks, and Dunes	relV		nanodmo

anticipated progress of works by contract packages. The schedules should reflect seasonal climatic effects at the work sites. Investigate the local markets and a selimatic effects at market price for estimating the project cost. Investigate the local markets and a selimatic of contraction for rehabilitation works. Develop unit rate of construction for rehabilitation works, and submitted the stress and duties. Prepare bills of quantities, and calculate detailed cost components as well as taxes and duties. Prepare for eivil works, proken down into local fernitors or gate fabricating for detailed design. Investigate for civil works, proken down into local fernitors or gate fabricating for detailed design. Active and prepare the standard of gate type on the standard of gate type on the pass of the property quality, materials, etc. Grown Doll of cospectly, quality, materials, etc. Active and prepare the standard of gate type on the standard of the standard of gate type on the standard of the standard of gate type on the standard of the standard of the standard of the standard of the standard of the standard of the standard of the standard of the standard of the standard of the standard of the standard of the standard of the standard of the standard of the standard of the standard of the standard	recording the places of their relocation so that the				
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Investigate the existing conditions of the structures to	_	(B-orf)
_		b-3 Structural Engineer
Establish design criteria for structural design.	_	b 3 Stational Engineer
specifications especially for embankment design.		.
analysis, quantity calculation and technical		
Prepare the detailed design, drawings, structural	-	(A-orq)
detailed design.		Engineer
Investigate existing conditions on the sites for the	-	b-2 Embankment Design
Supervisors		
(WMO) in coordination with BWDB's Extension	ļ	
Assist the formation of water management organization	- [
manual for each-sub-project.		1
Assist BWDB to prepare specific O&M plan and	-	
Assist BWDB to prepare overall O&M guideline.	-	
Assist BWDB in the bidding procedure.	_	
Prepare the bidding documents of the Project.	_	
Prepare the detailed design of the Project.	_	
implementation schedule of the Project.		1
Prepare detailed work plan, progress reports and	_	
baseline survey for project evaluation.		
geotechnical survey, material availability survey, and		
	_	,
Plan and supervise the required surveys and	_	·
activities with both agencies.		
Listise with IICA and BWBD, and coordinate project	-	1
Team Leader.		
Represent Team Leader in the no assignment period of	-	
quality and time constraints.		
Ensure all deliverables are prepared in accordance with		Engineer) (Pro-B)
Assist Team Leader with the detailed design task team.	~	b-l Co-team Leader (River
		- National Engineer
meet environmental and social requirements.		
report, progress reports and ensure that these reports		
Assist in the preparation and review of the inception	~	
plan for vulnerable PAPs if necessary.		
existing income restoration plan and special assistance		
early stage of the detailed design stage and review the		
Assist BWDB in conducting social assessment during	_	.
and living condition of the relocated persons;		
executing agency will be able to monitor the income		
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Prepare construction plan and schedule showing			
construction plan.		Fatimator (Pro-B)	
Investigate the site condition for examination of	_	Construction Plan / Cost	<i>L</i> -q
analysis		, 57 ja ;	
Prepare the detailed design, drawings and hydraulic	_		
hydraulic calculation.			
Collaborate with the sub-contractor to conduct	_	·	
detailed design.			
Investigate the hydraulic conditions on the sites for the	±	(er.o.r.)	
Batablish design orteria for hydraulic design.	_	(Pro-B)	. 0.0
embankment, regulator and re-excavation of canal.		Hydraulic Engineer	9-9
specifications for topographic conditions of		(5.5.5)	Į.
Prepare the detailed design, drawings and technical		(B-ord)	
Plan and supervise the topographic survey		Geodetic Engineer	5- 9
and re-excavation of canal.			j
specifications for foundation of embankment, regulator			
Prepare the detailed design, drawing and technical	~		
stability analysis of the structures			
Analysis and establish the physical design value for	-	ļ	
distance,		}	
assess the quality and quantity of materials and hauling			
necessary, locate new quarries and borrow pits and			
material from re-excavation to embankment, and where			
materials, especially the possibility of utilizing the			
Examine the suitability of locally available construction	-		
geotechnical condition and soil.			
Prepare the detailed design reports and drawings about	~		
availability survey.		(B-orq)	
Plan and supervise the geotechnical survey and material	-	Soil Engineer	p-q
regulator, and re-excavation of canal.			
specifications for structures including embankment,			
ior Tasks and Duties	βM	Position	,oM

				
early stage of the detailed design stage and review the				
Assist BWDB in conducting social assessment during	-			
conditions of resettled persons;				
could implement monitoring on income and living				
necessary to be recorded so that the Executing Agency				
places where each eligible PAPs will relocate to are	Ì			İ
Payment Statement for individual eligible PAPs, The	-			
preparation/updating of the list of eligible PAPs and			Ì	
Assist BWDB in identifying the cligible PAPs, and in	-			
persons (PAPs);				
and disbursement of compensation to project affected				
preparing the procedures for timely land acquisition				}
compensation plan; coordinate with various agencies in				
framework, including entitlement matrix and		((Pro-B	.
design in accordance with the agreed resettlement		ement Specialist	Resettl	
Prepare the draft of RAP as necessary based on detailed	-	acquisition and	Land	01-9
requirements.				
ensure that these reports meet environmental				
report, progress reports, and completion report and				·
Assist in the preparation and review of the inception	-		ļ	. \
the EIA/IEE and EMP;			ļ	
identify environmental responsibilities as explained in				
During the preparation of bidding documents, clearly	-			
implementation schedule;				
from DOE in accordance with the planned				
Assist BWDB in obtaining Environmental Clearance			į	
issues to public including polding public consultations;				
additionally confirmed and identified environmental				,
To noisensity and an anisaminestib in AUWA isizzA	-		'	
1997 in Bangladesh;			•	
in accordance with Environmental Conservation Rules			(Pro-B)	i
Prepare the draft of EIA/IEE including EMP and EMoP	-	ment Specialist	Environ	6-q
necessary.				
metal works such as gate, gate gear and stoplog if				
Prepare the detailed design reports and drawings about	-			
basis of BWDB standard.				
Review and prepare the standard of gate type on the	~			
getting hold of capacity, quality, materials, etc.	,			
Investigate the local factories of gate fabricating for	-			
detailed design.			(Pro-B)	
Investigate existing conditions on the sites for the	-	cal Engineer	Mechani	8-9
components as well as taxes and duties.				
or Tasks and Duties	leM		Hostiton	, ÖV
(1997) 2年 (1998) [1994] [1994	2017 (ESTA)	#Troughten militarism Militarism (Francisco)		A Thursday and and the Control of th

		•	
Assist BWDB to provide training programs to WMOs.	-		·
Extension Overseers (EOs).			ļ
BWDB's Assistant Extension Officers (AEOs) and			
Assist BWDB to form WMO in coordination with	• •		ļ
manual for each-sub-project			
Assist BWDB to prepare specific O&M plan and	-		ļ
Assist BWDB to prepare overall O&M guideline.	<u>.</u>	*	ļ
preparation of O&M manual.		,	
method of water management organization (WMO),			ļ
Provide training for BWDB field officers on formation	- '	O&M Specialist (Pro-B)	P-17
snpbrojects.			
BWDB. Bid documents will be prepared for LCB for		(B-or9)	
procurement guidelines selected on the discussion with		Contract Specialist	
Prepare bid documents in compliance with appropriate	-	Procurement and	11-9
ensure that these reports meet social requirements.			
report, progress reports, and completion report and	-		
Assist in the preparation and review of the inception	-		
Non-Governmental Organizations (NGOs).			
with support of relevant government agencies and			
of the plans if necessary based on priorities identified			
plan for vulnerable PAPs and revise/update the contents			
existing income restoration plan and special assistance			
jor Tasks and Dunes	slVI.	Position	
Total v. C. Same sections with the section of the major to the section of the section was to the section of the	に持続機	Andreas (1995年) 1995年 1	Movie 国际自身的

Component 3-1

Assist BWDB in the preparation of APSS & SIGS	-		
monitoring & evaluation system,			
SIGS and assist BWDB in establishing APSS & SIGS			
Prepare monitoring & evaluation forms for APSS &			
APSS & SIGS prepared under the Preparatory Survey,		(a-or9	0
Review & update, if necessary, the overall work plan for	-	pecialist	S
APSS and SIGs,		services Services	н
Prepare technical guideline and operation manuals for	-	gronomist/Field	A 41-d
Amusl Work Plan,			
Assist BWDB in the preparation of APSS & SIGS	-		
monitoring & evaluation system,			
SICS and assist BWDB in establishing APSS & SICS			
Prepare monitoring & evaluation forms for APSS &	-		
APSS & SIGS prepared under the Preparatory Survey,		_	
Review & update, if necessary, the overall work plan for	-	(A-or	1)
APSS and SIGs,		ervices Specialist	S
Prepare technical guideline and operation manuals for	-	gricultural Support	A 7-8
lor Tasks and Duties	sΜ	nonisc	I ,oN
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line agencies concerned,	}	•	
bns EUWE gnoms SDIS & SZAA to noitstanemelqmi			,
coordination and collaboration system for the			
To garantigation of strengthening of	-		ţ
BMDB'			,
concerned line agencies on APSS & SIGS conducted by			
Assist training of project field staff and staff	-		
Amnasl Work Plan,			-
Assist BWDB in the preparation of APSS & SIGS	-		
monitoring & evaluation system,		·	
SDIS & SZAA gainfeildeiten in GUWB ississe bas SDIS			İ
Prepare monitoring & evaluation forms for APSS &	-	·	ļ
APSS & SIGS prepared under the Preparatory Survey,			·
Review & update, if necessary, the overall work plan for	-		
APSS and SIGs,		Specialist (Pro-B)	
Prepare technical guideline and operation manuals for	-	Agricultural Training	çŢ-q
line agencies concerned,			
bas ACWA grooms SDIZ & SZAA to noistnemelqmi			
coordination and collaboration system for the			
Support the establishment & strengthening of	_		
Annual Work Plan,			
lor Tasks and Duties	ETAT	Position	.oV
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5.3. Supervision Stage

For component-1, I 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 (B) consultants, respectively. Total consulting input is 174 man-months. For component 3-1, I 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 (B) consultants, respectively. Total consulting Professional(A) and 76 man-months for Professional (B) consultants, respectively. Total consulting imput is 81 man-months. A detailed schedule of consulting services and distribution of man-months imput is 81 man-months. A detailed schedule of consulting services and distribution of man-months imput is 81 man-months.

5.3.2. Qualification of key team members

[] Component [

is shown in Attachment-3.

- I) Team Leader (Construction Management Specialist) (Pro-A)
- The Team Leader \ Construction Management Specialist should have at least fifteen (15) years of experience in construction supervision, and operation and maintenance of flood control/river improvement project. He \ she should have experiences as team leader and/or deputy team
- leader in similar project for at least five (5) years.
- 2) Co-team Leader (Construction Management Specialist (Pro-B)
 The Co-team Leader / Construction Management Specialist should have at least 20 years of experience in construction supervision, and operation and maintenance of flood control/river improvement project. He / she should have experiences of projects in the Haor area for at least
- 5 years.
- 3) Supervisor (Pro-B)

The Supervisor should have at least 15 years of experience in construction supervision of flood

- control/river improvement project.
- 4) Environmental Specialist (Pro-B)
 Environmental Specialist will have at least 15 years of experience in preparing EIA/IEE in

accordance with the rules and guideline in Bangladeah.

- 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

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

3 years of experience of project in the Haor area.

promotion support and income generation support project. He/she will have at least 3 years of The Agricultural Training Specialist will have at least 15 years of experience in agricultural 3) Agricultural Training Specialist: Pro-B

experience of project in the Haor area.

The requirements for education and specialty are as follows;

Component I

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Compc	I-£ inanc							
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£1-d	Supervisor				B.Sc. / Civil Engineering			
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ΔΙΟ	Special	tsil			experience of social consideration			
0I-d	Land	acquisition			Master	liviO ni	Engineering	diw
6-q	Environment & Social Specialist				orivne to	s bns Istnəmno	ocial considera	noits:
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Natio	tional Engineer (Pro-B)				<u> </u>		-	
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i-s	Team L	rahsa			B.Sc. / C	Civil Enginee	ring, higher de	degree
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⊅ I-9	səsiviəl Batension Services tailsisəds	B.Sc. / Agriculture
Natio	nsl Engineer (Pro-B)	
	•	
7B	Agriculture Support Services Specialist	əmluərigA\.ə2.M
meini	(A-orf) reprigad Isaoits	
.oV	Engineers	Requirement
odwo	nent 3-1	

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

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:

Supervise the works so that all the contractual requirement	-			
milestones.				. •
Monitor physical and financial progress against the	-			
sources, manpower and equipment deployment.				
include work program, method statements, material				
Review the proposals submitted by the contractors which	-		•	
Establish construction management system.	-			
Assist BWDB in the bidding procedure.	-		<u> </u>	
activities for civil works contracts.			•	
Administer and supervise design and documentation	-			
activities with both agencies.			,	
Lisise with IICA and BWBD, and coordinate project	-			
Теат Leader				
Represent Team Leader in the no assignment period of	-			
with quality and time constraints.				
team. Ensure all deliverables are prepared in accordance			(Pro-B)	
Assist Team Leader with the construction supervision task	_	Fesger.	Co-Team	[-q
			tional Engineer	
decumentation for submission to JICA through PMO.				<u> </u>
payment certificates and in preparing loan withdrawal				
Provide assistance to BWDB in issuing interim and final				
will be met by the contractors.				
Supervise the works so that all the contractual requirement	_		,	
milestones.				
Monitor physical and financial progress against the	_	1		
sources, manpower and equipment deployment.				,
include work program, method statements, material				
Review the proposals submitted by the contractors which	_			
Establish construction management system.	_			
Assist BWDB in the bidding procedure.	_			
activities with both agencies.				
Liaise with JICA and BWBD, and coordinate project	_			<u> </u>
	Ī	•		
activities for civil works confracts.				
Administer and supervise design and documentation	-			
time constraints,			لأستسم بيريم	
deliverables are prepared in accordance with quality and			(A-orf)	_
Lead the construction supervision task teams. Ensure all	,-	<u> </u>	Team Leader	I-s
	nicht au	Control of the second	eign Engineer	
or Tasks and Duites	sΜ		Position	· 阿里(图图)
·			ponent-1	moD (1

Assist BWDB to review the Construction Contractor's	-	Specialist	Environment	6 - 9
operation and maintenance activities		`		
Assist water management organizations (MWOs) in trial	-			
so required.				
submitted monthly or attached to the interim certificates, if				
Assist in preparing quality assurance reports to be	-		1	
the contract and technical specifications.				
materials to be used by the contractors in accordance with				
Provide assistance to BWDB to Approve or disapprove the	-			
safety provisions and protection of the environment.				
those concerning standards of workmanship, and other			-	
accordance with all the provisions of the contract, including		,		
Ensure that the construction works are executed in	_			
implementation work plans and programs.				
Receive, assess and approve the contractors'	-			
control and measurements at the site.				•
Undertake day-to-day field contract supervision, quality	_			
liability period.			•	•
Attend the periodical site inspection during the defects	-		. '	
works.				
Ensure that as-built drawings are prepared for construction	-			
reference for setting out the works.				
Provide the contractors with all necessary survey data and	_			
interim payments.				
Provide measurement and inspection data required for	-			
Prepare data presented in regular monthly progress reports.	-		•	
Assist Supervisor (P-o-19) for managing quantity and cost.	-			
data, day work records, site diaries, measurement and other				
include site correspondence, survey data, quality acceptance				
Keep full and detailed permanent site records, which will	-			
time to completion for each contract.				
Maintain regular estimates of the cost to completion and	-	-		
survey data and reference for setting out the works.			(bro-B)	
Assist BWDB to provide the contractors with all necessary	-		Supervisor 1	E1-9
areas based on the experience of the Project		 		
the O&M of flood management infrastructure in the haor				
Update the O&M manual to incorporate specific issues for	-			
JICA through PMO.				<u> </u>
preparing loan withdrawal documentation for submission to				
payment certificates for submission to BWDB, and in				
Provide assistance to BWDB in issuing interim and final				
will be met by the contractors.				
lor Tasks, and Dulies	ETV		Position	ľ ′en
	Se C		$=\pi \circ 0$	

2012 bac	10100002	Cominos	1
Prepare technical guideline and operation manuals for APSS	noqqu2	Agricultural	7-15
Major Tasks and Duties		Position	οM
	•	£-tnən	Compo
year trial O&M works.		(Pro-B)	
and in OMW rot roughly and support of HOWB tries.	Specialist	M&O	21-d
necessary.		-	1
committee for keeping and updating records when		1	
- Provide technical services with grievance redress			
committee or the courts of law; and			,
fauly and transparently before they go to the redress		}	
and recommends actions/measures to settle them amicably,			
their complaints, investigate the veracity of the complaints,			
grievance redress procedure and the process of bringing			
- Assist BWDB to ensure that the PAPs are fully aware of the			
Committee;		ļ	
mechanism including formation of Grievance Redress,			
- Assist BWDB in establishment of grievance redress			
and providing feedback their comments on RAP;		·	
(including focus group discussions for vulnerable PAPs)			
- Assist BWDB in facilitating stakeholder's participation			
- Assist in procurement of Implementation NGO (INGO);			
report the results in monthly progress reports;			
undertaken by BWDB and/or competent authorities, and			
- Monitor land acquisition and compensation activities being		(Pro-B)	٠,
revised RAP;	25hectainst	Resettlement S	
- Assist BWDB to implement the measures identified in the	ļ	isiupos bas.I ` tacossettese II `	01-9
EMP and JICA Environmental Guidelines;	F;*;		01 1
conditions stated in the EPC and the requirements under			
- Assist BWDB in monitoring the compliance with			
BWGB can improve situation when necessary;			
technical advice, including a feasible solution, so that			
environment caused by the construction works and provide			
- Monitor the effectiveness of EMP and negative impacts on	ļ		
EMP;			
- Assist BWDB to implement the measures identified in the			
approval;			
BWDB regarding any necessary amendments for its		F	
Environmental Guidelines and to make recommendations to			
accordance with EMP, relevant plans and IICA			
Environmental Program to be prepared by the contractor in		(Pro-B)	}
Major Tasks and Duties	# 10 10 10 10 10 10 10 10 10 10 10 10 10	Position	.oV
Andrew Control on Bolton Control of the State of Control of Control of the State of State of Control of State of Control of State of Control of	Springer Cartisting	CONTRACTOR CONTRACTOR	#5258885A

and SIGs,

Specialist

Services

Work Plan,			
Assist BWDB in the preparation of APSS & SIGS Annual	-		
the remaining period,			
preparation of the overall work plan of APSS & SIGS for			
Implement mid-term review on APSS & SIGS and assist the	-	,	
APSS & SIGS prepared under the Preparatory Survey,			
Review & update, if necessary, the overall work plan for	- !		
and SIGs,		Specialist (Pro-B)	
Prepare technical guideline and operation manuals for APSS	-	Agricultural Training	çı-q
Preparation of completion report on APSS & SIGS.	-		
Preparation of annual status report on APSS & SIGS, and	-		
conducted BWDB,			
Assist the monitoring & evaluation of APSS & SIGS	-		
implementation of APSS & SIGS,			
Assist and advise the execution of the overall	-		
line agencies on APSS & SIGS conducted by BWDB,			
Assist training of project field staff and staff of concerned	-	•	
Mork Plan,			
Assist BWDB in the preparation of APSS & SIGS Annual	-		
the remaining period,		·	
preparation of the overall work plan of APSS & SIGS for			ļ
Implement mid-term review on APSS & SIGS and assist the	-		
APSS & SIGS prepared under the Preparatory Survey,			
Review & update, if necessary, the overall work plan for	-	Specialist (Pro-B)	ļ.
, sDIS and SIGs,		Extension Services	
Prepare technical guideline and operation manuals for	-	Agronomist/Field	₽1- 0
Preparation of completion report on APSS & SIGS		-	
Preparation of annual status report on APSS & SIGS, and	-	,	
conducted by BWDB,			
Resist the monitoring & evaluation of APSS & SIGS	-		
implementation of APSS & SZGS,			
Assist and advise the execution of the overall	-		
SIGS among BWDB and line agencies concerned,			
and collaboration system for the implementation of APSS &			
Support the establishment & strengthening of coordination	-		
line agencies on APSS & SIGS conducted by BWDB,			
Assist training of project field staff and staff of concerned	-	.	
APSS & SIGS Annual Work Plan,			
Assist the implementation agency in the preparation of		.	
the remaining period,			
preparation of the overall work plan of APSS & SIGS for			ļ
Implement mid-term review on APSS & SIGS and assist the		· (A-orf)	
or Tasksand Dunes	(FTA	Розгаот	(Ö

Preparation of completion report on APSS & SIGS.	-		· ·
Preparation of annual status report on APSS & SIGS, and	-		
organization,			
empowerment of existing farmer groups/cimmunity	•		
groups/community organizations under APSS and SIGS and		,	
Support BWDB in formation and empowerment of farmer	-		•
conducted by BWDB,			
Assist the monitoring & evaluation of APSS & SIGS	-	,	
implementation of APSS & SIGS,			
Assist and advise the execution of the overall	-		
line agencies on APSS & SIGS conducted by BWDB,			
Assist training of project field staff and staff of concerned	-		
ijor∃Tasks and Duthes	εM	Rosition	.οN

CHYPTER 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

	· · · · · · · · · · · · · · · · · · ·		
	Construction Completion Report	3 month after completion of	70
	PAP Monitoring Report	Every 3 month	50
	Report		3
	Environmental Monitoring	Every 3 months	50
	[sunsiv]		
Supervision	Operation and Maintenance	Within supervision period	70
	Social Plan Report	At the end of Detailed Design stage	70
	Environmental Report	At the end of Detailed Design stage	50
	Resettlement Monitoring Report	bornentation period	
	Land acquisition and	Every month during these	07
1 '		service	
	Bidding Document Report	19month after commencement of the	07
		service	
	Final Detailed Design Report	19month after commencement of the	70
		Service	
	Cost Estimate Report	I Smonth after commencement of the	707
.		Service	
	Draft Detailed Design Report	18 month after commencement of the	07
1	Monthly Progress report.	Every month	70
Design		Services	
Detailed	Inception Report	I month after commencement of the	50
			setdon.
Status	Type of Report		Jos joM

	services		
07	End of Consulting engineering	Service Completion Report	
	construction		
L	· · · · · · · · · · · · · · · · · · ·		

6.1 Detailed Design Stage

- a) Monthly Progress Report (20 copies): The Consultant will submit a Monthly Progress for 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 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.

 Draft Detailed Design Report (20 copies), to be submitted in the 18th month after the
- commencement of the services, presenting detailed engineering design. dost Estimate Report (20 copies), to be submitted in the $18^{\rm th}$ month after the
- commencement of the services, presenting detailed cost estimate. e) Final Detailed Design Report (20 copies), to be submitted in the 19^{th} month after the
- commencement of the services, compiling all the items carried out during the services.

 (20 copies), to be submitted in the 19^{th} 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.

 Environmental Report (20 copies), to be submitted by the end of the detailed design stage,
- presenting the draft of EIA, EMP and EMoP prepared.

 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.
- o) <u>Onsiterly Progress Report</u> (20 copies) to present the project progress status.
- c) Operation and Maintenance Maintenance of all project facilities.
- d) <u>Environmental Monitoring Report (20 copies)</u> 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.

 (20 copies) to be submitted at every three (3) months. RAP monitoring form will be filled and attached to the report.

- 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) <u>Service Completion Report</u> (20 copies), at the completion of all the consulting engineering

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.)

Appendix 8: Terms of Reference for consulting services (for LGED portion)

CHAPTER 1 BYCKCKONND

1.1 Background

residents therein.

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

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

through livelihood improvement.

Component 2: Construction and rehabilitation of rural development infrastructure Component 1: Construction and rehabilitation of flood management infrastructure The Project comprises of the following components:

Component 3: Implementation of livelihood improvement activities

Component 3-1: Agriculture promotion Component 3 consists of the following sub-components:

Component 3-2: Fishery promotion

(hereinafter referred to as "BWDB"), while Component 2 and 3-2 will be implemented by the Local Component I and 3-I will be implemented by the Bangladesh Water Development Board

GOB intends to use part of the proceeds of the loan for eligible payments for consulting services for Government Engineering Department (hereinafter referred to as "LGED") .

which this ToR is issued for the LGED portion of the Project.

1.2 Location of the Project

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

1.3 Scope of the Project

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

Fisheries Support Services (FSS)	-	
Floodplain Aquaculture Activities (FAA)	-	
Community-Base Resource Management (CRM)	-	Component 3-2
Construction and rehabilitation of ghat	-	
Construction and rehabilitation of hat	-	
Construction and rehabilitation of rural road	-	Component 2
tem	I	Component

The Project (LGED portion) is expected to be completed by 2022. Detail works are available in the study report referred to 1.5.

Vanag A gaidusax I A. I

Local Government Engineering Department (LGED)

2.5 Available Relevant Basic Data and Studies

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

OBJECTIVES OF CONSULTING SERVICES CHVLLEK 7

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

The objective of the consulting services is to achieve the efficient and proper preparation and Employment of Consultants under Japanese ODA Loans, April 2012,

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
- (5) Facilitation of implementation of Community-Base Resource Management (CRM), Floodplain Monitoring Plan (EMoP) and Resettlement Action Plan (RAP)
- Aquaculture Activities (FAA) and Fisheries Support Services (FSS)
- (6) Technology Transfer

SCOLE OF CONSULING SERVICES CHAPTER3

(I) Detailed design

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

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 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 LGED and will be incorporated into the detailed design report to be submitted for approval of IICA.

(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) (IICA 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 final contract agreement.

(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

contractors in particular from the point of view of securing the safety during the construction Japanese ODA Loans, April 2012, the Consultant shall review the program submitted by the deployment. In light of Section 3.03 of Guidelines for the Employment of Consultants under

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

- (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
- (v) Check and certify as-built drawings for the parts of the works designed by the contractors, if defects are noted, instruct the contractor and LCS to rectify;
- damages, other than defects, are identified, recommend LGED to provide necessary (w) Provide periodic and/or continuous inspection services for the completed works and it any
- (x) Prepare strategy to provide isolated or poor women opportunities of participation to the project maintenance works;
- (z) Prepare and submit reports to LGED, which are detailed in Chapter 6 in relation to the (y) Carry out required baseline survey. Establish and implement monitoring & evaluation programs. and access to social infrastructure built in the project, and monitoring it;
- (aa) Collect information and regarding organizing LCS, community and natural resource implementation of the Project;
- regarding organizing LCS, community and natural resource management, participation of management, participation of women to the project, and report lesson learn for future project.
- (bb)Design and establish monitoring and evaluation program based on the baseline survey, and carry women to the project; and
- out monitoring and evaluation activities periodically reviewing the program.
- Environmental Monitoring Plan (EMoP) and Resettlement Action Plan (KAP) implementation of Environmental Management Plan (EMP). (4) Facilitation
- (a) Prepare the draft of EIA/IEE including EMP and EMoP in accordance with Environmental The Consultant shall:
- (d) Assist LGED in dissemination and explanation of additionally confirmed and identified Conservation Rules 1997 in Bangladesh;
- environmental issues to public including holding public consultations;
- Ministry of Environment and Forest in accordance with the planned implementation schedule; (c) Assist LGED in obtaining Environmental Clearance from Department of Environment (DOE),
- (e) Assist LGED to review the Construction Contractor's Environmental Program to be prepared by explained in the EIA/IEE and EMP; (d) During the preparation of bidding documents, clearly identify environmental responsibilities as
- Assist LGED to implement the measures identified in the EMP; to make recommendations to LEGD regarding any necessary amendments for its approval; the contractor in accordance with EMP, relevant plans and JICA Environmental Guidelines and
- construction works and provide technical advice, including a feasible solution, so that LGED (g) Monitor the effectiveness of EMP and negative impacts on environment caused by the
- requirements under EMP and IICA Environmental Guidelines; (h) Assist LGED in monitoring the compliance with conditions stated in the EPC and the can improve situation when necessary;
- design in accordance with the agreed resettlement framework, including entitlement matrix and (i) Prepare the draft of RAP as necessary by sub-contracting a local firm/NGO based on detailed

compensation plan; coordinate with various agencies in preparing the procedures for timely land

PAPs. The places where each eligible PAPs will relocate to are necessary to be recorded so that preparation/updating of the list of eligible PAPs and 'Payment Statement' for individual eligible (j) Assist LGED through sub-contractor in identifying the eligible PAPs, acquisition and disbursement of compensation to project affected persons (PAPs);

review the existing income restoration plan and special assistance plan for vulnerable PAPs and (k) Assist LGED in conducting social assessment during early stage of the detailed design stage and bersons;

relevant government agencies and Non-Governmental Organizations (NGOs). The following revise/update the contents of the plans if necessary based on priorities identified with support of

the Executing Agency could implement monitoring on income and living conditions of resettled

contents should be included in the plans;

Skills Training

Project related Job Opportunities 'II

.iii.

Provision of social welfare grant

Provision of Agricultural Extension Services 'ΛΙ

Provision of the special allowance to vulnerable PAPs

- (I) Assist LOED to implement the measures identified in the revised RAP; and
- (m) Assist in procurement of Implementation NGO (INGO) and external monitoring agency (EMA);
- (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.
- vulnerable PAPs) and providing feedback their comments on RAP; (o) Assist LCHD in tacilitating stakeholder's participation (including focus group discussions for
- (p) Assist LGED in establishment of grievance redress mechanism including formation of
- actions/measures to settle them amicably, fairly and transparently before they go to the redress brocess of bringing their complaints, investigate the verseity of the complaints, and recommends (q) Assist LGED to ensure that the PAPs are fully aware of the grievance redress procedure and the Grievance Redress Committee;
- (r) Provide technical services with grievance redress committee for keeping and updating records committee or the courts of law; and
- (5) Facilitation of implementation of Community-Base Resource Management (CRM).

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

when necessary.

Detailed Design Stage

The Consultant shall:

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

- project field staff and staff of concerned line agencies on CRM, FAA & FSS conducted by
- (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.

CHYPTER 4 EXPECTED TIME SCHEDULE

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

Table 4.1 Implementation Schedule Expected

	,	
·	"Year 9"	End of Activities
sutnom 67	"S rest" reagnA 1	Commencement of Activities
	,	Component-3
		Services
	30 April "Year 8"	Termination to nonsulting
l2 months	-30 April "Year 8"	Defect Liability Period
	30 April "Year 7"	End of construction
		MOLK
squom 42	l November "Year 2"	Commencement of construction
,		Component-2
	30 June "Year 6"	
50 months (intermittently)	1 May "Year 2" –	Tender processing
		tender documents
		bns aguiwarb to notiaraqerq
	31.May "Year 4"	Completion of detailed design,
		Services
28 months (intermittently)	l February "Year 2"	Commencement of Consulting
schnold at nother sections	Date	Кеу Activities

CHYPTERS STAFFING

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

		721
Gross total		
IstoT		Z7Z
71-9	Monitoring and Evaluation Specialist	30
[[-q	Gender Specialist	12
01-9	Knowledge Management Specialist	15
6-q	Infrastructure Management Specialist	10
8-9	Supervisor	17
<u>∠</u> -q	Quality Control Specialist	9€
9 - q	Procurement and Contract Engineer	15
ς-q	Land Acquisition & Resettlement Specialist	12
7 -q	Environmental Specialist	12
દ-વ	Soil Engineer	ς
7-q	Structure Engineer	12
т_О	Consultant)	79
I-d	Co-Team Leader (Civil Engineer/Management	69
Mation	al Engineer (Pro-B)	
IstoT	AND THE RESIDENCE OF THE PROPERTY OF THE PROPE	74
2-B	Knowledge Management Expert	ε
T =-73	Management)	モ ヴ
3-J	Team Leader (Civil Engineer/Natural Resource	. 17
Internal	(A-014) rəənignəl İsnoi	Hotoropiishi maana raamin
,	Engineers	M/M

Component 3-2

100	fatot a	Gros
100	,	Total
017	Fisheries Livelihood & Management Specialist	7-9
09	Aquatic Biodiversity & Fisheries Management Specialist	Ţ-q
	nal Engineer (Pro-B)	Vatic
. 0		IstoT
	(A-orq) rəənigad İsaoitsa	nəjul
M/M	Engineers	[

Component 2 + 3-2

Gross total
1 130
Series S
Component-3-2
Component-2
National Engineer (Pro-B)
Total
Component-3-2
Component-2
(A-or4) rəənignəl İsnoitsməini
M/M Engineers

.2. Detailed Design Stage

For component-2, I 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? As man-months for Professional (B) consultants for component-2, respectively. Total consulting input is 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/IEE in

accordance with the rules and guideline in Bangladesh.

7) Procurement and Contract Specialist: Pro-B

preparing RAP and assisting implementation agencies in land acquisition and resettlement. Land Acquisition and Resettlement Specialist will have at least 15 years of experience in 6) Land Acquisition and Resettlement Specialist: Pro-B

He/she will have experiences of at least one project in the Haor area.

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

(2) Component-2

project. He/she will have at least 3 years of experience of project in the Haor area. at least 15 years of experience in fishery promotion support for income generating activities The Aquatic Biodiversity and Community Based Fishery Management Specialist will have 1) Aquatic Biodiversity and Community Based Fishery Management Specialist: Pro-B

least 3 years of experience of project in the Haor area. in fishery promotion support for income generating activities project. He/she will have at The Fishery Livelihood & Management Specialist will have at least 15 years of experience 2) Fishery Livelihood & Management Specialist: Pro-B

The requirements for education and specialty are as follows;

	Z-£ Inənoqr	——J Toon
B.Sc. / Civil Engineering	Procurement and Contract Engineer	9-q
Master in Civil Engineering with experience of social consideration	Land Acquisition & Resettlement Specialist	ç-q
Master in Civil Engineer with experience of environmental consideration	Environmental Specialist	⊅- q
M.Sc. / Soil Engineering or Geotechnical Engineer	Soil Engineer	£-q
M.Sc. / Civil Engineering	Structure Engineer	7-9
M.Sc. / Civil Engineering	Co-Team Leader (Civil Engineer/Management Consultant)	Į-q
	nal Engineer (Pro-B)	oitsV
M.Sc. / Civil Engineering with experience of natural resource management	Team Leader (Civil Engineer/Natural Resource Management)	8-1
	(A-orf) rəənignəl İsnoita	Intern
Requirement	Engineers	.oV
	7 1119110	ourbo

The State of the S	International Engineer (Pro-A)
Requirement	No. Engineers
	Component 3-2

,		
W.Sc. / Fishery	Specialist	z- q
13045137 6334	Fisheries Livelihood & Management	८५
VIOLET / JOCATA	Management Specialist	т.о
M.Sc. / Fishery	Aquatic Biodiversity & Fisheries	I-q
	nal Engineer (Pro-B)	oitsN ⁻

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 detailed engineering team

shall perform is provided as follows:

(1) Component 2

specifications for structures including bridges and	T		
analysis, quantity calculation and technical			1
Prepare the detailed design, drawings, structural	-		
be rehabilitated.			
Investigate the existing conditions of the structures to	-		
topographic survey.		•	
survey, procure and supervise the contractor for			!
Prepare the technical specification of topographic	-	(G-orq)	
Establish design criteria for structural design.	-	Structural Engineer	7- 9
Assist LGED in the bidding procedure.	-		
Prepare the bidding documents of the Project.	-		
Prepare the detailed design of the Project.			
implementation schedule of the Project.			
Prepare detailed work plan, progress reports and	-		
sctivities with both agencies.			
Liaise with JICA and LGED, and coordinate project	-		
Team Leader.	ļ		.]
Represent Team Leader in the no assignment period of	-		ı
and time constraints.			
deliverables are prepared in accordance with quality		Consultant) (Pro-B)	
national resource management activities. Ensure all	:	Engineer/Management	
Assist Team Leader with the detailed design task and	-	Co-team Leader (Civil	[-q
		onal Engineer	itsN -
Assist LGED in the bidding procedure.	-		
Prepare the bidding documents of the Project.	-		
Prepare the detailed design of the Project:	-		
implementation schedule of the Project.			İ
Prepare detailed work plan, progress reports and	-		
activities with both agencies.			
Liaise with JICA and LGED, and coordinate project	-		
contracts.			
activities for civil works and fishery promotion works			
Administer and supervise design and documentation	-		
constraints.		(A-orf)	
prepared in accordance with quality and time		Management)	
management activities. Ensure all deliverables are		Engr/Natural Resource	
Lead the detailed design task and national resource		Team Leader (Civil	a-1
·		ign Engineer	
or Jasks and Dunes	sΜ	Postuon	.oV

existing income restoration plan and special assistance			
early stage of the detailed design stage and review the			
Assist LGED in conducting social assessment during	-		
conditions of resettled persons;			
could implement monitoring on income and living			
necessary to be recorded so that the Executing Agency			
places where each eligible PAPs will relocate to are			
Payment Statement' for individual eligible PAPs. The			
preparation/updating of the list of eligible PAPs and			
Assist LGED in identifying the cligible PAPs, and in	-		į
project affected persons (PAPs);			Ì
acquisition and disbursement of compensation to		,	
agencies in preparing the procedures for timely land	٠		
and compensation plan; coordinate with various			
resettlement framework, including entitlement matrix		(a-orq)	
detailed design in accordance with the agreed		Resettlement Specialist	
Prepare the draft of RAP as necessary based on	-	Land acquisition and	ς-q
the EIA/IEE and EMP;			
identify environmental responsibilities as explained in			
During the preparation of bidding documents, clearly	·		.
implementation schedule;			}
from DOE in accordance with the planned			
Assist LGED in obtaining Environmental Clearance	-	. '	
issues to public including holding public consultations;			
additionally confirmed and identified environmental			٠.
Assist LGED in dissemination and explanation of	-		
Rules 1997 in Bangladesh;			
EMoP in accordance with Environmental Conservation		(B-orf)	
Prepare the draft of EIA/IEE including EMP and	_	Environment Specialist	- 7-q
specifications for foundation of road and structures.			
Prepare the detailed design, drawings and technical	-		
stability analysis of the structures.			
Analysis and establish the physical design value for	-		
construction materials.			
Examine the suitability of locally available	. =		
geotechnical condition and soil.			
Prepare the detailed design reports and drawings about	-		
investigation.			
the contractor for geotechnical survey and soil			
survey and soil investigation, procure and supervise		(Pro-B)	
Prepare the technical specification of geotechnical		Soil Engineer	£-q
drainage structures.			
or Tasks and Duties	[sM	Position	:o _N
The second state of the second	इ.इ. १०५३ हो <i>।</i>	· Transaction for the state of	A

snpbrojects			
LGED. Bid documents will be prepared for LCB for			
procurement guidelines selected on the discussion with		Specialist (Pro-B)	
Prepare bid documents in compliance with appropriate	-	Procurement and Contract	9 - q
(NGOs).			
agencies and Non-Governmental Organizations			
identified with support of relevant government			
contents of the plans if necessary based on priorities			
plan for vulnerable PAPs and revise/update the			
satud bus saker 100	p i VI	Position	,
(Tit - a back life in service a confidence of the confidence of th			

beel production and fish species diversity.			
knowledge management team, etc. for the progress of			
Review and examine the survey implemented by	-		
increasing production of beel fisheries with sustainability.			
and plan to introduce improved technologies for			
Initiate measures for restoring/conserving the fish habitat,	-	•	
components.			ļ
PMO/PIU/PUO for better implementation of the	.		
Provide technical and supervisory services to	-		1
component	Ì		
Prepare report of the process and progress of the	-		
baseline, impact and other monitoring data/information			
The project monitoring and evaluation in collection of	-		
component.			
community resource management (CRM) and livelihood			
Prepare technical guideline and operation manuals for		Ì	
beneficiaries to get higher income.		,	
processing (drying), better marketing to assist			
conservation, efficient harvesting, value adding through	ļ		
management of beel resources such as improved			
Plan and promote appropriate technologies for better	-		
and implementation.			
Guide and supervise project staff on program designing	-		
activities.			
resource management and income generation (livelihood)			, ,
The formulation of fishers' community/groups for	-		
respective line agencies.			
the Implementing organization and supported by		Specialist (Pro-B)	
Enhancement (income generating activities) prepared by		Fishery Management	
Resource Management (CRM) and Livelihood		Community Based	
Review & update the overall work plan for Community		Aquatic Biodiversity and	£1-9
or Taska and Duries	[sM	· · · · · · · · · · · · · · · · · · ·	SERVICE STREET
		S-£ inonoq	(2) Com

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·			
Prepare process documents and progress reports.	-	.'	
in arranging training/workshops/seminars.			
Coordinate with project staff and stakeholders, and assist		·	
technologies and improved production			
Initiate proper methods for effective dissemination of	-	,	
objectives.			!
capacity of the beneficiaries to achieve the project			
Prepare manual and training modules to improve the	-		
(fishers/farmers) and entrepreneurs			
Prepare guideline to establish linkage with producers	-		
fish traders, input suppliers, etc.)			
stakeholders in fisheries value chain (activities such as to			
profit benefit share or maximization of the poor			
Asist PMO/PIU in preparing garring an UIP/OMT talesA	-		
areas (locations and sites).			
the activities considering the conditions of the project			
Conduct survey for livelihoods needs, and plan to initiate	·		
səlubom gninistt bas	•		,
Prepare annual work plan and implementation manual	-		
combonents.		(P-or ^q)	
PMO/PIU/PUO for better implementation of the		Management Specialist	
Provide technical and supervisory services to	-	Fisheries Livelihood &	⊅ I-q
flood plain areas.			
beel resource management and aquaculture activities in			
Arrange workshop and seminar for knowledge sharing on			
production and biodiversity.			
Coordinate with external survey/study of beel fish	-	}	•
water fisheries management.			
Train staff and fisher community in sustainable open	-		
Jor Tasks and Duties	sM)	position	.r.oV.
	的特別的	Korabas Lord Santa (2012/03/19)	AUGU GREE

Supervision Stage

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

5.2.1. Qualification of key team members

of experience in construction supervision in rural infrastructure works and structures and at The Team Leader / Construction Management Specialist should have at least fifteen (15) years I) Team Leader (Civil Engineer/Natural Resource Management) : Team Leader (Civil Engineer/Natural Resource Management)

improvement. He / she should have experiences as team leader and/or deputy team leader in least five (5) years of experience in study of natural resource management for livelihood

similar project for at least five (5) years.

The Knowledge Management Expert will have at least ten (10) years of experience in 2) Knowledge Management Expert: Pro-A

management participation of women. knowledge management regarding community resource management, natural resource

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 study of natural resource management for livelihood improvement. Helshe will experience in construction supervision of rural infrastructure project and at least 5 years of

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.

S. 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

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

7) Knowledge Management Specialist: Pro-B

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

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.

The Monitoring and Evaluation Specialist will have at least 15 years of experience in 9) Monitoring and Evaluation Specialist: Pro-B

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

preparing RAP and assisting implementation agencies in land acquisition and resettlement. Land Acquisition and Resettlement Specialist will have at least 15 years of experience in

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

of environmental and social consideration	Monitoring and Evaluation Specialist				
Master in Civil Engineer with experience	p.,,-,-,-,-,-,-,-,-,-,-,-,-,-,-,-,-,-,-,	71-9			
Master in Sociology	Gender Specialist	11-4			
Master in Sociology	Knowledge Management Specialist	01-9			
B.Sc. / Civil Engineering	Infrastructure Management Specialist	6-9			
B.Sc. / Civil Engineering	Supervisor	8-q			
B.Sc. / Civil Engineering	Quality Control Specialist	<i>L</i> -9			
experience of social consideration	Specialist				
Master in Civil Engineering with	Land Acquisition & Resettlement	s-q			
of environmental consideration	annico da viviro de la viviro				
Master in Civil Engineer with experience	Environmental Specialist	7- 9			
SILINATURE TEATO / PACELIE	Engineer/Management Consultant)				
M.Sc. / Civil Engineering	Co-Team Leader (Civil	1-9			
	nal Engineer (Pro-B)	Natio			
Master in Sociology	Knowledge Management Expert	g-5			
of natural resource management	Resource Management)				
M.Sc. / Civil Engineering with experience					
	International Engineer (Pro-A)				
Requirement	Engineers	.oV			
·	L	L			

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:

Assist LGED in the bidding procedure.			
activities with both agencies.		ſ	
Lisise with IICA and LGED, and coordinate project	-		
activities for civil works contracts,			
Administer and supervise design and documentation	-		
time constraints.			
deliverables are prepared in accordance with quality and		(A-orq)	
Lead the construction supervision task teams. Ensure all	-	Jestin Fesqer	f-6
		oreign Engineer	Ι -
Joi Tasks and Duffes	sM.	Position	∘.oVi
200 A 100 A	ar de refe	S inanoquio	(1) C

		TOWITOO	Quality	<i>L</i> -9
oninitonoiteness has a statement at the statement of the	-	Control	WilenO	
OMY through PMO.				
preparing loan withdrawal documentation for submission to				
payment certificates for submission to LGED, and in	Ì		`	
Provide assistance to LGED in issuing interim and final	-		1	}
will be met by the contractors.				
Supervise the works so that all the contractual requirement	-			
mijestones.			ļ	
Monitor physical and financial progress against the	-			
manpower and equipment deployment.		•		:
include work program, method statements, material sources,				
Review the proposals submitted by the contractors which	-		,	
Establish construction management system.	-			
Assist LGED in the bidding procedure.	_	•		
activities for civil works contracts.				
Administer and supervise design and documentation	_			
activities with both agencies.	,			ļ
Liaise with JICA and LGED, and coordinate project	_	,		
Leader				İ
Represent Team Leader in the no assignment period of Team	_			
with quality and time constraints.		ĺ		
team. Ensure all deliverables are prepared in accordance			(Pro-B)	
Assist Team Leader with the construction supervision task	_	Leader	Co-Team	T-9
		1	ational Engine	N -
future projects.		<u>'.</u>		
results mentioned above to disseminate the experiences to				
Reporting lesson learn drawn from the data, information and	-			
women, monitoring and evaluation]
management, natural resource management, participatory of		,	•	
formation and management of LCS, community résource		zybert	Management 1	
Collecting project data, information and results regarding	_		Knowledge	7-e
documentation for submission to JICA through PMO.		 		-
payment certificates, and in preparing loan withdrawal				
Provide assistance to LGED in issuing interim and final	_			
will be met by the contractors.				
Supervise the works so that all the contractual requirement	_			
milestones.				
		. }		
manpower and equipment deployment. Monitor physical and financial progress against the				
include work program, method statements, material sources,				
Review the proposals submitted by the contractors which include most program method statements material sources.				
		. `		
Establish construction management system.				
or Jasks and Dunes		r e	Position	i (oV

Provide assistance to LGED to approve or disapprove the	-		
safety provisions and protection of the environment.			
those concerning standards of workmanship, and other			
accordance with all the provisions of the contract, including			
Ensure that the construction works are executed in			
work plans and programs.			
Receive, assess and approve the contractors' implementation	-		Ì
control and measurements at the site.			
Undertake day-to-day field contract supervision, quality	_		
works.			
Ensure that as-built drawings are prepared for construction	_		•
interim payments.			
Provide measurement and inspection data required for	_		
Prepare data presented in regular monthly progress reports.	_		
assessing contractor's claims.			ì
Assist the engineer and engineer's representative for	_		
Managing quantity and cost.	_		
data, day work records, site diaries, measurement and other			
include site correspondence, survey data, quality acceptance			
Keep full and detailed permanent site records, which will	_		
time to completion for each contract.			
Maintain regular estimates of the cost to completion and	_		
survey data and reference for setting out the works.		(Pro-B)	
Assist LGED to provide the contractors with all necessary	_	Supervisor	8 - q
Assist PMO in construction monitoring check.			
and different levels needed for the project.		_	
maintenance issues for LGED personal and LCS member		}	4
materials on design, construction, quality control system and			
Assist and review the training programmes and training	-		
used by LGED and on an examination of field practice;	•		
measures, based on the review of guidelines and manuals			
arrangements for reporting and for taking corrective			1
auditing arrangements at the supervisory level including the			
at the field level, and (b) internal financial and engineering			
quality control, quantity and quality recording at key stages			
including contract administration, scheduling, supervision,			
by LGED for (a) design and construction management			
Review and assess current practices and standards applied			
functioning as designed;			
propose improvements to ensure that the systems are			
Review design and construction quality control systems,		(Pro-B)	
effective quality control systems for implementing;		Specialist	}
		·	
or Tasks, and Duties	[g]/J	Position	∴.oV

				 1
reports meet monitoring and evaluation requirements.				
progress reports, and completion report and ensure that these				
Assist in the preparation and review of the inception report,	-			
monitoring and evaluation.				
design for construction works from the viewpoint of project				}
Review subproject profile including baseline data and detail	-			
implementation.	ĺ			Į
Periodically review monitoring activities during project	~			ĺ
undertake baseline survey and monitoring activity.				}
Assist in recruiting guiding an agency or institution to	-		}	-
market, household and bio-diversity characteristics survey.			ļ	ĺ.
outputs and outcomes. The system shall include road traffic,				
Design a monitoring system based on measurable inputs,	-			
of monitoring program for project implementation.			(Pro-B)	
monitoring and evaluation, and determine the optimum type		Specialist	Evaluation	
Review and provide recommendations regarding the	-	pue	gairotinoM	P-12
management.				
issues and improvement in the project related to knowledge				
Report on lesson learns regarding assessment for gender	-			
project.				,
access to social services and infrastructure generated by the			•	
Monitoring on women's participation to the project and	-			
employment and services generated by the project.				
isolated and poor women to access special quotas in		<u> </u>	(R-orf)	
Prepare a strategy to provide opportunities to socially	-	Specialist	Gender	11-4
dissemination of the experiences to future projects.				
Report lesson learns drawn from the information above for	-			
evaluation				
management, participatory of women, monitoring and				
community resource management, natural resource			(Pro-B)	
results regarding formation and management of LCS,		Specialist	Management	
Accumulating and Collecting project data, information and	~		Knowledge	01-0
knowledge management.				
Report on infrastructure management by LCS related to	-	\ .	•	
maintenance of structures.				
Training LGED staff and LCS members for construction and	-	1	(Pro-B)	
document for LCS.		Specialist	Management	
Assist LGED in formation of LCS and prepare contract	-		Infrastructure	6-9
monthly or attached to the interim certificates, if so required.				
Assist in preparing quality assurance reports to be submitted	-			
the contract and technical specifications.				
materials to be used by the contractors in accordance with				
ot Tasks and Dunes	laM		notitiso¶	.oV
Committee to the state of the second second second to the second second to the second to the second	- <u></u>	on the sale and the new contraction and the party page.	A CONTRACTOR OF THE SECOND STATE OF THE SECOND	#11797-1970 GV

their complaints, investigate the veracity of the 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.
and recommends actions/measures to settle them amicably, fairly and transparently before they go to the redress committee or the courts of law; and
and recommends actions/measures to settle them amicably, fairly and transparently before they go to the redress
and recommends actions/measures to settle them amicably,
grievance redress procedure and the process of bringing
- Assist LGED to ensure that the PAPs are fully aware of the
Committee;
mechanism including formation of Grievance Redress
esarist LGED in establishment of grievance redress
providing feedback their comments on RAP;
has (alakian tor sancissions discussions for vulnerable PAPs) and
noinsting stakeholder's participation
- Assist in procurement of Implementation NGO (INGO);
report the results in monthly progress reports;
undertaken by LGED and/or competent authorities, and
(Pro-B) - Monitor land acquisition and compensation activities being
Resettlement Specialist revised RAP;
2-c Land acquisition and - Assist LGED to implement the measures identified in the
Environmental Guidelines.
ANI and The FC and the requirements under EMP and IICA
- Assist LGED in monitoring the compliance with conditions
csn improve situation when necessary;
technical advice, including a feasible solution, so that LGED
environment caused by the construction works and provide
- Monitor the effectiveness of EMP and negative impacts on
EMP;
end for in benitine is so and the measures identified in the
approval;
LGED regarding any necessary amendments for its
ot snoitsbrammente to to to the sand to make recommendations to
accordance with EMP, relevant plans and JICA
Specialist (Pro-B) Environmental Program to be prepared by the contractor in
s-4 Environmental - Assist LGED to review the Construction Contractor's
No Position Major Tasks and Dunes

(2) Component 3-2 Scope of works of the specialists on Component-3 is same as section 5.1.2.

CHYPTER 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

	· · · · · · · · · · · · · · · · · · ·	, , ,	
	services	Report	
50	Consulting engineering	Service Completion	,
·	construction	Completion Report	
70	3 month after completion of	Construction	
70	Every 3 month	RAP Monitoring Report	
•		Monitoring Report	
70	Every 3 months	Environmental	
,		Maintenance Manual	
. 07	Within supervision period	Dns noitsraqO	Supervision
	Stage		
70	At the end of Detailed Design	Social Plan Report	Ì
	Stage		
50	At the end of Detailed Design	Environmental Report	
		Monitoring Report	
-	implementation period	Resettlement	ļ
. 07	Every month during these	Land acquisition and	~
(fistot ni 08)	commencement of the service	Report	
довэ ОХ	4, 16, 28 month after	Bidding Document	
(Istot ni 03)	commencement of the service	Report	<u> </u>
70 еаср	4, 16, 28 month after	Final Detailed Design	
(lstot ni 00)	commencement of the service		
СО еасh	3, 15, 27 month after	Cost Estimate Report	
(lstot ni 00)	commencement of the service	Report	
дове ОХ	3, 15, 27 month after	Draft Detailed Design	:
		report	1
07	Every month	Monthly Progress	
-	of the services		Design
07	I month after commencement	Inception Report	Defailed
No of Copies	Surm	уургун Керой 💮 💮	Status

6.1 Detailed Design Stage

- a) Monthly Progress Report (20 copies): The Consultant will submit a Monthly 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 measures for correction.
- month.

 b) <u>Inception Report</u> (20 copies), to be submitted in the 1st month after the commencement of the services, presenting the methodologies, schedule, organization, etc.

- Disfi Detailed Design Report (60 copies), to be submitted in the 3rd, 15th, 27th month after
- the commencement of the services, presenting detailed engineering design. do copies), to be submitted in the 3^{1d} , 15^{th} , 27^{th} month after the
- commencement of the services, presenting detailed cost estimate.

 Final Detailed Design Report (60 copies), to be submitted in the 4^{rd} , 16^{in} , 28^{in} 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 4rd, 16th, 28th month after the commencement of the services, presenting the bidding documents and bid evaluation
- EVETY month during land sequisition and Resettlement Monitoring Report (20 copies), to be submitted at every month during land sequisition and resettlement implementation period. RAP
- monitoring form will be filled and attached to the Report.

 b) <u>Environmental Report</u> (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 thedetailed design stage,

presenting the draft of RAP prepared. 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) <u>Quarterly Progress Report</u> (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) <u>RAP Monitoring Report (20 copies)</u> to be submitted at every three (3) months. RAP monitoring form will be filled and attached to the report.
- Construction Completion, 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.

 Service Completion Report (20 copies), at the completion of all the consulting engineering

services.

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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 its best efforts.

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

- work bermit and such other documents;
- entry and exit visas, residence permits, exchange permits and such other documents
- cjestsuce 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.)

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