Table 2 Results of Upazila road ranking calculations (continued)

Division/Greater District / District / Upazila	Road Code (Gazetted)	Selected and to be financed by:	Initial ranking	Ranking in Upazila	Final ranking	Score	Poverty index		Years of education		Per capita GDP		Upazila Road upgraded		Population density (pop./km²)		EIRR		Markets /km		Percentage of earthen road		Schools & social facility /km		Amount of earth-work		Gaps/km	
							V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q
KATHALIA	542432009	Loan	112	1	81	2.20	21.6	1	5.7	1	256	4	36%	4	857	3	20.7%	1		1	47.2%	3		1	3.64	2	0.34	3
NALCHITY	542732003	Loan	44	1	33	2.65	24.4	1	4.7	1	256	4	36%	4	904	3	27.1%	2	0.32	4	10.4%	1	0.08	1	1.20	4	1.02	3
NALCHITY	542732004	GOB	68	2	99	2.55	24.4	1	4.7	1	256	4	36%	4	904	3	23.1%	1	0.47	4	29.6%	2	0.23	1	1.95	3		4
RAJAPUR	542842005	GOB	86	2	103	2.40	21.9	1	5.6	1	256	4	36%	4	909	3	26.9%	1	0.44	4	12.3%	2	0.44	2	4.00	2	1.09	2
RAJAPUR	542842009	Loan	75	1	54	2.50	21.9	1	5.6	1	256	4	36%	4	909	3	29.0%	2	0.57	4		1	0.57	3	4.62	2	6.14	2
Patuakhali																												
BAUPHAL	578382003		120	2	111	2.15	36.4	2	3.8	3	361	1	48%	3	626	2	24.2%	1	0.27	3	56.0%	3	0.41	2	2.70	3	7.28	1
BAUPHAL	578382004	Loan	107	1	77	2.25	36.4	2	3.8	3	361	1	48%	3	626	2	31.3%	2	0.17	2	50.2%	3	0.44	2	4.30	2		4
DASHMINA	578522003	Loan	15	1	15	2.90	49.4	4	3.0	4	361	1	48%	3	333	1	37.7%	4	0.99	4		1	1.32	4	1.97	3		4
DASHMINA	578522005		61	3	123	2.60	49.4	4	3.0	4	361	1	48%	3	333	1	28.9%	2	0.60	4		1	0.60	3		4	0.17	3
DASHMINA	578522006	GOB	32	2	94	2.75	49.4	4	3.0	4	361	1	48%	3	333	1	32.8%	3	0.59	4	100.0%	4	0.71	4	5.30	1	2.06	2
DUMKI	578962002	Loan	93	1	66	2.35		2		2	361	1	48%	3	765	2	37.7%	4	0.23	3	2.7%	1	0.69	3	5.10	1		4
DUMKI	578962003	GOB	95	2	105	2.35		2		2	361	1	48%	3	765	2	33.9%	3	0.09	1	68.7%	4	0.75	4	4.37	2	1.12	2
DUMKI	578962004		114	3	126	2.20		2		2	361	1	48%	3	765	2	35.0%	3	0.20	2	36.4%	2	0.41	2	4.08	2	1.06	3
GALACHIPA	578572002	Loan	55	1	40	2.60	44.0	3	3.2	3	361	1	48%	3	257	1	34.3%	3	0.30	3	19.0%	2	0.59	3		4	0.15	3
GALACHIPA	578572004		129	2	115	2.00	44.0	3	3.2	3	361	1	48%	3	257	1	25.5%	1	0.13	1	86.7%	4	0.40	2	4.95	1		4
KALAPARA	578662001	Loan	110	1	79	2.20	33.1	2	4.0	2	361	1	48%	3	418	1	31.5%	2	0.22	2	31.9%	2	0.38	2		4		4
KALAPARA	578662002		130	2	116	1.95	33.1	2	4.0	2	361	1	48%	3	418	1		2	0.19	2		1	0.38	2		4	14.15	1
KALAPARA	578662004		131	3	129	1.95	33.1	2	4.0	2	361	1	48%	3	418	1	26.2%	1	0.21	2	43.5%	3	0.43	2	3.63	2		4
MIRJAGANJ	578762005	Loan	45	1	34	2.65	29.5	2	4.4	2	361	1	48%	3	673	2	35.6%	3	0.19	2	69.0%	4	0.52	2		4		4
PATUAKHALI-S	578952010	Loan	96	1	68	2.35	29.0	2	4.5	2	361	1	48%	3	890	3	33.7%	3		1	89.0%	4	0.51	2	4.56	2	1.47	2
Pirojpur																												
BHANDARIA	579142005		52	99	134	2.60	28.6	1	5.0	1	271	3	29%	4	949	4		2	0.21	2		1	0.56	3	0.84	4		4
BHANDARIA	579142006	Loan	24	1	20	2.80	28.6	1	5.0	1	271	3	29%	4	949	4	32.8%	3	0.06	1	51.6%	3	0.67	3	0.54	4	1.03	3
BHANDARIA	579142009	GOB	74	2	100	2.50	28.6	1	5.0	1	271	3	29%	4	949	4	20.8%	1	0.17	2	11.4%	2	0.80	4	1.17	4	3.58	2
KAWKHALI	579472001	Loan	41	1	31	2.65	21.6	1	5.0	1	271	3	29%	4	931	3	33.4%	3	0.23	3	31.1%	2	0.58	3	1.95	3	1.44	2
MOTHBARIA	579582003	Loan	77	1	56	2.50	26.5	1	4.8	1	271	3	29%	4	746	2	35.8%	3	0.27	3	47.0%	3	0.58	3	4.73	1	0.58	3
NAZIRPUR	579762004	Loan	2	1	2	3.10	29.0	2	5.0	1	271	3	29%	4	765	2	35.2%	3	0.52	4	100.0%	4	0.78	4	1.94	3		4
NAZIRPUR	579762005	GOB	16	2	89	2.90	29.0	2	5.0	1	271	3	29%	4	765	2	36.6%	4	0.35	4	5.3%	1	1.29	4	2.18	3	0.29	3
NAZIRPUR	579762006		22	3	121	2.80	29.0	2	5.0	1	271	3	29%	4	765	2	37.8%	4	0.23	3		1	0.31	1	1.44	4		4
PEROJPUR-S	579802006	Loan	42	1	32	2.65	25.7	1	5.0	1	271	3	29%	4	816	3	30.4%	2	0.37	4	55.1%	3	1.36	4	4.32	2	3.34	2
SWARUPKATHI	579872004	GOB	50	2	98	2.65	18.4	1	5.6	1	271	3	29%	4	1,066	4	25.9%	1	0.24	3	80.2%	4	0.34	2	0.36	4	8.49	1
SWARUPKATHI	579872008	Loan	35	1	26	2.70	18.4	1	5.6	1	271	3	29%	4	1,066	4	37.9%	4		1		1		1		4		4
ZIANAGAR	579882004	Loan	28	1	22	2.75	18.4	1	5.6	1	271	3	29%	4	1,066	4	36.2%	3		1	44.5%	3	0.18	1	1.50	4		4
Greater Faridpur																												
Faridpur																												
ALFADANGA	329032006	Loan	17	1	16	2.90	41.7	3	3.4	3	277	3	61%	2	740	2	46.7%	4	0.41	4	63.0%	3	0.62	3	9.14	1		4
BHANGA	329102005	Loan	14	1	14	2.95	42.4	3	3.0	4	277	3	61%	2	1,074	4	32.7%	3	0.36	4	77.5%	4	0.36	2	5.70	1	4.52	2
BOALMARI	329182006	Loan	5	1	5	3.10	49.8	4	2.7	4	277	3	61%	2	858	3	41.7%	4	0.24	3	22.2%	2	0.79	4	3.60	2		4
CHARBHADRASA	329212004	Loan	105	1	75	2.25	51.5	4	2.4	4	277	3	61%	2	539	1	31.5%	2		1		1	0.77	4	3.50	2	1.03	3

Table 2 Results of Upazila road ranking calculations (continued)

Division/Greater District / District / Upazila	Road Code (Gazetted)	Selected and to be financed by:	Initial ranking	Ranking in Upazila	Final ranking	Score	Poverty index		Years of education		Per capita GDP		Upazila Road upgraded		Population density (pop./km²)		EIRR		Markets /km		Percentage of earthen road		Schools & social facility /km		Amount of earth-work		Gaps/km	
							V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q
FARIDPUR-S	329472011	Loan	12	1	12	2.95	37.4	3	4.2	2	277	3	61%	2	1,016	4	37.9%	4	0.26	3	16.9%	2	0.65	3	4.33	2		4
FARIDPUR-S	329472012	GOB	20	2	90	2.85	37.4	3	4.2	2	277	3	61%	2	1,016	4	36.7%	4	0.24	3	65.2%	3	0.32	1	5.58	1		4
FARIDPUR-S	329472013		70	3	124	2.55	37.4	3	4.2	2	277	3	61%	2	1,016	4	38.0%	4	0.13	1	22.6%	2	0.13	1	5.46	1		4
MADHUKHALI	329562009	Loan	104	1	74	2.25	42.7	3	3.6	3	277	3	61%	2	816	3	26.3%	1	0.10	1	36.6%	2	0.21	1	2.73	3		4
NAGARKANDA	329622020	Loan	48	1	36	2.65	50.1	4	2.8	4	277	3	61%	2	853	3	26.3%	1	0.23	3	69.5%	4	0.53	3	3.96	2	6.93	1
SADARPUR	329842009	Loan	21	1	19	2.85	49.4	4	2.7	4	277	3	61%	2	650	2	34.6%	3	0.43	4	13.8%	2	1.03	4	3.66	2	2.59	2
Gopalganj																												
GOPALGANJ-S	335322008	Loan	3	1	3	3.10	38.1	3	4.5	2	267	4	66%	1	823	3	38.7%	4	0.32	4		1	1.16	4		4		4
GOPALGANJ-S	335322015	GOB	37	2	95	2.70	38.1	3	4.5	2	267	4	66%	1	823	3	27.0%	2	0.32	4	71.6%	4	0.95	4	6.60	1	4.11	2
KASIANI	335432008	Loan	72	1	52	2.55	40.1	3	4.2	2	267	4	66%	1	763	2	27.4%	2	0.58	4	92.1%	4	0.87	4	7.04	1	14.69	1
KOTWALIPARA	335512004	Loan	25	1	21	2.80	39.8	3	4.0	2	267	4	66%	1	627	2	33.5%	3	0.28	3	66.4%	4	0.28	1		4	1.40	2
MUKSUDPUR	335582011	Loan	56	1	41	2.60	41.3	3	3.7	3	267	4	66%	1	931	3	27.1%	2	0.28	3	65.3%	3	0.56	3	6.38	1		4
TUNGIPARA	335912005	Loan	58	1	42	2.60	42.6	3	4.3	2	267	4	66%	1	782	3	30.4%	2	0.24	3	76.5%	4	0.47	2	7.75	1		4
Madaripur																												
KALKINI	354402005	Loan	91	1	64	2.40	45.4	4	3.7	3	249	4	64%	1	971	4	22.1%	1	0.18	2	100.0%	4	0.24	1	5.70	1	23.76	1
MADARIPUR-S	354542005	Loan	79	1	58	2.45	38.7	3	3.7	3	249	4	64%	1	1,058	4	15.6%	1	0.26	3	70.0%	4	0.52	2	7.76	1	30.04	1
RAJOIR	354802008	Loan	69	1	50	2.55	45.2	3	3.2	4	249	4	64%	1	951	4	32.5%	3	0.14	1	100.0%	4	0.28	1	8.64	1	6.21	1
SHIBCHAR	354872008	Loan	13	1	13	2.95	49.6	4	2.6	4	249	4	64%	1	1,008	4	45.7%	4	0.21	2	38.2%	2	0.21	1	3.63	2		4
Rajbari																												
BALIAKANDI	382072001	Loan	8	1	8	3.05	48.2	4	3.0	4	282	3	57%	2	769	2	35.7%	3	0.28	3	57.8%	3	0.73	4	3.08	3		4
BALIAKANDI	382072007	GOB	23	2	91	2.80	48.2	4	3.0	4	282	3	57%	2	769	2	32.5%	3	0.20	2	38.6%	2	0.70	3	2.73	3		4
GOALANDA	382292007	Loan	88	1	62	2.40	43.3	3	2.9	4	282	3	57%	2	787	3	25.6%	1	0.25	3	80.9%	4	0.37	2	6.45	1	12.35	1
PANGSHA	382732012	GOB	90	2	104	2.40	40.7	3	3.4	3	282	3	57%	2	851	3	23.1%	1	0.27	3	59.2%	3	0.54	3	3.75	2	9.47	1
PANGSHA	382732014	Loan	19	1	18	2.85	40.7	3	3.4	3	282	3	57%	2	851	3	39.6%	4	0.18	2	63.3%	3	0.55	3	3.96	2	0.73	3
RAJBARI-S	382762009	Loan	4	1	4	3.10	42.0	3	3.3	3	282	3	57%	2	944	4	35.3%	3	0.31	4	62.3%	3	0.73	4	4.20	2		4
Shariatpur																												
BHEDARGANJ	386142001		34	99	133	2.70	48.6	4	3.2	3	257	4	72%	1	890	3		2	0.18	2		1	0.67	3	0.54	4		4
BHEDARGANJ	386142003	Loan	30	1	23	2.75	48.6	4	3.2	3	257	4	72%	1	890	3	29.2%	2	0.49	4	86.1%	4	0.66	3	5.59	1	6.89	1
DAMUDDYA	386252003		26	99	132	2.75	53.6	4	2.8	4	257	4	72%	1	1,271	4		2		1		1	0.53	3	0.90	4		4
DAMUDDYA	386252006	Loan	1	1	1	3.25	53.6	4	2.8	4	257	4	72%	1	1,271	4	36.2%	3	0.34	4	79.8%	4	1.18	4	8.48	1		4
JANJIRA	386942004	Loan	99	1	71	2.30	48.2	4	2.4	4	257	4	72%	1	749	2	25.3%	1	0.32	4	36.1%	2	0.43	2	6.05	1	28.19	1
NARIA	386652004	Loan	10	1	10	3.00	42.7	3	3.0	4	257	4	72%	1	940	3	36.2%	3	0.25	3	12.6%	2	0.63	3		4		4
SHARIATPUR-S	386692006	GOB	47	2	96	2.65	45.3	4	3.6	3	257	4	72%	1	1,137	4	25.7%	1	0.24	3	100.0%	4	0.85	4	7.01	1	11.34	1
SHARIATPUR-S	386692008	Loan	18	1	17	2.85	45.3	4	3.6	3	257	4	72%	1	1,137	4	38.4%	4	0.31	3	5.2%	1	0.41	2	5.13	1		4
Greater Khulna																												
Bagerhat																												
BAGERHAT-S	201082008	Loan	54	1	39	2.60	23.9	1	4.8	1	335	1	45%	3	812	3	38.3%	4	0.32	4		1	0.65	3	2.80	3		4
BAGERHAT-S	201082009		116	2	108	2.15	23.9	1	4.8	1	335	1	45%	3	812	3	39.1%	4	0.15	1		1	0.45	2	4.20	2		4
BAGERHAT-S	201082012		123	3	128	2.05	23.9	1	4.8	1	335	1	45%	3	812	3	26.9%	2	0.14	1	36.4%	2	0.70	3	1.95	3	0.28	3
BAGERHAT-S	201082014		80	99	136	2.40	23.9	1	4.8	1	335	1	45%	3	812	3		2	0.33	4		1	0.67	3	1.00	4		4
CHITALMARI	201142003	Loan	98	1	70	2.30	31.6	2	4.8	1	335	1	45%	3	728	2	22.8%	1	0.27	3	36.3%	2	0.93	4		4		4

Table 2 Results of Upazila road ranking calculations (continued)

Division/Greater District / District / Upazila	Road Code (Gazetted)	Selected and to be financed by:	Initial ranking	Ranking in Upazila	Final ranking	Score	Poverty index		Years of education		Per capita GDP		Upazila Road upgraded		Population density (pop./km²)		EIRR		Markets /km		Percentage of earthen road		Schools & social facility /km		Amount of earth-work		Gaps/km	
							V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q
FAKIRHAT	201342009	Loan	118	1	84	2.15	25.3	1	4.6	1	335	1	45%	3	837	3	26.9%	2	0.25	3	61.6%	3	0.50	2	4.00	2	3.14	2
MOLLAHAT	201562004	Loan	6	1	6	3.10	44.4	3	3.7	3	335	1	45%	3	672	2	41.5%	4	0.37	4	96.6%	4	1.04	4	3.13	3	0.37	3
MONGLA	201582009		136	2	119	1.85	26.2	1	4.2	2	335	1	45%	3	102	1	27.7%	2	0.22	2	18.4%	2	0.45	2	2.64	3	9.50	1
MONGLA	201582010	Loan	94	1	67	2.35	26.2	1	4.2	2	335	1	45%	3	102	1	36.2%	4		1	75.0%	4		1	2.63	3		4
MORRELGANJ	201602008	Loan	126	1	86	2.05	27.2	1	4.6	1	335	1	45%	3	758	2	23.8%	1	0.24	3	69.0%	4	0.48	2	4.30	2	0.40	3
RAMPAL	201732005	Loan	128	1	87	2.00	24.4	1	4.6	1	335	1	45%	3	613	1	28.6%	2	0.23	3		1	0.70	3	2.76	3		4
RAMPAL	201732007		137	2	120	1.75	24.4	1	4.6	1	335	1	45%	3	613	1	23.1%	1	0.16	1	55.8%	3	0.56	3	2.40	3	2.40	2
SHARANKHOLA	201772001	Loan	65	1	47	2.55	26.5	1	4.5	2	335	1	45%	3	151	1	35.8%	3	0.33	4	23.5%	2	0.76	4		4		4
SHARANKHOLA	201772007		119	2	110	2.15	26.5	1	4.5	2	335	1	45%	3	151	1	34.0%	3		1	66.6%	4		1	2.54	3	1.00	3
Khulna																												
BATIAGHATA	247122007	Loan	115	1	83	2.20	33.2	2	4.2	2	460	1	37%	3	566	1	34.2%	3	0.19	2	29.4%	2	0.68	3	3.68	2		4
DACOPE	247172005		108	2	107	2.25	40.1	3	4.0	2	460	1	37%	3	159	1	27.0%	2	0.15	1	49.7%	3	0.71	4	3.14	3	0.26	3
DACOPE	247172010	Loan	102	1	73	2.30	40.1	3	4.0	2	460	1	37%	3	159	1	28.3%	2	0.18	2	91.0%	4	0.53	3	3.30	3	6.58	1
DIGHALIA	247402004	Loan	109	1	78	2.20		2		2	460	1	37%	3	10,024	4	24.7%	1	0.22	2	77.7%	4		1	5.47	1		4
DUMURIA	247302003	GOB	27	2	92	2.75	34.5	2	3.9	3	460	1	37%	3	616	1	38.3%	4	0.52	4		1	1.35	4	1.20	4		4
DUMURIA	247302004		121	3	127	2.10	34.5	2	3.9	3	460	1	37%	3	616	1	54.2%	4	0.17	2	8.7%	1	0.34	1	7.56	1		4
DUMURIA	247302005 & 247642008[*1]	Loan	97	1	69	2.35	34.5	2	3.9	3	460	1	37%	3	616	1	37.2%	4	0.19	2	65.3%	3	0.43	2	3.72	2	3.87	2
KOIRA	247532002	GOB	82	2	101	2.40	46.8	4	3.1	4	460	1	37%	3	108	1	30.7%	2	0.22	2		1	0.77	4	2.34	3		4
KOIRA	247532004	Loan	71	1	51	2.55	46.8	4	3.1	4	460	1	37%	3	108	1	38.0%	4	0.21	2	11.2%	2	0.64	3	4.65	1		4
PAIKGACHA	247642006		101	3	125	2.30	35.8	2	3.6	3	460	1	37%	3	603	1	37.6%	4	0.11	1	23.4%	2	0.11	1	3.31	3		4
PAIKGACHA	247642007	GOB	49	2	97	2.65	35.8	2	3.6	3	460	1	37%	3	603	1	36.8%	4	0.27	3	58.3%	3	0.41	2	2.22	3		4
PAIKGACHA	247642009[*1]	Loan	113	1	82	2.20	35.8	2	3.6	3	460	1	37%	3	603	1	21.7%	1	0.12	1	41.7%	3	0.70	4	1.50	4		4
PAIKGACHA	247642011		135	4	131	1.95	35.8	2	3.6	3	460	1	37%	3	603	1	15.7%	1	0.21	2	53.1%	3	0.50	2	2.56	3	35.56	1
RUPSA	247752006	Loan	64	1	46	2.55		2		2	460	1	37%	3	1,395	4	28.0%	2	0.44	4		1	0.88	4	2.11	3	0.53	3
TEROKHADA	247942008	Loan	106	1	76	2.25	41.0	3	3.4	3	460	1	37%	3	584	1	38.2%	4	0.11	1	3.9%	1	0.89	4	6.41	1		4
TEROKHADA	247942009		117	2	109	2.15	41.0	3	3.4	3	460	1	37%	3	584	1	22.6%	1	0.33	4	17.0%	2	0.87	4	5.92	1	0.03	3
Satkhira																												
ASSASUNI	287042008	Loan	51	1	37	2.65	40.8	3	3.1	4	320	2	62%	1	619	2	48.4%	4	0.24	3	12.4%	2	0.81	4	4.56	2	0.33	3
DEBHATA	287252006 & 287822008 & 287042006	Loan	76	1	55	2.50	29.8	2	4.0	2	320	2	62%	1	675	2	34.8%	3	0.18	2	66.9%	4	0.43	2	2.56	4	0.22	3
KALAROA	287432008	Loan	33	1	25	2.75	36.9	2	3.7	3	320	2	62%	1	953	4	32.3%	3	0.28	3	86.7%	4	0.65	3	2.56	3	2.53	2
KALIGANJ	287472007	Loan	78	1	57	2.45	33.5	2	4.0	2	320	2	62%	1	768	2	31.5%	3	0.32	4		1	0.75	4	1.73	3		4
SATKHIRA-S	287822005	Loan	63	1	45	2.55	36.1	2	3.9	3	320	2	62%	1	1,024	4	38.3%	4	0.16	1		1	0.76	4	1.92	3		4
SHYAMNAGAR	287862004	Loan	46	1	35	2.65	46.2	4	3.2	3	320	2	62%	1	159	1	37.5%	4	0.25	3	48.9%	3	0.37	2	2.55	3	3.74	2
TALA	287902006	Loan	67	1	49	2.55	32.5	2	3.8	3	320	2	62%	1	855	3	35.8%	3	0.22	2	61.0%	3	0.34	1	1.63	4		4

Note: Although these two Upazila roads are not first ranked within Upazilas, they are selected due to high traffic volumes and high demand for upgrading from local stakeholders.

1.2 Characteristics of selected Upazila roads for upgrading

Based on the ranking and the budget ceiling, 106 Upazila roads (88 for Component 1 and 18 for Component 7) are selected for upgrading. The characteristics and quantities of the selected Upazila roads are shown in Table 3 and Table 4.

Table 3 Characteristics of selected Upazila roads for upgrading

Division/Greater District District UPAZILA	Road Code (Gazetted)	BC (km)	CC/ RCC (km)	WBM (km)	Ear-then (km)	HBB/ BFS (km)	Total length (km)	No. of bridges and culverts	No. of existing gap	Span of existing gap (m)	Crest width (m)	Embankment height (m)	Growth center	Rural market	Schools	Health center	Cyclone shelter	Industry	Affected by Sdir or Flood in 07
Selected Upazila Roads to be upgraded by loan																			
Barisal Division																			
Barguna																			
AMTALI	504092001	7.300			1.250	4.300	12.850	13			7.30	1.20	2	1	5				Sidr 07
BAMNA	504192004				4.700		4.700		2	6.00	6.00	2.00							Sidr 07
BARGUNA-S	504282001				6.000	9.210	15.210	17			7.32	1.82	1	2	6				Sidr 07
BETAGI	504472004	14.620				3.100	17.720	32			4.00	1.00	1	2	5				Sidr 07
PATHARGHATA	504852002	3.230			1.428		4.658	5			7.31	1.80	1	2	3	2	2		
Barisal																			
AGAILJHARA	506022005	3.060				5.910	8.970	2			2.44	1.06		4	2				
BABUGANJ	506032003				2.160	2.000	4.160	4			4.00	1.05	1		3	1			
BAKERGANJ	506072006				7.930	0.840	8.770	10	5	7.90	2.80	1.30	2	2	5	2			Sidr 07
BANARIPARA	506102001	6.407			7.750	5.138	19.295	27	48	679.50	4.50	1.22	1	2	9	1			
BARISAL-S	506512004	3.605			6.334	1.061	11.000	9			3.80	1.30							Sidr 07
GOURANADI	506322006	5.380		3.000		2.000	10.380	11			5.00	1.75			5	1			
HIZLA	506362001				8.040	1.250	9.290	4			3.00	1.30	1		3				Sidr 07
MEHENDIGANJ	506622005 & 506622002	2.480			6.194	9.276	17.950	17	1	72.00	4.88	1.75	3	2					
MULADI	506692003		21.000				21.000	8	9	133.00	7.31	1.83	1	3	5				
UZIRPUR	506942003	12.500			11.020		23.520	27	3	3.00	7.32	1.83	2	5	19				Sidr 07
Bhola																			
BHOLA-S	509182012	8.100			3.900		12.000	8			7.32	1.25	1	4					
BORHANUDDIN	509212004	4.255			5.885		10.140	8	19	19.00	3.05	1.00		1	1				
CHARFASSION	509252007				13.400		13.400	1			3.66	2.50	2	1	5	1			
LALMOHAN	509542002	6.005			9.345		15.350	15			4.90	1.50	2	1	5	2	1		
MONPURA	509652001		13.289		5.061		18.350	10			7.32	1.50	1	3	10	1		1	Sidr 07
TAZUMUDDIN	509912004	1.185			4.575		5.760	4			3.66	1.00	2		3				
Jhalakati																			
JHALOKATHI-S	542402003				13.415	4.285	17.700	46	3	7.22	4.88	1.22	2	2	11	1		3	Sidr 07
KATHALIA	542432009	1.360			4.110	3.230	8.700	17	1	3.00	3.66	1.00							
NALCHITY	542732003	0.275			1.300	10.925	12.500	27	7	12.72	6.50	1.50	1	3	1				Sidr 07
RAJAPUR	542842009	2.000				5.000	7.000	18	19	43.00	4.26	1.52	1	3	4				Sidr 07
Patuakhali																			
BAUPHAL	578382004	8.160			9.030	0.800	17.990	25			3.00	1.00		3	5	2	1		
DASHMINA	578522003		0.340			2.690	3.030	3			5.66	1.20	1	2	3	1			Sidr 07
DUMKI	578962002				0.116	4.206	4.322	6			3.66	1.40		1	3				Sidr 07
GALACHIPA	578572002	16.460			3.850		20.310	17	1	3.00	7.32	1.83	1	5	8	2	2	1	Sidr 07
KALAPARA	578662001	12.598			5.902		18.500	19			7.32	1.75	2	2	6	1			Sidr 07
MIRJAGANJ	578762005	2.600	0.200		10.700	2.000	15.500	18			7.30	1.50	2	1	6	2		2	Sidr 07
PATUAKHALI-S	578952010				12.100	1.500	13.600	7	3	20.00	3.50	1.20			7				
Pirojpur																			
BHANDARIA	579142006			8.000	8.540		16.540	27	2	17.00	6.70	0.90	1		10	1			Sidr 07
KAWKHALI	579472001	1.132		2.536	2.688	2.280	8.636	38	4	12.44	6.00	1.50	2		4	1			
MOTHBARIA	579582003				10.461	11.779	22.240	23	5	13.00	3.66	1.30	2	4	13				
NAZIRPUR	579762004				3.850		3.850	8			4.88	0.80	1	1	3				
PEROJPUR-S	579802006	2.599			4.457	1.028	8.084	21	7	27.00	3.70	1.20	1	2	9	2		1	
SWARUPKATHI	579872008					4.050	4.050	8			7.32	1.40							Sidr 07
ZIANAGAR	579882004	1.550			2.450	1.500	5.500	29			4.80	0.60			1				

Table 3 Characteristics of selected Upazila roads for upgrading (continued)

Division/Greater District District UPAZILA	Road Code (Gazetted)	BC (km)	CC/ RCC (km)	WBM (km)	Ear-then (km)	HBB/ BFS (km)	Total length (km)	No. of bridges and culverts	No. of existing gap	Span of existing gap (m)	Crest width (m)	Embankment height (m)	Growth center	Rural market	Schools	Health center	Cyclone shelter	Industry	Affected by Sdir or Flood in 07
Greater Faridpur																			
Faridpur																			
ALFADANGA	329032006	1.720			9.130	3.650	14.500	1			3.05	2.15	2	4	9				
BHANGA	329102005	2.120			8.580	0.370	11.070	5	4	50.00	3.50	1.50	1	3	4				
BOALMARI	329182006	4.400			2.800	5.400	12.600	9			5.50	2.00	2	1	8	2			
CHARBHADRASAN	329212004					3.900	3.900	1	1	4.00	3.80	1.00			3				
FARIDPUR-S	329472011	3.542			1.300	2.858	7.700	1			3.75	1.22	1	1	5				Flood 07
MADHUKHALI	329562009	6.150			3.550		9.700	4			5.20	1.30		1	2			1	
NAGARKANDA	329622020	4.000			9.130		13.130	5	3	91.00	4.00	1.20		3	6	1			
SADARPUR	329842009				1.600	10.000	11.600	6	1	30.00	4.25	1.20	1	4	11	1			
Gopalganj																			
GOPALGANJ-S	335322008	4.200				5.300	9.500	12			7.32	2.75	2	1	9	2			Flood 07
KASIANI	335432008				9.530	0.820	10.350	12	6	152.00	4.10	2.20	1	5	9				
KOTWALIPARA	335512004	4.810			9.500		14.310	9	1	20.00	7.32	2.60	1	3	3	1		1	Sidr 07
MUKSUDPUR	335582011	2.100		0.400	4.700		7.200	5			3.05	1.50		2	3	1			
TUNGIPARA	335912005	2.000			6.500		8.500	1			4.20	2.50	1	1	3	1		1	
Madaripur																			
KALKINI	354402005				16.370		16.370	1	21	389.00	3.50	1.50	1	2	4				
MADARIPUR-S	354542005	2.500			8.150	1.000	11.650	8	2	350.00	2.45	1.60	1	2	5	1			
RAJOIR	354802008				7.250		7.250		3	45.00	2.50	1.80	1		2				
SHIBCHAR	354872008				3.693	5.968	9.661	7			4.88	1.50	1	1	1	1			
Rajbari																			
BALIAKANDI	382072001	7.075			10.225	0.400	17.700	10			5.40	1.62	2	3	12	1			
GOALANDA	382292007				6.550	1.550	8.100	5	2	100.00	3.00	1.50	1	1	3				
PANGSHA	382732014	4.000			6.900		10.900	5	1	8.00	4.00	1.20	1	1	5	1			Flood 07
RAJBARI-S	382762009	3.600			5.950		9.550	9			4.30	1.40	1	2	7				
Shariatpur																			
BHEDARGANJ	386142003				5.250	0.850	6.100	4	5	42.00	3.00	1.30	1	2	4				
DAMUDDYA	386252006	1.200			4.750		5.950	7			2.00	1.60	1	1	7				
JANJIRA	386942004	6.010			3.390		9.400	8	4	265.00	4.88	2.50	1	2	4				
NARIA	386652004	6.940			1.000		7.940	7			7.32	1.20	2		5				
SHARIATPUR-S	386692008	5.000	0.460		0.500	3.680	9.640	15			4.23	1.67	1	2	3	1			Flood 07
Greater Khulna																			
Bagerhat																			
BAGERHAT-S	201082008	10.391		3.358		1.751	15.500	32			4.50	1.00	1	4	10				Sidr 07
CHITALMARI	201142003	3.715			2.720	1.065	7.500	7			7.32	1.50	2		6	1			
FAKIRHAT	201342009	1.710			4.900	1.340	7.950	20	1	25.00	3.66	1.10	1	1	4				
MOLLAHAT	201562004	0.400			15.743	0.157	16.300	5	2	6.00	4.80	1.25	2	4	14	3		11	
MONGLA	201582010			0.700	6.000	1.300	8.000	28			5.50	1.46							
MORRELGANJ	201602008	0.505			14.500	5.995	21.000	33	5	8.50	3.00	1.00	1	4	8	2			
RAMPAL	201732005					8.530	8.530	4			5.00	1.20	1	1	6				Sidr 07
SHARANKHOLA	201772001	7.040			2.160		9.200	17			7.32	1.22	3		6	1			Sidr 07
Khulna																			
BATIAGHATA	247122007	3.606			4.758	7.836	16.200	20			5.00	1.60		3	10	1			
DACOPE	247172010				10.306	1.020	11.326	11	7	74.50	4.00	1.00	2		6			2	
DIGHALIA	247402004				3.480	1.000	4.480	4			3.50	1.44	1						
DUMURIA	247302005 & 247642008	8.800			21.100	2.400	32.300	25	1	125.00	4.20	1.20	1	5	14				
KOIRA	247532004				1.570	12.430	14.000	8			4.20	1.50	1	2	7	2			Flood 07
PAIKGACHA	247642009				3.550	4.970	8.520	5			4.80	0.60	1		5	1			Sidr 07
RUPSA	247752006					2.260	2.260	5	2	1.20	4.06	0.65		1	2				
TEROKHADA	247942008	3.502			0.355	5.155	9.012	16			3.64	1.75	1		7	1		2	Flood 07
Satkhira																			
ASSASUNI	287042008				4.125	29.067	33.192	42	11	11.00	3.50	1.20	2	6	24	3			
DEBHATA	287252006 & 287822008 & 287042006	6.560			18.810	2.730	28.100	34	10	6.12	4.34	0.87	3	2	11	1			
KALAROA	287432008	1.443			9.407		10.850	44	2	27.50	4.10	0.80	1	2	5	2			
KALIGANJ	287472007	5.560		0.490		3.250	9.300	35			4.60	0.64	1	2	5	2			
SATKHIRA-S	287822005	13.638		2.812		2.000	18.450	43			4.90	0.80	1	2	11	3			
SHYAMNAGAR	287862004	5.715			7.848	2.487	16.050	23	1	60.00	4.75	1.00	2	2	6				
TALA	287902006	3.348			5.460	0.142	8.950	17			4.80	0.65	1	1	3				

Table 3 Characteristics of selected Upazila roads for upgrading (continued)

Division/Greater District District UPAZILA	Road Code (Gazetted)	BC (km)	CC/ RCC (km)	WBM (km)	Earthen (km)	HBB/ BFS (km)	Total length (km)	No. of bridges and culverts	No. of existing gap	Span of existing gap (m)	Crest width (m)	Embankment height (m)	Growth center	Rural market	Schools	Health center	Cyclone shelter	Industry	Affected by Sidr or Flood in 07
Selected Upazila roads to be upgraded by GOB budget																			
Barisal Division																			
Barisal																			
MEHENDIGANJ	506622006				1.970	5.700	7.670	7			4.88	1.25							Sidr 07
UZIRPUR	506942004	21.450			4.450	1.500	27.400	3			7.32	2.44	3	2	5				Sidr 07
Jhalakati																			
JHALOKATHI-S	542402004	0.200			4.150	8.800	13.150	21	15	151.03	7.00	1.52		1					Sidr 07
NALCHITY	542732004	1.000			2.545	5.045	8.590	24			6.00	1.50		4	2				Sidr 07
RAJAPUR	542842005	1.120			1.400	8.880	11.400	36	5	12.40	3.66	1.10	2	3	4	1			
Patuakhali																			
DASHMINA	578522006				8.500		8.500	1	4	17.50	2.00	1.00	1	4	5		1		Sidr 07
DUMKI	578962003		2.128		7.368	1.236	10.732	12	7	12.00	3.66	1.20	1		7	1			
Pirojpur																			
BHANDARIA	579142009	1.451		13.149	2.000	1.000	17.600	34	2	63.00	6.00	0.90		3	13		1		
NAZIRPUR	579762005	4.211	0.212		0.450	3.647	8.520	18	1	2.50	4.88	0.90	2	1	10	1			Sidr 07
SWARUPKATHI	579872004	2.570		1.500	16.537		20.607	27	21	175.00	7.00	1.20	2	3	7				
Greater Faridpur																			
Faridpur																			
FARIDPUR-S	329472012	0.500			8.150	3.850	12.500	3			4.48	1.98	2	1	4				
Gopalganj																			
GOPALGANJ-S	335322015	1.000			6.800	1.700	9.500	6	3	39.00	4.00	2.00	2	1	8	1			
Rajbari																			
BALIAKANDI	382072007	5.100			3.840	1.000	9.940	7			6.00	2.10	1	1	7				Flood 07
PANGSHA	382732012	6.030			8.750		14.780	2	2	140.00	5.80	2.50	2	2	8				
Shariatpur																			
SHARIATPUR-S	386692006				8.200		8.200	7	6	93.00	3.05	1.65	2		5	2			
Greater Khulna																			
Khulna																			
DUMURIA	247302003	15.422				3.878	19.300	53			6.50	1.50	2	8	23	3		2	Sidr 07
KOIRA	247532002	4.160				4.940	9.100	5			6.00	1.80	2		6	1			
PAIKGACHA	247642007	0.500			12.830	8.670	22.000	31			3.60	0.60	2	4	7	2			

Table 4 Quantities of selected Upazila roads for upgrading

Division/Greater District District UPAZILA	Road Code (Gazette)	Road Type	Road					Structures			Safety measures		
			BC/CC /RCC/ WBM	Road to be upgraded			Total length of Road	Bridge	Culvert	Ghats	Bus bay	Guard post	Sign board
				Earthen road	HBB/ BFS	Upgrade total							
			a	b	c	d=b+c	e=a+d						
			(km)	(km)	(km)	(km)	(km)	(m)	(m)	(nos)	(nos)	(nos)	(nos)
Project total			**412.449**	**578.971**	**301.835**	**880.806**	**1,293.255**	**3,020**	**415**	**2**	**881**	**14,260**	**1,362**
Upazila Roads to be upgraded by loan			**330.746**	**481.031**	**241.989**	**723.020**	**1,053.766**	**2,424**	**306**	**2**	**723**	**11,649**	**1,123**
Barisal Division			**175.226**	**197.941**	**99.358**	**297.299**	**472.525**	**882**	**197**		**297**	**4,881**	**408**
Barguna			**25.150**	**13.378**	**16.610**	**29.988**	**55.138**		**6**		**30**	**448**	**34**
AMTALI	504092001	6	7.300	1.250	4.300	5.550	12.850				6	83	7
BAMNA	504192004	6		4.700		4.700	4.700		6		5	70	
BARGUNA-S	504282001	6		6.000	9.210	15.210	15.210				15	228	18
BETAGI	504472004	6	14.620		3.100	3.100	17.720				3	46	3
PATHARGHATA	504852002	6	3.230	1.428		1.428	4.658				1	21	6
Barisal			**57.432**	**49.428**	**27.475**	**76.903**	**134.335**	**845**	**51**		**77**	**1,553**	**101**
AGAILJHARA	506022005	6	3.060		5.910	5.910	8.970				6	88	8
BABUGANJ	506032003	6		2.160	2.000	4.160	4.160				4	62	10
BAKERGANJ	506072006	6		7.930	0.840	8.770	8.770		8		9	132	22
BANARIPARA	506102001	6	6.407	7.750	5.138	12.888	19.295	647	33		13	528	17
BARISAL-S	506512004	6	3.605	6.334	1.061	7.395	11.000				7	111	
GOURANADI	506322006	6	8.380		2.000	2.000	10.380				2	30	2
HIZLA	506362001	6		8.040	1.250	9.290	9.290				9	140	8
MEHENDIGANJ	506622005 & 506622002	6	2.480	6.194	9.276	15.470	17.950	72			15	241	9
MULADI	506692003	6	21.000				21.000	126	7			56	
UZIRPUR	506942003	6	12.500	11.020		11.020	23.520		3		11	165	24
Bhola			**32.834**	**42.166**		**42.166**	**75.000**		**19**		**42**	**632**	**53**
BHOLA-S	509182012	6	8.100	3.900		3.900	12.000				4	58	3
BORHANUDDIN	509212004	6	4.255	5.885		5.885	10.140		19		6	88	2
CHARFASSION	509252007	6		13.400		13.400	13.400				13	201	18
LALMOHAN	509542002	6	6.005	9.345		9.345	15.350				9	140	13
MONPURA	509652001	6	13.289	5.061		5.061	18.350				5	76	8
TAZUMUDDIN	509912004	6	1.185	4.575		4.575	5.760				5	69	8
Jhalakati			***3.635***	***18.825***	***23.440***	***42.265***	***45.900***		***66***		***42***	***633***	***53***
JHALOKATHI-S	542402003	6		13.415	4.285	17.700	17.700		7		18	265	32
KATHALIA	542432009	6	1.360	4.110	3.230	7.340	8.700		3		7	110	
NALCHITY	542732003	6	0.275	1.300	10.925	12.225	12.500		13		12	184	10
RAJAPUR	542842009	6	2.000		5.000	5.000	7.000		43		5	74	11
Patuakhali			**40.358**	**41.698**	**11.196**	**52.894**	**93.252**	**10**	**13**		**53**	**801**	**78**
BAUPHAL	578382004	6	8.160	9.030	0.800	9.830	17.990				10	147	12
DASHMINA	578522003	6	0.340		2.690	2.690	3.030				3	41	12
DUMKI	578962002	6		0.116	4.206	4.322	4.322				4	65	8
GALACHIPA	578572002	6	16.460	3.850		3.850	20.310		3		4	58	7
KALAPARA	578662001	6	12.598	5.902		5.902	18.500				6	89	7
MIRJAGANJ	578762005	6	2.800	10.700	2.000	12.700	15.500				13	190	18
PATUAKHALI-S	578952010	6		12.100	1.500	13.600	13.600	10	10		14	211	14
Pirojpur			**15.817**	**32.446**	**20.637**	**53.083**	**68.900**	**27**	**42**		**53**	**814**	**89**
BHANDARIA	579142006	6	8.000	8.540		8.540	16.540	15	2		9	136	12
KAWKHALI	579472001	6	3.668	2.688	2.280	4.968	8.636		12		5	75	8
MOTHBARIA	579582003	6		10.461	11.779	22.240	22.240		13		22	334	38
NAZIRPUR	579762004	6		3.850		3.850	3.850				4	58	10
PEROJPUR-S	579802006	6	2.599	4.457	1.028	5.485	8.084	12	15		5	90	19
SWARUPKATHI	579872008	6			4.050	4.050	4.050				4	61	
ZIANAGAR	579882004	6	1.550	2.450	1.500	3.950	5.500				4	60	1
Greater Faridpur			**72.227**	**146.298**	**45.746**	**192.044**	**264.271**	**1,242**	**64**	**2**	**192**	**3,210**	**331**
Faridpur			**21.932**	**36.090**	**26.178**	**62.268**	**84.200**	**171**	**4**		**62**	**998**	**120**
ALFADANGA	329032006	6	1.720	9.130	3.650	12.780	14.500				13	191	26
BHANGA	329102005	4	2.120	8.580	0.370	8.950	11.070	50			9	167	13
BOALMARI	329182006	6	4.400	2.800	5.400	8.200	12.600				8	123	17
CHARBHADRASAN	329212004	6			3.900	3.900	3.900		4		4	58	6
FARIDPUR-S	329472011	6	3.542	1.300	2.858	4.158	7.700				4	63	8

Table 4 Quantities of selected Upazila roads for upgrading (continued)

Division/Greater District District UPAZILA	Road Code (Gazette)	Road Type	Road					Structures			Safety measures		
			BC/CC /RCC/ WBM	Road to be upgraded			Total lengh of Road	Bridge	Culvert	Ghats	Bus bay	Guard post	Sign board
				Earthen road	HBB/ BFS	Upgrade total							
			a	b	c	d=b+c	e=a+d						
			(km)	(km)	(km)	(km)	(km)	(m)	(m)	(nos)	(nos)	(nos)	(nos)
MADHUKHALI	329562009	6	6.150	3.550		3.550	9.700				4	53	2
NAGARKANDA	329622020	6	4.000	9.130		9.130	13.130	91			9	161	14
SADARPUR	329842009	6		1.600	10.000	11.600	11.600	30			12	182	34
Gopalganj			**13.510**	**30.230**	**6.120**	**36.350**	**49.860**	**167**	**5**		**36**	**594**	**73**
GOPALGANJ-S	335322008	6	4.200		5.300	5.300	9.500				5	80	16
KASIANI	335432008	6		9.530	0.820	10.350	10.350	147	5		10	196	30
KOTWALIPARA	335512004	6	4.810	9.500		9.500	14.310	20			10	150	11
MUKSUDPUR	335582011	6	2.500	4.700		4.700	7.200				5	70	8
TUNGIPARA	335912005	6	2.000	6.500		6.500	8.500				7	98	9
Madaripur			**2.500**	**35.463**	**6.968**	**42.431**	**44.931**	**754**	**30**		**42**	**804**	**42**
KALKINI	354402005	6		16.370		16.370	16.370	359	30		16	374	14
MADARIPUR-S	354542005	6	2.500	8.150	1.000	9.150	11.650	350			9	153	14
RAJOIR	354802008	6		7.250		7.250	7.250	45			7	133	6
SHIBCHAR	354872008	6		3.693	5.968	9.661	9.661				10	144	8
Rajbari			**14.675**	**29.625**	**1.950**	**31.575**	**46.250**	**108**			**32**	**498**	**54**
BALIAKANDI	382072001	6	7.075	10.225	0.400	10.625	17.700				11	160	22
GOALANDA	382292007	6		6.550	1.550	8.100	8.100	100			8	137	10
PANGSHA	382732014	6	4.000	6.900		6.900	10.900	8			7	112	10
RAJBARI-S	382762009	6	3.600	5.950		5.950	9.550				6	89	12
Shariatpur			**19.610**	**14.890**	**4.530**	**19.420**	**39.030**	**42**	**25**	**2**	**19**	**316**	**41**
BHEDARGANJ	386142003	6		5.250	0.850	6.100	6.100	27	15		6	108	14
DAMUDDYA	386252006	6	1.200	4.750		4.750	5.950				5	71	14
JANJIRA	386942004	6	6.010	3.390		3.390	9.400	15	10	2	3	59	5
NARIA	386652004	6	6.940	1.000		1.000	7.940				1	15	2
SHARIATPUR-S	386692008	6	5.460	0.500	3.680	4.180	9.640				4	63	6
Greater Khulna			**83.293**	**136.792**	**96.885**	**233.677**	**316.970**	**300**	**45**		**234**	**3,558**	**384**
Bagerhat			**27.819**	**46.023**	**20.138**	**66.161**	**93.980**	**25**	**15**		**66**	**1,002**	**117**
BAGERHAT-S	201082008	6	13.749		1.751	1.751	15.500				2	26	3
CHITALMARI	201142003	6	3.715	2.720	1.065	3.785	7.500				4	57	9
FAKIRHAT	201342009	6	1.710	4.900	1.340	6.240	7.950	25			6	103	9
MOLLAHAT	201562004	6	0.400	15.743	0.157	15.900	16.300		6		16	238	45
MONGLA	201582010	6	0.700	6.000	1.300	7.300	8.000				7	110	
MORRELGANJ	201602008	6	0.505	14.500	5.995	20.495	21.000		9		20	308	29
RAMPAL	201732005	6			8.530	8.530	8.530				9	128	16
SHARANKHOLA	201772001	6	7.040	2.160		2.160	9.200				2	32	5
Khulna			**15.908**	**45.119**	**37.071**	**82.190**	**98.098**	**190**	**11**		**82**	**1,259**	**124**
BATIAGHATA	247122007	6	3.606	4.758	7.836	12.594	16.200				13	191	22
DACOPE	247172010	6		10.306	1.020	11.326	11.326	65	10		11	186	16
DIGHALIA	247402004	6		3.480	1.000	4.480	4.480				4	67	2
DUMURIA	247302005 & 247642008	4	8.800	21.100	2.400	23.500	32.300	125			24	360	29
KOIRA	247532004	6		1.570	12.430	14.000	14.000				14	210	24
PAIKGACHA	247642009	6		3.550	4.970	8.520	8.520				9	128	14
RUPSA	247752006	6			2.260	2.260	2.260		1		2	34	6
TEROKHADA	247942008	6	3.502	0.355	5.155	5.510	9.012				6	83	11
Satkhira			**39.566**	**45.650**	**39.676**	**85.326**	**124.892**	**85**	**20**		**85**	**1,297**	**143**
ASSASUNI	287042008	6		4.125	29.067	33.192	33.192		11		33	498	70
DEBHATA	287252006 & 287822008 & 287042006	6	6.560	18.810	2.730	21.540	28.100		6		22	323	26
KALAROA	287432008	6	1.443	9.407		9.407	10.850	25	3		9	149	17
KALIGANJ	287472007	6	6.050		3.250	3.250	9.300				3	49	7
SATKHIRA-S	287822005	6	16.450		2.000	2.000	18.450				2	30	4
SHYAMNAGAR	287862004	6	5.715	7.848	2.487	10.335	16.050	60			10	164	13
TALA	287902006	6	3.348	5.460	0.142	5.602	8.950				6	84	6

Table 4 Quantities of selected Upazila roads for upgrading (continued)

Division/Greater District District UPAZILA	Road Code (Gazette)	Road Type	Road					Structures			Safety measures		
			BC/CC /RCC/ WBM	Road to be upgraded			Total lengh of Road	Bridge	Culvert	Ghats	Bus bay	Guard post	Sign board
				Earthen road	HBB/ BFS	Upgrade total							
			a	b	c	d=b+c	e=a+d						
			(km)	(km)	(km)	(km)	(km)	(m)	(m)	(nos)	(nos)	(nos)	(nos)
Upazila roads to be upgraded by GOB			**81.703**	**97.940**	**59.846**	**157.786**	**239.489**	**596**	**109**		**158**	**2,611**	**239**
Barisal Division			**48.991**	**49.370**	**35.808**	**85.178**	**134.169**	**324**	**109**		**85**	**1,432**	**110**
Barisal			**21.450**	**6.420**	**7.200**	**13.620**	**35.070**				**14**	**205**	**4**
MEHENDIGANJ	*506622006*	6		*1.970*	*5.700*	*7.670*	*7.670*				8	*116*	
UZIRPUR	506942004	6	21.450	4.450	1.500	5.950	27.400				6	89	4
Jhalakati			**2.320**	**8.095**	**22.725**	**30.820**	**33.140**	**133**	**30**		**31**	**550**	**31**
JHALOKATHI-S	542402004	6	0.200	4.150	8.800	12.950	13.150	133	18		13	282	2
NALCHITY	542732004	6	1.000	2.545	5.045	7.590	8.590				8	114	11
RAJAPUR	542842005	6	1.120	1.400	8.880	10.280	11.400		12		10	154	18
Patuakhali			**2.128**	**15.868**	**1.236**	**17.104**	**19.232**	**10**	**20**		**17**	**266**	**36**
DASHMINA	578522006	6		8.500		8.500	8.500	10	8		9	136	22
DUMKI	578962003	6	2.128	7.368	1.236	8.604	10.732		12		9	130	14
Pirojpur			**23.093**	**18.987**	**4.647**	**23.634**	**46.727**	**181**	**60**		**24**	**411**	**39**
BHANDARIA	579142009	6	14.600	2.000	1.000	3.000	17.600	63			3	61	6
NAZIRPUR	579762005	6	4.423	0.450	3.647	4.097	8.520		3		4	62	13
SWARUPKATHI	579872004	6	4.070	16.537		16.537	20.607	118	57		17	288	19
Greater Faridpur			**12.630**	**35.740**	**6.550**	**42.290**	**54.920**	**272**			**42**	**723**	**76**
Faridpur			**0.500**	**8.150**	**3.850**	**12.000**	**12.500**				**12**	**180**	**13**
FARIDPUR-S	329472012	6	0.500	8.150	3.850	12.000	12.500				12	180	13
Gopalganj			**1.000**	**6.800**	**1.700**	**8.500**	**9.500**	**39**			**9**	**152**	**21**
GOPALGANJ-S	335322015	6	1.000	6.800	1.700	8.500	9.500	39			9	152	21
Rajbari			**11.130**	**12.590**	**1.000**	**13.590**	**24.720**	**140**			**14**	**220**	**23**
BALIAKANDI	382072007	6	5.100	3.840	1.000	4.840	9.940				5	73	9
PANGSHA	382732012	6	6.030	8.750		8.750	14.780	140			9	147	14
Shariatpur				**8.200**		**8.200**	**8.200**	**93**			**8**	**171**	**18**
SHARIATPUR-S	386692006	6		8.200		8.200	8.200	93			8	171	18
Greater Khulna			***20.082***	***12.830***	***17.488***	***30.318***	***50.400***				***30***	***456***	***54***
Khulna			**20.082**	**12.830**	**17.488**	**30.318**	**50.400**				**30**	**456**	**54**
DUMURIA	247302003	6	15.422		3.878	3.878	19.300				4	58	14
KOIRA	247532002	6	4.160		4.940	4.940	9.100				5	75	10
PAIKGACHA	247642007	6	0.500	12.830	8.670	21.500	22.000				22	323	29

2 Union road

2.1 Prioritization criteria and results of Union road ranking calculation

The proposed Union roads are ranked according to the set of prioritization criteria and the weighting scheme shown in Table 5. The same criteria and weighting scheme applied to Upazila roads are also used to rank Union roads. The road-by-road results of Union road ranking calculations are shown in Table 5.

Table 5 Results of Union road ranking calculations

Division/ Greater District / Upazila	Road Code (Gazetted)	Selected and to be financed by:	Initial ranking	Ranking in Upazila	Final ranking	Score	Poverty index		Years of education		Per capita GDP (USD)		Upazila Road upgraded		Population density (pop./km^2)		EIRR		Markets /km		Percentage of carthen road		Schools & social facility /km		Amount of earth-work		Gaps/km	
							V*1	Q*2	V*1	Q*2	V*1	Q*2	V*1	Q*2	V*1	Q*2	V*1	Q*2	V*1	Q*2	V*1	Q*2	V*1	Q*2	V*1	Q*2	V*1	Q*2
Barisal Division																												
Barguna																												
AMTALI	504093006		110	1	51	2.00	36.1	2	3.3	3	336	1	35%	4	360	1	33.3%	1	0.30	3	59.5%	2	0.40	2	4.62	2	3.04	2
AMTALI	504093008		115	2	87	1.90	36.1	2	3.3	3	336	1	35%	4	360	1	24.2%	1	0.28	3	79.0%	3	0.14	1	5.25	1	15.38	1
BAMNA	504193003		63	1	36	2.50	22.6	1	5.1	1	336	1	35%	4	691	2	40.1%	3	0.67	4	28.3%	1	1.00	4	3.92	3		4
BAMNA	504193004		77	2	72	2.40	22.6	1	5.1	1	336	1	35%	4	691	2	43.1%	4	0.20	2		1	0.61	3	3.36	3		4
BARGUNA-S	504283006		88	4	114	2.35	29.9	2	4.3	2	336	1	35%	4	523	1	36.4%	2	0.23	2	100.0%	4	0.45	3	3.33	3	2.63	2
BARGUNA-S	504283014		55	2	66	2.55	29.9	2	4.3	2	336	1	35%	4	523	1	40.1%	3	0.42	4	100.0%	4	0.42	2	8.50	1		4
BARGUNA-S	504283015		80	3	102	2.40	29.9	2	4.3	2	336	1	35%	4	523	1	33.0%	1	0.41	4	100.0%	4	0.68	4	3.50	3	6.22	1
BARGUNA-S	504283016		49	1	32	2.60	29.9	2	4.3	2	336	1	35%	4	523	1	40.1%	3	0.36	4	100.0%	4	0.18	1	4.86	2		4
BETAGI	504473012		45	1	29	2.60	26.7	1	4.5	2	336	1	35%	4	712	2	*40.1%*	3	0.25	3	*100.0%*	4		*1*	*4.13*	3		4
BETAGI	504473014		100	2	83	2.15	26.7	1	4.5	2	336	1	35%	4	712	2	29.6%	1	0.26	3	100.0%	4		1	3.87	3	10.01	1
PATHARGHATA	504853009		84	1	43	2.35	24.1	1	4.7	1	336	1	35%	4	418	1	40.1%	3	0.17	2	100.0%	4	0.17	1	3.68	3		4
PATHARGHATA	504853010		85	2	75	2.35	24.1	1	4.7	1	336	1	35%	4	418	1	40.1%	3		1	100.0%	4		1	3.03	4		4
Bhola																												
BHOLA-S	509183010	Loan	24	1	18	2.75	47.9	4	3.4	3	320	2	62%	2	988	4	40.1%	3	0.25	3	54.5%	2		1	4.30	2		4
BHOLA-S	509183012		67	3	100	2.45	47.9	4	3.4	3	320	2	62%	2	988	4	40.1%	3	0.16	2	20.6%	1		1	5.19	1		4
BHOLA-S	509183013		74	4	112	2.40	47.9	4	3.4	3	320	2	62%	2	988	4	40.1%	3		1	36.4%	1	0.18	2	5.37	1		4
BHOLA-S	509183017		30	2	59	2.75	47.9	4	3.4	3	320	2	62%	2	988	4	40.1%	3	0.20	2	100.0%	4		1	6.46	1		4
BORHANUDDIN	509213003	Loan	7	1	5	3.05	51.2	4	2.9	4	320	2	62%	2	858	3	39.5%	2	0.49	4	89.9%	3	0.74	4	2.96	4	0.37	3
BORHANUDDIN	509213004		14	2	55	2.95	51.2	4	2.9	4	320	2	62%	2	858	3	40.1%	3	0.25	3	100.0%	4	0.25	2	4.86	2		4
BORHANUDDIN	509213005		27	3	93	2.75	51.2	4	2.9	4	320	2	62%	2	858	3	39.0%	2	0.17	2	100.0%	4	0.66	4	4.37	2	0.83	3
BORHANUDDIN	509213007		39	4	110	2.65	51.2	4	2.9	4	320	2	62%	2	858	3	40.1%	3		1	42.4%	2	0.32	2	4.25	3		4
CHARFASSION	509253004	Loan	20	1	16	2.85	51.6	4	2.9	4	320	2	62%	2	287	1	*40.1%*	3	*0.15*	2	72.2%	3	0.91	4	2.73	4		4
CHARFASSION	509253007		78	4	113	2.40	51.6	4	2.9	4	320	2	62%	2	287	1	38.9%	2	0.20	2	73.6%	3	0.40	2	3.60	3	1.50	2
CHARFASSION	509253014		56	2	67	2.55	51.6	4	2.9	4	320	2	62%	2	287	1	33.7%	1	0.53	4	100.0%	4	0.80	4	4.80	2	4.93	2
CHARFASSION	509253016		61	3	97	2.55	51.6	4	2.9	4	320	2	62%	2	287	1	40.1%	3	0.10	1	100.0%	4	0.31	2	4.30	2		4
DAULATKHAN	509293003		69	99	120	2.45	48.3	4	2.9	4	320	2	62%	2	547	1	40.1%	3	0.11	1	38.9%	2	0.32	2	3.87	3		4
DAULATKHAN	509293008	Loan	11	1	9	3.00	48.3	4	2.9	4	320	2	62%	2	547	1	40.1%	3	0.58	4	66.6%	3	0.58	3	2.74	4		4
LALMOHAN	509543007		73	1	40	2.40	54.3	4	2.5	4	320	2	62%	2	698	2		2	0.21	2		1	0.49	3	3.96	3	0.21	3
LALMOHAN	509543011		81	2	73	2.40	54.3	4	2.5	4	320	2	62%	2	698	2	32.8%	1	0.13	1	*100.0%*	4		1	2.39	4	5.58	2
LALMOHAN	509543012		103	3	107	2.10	54.3	4	2.5	4	320	2	62%	2	698	2	33.3%	1	0.15	2	65.7%	2	0.15	1	4.75	2	3.35	2
MONPURA	509653003	Loan	10	1	8	3.00	45.5	4	2.7	4	320	2	62%	2	180	1	40.1%	3	0.51	4	86.2%	3	0.51	3		4		4
MONPURA	509653004		89	2	77	2.30	45.5	4	2.7	4	320	2	62%	2	180	1		2	0.40	4		1	0.40	2	4.89	2	3.00	2
TAZUMUDDIN	509913003		75	3	101	2.40	60.1	4	2.3	4	320	2	62%	2	234	1	40.1%	3	0.17	2	39.1%	2	0.17	1	4.30	2		4
TAZUMUDDIN	509913004		50	2	63	2.60	60.1	4	2.3	4	320	2	62%	2	234	1	40.1%	3	0.17	2	100.0%	4	0.17	1	4.30	2		4
TAZUMUDDIN	509913006		35	1	24	2.70	60.1	4	2.3	4	320	2	62%	2	234	1	40.1%	3		1	100.0%	4		1	2.74	4		4
Jhalakati																												
JHALOKATHI-S	542403001		43	1	28	2.65	23.5	1	5.2	1	256	4	36%	4	979	4	41.6%	4	0.07	1	45.3%	2	0.35	2	6.68	1		4
JHALOKATHI-S	542403011		87	2	76	2.35	23.5	1	5.2	1	256	4	36%	4	979	4	39.7%	2	0.22	2	35.6%	1	0.56	3	6.56	1	1.44	3
KATHALIA	542433009		46	1	30	2.60	21.6	1	5.7	1	256	4	36%	4	857	3	*42.8%*	4		*1*	*8.5%*	*1*		*1*	*3.40*	3		4

Note: 1) V means value and Q means quintile value.

Table 5 Results of Union road ranking calculations (continued)

Division/ Greater District District Upazila	Road Code (Gazetted)	Selected?	Initial ranking	Ranking in Upazila	Final ranking	Score	Poverty index		Years of education		Per capita GDP		Upazila Road upgraded		Population density (pop./km^2)		EIRR		Markets /km		Percentage of earthen road		Schools & social facility /km		Amount of earthwork		Gaps/km	
							V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q
KATHALIA	542433013		95	2	79	2.20	21.6	1	5.7	1	256	4	36%	4	857	3	32.0%	1		1	96.9%	3		1	4.25	3	7.53	1
NALCHITY	542733003		47	1	31	2.60	24.4	1	4.7	1	256	4	36%	4	904	3	42.2%	4	0.21	2	26.8%	1		1	4.56	2		4
NALCHITY	542733015		54	2	65	2.55	24.4	1	4.7	1	256	4	36%	4	904	3	39.3%	2	0.24	3	77.4%	3	0.49	3	6.84	1	0.98	3
RAJAPUR	542843004		41	3	95	2.65	21.9	1	5.6	1	256	4	36%	4	909	3	39.7%	2	0.32	3	67.7%	3	0.65	3	4.68	2	0.98	3
RAJAPUR	542843006	Loan	17	1	14	2.90	21.9	1	5.6	1	256	4	36%	4	909	3	40.2%	3	0.97	4	96.8%	3	0.65	4	5.28	1		4
RAJAPUR	542843008		25	2	58	2.75	21.9	1	5.6	1	256	4	36%	4	909	3	40.6%	3	0.32	3	80.8%	3	0.64	3	5.69	1		4
Patuakhali																												
BAUPHAL	578383024		32	1	21	2.70	36.4	2	3.8	3	361	1	48%	3	626	2	40.1%	3	0.24	2	66.9%	3	1.67	4	2.90	4		4
BAUPHAL	578383026		51	2	64	2.60	36.4	2	3.8	3	361	1	48%	3	626	2	39.9%	2	0.48	4	100.0%	4	0.96	4	4.30	2	0.16	3
BAUPHAL	578383027		66	3	99	2.50	36.4	2	3.8	3	361	1	48%	3	626	2	40.1%	3	0.22	2	88.8%	3	0.79	4	4.30	2		4
DASHMINA	578523004		92	2	78	2.30	49.4	4	3.0	4	361	1	48%	3	333	1	33.1%	1	0.33	3	100.0%	4	0.50	3	5.30	1	5.42	2
DASHMINA	578523005		34	1	23	2.70	49.4	4	3.0	4	361	1	48%	3	333	1	37.6%	2	0.40	4	100.0%	4	0.80	4	4.90	2	2.09	2
DUMKI	578963008		31	1	20	2.70		2		2	361	1	48%	3	765	2	40.1%	3	0.50	4	100.0%	4	0.50	3	4.86	2		4
DUMKI	578963009		64	2	70	2.50		2		2	361	1	48%	3	765	2	38.1%	2	1.60	4	100.0%	4	0.80	4	4.86	2	1.60	2
DUMKI	578963011		90	3	103	2.30		2		2	361	1	48%	3	765	2	38.1%	2	0.40	4	100.0%	4	0.40	2	6.45	1	1.60	2
GALACHIPA	578573003		113	2	86	1.95	44.0	3	3.2	3	361	1	48%	3	257	1	34.9%	1	0.16	2	100.0%	4	0.16	1	5.15	1	3.77	2
GALACHIPA	578573014	Loan	28	1	19	2.75	44.0	3	3.2	3	361	1	48%	3	257	1	41.7%	4	0.26	3	44.4%	2	1.06	4	3.63	3		4
KALAPARA	578663004		105	1	48	2.10	33.1	2	4.0	2	361	1	48%	3	418	1	28.9%	1	0.30	3	63.1%	2	0.77	4	2.90	4	10.71	1
KALAPARA	578663010		109	2	85	2.05	33.1	2	4.0	2	361	1	48%	3	418	1	36.3%	2		1	100.0%	4	0.07	1	3.87	3	2.92	2
MIRJAGANJ	578763007		79	1	41	2.40	29.5	2	4.4	2	361	1	48%	3	673	2	36.6%	2	0.35	4	100.0%	4	0.71	4	5.78	1	2.35	2
MIRJAGANJ	578763015		119	2	89	1.55	29.5	2	4.4	2	361	1	48%	3	673	2	30.8%	1	0.15	1		1	0.60	3	6.60	1	9.40	1
PATUAKHALI-S	578953005		101	3	105	2.15	29.0	2	4.5	2	361	1	48%	3	890	3	35.7%	2	0.20	2	100.0%	4	0.13	1	5.29	1	3.00	2
PATUAKHALI-S	578953016		99	2	82	2.15	29.0	2	4.5	2	361	1	48%	3	890	3	32.6%	1	0.35	3	76.6%	3	0.47	3	4.46	2	6.43	1
PATUAKHALI-S	578953018	Loan	12	1	10	3.00	29.0	2	4.5	2	361	1	48%	3	890	3	41.1%	4	0.57	4	64.3%	2	0.86	4	3.03	4		4
Greater Faridpur																												
Faridpur																												
BHANGA	329103004	Loan	9	1	7	3.00	42.4	3	3.0	4	277	3	61%	2	1,074	4	43.2%	4	0.89	4	26.7%	1	0.44	2	4.64	2		4
BOALMARI	329183003		33	1	22	2.70	49.8	4	2.7	4	277	3	61%	2	858	3	34.9%	1	0.57	4	100.0%	4	0.57	3	7.60	1	4.29	2
BOALMARI	329183009		96	2	80	2.20	49.8	4	2.7	4	277	3	61%	2	858	3	25.5%	1	0.28	3	7.0%	1	0.42	2	6.60	1	10.56	1
FARIDPUR-S	329473010		3	99	119	3.25	37.4	3	4.2	2	277	3	61%	2	1,016	4	41.1%	4	0.60	4	100.0%	4	0.60	3	4.30	2		4
FARIDPUR-S	329473014		97	1	47	2.20	37.4	3	4.2	2	277	3	61%	2	1,016	4	31.6%	1	0.24	2	55.4%	2	0.36	2	4.56	2	7.23	1
MADHUKHALI	329563004		44	2	61	2.60	42.7	3	3.6	3	277	3	61%	2	816	3	41.1%	4		1	55.6%	2		1	4.80	2		4
MADHUKHALI	329563008	Loan	18	1	15	2.90	42.7	3	3.6	3	277	3	61%	2	816	3	41.6%	4	0.24	3	28.5%	1	0.57	3	3.36	3		4
NAGARKANDA	329623006	Loan	4	1	3	3.15	50.1	4	2.8	4	277	3	61%	2	853	3	41.1%	4	0.48	4	2.5%	1	0.64	3	4.20	3		4
SADARPUR	329843001		71	1	38	2.45	49.4	4	2.7	4	277	3	61%	2	650	2	38.6%	2	0.26	3	42.8%	2	0.53	3	8.00	1	1.97	2
Gopalganj																												
KASIANI	335433002		72	1	39	2.40	40.1	3	4.2	2	267	4	66%	1	763	2		2	0.60	4		1	1.00	4	6.72	1		4
KOTWALIPARA	335513008	Loan	16	1	13	2.90	39.8	3	4.0	2	267	4	66%	1	627	2	41.1%	4	0.67	4	66.8%	3	2.00	4	5.70	1		4
TUNGIPARA	335913002		106	1	49	2.05	42.6	3	4.3	2	267	4	66%	1	782	3	31.3%	1	0.13	1	46.5%	2	0.39	2	4.34	2	3.62	2
Madaripur																												
MADARIPUR-S	354543008		26	3	92	2.75	38.7	3	3.7	3	249	4	64%	1	1,058	4	41.1%	4	0.15	1	52.8%	2	0.44	2	4.61	2		4
MADARIPUR-S	354543010	Loan	1	1	1	3.25	38.7	3	3.7	3	249	4	64%	1	1,058	4	41.1%	4	0.86	4	100.0%	4	1.14	4	9.54	1		4

Table 5 Results of Union road ranking calculations (continued)

Division/ Greater District District Upazila	Road Code (Gazetted)	Selected?	Initial ranking Ranking in Upazila	Final ranking	Score	Poverty index		Years of education		Per capita GDP		Upazila Road upgraded		Population density (pop./km^2)		EIRR		Markets /km		Percentage of carthen road		Schools & social facility /km		Amount of earth-work		Gaps/km	
						V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q
MADARIPUR-S	354543017		19	2	56	2.90	38.7	3	3.7	3	249	4	64%	1	1,058	4	42.2%	4	0.31	3	61.1%	2	0.46	3	8.59	1		4
Rajbari																											
BALIAKANDI	382073004	Loan	15	1	12	2.95	48.2	4	3.0	4	282	3	57%	2	769	2	42.2%	4	0.19	2	61.5%	2	0.58	3	3.33	3		4
BALIAKANDI	382073005		60	3	96	2.55	48.2	4	3.0	4	282	3	57%	2	769	2	28.0%	1	0.24	2	100.0%	4	0.48	3	3.65	3	11.90	1
BALIAKANDI	382073022		23	2	57	2.80	48.2	4	3.0	4	282	3	57%	2	769	2	42.6%	4	0.29	3	17.8%	1	0.44	2	4.34	2		4
PANGSHA	382733012		29	4	109	2.75	40.7	3	3.4	3	282	3	57%	2	851	3	41.5%	4	0.13	1	86.7%	3	0.40	2	4.69	2		4
PANGSHA	382733016		21	3	91	2.85	40.7	3	3.4	3	282	3	57%	2	851	3	39.1%	2	0.25	3	80.0%	3	0.50	3	2.58	4	1.00	3
PANGSHA	382733017	Loan	2	1	2	3.25	40.7	3	3.4	3	282	3	57%	2	851	3	41.1%	4	0.34	3	83.1%	3	1.36	4	2.15	4		4
PANGSHA	382733028		5	2	54	3.15	40.7	3	3.4	3	282	3	57%	2	851	3	41.1%	4	0.24	2	100.0%	4	0.24	2	1.90	4		4
Shariatpur																											
BHEDARGANJ	386143006	Loan	8	1	6	3.05	48.6	4	3.2	3	257	4	72%	1	890	3	44.0%	4	0.33	3		1	0.65	4	3.96	3		4
BHEDARGANJ	386143008		62	2	69	2.55	48.6	4	3.2	3	257	4	72%	1	890	3	17.5%	1	0.56	4	66.5%	3	0.85	4	6.14	1	59.86	1
DAMUDDYA	386253003	Loan	6	1	4	3.05	53.6	4	2.8	4	257	4	72%	1	1,271	4	41.1%	4		1	100.0%	4		1	4.73	2		4
GOSHAIRHAT	386363010		104	2	84	2.10	59.4	4	2.2	4	257	4	72%	1	739	2	11.6%	1		1	79.5%	3	0.27	2	6.36	1	68.31	1
GOSHAIRHAT	386363011		38	1	26	2.65	59.4	4	2.2	4	257	4	72%	1	739	2	41.4%	4		1	91.5%	3	1.70	4	6.50	1	89.36	1
JANJIRA	386943004		83	2	74	2.40	48.2	4	2.4	4	257	4	72%	1	749	2	22.4%	1	0.26	3	89.6%	3	0.65	4	4.94	1	22.73	1
JANJIRA	386943005		82	1	42	2.40	48.2	4	2.4	4	257	4	72%	1	749	2	26.2%	1	0.26	3	100.0%	4	0.39	2	6.06	1	14.78	1
NARIA	386653007		86	1	44	2.35	42.7	3	3.0	4	257	4	72%	1	940	3	34.1%	1	0.45	4	52.4%	2	0.45	2	5.16	1	3.50	2
Greater Khulna																											
Bagerhat																											
CHITALMARI	201143001		59	1	35	2.55	31.6	2	4.8	1	335	1	45%	3	728	2	40.6%	3	0.28	3	54.1%	2	0.47	3	3.03	4		4
KACHUA	201384004		114	1	52	1.90	29.4	2	4.3	2	335	1	45%	3	760	2	39.6%	2		1	36.4%	1		1	3.80	3	0.29	3
MOLLAHAT	201563006		93	1	45	2.30	44.4	3	3.7	3	335	1	45%	3	672	2	34.0%	1	0.11	1	100.0%	4	1.34	4	4.10	3	5.16	2
MONGLA	201583004		116	3	108	1.85	26.2	1	4.2	2	335	1	45%	3	102	1	29.9%	1	0.18	2	41.0%	2	0.55	3	2.88	4	10.05	1
MONGLA	201583005		70	2	71	2.45	26.2	1	4.2	2	335	1	45%	3	102	1	40.6%	3	0.24	2	100.0%	4	0.71	4	3.96	3		4
MONGLA	201583006		68	1	37	2.45	26.2	1	4.2	2	335	1	45%	3	102	1	41.8%	4	0.29	3	57.1%	2	0.57	3	3.23	3		4
MORRELGANJ	201603003		52	1	33	2.60	27.2	1	4.6	1	335	1	45%	3	758	2	40.9%	4	0.15	2	88.5%	3	0.61	3	2.50	4		4
MORRELGANJ	201603009		117	2	88	1.70	27.2	1	4.6	1	335	1	45%	3	758	2	32.7%	1		1	66.1%	2	0.56	3	3.42	3	6.57	1
RAMPAL	201733002		120	2	90	1.55	24.4	1	4.6	1	335	1	45%	3	613	1	21.5%	1	0.20	2		1	0.41	2	3.22	3	20.30	1
RAMPAL	201733005		118	1	53	1.60	24.4	1	4.6	1	335	1	45%	3	613	1	28.1%	1	0.10	1	60.0%	2	0.10	1	1.84	4	10.26	1
Satkhira																											
ASSASUNI	287043001		108	1	50	2.05	40.8	3	3.1	4	320	2	62%	1	619	2	31.6%	1	0.23	2	100.0%	4		1	4.56	2	7.27	1
DEBHATA	287253002		94	1	46	2.25	29.8	2	4.0	2	320	2	62%	1	675	2	40.8%	3	0.13	1	42.4%	2	0.26	2	2.22	4		4
KALAROA	287433001	Loan	13	1	11	2.95	36.9	2	3.7	3	320	2	62%	1	953	4	42.2%	4	0.65	4	19.1%	1	2.10	4	0.38	4		4
KALIGANJ	287473001		36	1	25	2.65	33.5	2	4.0	2	320	2	62%	1	768	2	42.7%	4	0.50	4		1	1.00	4	2.39	4	0.60	3
KALIGANJ	287473009		107	4	115	2.05	33.5	2	4.0	2	320	2	62%	1	768	2	40.1%	2	0.14	1	83.6%	3	0.41	2	3.19	3	0.49	3
KALIGANJ	287473010		102	3	106	2.10	33.5	2	4.0	2	320	2	62%	1	768	2	42.4%	4	0.16	2	23.8%	1	0.16	1	4.50	2	0.29	3
KALIGANJ	287473011		112	6	118	1.95	33.5	2	4.0	2	320	2	62%	1	768	2	26.1%	1	0.32	3		1	0.16	1	2.97	4	0.48	3
KALIGANJ	287473012		98	2	81	2.15	33.5	2	4.0	2	320	2	62%	1	768	2	39.0%	2	0.11	1	83.7%	3	0.22	2	2.22	4	1.07	3
KALIGANJ	287473013		111	5	117	1.95	33.5	2	4.0	2	320	2	62%	1	768	2	37.5%	2	0.34	3	54.2%	2	0.34	2	7.14	1	1.42	3

Table 5 Results of Union road ranking calculations (continued)

Division/ Greater District District Upazila	Road Code (Gazetted)	Selected?	Initial ranking Ranking in Upazila	Final ranking	Score	Poverty index		Years of education		Per capita GDP		Upazila Road upgraded		Population density (pop./km^2)		EIRR		Markets /km		Percentage of earthen road		Schools & social facility /km		Amount of earth-work		Gaps/km	
						V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q
SATKHIRA-S	287823001		76	5 116	2.40	36.1	2	3.9	3	320	2	62%	1	1,024	4	40.8%	3	0.18	2	35.3%	1	0.26	2	3.15	3		4
SATKHIRA-S	287823002		40	3 94	2.65	36.1	2	3.9	3	320	2	62%	1	1,024	4	40.5%	3	0.26	3	29.7%	1	0.66	4	2.16	4	0.04	3
SATKHIRA-S	287823008		53	4 111	2.55	36.1	2	3.9	3	320	2	62%	1	1,024	4	39.7%	2	0.32	3	44.3%	2	0.48	3	2.11	4	0.32	3
SATKHIRA-S	287823013		37	2 60	2.65	36.1	2	3.9	3	320	2	62%	1	1,024	4	40.4%	3	0.35	4	26.1%	1	0.35	2	1.82	4	0.21	3
SATKHIRA-S	287823016	Loan	22	1 17	2.80	36.1	2	3.9	3	320	2	62%	1	1,024	4	40.1%	3	0.56	4	40.8%	2	0.56	3	2.43	4	0.18	3
SHYAMNAGAR	287863003		48	2 62	2.60	46.2	4	3.2	3	320	2	62%	1	159	1	40.6%	3	0.32	3	79.0%	3	0.32	2	3.36	3		4
SHYAMNAGAR	287863004		42	1 27	2.65	46.2	4	3.2	3	320	2	62%	1	159	1	41.1%	4	0.11	1	81.8%	3	0.76	4	3.36	3		4
SHYAMNAGAR	287863007		65	3 98	2.50	46.2	4	3.2	3	320	2	62%	1	159	1	43.6%	4		1		1	0.57	3	2.50	4		4
TALA	2879030099		91	3 104	2.30	32.5	2	3.8	3	320	2	62%	1	855	3	40.1%	3		1	56.2%	2		1	1.72	4	1.31	3
TALA	287903010		58	2 68	2.55	32.5	2	3.8	3	320	2	62%	1	855	3	40.6%	3	0.17	2	97.2%	3	0.17	1	2.25	4		4
TALA	287903013		57	1 34	2.55	32.5	2	3.8	3	320	2	62%	1	855	3	40.6%	3		1	100.0%	4		1	2.75	4		4

2.2 Characteristics of selected Union roads for upgrading

Based on the ranking and the budget ceiling, 19 Union roads are selected for upgrading. The characteristics and quantities of the selected Union roads are shown in Table 6 and Table 7, respectively.

Table 6 Characteristics of selected Union roads for upgrading

Division/Greater District *District* Upazila	Road Code (Gazetted)	Physical features of road											No. of institutions along road					Associated Union Parishad
		Total length (km)	Earthen (km)	HBB/ BFS (km)	WBM (km)	BC (km)	CC/ RCC (km)	No. of bridges and culverts	Span of bridges and culverts (m)	No. of existing gap	Span of existing gap (m)	Crest width (m)	Embankment height (m)	Growth center	Rural market	Schools	Health center	Cyclone shelter	Industry	
Barisal Division																				
Bhola																				
BHOLA-S	509183010	4.000	2.180			1.820		3	34			3.00	1.00	1						Bheduria UP
BORHANUDDIN	509213003	4.050	3.640		0.410			9	81	1	1.50	2.44	0.61	1	1	3				Sachra-Deula UP
CHARFASSION	509253004	6.600	4.764			1.836		8	40			3.66	0.75	1		5		1		Aminabad UP
DAULATKHAN	509293008	5.150	3.432			1.718		6	35			4.26	0.90		3	3				Charpata Union
MONPURA	509653003	3.960	3.413				0.547	2	9			7.32	1.10	1	1	1	1			Nazirhat UP
Jhalakati																				
RAJAPUR	542843006	3.100	3.000	0.100				10	97			2.90	1.20		3	1	1		1	Baroir UP
Patuakhali																				
GALACHIPA	578573014	7.550	3.350	4.200				11	137			4.88	1.50		2	5	1	2		Chottobaisdia UP
PATUAKHALI-S	578953018	7.000	4.500	2.500				5	97			4.88	1.25		4	6				Jainkathi UP
Greater Faridpur																				
Faridpur																				
BHANGA	329103004	2.250	0.600	1.650				3	27			3.50	1.22		2	1				Hamirdi UP
MADHUKHALI	329563008	12.300	3.500	0.800		8.000		5	27			5.20	1.60		3	5	2		1	Jahapur UP
NAGARKANDA	329623006	6.230	0.154			6.076		7	88			3.65	1.15	1	2	3	1			Ballavdi UP
Gopalganj																				
KOTWALIPARA	335513008	3.000	2.003			0.997		4	52			3.50	1.50		2	5	1			Suagram UP
Madaripur																				
MADARIPUR-S	354543010	3.500	3.500					3	42			2.00	1.80		3	3	1		1	Rasti UP
Rajbari																				
BALIAKANDI	*382073004*	*5.200*	*3.200*	*2.000*				4	*5*			*4.13*	*1.05*		*1*	3				*Islampur UP*
PANGSHA	382733017	5.900	4.900			1.000		2	13			3.00	0.50		2	7	1			Kalimohor UP
Shariatpur																				
BHEDARGANJ	386143006	6.110		5.530		0.580		12	116			4.00	1.20	1	1	4				Siddya UP
DAMUDDYA	386253003	1.450	1.450					3	16			3.00	1.10							
Greater Khulna																				
Satkhira																				
KALAROA	287433001	6.190	1.185	1.541	0.449	3.015		8	6			6.85	0.85		4	12	1		1	Keragachi UP
SATKHIRA-S	287823016	3.600	1.469			2.131		9	12	1	0.63	4.26	0.80		2	2				

Table 7 Quantities of selected Union road for upgrading

Division/Greater District District UPAZILA	Road Code (Gazetted)	Road					Structures		
		BC/CC /RCC/ WBM	Road to be upgraded			Total length of Road	Bridge	Culvert	Total
			Earthen road	HBB/ BFS	Upgrade total				
		a	b	c	d=b+c	e=a+d	f	g	h=f+g
		(km)	(km)	(km)	(km)	(km)	(m)	(m)	(m)
Project total		**28.579**	**50.240**	**18.321**	**68.561**	**97.140**		**2.1**	**2.1**
Barisal Division		**6.331**	**28.279**	**6.800**	**35.079**	**41.410**		**1.5**	**1.5**
Bhola		**6.331**	**17.429**		**17.429**	**23.760**		**1.5**	**1.5**
BHOLA-S	509183010	1.820	2.180		2.180	4.000			
BORHANUDDIN	509213003	0.410	3.640		3.640	4.050		1.5	1.5
CHARFASSION	509253004	1.836	4.764		4.764	6.600			
DAULATKHAN	509293008	1.718	3.432		3.432	5.150			
MONPURA	509653003	0.547	3.413		3.413	3.960			
Jhalakati			**3.000**	**0.100**	**3.100**	**3.100**			
RAJAPUR	542843006		3.000	0.100	3.100	3.100			
Patuakhali			**7.850**	**6.700**	**14.550**	**14.550**			
GALACHIPA	578573014		3.350	4.200	7.550	7.550			
PATUAKHALI-S	578953018		4.500	2.500	7.000	7.000			
Greater Faridpur		**16.653**	**19.307**	**9.980**	**29.287**	**45.940**			
Faridpur		14.076	4.254	2.450	6.704	20.780			
BHANGA	329103004		0.600	1.650	2.250	2.250			
MADHUKHALI	329563008	8.000	3.500	0.800	4.300	12.300			
NAGARKANDA	329623006	6.076	0.154		0.154	6.230			
Gopalganj		**0.997**	**2.003**		**2.003**	**3.000**			
KOTWALIPARA	335513008	0.997	2.003		2.003	3.000			
Madaripur			**3.500**		**3.500**	**3.500**			
MADARIPUR-S	354543010		3.500		3.500	3.500			
Rajbari		**1.000**	**8.100**	**2.000**	**10.100**	**11.100**			
BALIAKANDI	382073004		3.200	2.000	5.200	5.200			
PANGSHA	382733017	1.000	4.900		4.900	5.900			
Shariatpur		**0.580**	**1.450**	**5.530**	**6.980**	**7.560**			
BHEDARGANJ	386143006	0.580		5.530	5.530	6.110			
DAMUDDYA	386253003		1.450		1.450	1.450			
Greater Khulna		**5.595**	**2.654**	**1.541**	**4.195**	**9.790**		**0.6**	**0.6**
Satkhira		**5.595**	**2.654**	**1.541**	**4.195**	**9.790**		**0.6**	**0.6**
KALAROA	287433001	3.464	1.185	1.541	2.726	6.190			
SATKHIRA-S	287823016	2.131	1.469		1.469	3.600		0.6	0.6

3 Growth Centers and Rural Markets

3.1 Prioritization criteria and results of Union road ranking calculation

The proposed Upazila roads are ranked according to the set of prioritization criteria and weighting scheme shown in Table 8. The results of Growth Center and rural market ranking calculations are presented in Table 9.

Table 8 Prioritization criteria and weighting scheme for Growth Centers and rural markets ranking

Prioritization criteria	Weighting Scheme
A. National Policy	
1) Category given to the market; i.e. growth center or rural market	NA
B1. Level of development	**40%**
2) Income level: GDP per capita of the District where the growth center/rural market is located (Data source: Bangladesh Bureau of Statistics, 2000)	(20%)
3) Poverty: The Headcount Index; i.e. the proportion of the population counted as poor in the Upazila where the growth center/rural market is located (Data source: Bangladesh Bureau of Statistics, 2005)	(10%)
4) Education: average years of schooling of adult household members in the Upazila where the growth center/rural market is located (Data source: Bangladesh Bureau of Statistics, 2005)	(10%)
B2. Economic potential	**40%**
5) Hat day buyers per day (Data source: LGED, 2008)	(5%)
6) Hat day sellers per day (Data source: LGED, 2008)	(5%)
7) Number of permanent shops (Data source: LGED, 2008)	(10%)
8) Lease value per year (Data source: LGED, 2008)	(20%)
B3. Sustainability of operation and maintenance	**20%**
9) Existence and status of MMC (Data source: LGED, 2008)	(20%)
Total	**100%**

Scoring schemes

2): All Districts in the Project area are ranked according to GDP per capita, and each District is given a score ranging from 1 for the highest quartile to 4 for the lowest quartile.

3) and 4): All Upazilas in the Project area are ranked according to severity of poverty or level of education, and each Upazila is given a score ranging from 1 for the wealthiest or the most educated quartile to 4 for the poorest or the least educated quartile.

5) to 8): All proposed growth centers/rural markets which qualify for selection under the eligibility criteria are ranked from highest to lowest in terms of numeric value, and each growth center/rural market is given a score ranging from 1 for the lowest quartile to 4 for the highest quartile.

9): Each growth center/rural market that qualifies under the eligibility criteria is given a score of 1 if MMC is non-existent, 2 if MMC is dormant, and 4 if MMC is active.

For all criteria: If data is not available, a score of 2 is given.

Table 9 Results of Growth Center (GC) and rural market (RM) ranking calculations

Market category	District	Upazila	Name	Priority 1=DataAvail, 2=ParDataI, 3=NoData	In original list	Rank (base)	Adjusted rank	Average score	GDP per capita (score) 20%	Poverty head count	Poverty head count (score) 10%	Years of schooling	Years of schooling (score) 10%	Buyers per hat day	Buyers per hat day (score) 5%	Sellers per hat day	Sellers per hat day (score) 5%	Permanent shops	Permanent shops (score) 10%	Annual Lease value in 2007-08	Annual Lease value in 2007-08 (score) 20%	MMC status	MMC status (score) 20%
GC	Madaripur	Shib Char	Shibchar	1	Yes	1	1	3.85	4	49.6	4	2.59	4	2,500	2	1,000	3	300	4	5,200,000	4	Active	4
GC	Rajbari	Baliakandi	Sonapur	1	Yes	2	2	3.80	3	48.2	4	3.02	4	14,000	4	16,000	4	708	4	2,001,000	4	Active	4
GC	Madaripur	Shib Char	Madbarerchar	1	Yes	3	3	3.65	4	49.6	4	2.59	4	3,500	3		2	125	2	5,106,000	4	Active	4
GC	Bhola	Lalmohan	Gazaria	1	Yes	4	4	3.45	2	54.3	4	2.53	4	3,000	2	1,000	3	500	4	715,200	4	Active	4
GC	Faridpur	Sadarpur	Chadda Rashi	1	Yes	5	5	3.40	3	49.4	4	2.65	4	2,500	2	400	2	95	2	2,200,000	4	Active	4
GC	Bhola	Tazumuddin	Hat Sashiganj	1	Yes	6	6	3.40	2	60.1	4	2.26	4	10,000	4	1,500	4	500	4	452,000	3	Active	4
GC	Madaripur	Madaripur Sadr	Mostofapur	1	Yes	7	7	3.40	4	38.7	3	3.69	3	4,500	3	800	3	230	3	176,000	3	Active	4
GC	Shariatpur	Shariatpur Sadr	Burirhat	1	Yes	8	8	3.35	4	45.3	3	3.57	3	3,500	3	450	2	160	3	182,000	3	Active	4
GC	Pirojpur	Bhandaria	Bhandaria	1	Yes	9	9	3.20	3	28.6	1	5.03	1	40,000	4	2,000	4	975	4	750,000	4	Active	4
GC	Madaripur	Madaripur Sadr	Chillarchar	1	Yes	10	10	3.20	4	38.7	3	3.69	3	4,000	3	600	3	160	3	40,000	2	Active	4
GC	Shariatpur	Damoudya	Sedhalkura	1	Yes	11	11	3.20	4	53.6	4	2.79	4	3,000	3	1,000	3	30	1	42,750	2	Active	4
GC	Bagerhat	Kachua	Badhal	1	Yes	12	12	3.15	2	29.4	2	4.33	2	4,000	3	2,500	4	250	4	2,135,000	4	Active	4
GC	Satkhira	Tala	Pathkelghata	1	Yes	13	13	3.15	2	32.5	2	3.76	3	4,000	3	450	2	1,200	4	1,837,000	4	Active	4
GC	Pirojpur	Nazirpur	Sreeramkathi	1	Yes	14	14	3.15	3	29	2	4.96	1	1,500	2	608	3	850	4	1,095,000	4	Active	4
GC	Faridpur	Alfadanga	Gopalpur	1	Yes	15	15	3.10	3	41.7	3	3.41	3	18,000	4	300	2	80	2	301,000	3	Active	4
GC	Bhola	Manpura	Hazir hat	1	Yes	16	16	3.10	2	45.5	4	2.68	4	10,000	4	400	2	500	4	123,600	2	Active	4
GC	Patuakhali	Bauphal	Kalaia	1	Yes	17	17	3.10	1	36.4	2	3.79	3	18,000	4	12,000	4	2,050	4	4,107,777	4	Active	4
GC	Khulna	Paikgachha	Kopilmoni	1	Yes	18	18	3.10	1	35.8	2	3.55	3	32,000	4	5,000	4	1,600	4	1,995,000	4	Active	4
GC	Shariatpur	Zanjira	Janjira	1	Yes	19	19	3.05	4	48.2	4	2.42	4	3,000	3	426	2	62	2	13,500	1	Active	4
GC	Faridpur	Alfadanga	Alfadanga	1	Yes	20	20	3.05	3	41.7	3	3.41	3	28,000	4	180	1	120	2	180,200	3	Active	4
GC	Bhola	Burhanuddin	Moazzem hat	1	Yes	21	21	3.00	2	51.2	4	2.85	4	3,000	2	300	2	100	2	251,100	3	Active	4
GC	Khulna	Dumuria	Dumuria	1	Yes	22	22	3.00	1	34.5	2	3.93	2	38,000	4	2,000	4	1,000	4	550,500	4	Active	4
GC	Khulna	Paikgachha	Garuikhali	1	Yes	23	23	3.00	1	35.8	2	3.55	3	16,000	4	5,000	4	205	3	455,700	4	Active	4
GC	Pirojpur	Kawkhali	Kawkhali	1	Yes	24	24	3.00	3	21.6	1	5	1	2,250	2	350	2	1,500	4	1,520,000	4	Active	4
GC	Faridpur	Faridpur Sadar	Khalil Mondal	1	Yes	25	25	3.00	3	37.4	2	4.15	2	7,775	4	3,800	4	410	4	130,000	2	Active	4
GC	Satkhira	Kalaroa	Sonabaria	1	Yes	26	26	2.95	2	36.9	2	3.69	3	6,000	3	2,500	4	226	3	400,000	3	Active	4
GC	Rajbari	Pangsha	Machpara	1	Yes	27	27	2.95	3	40.7	3	3.41	3	1,500	2	1,200	3	250	3	41,500	2	Active	4
GC	Bagerhat	Chitalmari	Chitalmari	1	Yes	28	28	2.90	2	31.6	2	4.79	1	4,000	3	800	3	200	3	1,901,000	4	Active	4
GC	Rajbari	Rajbari Sadar	Kutir Hat	1	Yes	30	29	2.85	3	42	3	3.25	3	5,000	3	2,000	4	150	3	985,000	4	Non-existent	1
GC	Bagerhat	Kachua	Gajalia	1	Yes	31	30	2.85	2	29.4	2	4.33	2	4,000	3	2,000	4	150	3	425,000	3	Active	4
GC	Khulna	Phultala	Phultala GC	1	Yes	32	31	2.85	1	28	1	4.37	2	6,750	4	820	3	450	4	2,656,000	4	Active	4
GC	Barisal	Banaripara	Choumohani	1	Yes	33	32	2.75	2	26.1	1	4.41	2	3,500	3	1,500	4	198	3	150,000	3	Active	4
GC	Patuakhali	Galachipa	Badura	1	Yes	34	33	2.75	1	44	3	3.16	3	1,000	1	250	2	125	2	1,501,800	4	Active	4
GC	Barisal	Barisal Sadar	Shahiber hat	1	Yes	35	34	2.75	2	22.2	1	5.95	1	2,500	2	500	3	220	3	700,000	4	Active	4
GC	Khulna	Terokhada	Katinga	1	Yes	36	35	2.75	1	41	3	3.43	3	12,000	4	1,000	3	250	4	65,000	2	Active	4

Table 9 Results of Growth Center (GC) and rural market (RM) ranking calculations (continued)

Market category	District	Upazila	Name	Priority 1=DataAvail, 2=PartDatal, 3=NoData	In original list	Rank (base)	Adjusted rank	Average score	GDP per capita (score) 20%	Poverty head count	Poverty head count (score) 10%	Years of schooling	Years of schooling (score) 10%	Buyers per hat day	Buyers per hat day (score) 5%	Sellers per hat day	Sellers per hat day (score) 5%	Permanent shops	Permanent shops (score) 10%	Annual Lease value in 2007-08	Annual Lease value in 2007-08 (score) 20%	MMC status	MMC status (score) 20%
GC	Gopalganj	Kotalipara	Dharabashail	1	Yes	37	36	2.70	3	39.8	3	3.97	2	400	1	160	1	150	3	120,000	2	Active	4
GC	Patuakhali	Patuakhali Sade	Katachia	1	Yes	38	37	2.70	1	29	2	4.53	2	9,000	4	2,000	4	250	3	245,000	3	Active	4
GC	Bhola	Bhola Sadar	Majhir hat	1	Yes	39	38	2.70	2	47.9	4	3.42	3	2,000	2	200	2	80	2		2	Active	4
GC	Jhalakati	Kanthalia	Amua	1	Yes	40	39	2.70	4	21.6	1	5.71	1	1,500	1	200	1	700	4	52,210	2	Active	4
GC	Jhalakati	Jhalakati Sadar	Shivgonj	1	Yes	41	40	2.65	4	23.5	1	5.24	1	11,500	4	500	3	60	1	80,700	2	Active	4
GC	Satkhira	Assasuni	Bardal	1	Yes	42	41	2.60	2	40.8	3	3.1	4	17,000	4	2,500	4	216	3	300,000	3	Non-existent	1
GC	Pirojpur	Mathbaria	Sapleza GC	1	Yes	43	42	2.60	3	26.5	1	4.82	1	9,000	4	3,000	4	320	4	361,101	3	Dormant	2
GC	Satkhira	Satkhira Sadar	Bhetkhali	1	Yes	44	43	2.55	2	36.1	2	3.86	3	3,500	3	300	2	110	2	680,000	4	Dormant	2
GC	Bagerhat	Morrelganj	Polar hat	1	Yes	45	44	2.55	2	27.2	1	4.6	1	3,500	3	350	2	200	3	300,000	3	Active	4
GC	Patuakhali	Kalapara	Lalua	1	Yes	46	45	2.50	1	33.1	2	4.03	2	2,500	2	300	2	150	3	143,000	3	Active	4
GC	Jhalakati	Jhalakati Sadar	Birmohal	1	Yes	47	46	2.45	4	23.5	1	5.24	1	9,100	4	500	3	25	1	26,600	1	Active	4
GC	Barguna	Betagi	Bodnykhali hat	1	Yes	48	47	2.45	1	26.7	1	4.51	2	1,620	2	480	3	141	3	330,000	3	Active	4
GC	Faridpur	Madukhali	Borogopaldi	1	Yes	49	48	2.40	3	42.7	3	3.64	3	2,000	2	300	2	110	2	127,500	2	Dormant	2
GC	Bagerhat	Rampal	Gilatala	1	Yes	50	49	2.40	2	24.4	1	4.57	1	500	1	200	1	150	3	165,500	3	Active	4
GC	Faridpur	Char Bhadrasar	Moulavir Char	1	Yes	51	50	2.35	3	51.5	4	2.36	4	1,200	1	400	2	80	2	69,700	2	Non-existent	1
GC	Patuakhali	Dumki	Murdia	1	Yes	52	51	2.30	1		2		2	1,200	1	150	1	130	2	165,100	3	Active	4
GC	*Khulna*	*Dighalia*	Pother bazar	1	Yes	55	52	2.15	1		2		2	13,000	4	500	3	350	4	56,100	2	Dormant	2
GC	Barguna	Amtali	Gazipur	1	Yes	56	53	2.10	1	36.1	2	3.3	3	8,000	4	2,000	4	400	4	85,000	2	Non-existent	1
GC	Satkhira	Kaliganj	Kushlia	1	Yes	57	54	2.10	2	33.5	2	4.01	2	2,625	2	320	2	27	1	496,000	4	Non-existent	1
GC	Barisal	Agailljhara	Begdhar hat GC	1	Yes	58	55	2.00	2	29.5	2	4.73	1	3,000	2	300	2	55	1	16,200	1	Active	4
GC	Jhalakati	Nalchity	Nalchity K.M. hat GC	2	Yes	60	56	2.20	4	24.4	1	4.66	1		2		2		2		2		2
GC	Jhalakati	Rajapur	Putakhali	2	Yes	61	57	2.20	4	21.9	1	5.59	1		2		2		2		2		2
GC	Barguna	Barguna Sadar	Phuljhuri hat	2	Yes	62	58	1.80	1	29.9	2	4.34	2		2		2		2		2		2
RM	Faridpur	Bhanga	Pukuria bazar	1	Yes	82	59	3.40	3	42.4	3	2.97	4	20,000	4	15,000	4	150	3	265,000	3	Active	4
RM	Shariatpur	Bhedarganj	Kartikpur bazar	1	Yes	81	60	3.40	4	48.6	4	3.22	3	4,000	3	1,000	3	250	4	35,600	2	Active	4
RM	Pirojpur	Swarupkath	Miar hat bazar	1	Yes	84	61	3.35	3		2		2	5,000	3	3,000	4	2,500	4	2,000,000	4	Active	4
RM	Shariatpur	Naria	Chakdha bazar	1	Yes	85	62	3.30	4	42.7	3	3.01	4	400	1	120	1	230	3	150,000	3	Active	4
RM	Barisal	Hizla	Akotar hat	1	Yes	86	63	3.20	2	54.8	4	3.06	4	7,000	4	2,500	4	120	2	320,000	3	Active	4
RM	Barisal	Gaumadi	Mahilera bazar	1	Yes	88	64	3.10	2	28.7	2	5.09	1	30,000	4	2,500	4	500	4	661,000	4	Active	4
RM	Faridpur	Nagarkanda	Puradia bazar	1	Yes	92	65	3.00	3	50.1	4	2.78	4	4,660	3	520	3	32	1	50,000	2	Active	4
RM	*Madaripur*	*Kalkini*	Miar hat	1	Yes	91	66	3.00	4	45.4	4	3.69	3	3,000	3	500	3	120	2	12,000	1	Active	4
RM	Barisal	Bakerganj	Koloshkati bazar	1	Yes	93	67	2.95	2	27.9	1	4.66	1	3,500	3	2,000	4	300	4	525,000	4	Active	4
RM	Shariatpur	Gosairhat	Shayka bazar	1	Yes	95	68	2.95	4	59.4	4	2.18	4	2,000	2	500	3	40	1	1,100	1	Active	4
RM	Gopalganj	Muksudpur	Molladi bazar	1	Yes	103	69	2.70	3	41.3	3	3.72	3	2,000	2	300	2	50	1		2	Active	4
RM	Madaripur	Rajoir	Kalibari hat	1	Yes	*102*	*70*	2.70	4	45.2	3	3.15	3	2,000	2	250	2	60	1	3,100	1	Active	4

Table 9 Results of Growth Center (GC) and rural market (RM) ranking calculations (continued)

Market category	District	Upazila	Name	Priority 1=DataAvail, 2=PartDatal, 3=NoData	In original list	Rank (base)	Adjusted rank	Average score	GDP per capita (score) 20%	Poverty head count	Poverty head count (score) 10%	Years of schooling	Years of schooling (score) 10%	Buyers per hat day	Buyers per hat day (score) 5%	Sellers per hat day	Sellers per hat day (score) 5%	Permanent shops	Permanent shops (score) 10%	Annual Lease value in 2007-08	Annual Lease value in 2007-08 (score) 20%	MMC status	MMC status (score) 20%
RM	Faridpur	Boalmari	Teljuri bazar	1	Yes	107	71	2.60	3	49.8	4	2.71	4	1,000	1	20	1	45	1	10,500	1	Active	4
RM	Bagerhat	Bagerhat Sadar	Chulkati bazar	1	Yes	108	72	2.60	2	23.9	1	4.78	1	7,500	4	350	2	170	3	371,507	3	Active	4
RM	Patuakhali	Mirzaganj	Mirjagonj Dargar Shari	1	Yes	111	73	2.55	1	29.5	2	4.41	2	7,000	4	1,000	3	400	4	55,210	2	Active	4
RM	Barisal	Mehendiganj	Mejokazir char hat	1	Yes	117	74	2.50	2	45.1	3	3.4	3	50	1	200	1	80	2	105,000	2	Active	4
RM	Bhola	Char Fasson	Bojlur bazar	2	Yes	144	75	2.40	2	51.6	4	2.88	4		2		2		2		2		2
RM	Bhola	Daulat Khan	Micar hat	2	Yes	145	76	2.40	2	48.3	4	2.92	4		2		2		2		2		2
RM	Khulna	Koyra	Vander pole hat	1	Yes	126	77	2.15	1	46.8	4	3.05	4	5,000	3	4,000	4	110	2	26,000	1	Dormant	2
RM	Barisal	Babuganj	Post Office hat	1	Yes	128	78	2.05	2	29.7	2	4.54	2	800	1	400	2	60	1	12,000	1	Active	4
RM	Pirojpur	Pirojpur Sadar	Sikdar Mollik bazar	1	Yes	129	79	2.05	3	25.7	1	4.98	1	1,500	2	150	1	35	1	22,500	1	Active	4
RM	Khulna	Batiaghata	Sukdara bazar	1	Yes	130	80	2.00	1	33.2	2	4.18	2	4,000	3	510	3	22	1	30,000	1	Active	4
RM	Satkhira	Shyamnagar	Sirajpur Hat	1	Yes	139	81	1.75	2	46.2	4	3.17	3	2,000	2	100	1	12	1	5,000	1	Non-existent	1
RM	Barguna	Bamna	Sonakhali	2	Yes	150	82	1.60	1	22.6	1	5.1	1		2		2		2		2		2
RM	Shariatpur	Zanjira	Lowkhola bazar	1	Yes	80	83	3.80	4	48.2	4	2.42	4	4,000	3	500	3	200	3	651,000	4	Active	4
RM	Faridpur	Faridpur Sadar	Mominkhar hat	1	Yes	83	84	3.40	3	37.4	2	4.15	2	8,985	4	4,700	4	470	4	702,500	4	Active	4
RM	Faridpur	Sadarpur	Monikota bazar	1	Yes	87	85	3.20	3	49.4	4	2.65	4	2,000	2	200	2	70	2	185,000	3	Active	4
RM	Shariatpur	Shariatpur Sada	Arigaon bazar	1	Yes	90	86	3.00	4	45.3	3	3.57	3	1,000	1	70	1	40	1	140,000	3	Active	4
RM	Shariatpur	Damoudya	Moderhat bazar	1	Yes	94	87	2.95	4	53.6	4	2.79	4	2,500	2	50	1	60	2	21,000	1	Active	4
RM	Satkhira	Kalaroa	Shorojkathi bazar	1	Yes	97	88	2.90	2	36.9	2	3.69	3	8,000	4	3,000	4	400	4	122,000	2	Active	4
RM	Rajbari	Rajbari Sadar	Bashantopur bazar	1	Yes	98	89	2.85	3	42	3	3.25	3	4,000	3	2,000	4	50	1	86,203	2	Active	4
RM	Bhola	Manpura	Bhuyar hat	1	Yes	99	90	2.80	2	45.5	4	2.68	4	3,000	2	300	2	100	2	40,000	2	Active	4
RM	Bagerhat	Chitalmari	Boro Baria bazar	1	Yes	101	91	2.75	2	31.6	2	4.79	1	3,000	2	1,000	3	250	4	235,000	3	Active	4
RM	Bagerhat	Rampal	Foyla hat	1	Yes	104	92	2.65	2	24.4	1	4.57	1	1,000	1	300	2	200	3	701,107	4	Active	4
RM	Bagerhat	Bagerhat Sadar	Depara bazar	1	Yes	109	93	2.60	2	23.9	1	4.78	1	1,250	1	800	3	120	2	1,151,001	4	Active	4
RM	Bagerhat	Morrelganj	Foolhata hat	1	Yes	112	94	2.55	2	27.2	1	4.6	1	250	1	300	2	100	2	840,000	4	Active	4
RM	Satkhira	Satkhira Sadar	Baikari bazar	1	Yes	110	95	2.55	2	36.1	2	3.86	3	3,500	3	350	2	121	2	98,000	2	Active	4
RM	Bhola	Bhola Sadar	Maller hat	1	Yes	114	96	2.50	2	47.9	4	3.42	3	1,500	1	200	1	50	1		2	Active	4
RM	Rajbari	Pangsha	Sarsha bazar	1	Yes	115	97	2.50	3	40.7	3	3.41	3	700	1	200	1	100	2	30,000	1	Active	4
RM	Khulna	Dumuria	Sharafpur bazar	1	Yes	121	98	2.40	1	34.5	2	3.93	2	31,600	4	1,400	4	300	4	23,365	1	Active	4
RM	Satkhira	Kaliganj	Tarali bazar	1	Yes	122	99	2.40	2	33.5	2	4.01	2	640	1	123	1	185	3	55,000	2	Active	4
RM	Pirojpur	Nazirpur	Shekmatia bazar	1	Yes	124	100	2.30	3	29	2	4.96	1	250	1	50	1	10	1	72,395	2	Active	4
RM	Bhola	Lalmohan	Muguria bazar	1	Yes	125	101	2.20	2	54.3	4	2.53	4	400	1	100	1	20	1	40,000	2	Non-existent	2
RM	Jhalakati	Rajapur	Charakhali bazar	2	Yes	146	102	2.20	4	21.9	1	5.59	1		2		2		2		2		2
RM	Jhalakati	Nalchity	Taltala bazar	1	Yes	131	103	2.00	4	24.4	1	4.66	1	160	1	130	1	250	3	32,000	1	Dormant	2
RM	Khulna	Terokhada	Mokampur bazar	2	Yes	149	104	2.00	1	41	3	3.43	3		2		2		2		2		2
RM	Khulna	Dighalia	Gazir hat bazar	1	Yes	133	105	1.95	1		2		2	10,700	4	700	3	380	4	34,300	1	Dormant	2

Table 9 Results of Growth Center (GC) and rural market (RM) ranking calculations (continued)

Market category	District	Upazila	Name	Priority 1=DataAvail, 2=ParlDatal, 3=NoData	In original list	Rank (base)	Adjusted rank	Average score	GDP per capita (score) 20%	Poverty head count	Poverty head count (score) 10%	Years of schooling	Years of schooling (score) 10%	Buyers per hat day	Buyers per hat day (score) 5%	Sellers per hat day	Sellers per hat day (score) 5%	Permanent shops	Permanent shops (score) 10%	Annual Lease value in 2007-08	Annual Lease value in 2007-08 (score) 20%	MMC status	MMC status (score) 20%
RM	Pirojpur	Bhandaria	Ikree bazar	1	Yes	138	106	1.90	3	28.6	1	5.03	1	6,000	3	500	3	120	2	40,000	2	Non-Existent	1
RM	Gopalganj	Kotalipara	Bujurgikona bazar	1	Yes	135	107	1.90	3	39.8	3	3.97	2	100	1	50	1	40	1			Non-existent	1
RM	Satkhira	Assasuni	Kadakati hat	1	Yes	136	108	1.90	2	40.8	3	3.1	4	1,500	1	100	1	216	3	14,000	1	Non-existent	1
RM	Barguna	Amtali	Lowpara hat	1	Yes	142	109	1.30	1	36.1	2	3.3	3	300	1	100	1	30	1	10,000	1	Non-existent	1
RM	Madaripur	Shib Char	Bajitpur Shekpur hat	1	Yes	79	110	3.85	4	49.6	4	2.59	4	3,500	3	1,500	4	160	3	615,500	4	Active	4
RM	Faridpur	Faridpur Sadar	Duldi bazar	1	Yes	89	111	3.05	3	37.4	2	4.15	2	4,735	3	2,750	4	145	3	132,001	3	Active	4
RM	Faridpur	Alfadanga	Jhatigram bazar	1	Yes	100	112	2.80	3	41.7	3	3.41	3	8,000	4	400	2	40	1	80,000	2	Active	4
RM	Bagerhat	Kachua	Talleshar bazar	1	Yes	105	113	2.65	2	29.4	2	4.33	2	3,500	3	1,500	4	15	1	330,000	3	Active	4
RM	Faridpur	Sadarpur	Chandpur bazar	1	Yes	106	114	2.60	3	49.4	4	2.65	4	1,000	1	150	1	35	1	15,500	1	Active	4
RM	Bagerhat	Bagerhat Sadar	C&B bazar	1	Yes	116	115	2.50	2	23.9	1	4.78	1	3,000	3	150	1	150	3	353,007	3	Active	4
RM	Khulna	Dumuria	Thukra bazar	1	Yes	123	116	2.35	1	34.5	2	3.93	2	24,000	4	1,000	3	400	4	31,000	1	Active	4
RM	Jhalakati	Jhalakati Sadar	Kirtipasha hat	2	Yes	147	117	2.20	4	23.5	1	5.24	1		2		2		2		2		2
RM	Jhalakati	Rajapur	Uttampur bazar	2	Yes	148	118	2.20	4	21.9	1	5.59	1		2		2		2		2		2
RM	Khulna	Paikgachha	Agorghata bazar	1	Yes	140	119	1.55	1	35.8	2	3.55	3	2,500	2	1,000	3	75	2	25,700	1	Non-existent	1
RM	Satkhira	Kaliganj	Baroda bazar	1	Yes	141	120	1.40	2	33.5	2	4.01	2	1,000	1	150	1	12	1	12,000	1	Non-existent	1

SPECIAL ASSISTANCE FOR PROJECT FORMATION
FOR
SOUTH-WESTERN BANGLADESH RURAL DEVELOPMENT PROJECT
PEOPLE'S REPUBLIC OF BANGLADESH
FINAL REPORT

Annex 18 Unit rates and cost estimation

Table of contents

List of Tables

1. Unit costs for Upazila road, Union road, and structures

Unit costs of Upazila roads, Union roads, and other road structures are shown in Table 1 and Table 2. All unit costs are calculated using the rates cited in the "Schedule of rates" for Faridpur Division, Barisal Division, and Khulna Division published by LGED in May 2008.

Detailed calculations of the unit costs presented in Table 1 are presented in Table 3 through Table 10, and the calculations of the unit costs presented in Table 2 are presented in Table 11 through Table 17.

Table 1 Unit costs for Upazila and Union roads

No.	Item	Type	Upgrading from earthen road (Tk/km)			Upgrading from HBB/BSF road (Tk/km)		
			Barisal	Faridpur	Khulna	Barisal	Faridpur	Khulna
1	Upazila road	4	10,453,262	9,982,297	10,173,232	9,825,853	9,422,945	9,579,849
2	Upazila road	6	5,463,947	5,212,082	5,321,174	4,836,538	4,652,730	4,727,791
3	Union road	8	4,474,422	4,283,921	4,371,604	3,966,756	3,831,436	3,891,526
4	Union road with HBB	8	3,277,032	3,084,486	3,197,551	-	-	-

Note: Detailed calculations for each unit cost are shown in Table 3 through Table 9.

Table 2 Unit costs for road structures

No.	Item	Unit	Barisal	Faridpur	Khulna	Remarks
1	Bridge for Upazila road	Tk./m	334,147	333,140	332,193	For Upazila roads
2	Culvert for Upazila road	Tk./m	303,265	301,749	301,214	For Upazila roads
3	Bridge for Union road	Tk./m	306,413	305,190	304,716	For union roads
4	Culvert for Union road	Tk./m	236,463	235,243	234,911	For union roads
5	Ghat	Tk./m	36,267	36,070	36,023	Installed where gap is larger than 200m
6	Ghat	Tk./place	2,779,318	2,722,097	2,746,076	Includes HBB road construction cost
7	Bus bay (for Type 6 road)	Tk./place	337,438	321,367	328,411	Installed on Upazila road Type 6
8	Bus bay (for 1 wing only)	Tk./place	40,315	38,202	39,162	Upgraded from earthen road
9	Bus bay (for 1 wing only)	Tk./place	55,060	51,345	53,102	Upgraded from HBB road
10	Guard post per no.	Tk./set	1,144	1,144	1,144	Access of bridges and culverts, and curve section
11	Sign board per no.	Tk./set	5,304	5,304	5,304	Installed near schools and hospitals

Note: Detailed calculations for each unit cost are shown in Table 10 through Table 17.

1.1 Calculation of unit costs for Upazila and Union roads

(1) Upgrading to Type 4 Upazila road

Calculations of unit costs for upgrading earthen and HBB / BFS roads to Type 4 Upazila roads are presented in Table 3 and Table 5, respectively.

Table 3 Calculation of per km unit cost for upgrading earthen roads to Type 4 Upazila roads

Sl. No.	Item Code	Item of works (Circled numbers are procedure No. indicated in Figure 1-6 in Annex 15)	Quantity	Unit	Barisal division		Faridpur division		Khulna division	
					Unit Rate (Tk)	Amount (Tk)	Unit Rate (Tk)	Amount (Tk)	Unit Rate (Tk)	Amount (Tk)
1	2.1.01	Cleaning and Grubbing	1	LS	35,000.00	35,000	35,000.00	35,000	35,000.00	35,000
2		*Provide, Erect & Maintain Field Office & Facilities*	*1*	*LS*	*35,000.00*	*35,000*	*35,000.00*	*35,000*	*35,000.00*	*35,000*
3		Maintenance & Protection of Traffic	1	LS	35,000.00	35,000	35,000.00	35,000	35,000.00	35,000
4	2.1.04.01	Earth Filling for embankment (①②③⑦) 1000*((9.8+14.3)/2*1.5-(4+8.5)/2*1.5+2.025*0.107/2)	8,808	m^3	76.76	676,128	69.28	610,242	76.76	676,128
5	2.1.08.02	Mechanical compaction of embankment (③) 1000*((9.8+14.3)/2*1.5-(4+8.5)/2*1.5+2.025*0.107/2)	8,808	m^3	27.99	246,545	27.99	246,545	27.99	246,545
6	3.1.03	E/W in Box Cutting up 450mm (④) 1000*(5.5 + 0.125*2)	5,750	m^2	33.72	193,890	33.48	192,510	33.72	193,890
7	3.1.06.01	250 mm (Sand FM=0.80 filling) Improved Sub-grade compaction (⑥) 1000*(5.5 + 0.125*2)*0.25	1,438	m^3	430.56	618,930	416.46	598,661	416.46	598,661
8	3.2.02.03	200 mm thick compacted Aggregate-Sand (1:1)Sub-Base (⑥) *1000*(5.5 x 0.025+(5.5 + 0.125*2)*0.175)*	1,144	m^3	1,705.35	1,950,494	1,582.93	1,810,476	1,648.27	1,885,209
9	3.2.03.02	200mm WBM (Material) for compacted base course (⑧) 1000*5.5*0.2*1.33	1,463	m^3	1,836.89	2,687,370	1,672.58	2,446,985	1,763.32	2,579,737
10	3.2.19	Labor for compacted base course (WBM) (⑧) 1000*5.5*0.2	1,100	m^3	203.16	223,476	200.80	220,880	201.68	221,848
11	3.2.15.02	Brick on end edging (125mm across) (⑥) 1000*2	2,000	m	84.07	168,140	77.01	154,020	80.70	161,400
12	3.2.24.01	Track Coat @ 0.5 kg/m2 (⑧) 1000*5.5	5,500	m^2	47.64	262,020	48.25	265,375	47.18	259,490
13	3.2.25	Bituminous Prime Coat (⑧) 1000*5.5	5,500	m^2	63.22	347,710	63.86	351,230	62.78	345,290
14	3.2.30.1	40mm thick compacted BC (⑧) 1000*5.5	5,500	m^2	356.11	1,958,605	360.17	1,980,935	347.88	1,913,340
15	3.2.39	12mm thick compacted seal Coat for BC pavement (⑧) 1000*5.5	5,500	m^2	143.19	787,545	140.53	772,915	138.97	764,335
16	3.2.56.01	Palisiding works	30	m	4,097.53	122,926	4,068.01	122,040	4,083.76	122,513
17	6.050	Turf works for slope and soft shoulder (⑧) 1000*(2.704+2.028)*2	9,464	m^2	11.04	104,483	11.04	104,483	10.55	99,845
Total						10,453,262		9,982,297		10,173,232

Table 4 Calculation of per km unit cost for upgrading HBB/BSF roads to Type 4 Upazila roads

Sl. No.	Item Code	Item of works	Quantity	Unit	Barisal division		Faridpur division		Khulna division	
					Unit Rate (Tk)	Amount (Tk)	Unit Rate (Tk)	Amount (Tk)	Unit Rate (Tk)	Amount (Tk)
1	2.1.01	Cleaning and Grubbing	1	LS	35,000.00	35,000	35,000.00	35,000	35,000.00	35,000
2		Provide, Erect & Maintain Field Office & Facilities	1	LS	35,000.00	35,000	35,000.00	35,000	35,000.00	35,000
3		Maintenance & Protection of Traffic	1	LS	35,000.00	35,000	35,000.00	35,000	35,000.00	35,000
4	2.1.04.01	Earth Filling for embankment 1000*((9.8+14.3)/2*1.5-(4+8.5)/2*1.5+2.025*0.107/2)	8,808	m^3	76.76	676,128	69.28	610,242	76.76	676,128
5	2.1.08.02	Mechanical compaction of embankment 1000*((9.8+14.3)/2*1.5-(4+8.5)/2*1.5+2.025*0.107/2)	8,808	m^3	27.99	246,545	27.99	246,545	27.99	246,545
6	3.1.03	E/W in Box Cutting up 450mm 1000*(5.5 + 0.125*2)	5,750	m^2	33.72	193,890	33.48	192,510	33.72	193,890
7	3.1.06.01	250 mm (Sand FM=0.80 filling) Improved Sub-grade compaction 1000*(5.5 + 0.125*2)*0.25	1,438	m^3	430.56	618,930	416.46	598,661	416.46	598,661
8	3.2.02.03	200 mm thick compacted Aggregate-Sand (1:1)Sub-Base 1000*(5.5 x 0.025+(5.5 + 0.125*2)*0.175)	1,144	m^3	1,705.35	1,950,494	1,582.93	1,810,476	1,648.27	1,885,209
9	3.2.08	Picking up existing HBB and stake the materials (labour)	3,950	m^2	22.07	87,177	22.07	87,177	22.07	87,177
10	3.2.05.02	Breaking & spreading 1st class and picked brick chips 1000*3.7* 0.125	463	m^3	291.84	134,976	274.68	127,040	291.84	134,976
11	3.2.03.02	200mm WBM (Material) for compacted base course 1000*5.5*0.2*1.33-463	1,001	m^3	1,836.89	1,837,808	1,672.58	1,673,416	1,763.32	1,764,202
12	3.2.19	Labour for compacted base course (WBM) 1000*5.5*0.2	1,100	m^3	203.16	223,476	200.80	220,880	201.68	221,848
13	3.2.15.02	Brick on end edging (125mm across) 1000*2	2,000	m	84.07	168,140	77.01	154,020	80.70	161,400
14	3.2.24.01	Track Coat @ 0.5 kg/m2 1000*5.5	5,500	m^2	47.64	262,020	48.25	265,375	47.18	259,490
15	3.2.25	Bituminous Prime Coat 1000*5.5	5,500	m^2	63.22	347,710	63.86	351,230	62.78	345,290
16	3.2.30.1	40mm thick compacted BC 1000*5.5	5,500	m^2	356.11	1,958,605	360.17	1,980,935	347.88	1,913,340
17	3.2.39	12mm thick compacted seal Coat for BC pavment 1000*5.5	5,500	m^2	143.19	787,545	140.53	772,915	138.97	764,335
18	3.2.56.01	Palisiding works	30	m	4,097.53	122,926	4,068.01	122,040	4,083.76	122,513
19	6.050	Turf works for slope and soft shoulder 1000*(2.704+2.028)*2	9,464	m^2	11.04	104,483	11.04	104,483	10.55	99,845
Total						9,825,853		9,422,945		9,579,849

(2) Upgrading to Type 6 Upazila road

Calculations of unit costs for upgrading earthen and HBB / BSW road to Type 6 Upazila roads are presented in Table 5 and Table 6, respectively.

Table 5 Calculation of per km unit cost for upgrading earthen roads to Type 6 Upazila roads

Sl. No.	Item Code	Item of works (Circled numbers are procedure No. indicated in Figure 1-6 in Annex 15)	Quantity	Unit	Barisal division		Faridpur division		Khulna division	
					Unit Rate (Tk)	Amount (Tk)	Unit Rate (Tk)	Amount (Tk)	Unit Rate (Tk)	Amount (Tk)
1	2.1.01	Cleaning and Grubbing	1	LS	25,000.00	25,000	25,000.00	25,000	25,000.00	25,000
2		Provide, Erect & Maintain Field Office & Facilities	1	LS	25,000.00	25,000	25,000.00	25,000	25,000.00	25,000
3		Maintenance & Protection of Traffic	1	LS	25,000.00	25,000	25,000.00	25,000	25,000.00	25,000
4	2.1.04.01	Earth Filling for embankment (①②③⑦) 1000*((7.3+11.8)/2*1.50-(4+8.5)/2*1.5+0.09*1.675/2)	5,025	m^3	76.76	385,748	69.28	348,158	76.76	385,748
5	2.1.08.02	Mechanical compaction of embankment (③) 1000*((7.3+11.8)/2*1.50-(4+8.5)/2*1.5+0.09*1.675/2)	5,025	m^3	27.99	140,660	27.99	140,660	27.99	140,660
6	3.1.03	E/W in Box Cutting up 450mm (④) 1000*(3.7 + 0.125*2)	3,950	m^2	33.72	133,194	33.48	132,246	33.72	133,194
7	3.1.06.01	250 mm (Sand FM=0.80 filling) Improved Sub-grade compaction (⑥) 1000*(3.7 + 0.125*2)*0.25	988	m^3	430.56	425,178	416.46	411,254	416.46	411,254
8	3.2.02.03	150 mm thick compacted Aggregate-Sand (1:1)Sub-Base (⑥)	574	m^3	1,705.35	978,445	1,582.93	908,206	1,648.27	945,695
9	3.2.03.02	150mm WBM (Material) for compacted base course (⑧)	738	m^3	1,836.89	1,355,900	1,672.58	1,234,615	1,763.32	1,301,595
10	3.2.19	Labor for compacted base course (WBM) (⑧) 1000*3.7*0.15	555	m^3	203.16	112,754	200.80	111,444	201.68	111,932
11	3.2.15.02	Brick on end edging (125mm across) (⑥) 1000*2	2,000	m	84.07	168,140	77.01	154,020	80.70	161,400
12	3.2.24.01	Track Coat @ 0.5 kg/m2 (⑧) 1000*3.7	3,700	m^2	47.64	176,268	48.25	178,525	47.18	174,566
13	3.2.25	Bituminous Prime Coat (⑧) 1000*3.7	3,700	m^2	63.22	233,914	63.86	236,282	62.78	232,286
14	3.2.29.1	25mm thick compacted BC (⑧) 1000*3.7	3,700	m^2	215.14	796,018	217.61	805,157	210.18	777,666
15	3.2.34	7mm thick compacted seal Coat for BC pavement (⑧) 1000*3.7	3,700	m^2	71.10	263,070	69.66	257,742	68.98	255,226
16	3.2.56.01	Palisiding works	30	m	4,097.53	122,926	4,068.01	122,040	4,083.76	122,513
17	6.050	Turf works for slope and soft shoulder (⑧) 1000*(2.704+1.677)*2	8,762	m^2	11.04	96,732	11.04	96,732	10.55	92,439
		Total				5,463,947		5,212,082		5,321,174

Table 6 Calculation of per km unit cost for upgrading HBB/BSF roads to Type 6 Upazila roads

Sl. No.	Item Code	Item of works	Quantity	Unit	Barisal division		Faridpur division		Khulna division	
					Unit Rate (Tk)	Amount (Tk)	Unit Rate (Tk)	Amount (Tk)	Unit Rate (Tk)	Amount (Tk)
1	2.1.01	Cleaning and Grubbing	1	LS	25,000.00	25,000	25,000.00	25,000	25,000.00	25,000
2		Provide, Erect & Maintain Field Office & Facilities	1	LS	25,000.00	25,000	25,000.00	25,000	25,000.00	25,000
3		Maintenance & Protection of Traffic	1	LS	25,000.00	25,000	25,000.00	25,000	25,000.00	25,000
4	2.1.04.01	Earth Filling for embankment 1000*((7.3+11.8)/2*1.50-(4+8.5)/2*1.5+0.09*1.675/2)	5,025	m^3	76.76	385,748	69.28	348,158	76.76	385,748
5	2.1.08.02	Mechanical compaction of embankment 1000*((7.3+11.8)/2*1.50-(4+8.5)/2*1.5+0.09*1.675/2)	5,025	m^3	27.99	140,660	27.99	140,660	27.99	140,660
6	3.1.03	E/W in Box Cutting up 450mm 1000*(3.7 + 0.125*2)	3,950	m^2	33.72	133,194	33.48	132,246	33.72	133,194
7	3.1.06.01	250 mm (Sand FM=0.80 filling) Improved Sub-grade compaction 1000*(3.7 + 0.125*2)*0.25	988	m^3	430.56	425,178	416.46	411,254	416.46	411,254
8	3.2.02.03	150 mm thick compacted Aggregate-Sand (1:1)Sub-Base 1000*(3.7* 0.075 +(3.7 + 0.125* 2)* 0.075)	574	m^3	1,705.35	978,445	1,582.93	908,206	1,648.27	945,695
9	3.2.08	Picking up existing HBB and stake the materials (labour)	3,950	m^2	22.07	87,177	22.07	87,177	22.07	87,177
10	3.2.05.02	Breaking & spreading 1st class and picked brick chips 1000*3.7*0.125	463	m^3	291.84	134,976	274.68	127,040	291.84	134,976
11	3.2.03.02	150mm WBM (Material) for compacted base course 1000*3.7*0.15*1.33-463	276	m^3	1,836.89	506,339	1,672.58	461,047	1,763.32	486,059
12	3.2.19	Labour for compacted base course (WBM) 1000*3.7*0.15	555	m^3	203.16	112,754	200.80	111,444	201.68	111,932
13	3.2.15.02	Brick on end edging (125mm across) 1000*2	2,000	m	84.07	168,140	77.01	154,020	80.70	161,400
14	3.2.24.01	Track Coat @ 0.5 kg/m2 1000*3.7	3,700	m^2	47.64	176,268	48.25	178,525	47.18	174,566
15	3.2.25	Bituminous Prime Coat 1000*3.7	3,700	m^2	63.22	233,914	63.86	236,282	62.78	232,286
16	3.2.29.1	25mm thick compacted BC 1000*3.7	3,700	m^2	215.14	796,018	217.61	805,157	210.18	777,666
17	3.2.34	7mm thick compacted seal Coat for BC pavment 1000*3.7	3,700	m^2	71.10	263,070	69.66	257,742	68.98	255,226
18	3.2.56.01	Palisiding works	30	m	4,097.53	122,926	4,068.01	122,040	4,083.76	122,513
19	6.050	Turf works for slope and soft shoulder 1000*(2.704+1.677)*2	8,762	m^2	11.04	96,732	11.04	96,732	10.55	92,439
		Total				4,836,538		4,652,730		4,727,791

(3) Upgrading to Type 8 Union road

Calculations of unit costs for upgrading earthen and HBB / BSW roads to Type 8 Union roads are presented in Table 7 and Table 8, respectively.

Table 7 Calculation of per km unit cost for upgrading earthen roads to Type 8 Union roads

Sl. No.	Item Code	Item of Works	Quan-tity	Unit	Barisal division		Faridpur division		Khulna division	
					Unit Rate (Tk)	Amount (Tk)	Unit Rate (Tk)	Amount (Tk)	Unit Rate (Tk)	Amount (Tk)
1	2.1.01	Cleaning and Grubbing	1	LS	20,000.00	20,000	25,000.00	25,000	25,000.00	25,000
2		Provide, Erect & Maintain Field Office & Facilities	1	LS	20,000.00	20,000	25,000.00	25,000	25,000.00	25,000
3		Maintenance & Protection of Traffic	1	LS	20,000.00	20,000	25,000.00	25,000	25,000.00	25,000
4	2.1.04.01	Earth Filling for embankment 1000*((5.5+10)/2*1.5-(3+7.5)/2*1.5+1.125*0.0625/2)	3,785	m^3	76.76	290,549	69.28	262,236	76.76	290,549
5	2.1.08.02	Mechanical compaction of embankment 1000*((5.5+10)/2*1.5-(3+7.5)/2*1.5+1.125*0.0625/2)	3,785	m^3	27.99	105,947	27.99	105,947	27.99	105,947
6	3.1.03	E/W in Box Cutting up 450mm 1000*(3 + 0.125*2)	3,250	m^2	33.72	109,590	33.48	108,810	33.72	109,590
7	3.1.06.01	250 mm (Sand FM=0.80 filling) Improved Sub-grade compaction 1000*(3 + 0.125*2)*0.25	813	m^3	430.56	349,830	416.46	338,374	416.46	338,374
8	3.2.02.03	150 mm thick compacted Aggregate-Sand (1:1)Sub-Base 1000*(3* 0.075 + (3 + 0.125*2)*0.075)	469	m^3	1,705.35	799,383	1,582.93	741,998	1,648.27	772,627
9	3.2.03.02	150mm WBM (Material) for compacted base course 1000*3*0.15*1.33	599	m^3	1,836.89	1,099,379	1,672.58	1,001,039	1,763.32	1,055,347
10	3.2.19	Labour for compacted base course (WBM) 1000*3*0.15	450	m^3	203.16	91,422	200.80	90,360	201.68	90,756
11	3.2.15.02	Brick on end edging (125mm across) 1 x 1000 x 2	2,000	m	84.07	168,140	77.01	154,020	80.70	161,400
12	3.2.24.01	Track Coat @ 0.5 kg/m2 1000*3	3,000	m^2	47.64	142,920	48.25	144,750	47.18	141,540
13	3.2.25	Bituminous Prime Coat 1000*3	3,000	m^2	63.22	189,660	63.86	191,580	62.78	188,340
14	3.2.29.1	25mm thick compacted BC 1000*3	3,000	m^2	215.14	645,420	217.61	652,830	210.18	630,540
15	3.2.34	7mm thick compacted seal Coat for BC pavment 1000*3	3,000	m^2	71.10	213,300	69.66	208,980	68.98	206,940
16	3.2.56.01	Palisiding works	30	m	4,097.53	122,926	4,068.01	122,040	4,083.76	122,513
17	6.050	Turf works for slope and soft shoulder 1000*(2.704+1.189)*2	7,786	m^2	11.04	85,957	11.04	85,957	10.55	82,142
Total						4,474,422		4,283,921		4,371,604

Table 8 Calculation of per km unit cost for upgrading HBB/BFS roads to Type 8 Union roads

Sl. No.	Item Code	Item of Works	Quantity	Unit	Barisal division		Faridpur division		Khulna division	
					Unit Rate (Tk)	Amount (Tk)	Unit Rate (Tk)	Amount (Tk)	Unit Rate (Tk)	Amount (Tk)
1	2.1.01	Cleaning and Grubbing	1	LS	20,000.00	20,000	25,000.00	25,000	25,000.00	25,000
2		Provide, Erect & Maintain Field Office & Facilities	1	LS	20,000.00	20,000	25,000.00	25,000	25,000.00	25,000
3		Maintenance & Protection of Traffic	1	LS	20,000.00	20,000	25,000.00	25,000	25,000.00	25,000
4	2.1.04.01	Earth Filling for embankment 1000*((5.5+10)/2*1.5-(3+7.5)/2*1.5+1.125*0.0625/2)	3,785	m^3	76.76	290,549	69.28	262,236	76.76	290,549
5	2.1.08.02	Mechanical compaction of embankment 1000*((5.5+10)/2*1.5-(3+7.5)/2*1.5+1.125*0.0625/2)	3,785	m^3	27.99	105,947	27.99	105,947	27.99	105,947
6	3.1.03	E/W in Box Cutting up 450mm 1000*(3 + 0.125*2)	3,250	m^2	33.72	109,590	33.48	108,810	33.72	109,590
7	3.1.06.01	250 mm (Sand FM=0.80 filling) Improved Sub-grade compaction 1000*(3 + 0.125*2)*0.25	813	m^3	430.56	349,830	416.46	338,374	416.46	338,374
8	3.2.02.03	150 mm thick compacted Aggregate-Sand (1:1)Sub-Base 1000*(3*0.075+(3+0.125*2)* 0.075)	469	m^3	1,705.35	799,383	1,582.93	741,998	1,648.27	772,627
9	3.2.03.02	150mm WBM (Material) for compacted base course 1000*3*0.15*1.33-375	224	m^3	1,836.89	410,545	1,672.58	373,822	1,763.32	394,102
10	3.2.08	Picking up existing HBB and stake the materials (labour)	3,250	m^2	22.07	71,728	22.07	71,728	22.07	71,728
11	3.2.05.02	Breaking & spreading 1st class and picked brick chips 1000*3*0.125	375	m^3	291.84	109,440	274.68	103,005	291.84	109,440
12	3.2.19	Labour for compacted base course (WBM) 1000*3*0.15	450	m^3	203.16	91,422	200.80	90,360	201.68	90,756
13	3.2.15.02	Brick on end edging (125mm across) 1000*2	2,000	m	84.07	168,140	77.01	154,020	80.70	161,400
14	3.2.24.01	Track Coat @ 0.5 kg/m2 1000*3	3,000	m^2	47.64	142,920	48.25	144,750	47.18	141,540
15	3.2.25	Bituminous Prime Coat 1000*3	3,000	m^2	63.22	189,660	63.86	191,580	62.78	188,340
16	3.2.29.1	25mm thick compacted BC 1000*3	3,000	m^2	215.14	645,420	217.61	652,830	210.18	630,540
17	3.2.34	7mm thick compacted seal Coat for BC pavment 1 x 1000 x 3.0	3,000	m^2	71.10	213,300	69.66	208,980	68.98	206,940
18	3.2.56.01	Palisiding works	30	m	4,097.53	122,926	4,068.01	122,040	4,083.76	122,513
19	6.050	Turf works for slope and soft shoulder 1000*(2.704+1.189)*2	7,786	m^2	11.04	85,957	11.04	85,957	10.55	82,142
Total						3,966,756		3,831,436		3,891,526

(4) Upgrading to Type 8 Union road with HBB

Calculations of unit costs for upgrading earthen roads to Type 8 Union roads with HBB are presented in Table 9.

Table 9 Calculation of per km unit cost for upgrading earthen roads to Type 8 Upazila roads with HBB

No.	Item Code	Item of Works	Quan-tity	Unit	Barisal division		Faridpur division		Khulna division	
					Unit Rate (Tk)	Amount (Tk)	Unit Rate (Tk)	Amount (Tk)	Unit Rate (Tk)	Amount (Tk)
1	2.1.01	Cleaning and Grubbing	1	LS	20,000.00	20,000	20,000.00	20,000	20,000.00	20,000
2		Provide, Erect & Maintain Field Office & Facilities	1	LS	20,000.00	20,000	20,000.00	20,000	20,000.00	20,000
3		Maintenance & Protection of Traffic	1	LS	20,000.00	20,000	20,000.00	20,000	20,000.00	20,000
4	2.1.04.01	Earth Filling for embankment 1000*((5.5+10)/2*1.5-(3+7.5)/2*1.5+1.125*0.0625/2)	3,785	m^3	76.76	290,549	69.28	262,236	76.76	290,549
5	2.1.08.02	Mechanical compaction of embankment 1000*((5.5+10)/2*1.5-(3+7.5)/2*1.5+1.125*0.0625/2)	3,785	m^3	27.99	105,947	27.99	105,947	27.99	105,947
6	3.1.03	E/W in Box Cutting up 450mm 1000*(3 + 0.125*2)	3,250	m^2	33.72	109,590	33.48	108,810	33.72	109,590
7	3.1.06.01	300 mm (sand / FM 0.8) of sub-grade Compaction 1000*(3+0.125*2)*0.30	975	m^3	430.56	419,796	416.46	406,049	416.46	406,049
8	3.1.06.02	125 mm of sand (FM 0.5) cushioning 1000*3* 0.125	375	m^3	345.95	129,731	345.95	129,731	360.05	135,019
9	3.2.11	75 mm of Brick flat soling (material) 1000*3	3,000	m^2	188.01	564,030	172.04	516,120	180.26	540,780
10	3.2.12	75 mm of Brick flat soling (labour) 1000*3	3,000	m^2	27.47	82,410	26.85	80,550	27.61	82,830
11	3.1.06.02	25 mm sand (FM 0.5) cushioning 1000*3*0.025	75	m^3	345.95	25,946	345.95	25,946	360.05	27,004
12	3.2.13	125 mm single layer of HBB pavement (material) 1000*3	3,000	m^2	320.27	960,810	293.19	879,570	307.17	921,510
13	3.2.14	125 mm single layer of HBB pavement (labour) 1000*3	3,000	m^2	50.40	151,200	49.17	147,510	50.74	152,220
14	3.2.15.02	Brick on end edging (125mm across) 1000*2	2,000	m	84.07	168,140	77.01	154,020	80.70	161,400
16	3.2.56.01	Palisiding works	30	m	4,097.53	122,926	4,068.01	122,040	4,083.76	122,513
17	6.050	Turf works for slope and soft shoulder 1000*(2.704+1.189)*2	7,786	m^2	11.04	85,957	11.04	85,957	10.55	82,142
Total						3,277,032		3,084,486		3,197,551

1.2 Calculation of unit costs for structures

(1) Double lane bridge for Type 6 Upazila road

Table 10 Calculation of per meter unit cost for double lane bridges

(Rate and amount in Tk)

No.	Item of Works	Quantity	Unit	Barisal		Faridpur		Khulna	
				Rate	Amount	Rate	Amount	Rate	Amount
1	Excavation of foundation for structures	817	m^3	83	68,138	83	67,640	83	68,138
2	Single layer brick flat soling	144	m^2	187	26,945	171	24,667	180	25,872
3	Cement concrete work in foundation	11	m^3	4,321	46,671	4,150	44,816	4,249	45,892
4	Fabrication of MS deformed bar	138,945	kg	79	10,925,245	79	10,909,961	79	10,925,245
5	Boring of RCC cast-in-situ piles	1,400	m	473	662,704	468	655,620	473	662,704
6	Concreting of cast-in-situ piles	396	m^3	6,746	2,668,987	6,748	2,669,747	6,644	2,628,703
7	RCC work in pile caps of abutment & pier	163	m^3	6,586	1,074,794	6,589	1,075,349	6,467	1,055,429
8	RCC work in vertical member of abutments & wing wall	136	m^3	7,035	956,786	7,039	957,269	6,911	939,908
9	RCC work in railing & rail post	10	m^3	8,623	86,229	8,593	85,927	8,482	84,824
10	RCC work in deck slab sidewalk	116	m^3	7,967	921,263	7,967	921,253	7,827	905,150
11	RCC work girder & cross girder	103	m^3	9,040	928,914	9,035	928,472	8,884	912,917
12	Wearing course	18	m^3	6,711	121,811	6,708	121,759	6,603	119,836
13	E/W in approach road	2,708	m^3	77	207,842	69	187,588	77	207,842
14	Mechanical compaction of embankment	2,708	m^3	28	75,788	28	75,788	28	75,788
15	Backfilling of abutment with 50:50 brick khoa & sand	56	m^3	961	53,771	894	50,031	932	52,129
16	Load test	1	Nos	83,359	83,359	83,359	83,359	84,438	84,438
17	Integrity test	1	Nos	42,305	42,305	42,305	42,305	42,305	42,305
18	Bridge bearing	19	Nos	14,832	281,805	14,806	281,306	14,832	281,805
19	Expansion joint	946	kg	154	145,864	154	145,693	154	145,693
20	Nosing	157	kg	144	22,611	144	22,611	144	22,611
21	Weep hole	50	m	97	4,783	96	4,759	97	4,783
22	Spot welding	27,680	Nos	2	48,994	2	48,994	2	50,101
23	Lapping welding	336	Nos	12	3,965	12	3,945	12	3,965
24	Rain water down pipe	12	m	171	2,057	171	2,051	171	2,057
25	Breaking of pile head	11	m^3	2,882	32,246	2,820	31,559	2,882	32,246
26	Making earthen ring/cross bunch		LS		50,000		50,000		50,000
27	Soil bore hole	4	Nos	5,000	20,000	5,000	20,000	5,000	20,000
28	first brick work at toe	37	m^3	3,694	137,489	3,456	128,642	3,597	133,895
29	Manufacturing & supplying CC blocks	4,165	Nos	62	258,230	62	258,230	62	258,230
30	Labor charge for laying CC blocks	56	m^3	614	34,520	617	34,644	613	34,416
31	Geo-textile filter	460	m^2	119	54,680	118	54,446	119	54,680
	Total				20,048,797		19,988,429		19,931,603
	per meter				334,147		333,140		332,193

(2) Double lane culvert for Type 6 Upazila road

Table 11 Calculation of per meter unit cost for double lane culverts

(Rate and amount in Tk)

No.	Item of Works	Quantity	Unit	*Barisal*		*Faridpur*		*Khulna*	
				Rate	Amount	Rate	Amount	Rate	Amount
1	Excavation of foundation for structures	596	m^3	83	49,703	83	49,339	83	49,703
2	Single layer brick flat soling	170	m^2	187	31,782	171	29,095	180	30,517
3	Cement concrete work in foundation	13	m^3	4,321	55,055	4,150	52,866	4,249	54,136
4	Fabrication of MS deformed bar	34,464	kg	79	2,709,904	79	2,706,113	79	2,709,904
5	RCC work in vertical member of abutments & wing wall	79	m^3	7,035	558,172	7,039	558,454	6,911	548,326
6	RCC work in cut of wall	11	m^3	7,035	79,427	7,039	79,467	6,911	78,026
7	RCC work in bottom slab	75	m^3	6,243	466,438	6,246	466,621	6,131	458,061
8	RCC work in top slab	48	m^3	7,637	366,827	7,640	366,971	7,500	360,239
9	RCC work in railing & rail post	4	m^3	8,623	31,646	8,593	31,535	8,482	31,131
10	Wearing course	5	m^3	6,711	30,403	6,708	30,389	6,603	29,909
11	E/W in approach road	766	m^3	83	63,831	69	53,037	83	63,831
12	Mechanical compaction of embankment	766	m^3	28	21,427	28	21,427	28	21,427
15	Backfilling of abutment with 50:50 brick khoa & sand	53	m^3	961	51,291	894	47,723	932	49,725
24	Rain water down pipe	6	m	171	977	171	974	171	977
21	Weep hole	45	m	97	4,387	96	4,365	97	4,387
20	Nosing	134	kg	144	19,323	144	19,323	144	19,323
	Sand filling (FM = 1.0) under base	76	m^3	506	38,706	506	38,706	506	38,706
	Total				4,579,300		4,556,407		4,548,328
	per meter				**303,265**		**301,749**		**301,214**

(3) Single lane bridge for Type 8 Union road

Table 12 Calculation of per meter unit cost for single lane bridges for Type 8 Union roads

(Rate and amount in Tk)

No.	Item of Works	Quantity	Unit	Barisal		Faridpur		Khulna	
				Rate	Amount	Rate	Amount	Rate	Amount
1	Excavation of foundation for structures	475	m^3	83	39,622	83	39,332	83	39,622
2	Single layer brick flat soling	69	m^2	187	12,967	171	11,871	180	12,451
3	Cement concrete work in foundation	5	m^3	4,321	22,471	4,150	21,578	4,249	22,096
4	Fabrication of MS deformed bar	43,144	kg	79	3,392,413	79	3,387,667	79	3,392,413
5	Boring of RCC cast-in-situ piles	360	m	473	170,410	468	168,588	473	170,410
6	Concreting of cast-in-situ piles	102	m^3	6,746	686,338	6,748	686,533	6,644	675,979
7	RCC work in pile caps of abutment & pier	69	m^3	6,586	456,392	6,589	456,628	6,467	448,169
8	RCC work in vertical member of abutments & wing wall	55	m^3	7,035	388,272	7,039	388,468	6,911	381,423
9	RCC work in railing & rail post	4	m^3	8,623	37,509	8,593	37,378	8,482	36,899
10	RCC work in deck slab sidewalk	23	m^3	7,967	181,799	7,967	181,797	7,827	178,619
11	RCC work girder & cross girder	21	m^3	9,040	192,997	9,035	192,905	8,884	189,673
12	Wearing course	4	m^3	6,711	24,832	6,708	24,821	6,603	24,429
13	E/W in approach road	1,644	m^3	77	126,163	69	113,869	77	126,163
14	Mechanical compaction of embankment	1,644	m^3	28	46,004	28	46,004	28	46,004
15	Backfilling of abutment with 50:50 brick khoa & sand	50	m^3	961	47,725	894	44,405	932	46,267
16	Load test	1	Nos	83,359	83,359	83,359	83,359	84,438	84,438
17	Integrity test	-	Nos	42,305	-	42,305	-	42,305	-
18	Bridge bearing	5	Nos	14,832	74,159	14,806	74,028	14,832	74,159
19	Expansion joint	222	kg	154	34,230	154	34,190	154	34,190
20	Nosing	76	kg	144	10,959	144	10,959	144	10,959
21	Weep hole	34	m	97	3,285	96	3,269	97	3,285
22	Spot welding	8,000	Nos	2	14,160	2	14,160	2	14,480
23	Lapping welding	144	Nos	12	1,699	12	1,691	12	1,699
24	Rain water down pipe	4	m	171	720	171	718	171	720
25	Breaking of pile head	3	m^3	2,882	9,769	2,820	9,561	2,882	9,769
26	Making earthen ring/cross bunch				50,000		50,000		50,000
27	Soil bore hole	4	Nos	5,000	20,000	5,000	20,000	5,000	20,000
	Total				6,128,256		6,103,779		6,094,318
	per meter				306,413		305,189		304,716

(4) Single lane culvert for Type 8 Union road

Table 13 Calculation of per meter unit cost for single lane culverts for Type 8 Union roads

(Rate and amount in Tk)

No.	Item of Works	Quantity	Unit	Barisal		Faridpur		Khulna	
				Rate	Amount	Rate	Amount	Rate	Amount
1	Excavation of foundation for structures	470	m^3	83	39,155	83	38,869	83	39,155
2	Single layer brick flat soling	120	m^2	187	22,529	171	20,625	180	21,632
3	Cement concrete work in foundation	9	m^3	4,321	39,022	4,150	37,471	4,249	38,371
4	Fabrication of MS deformed bar	27,346	kg	79	2,150,216	79	2,147,208	79	2,150,216
5	RCC work in vertical member of abutments & wing wall	63	m^3	7,035	441,669	7,039	441,892	6,911	433,878
6	RCC work in cut of wall	11	m^3	7,035	79,427	7,039	79,467	6,911	78,026
7	RCC work in bottom slab	53	m^3	6,243	330,646	6,246	330,776	6,131	324,708
8	RCC work in top slab	34	m^3	7,637	259,139	7,640	259,240	7,500	254,485
9	RCC work in railing & rail post	4	m^3	8,623	31,646	8,593	31,535	8,482	31,131
10	Wearing course	3	m^3	6,711	18,725	6,708	18,717	6,603	18,421
11	E/W in approach road	648	m^3	83	54,014	69	44,880	83	54,014
12	Mechanical compaction of embankment	648	m^3	28	18,132	28	18,132	28	18,132
15	Backfilling of abutment with 50:50 brick khoa & sand	43	m^3	961	41,544	894	38,654	932	40,275
24	Rain water down pipe	6	m	171	977	171	974	171	977
21	Weep hole	37	m	97	3,614	96	3,596	97	3,614
20	Nosing	88	kg	144	12,690	144	12,690	144	12,690
	Sand filling (FM = 1.0) under base	54	m^3	506	27,438	506	27,438	506	27,438
	Total				3,570,584		3,552,164		3,547,163
	per meter				*236,463*		*235,243*		*234,911*

(5) Ghat at gap more than 200 m wide

Table 14 Calculation of per meter unit cost for ghats at gaps more than 200 m wide

(Rate and amount in Tk)

No.	Item of Works	Quantity	Unit	Barisal		Faridpur		Khulna	
				Rate	Amount	Rate	Amount	Rate	Amount
1	Excavation of foundation for structures	30	m^3	83	2,501	83	2,483	83	2,501
2	Single layer brick flat soling	26	m^2	187	4,865	171	4,454	180	4,671
3	Cement concrete work in foundation	2	m^3	4,321	8,427	4,150	8,092	4,249	8,286
4	Fabrication of MS deformed bar	14,732	kg	79	1,158,377	79	1,156,757	79	1,158,377
5	Boring of RCC cast-in-situ piles	280	m	473	132,541	468	131,124	473	132,541
6	Concreting of cast-in-situ piles	55	m^3	6,746	370,693	6,748	370,798	6,644	365,098
10	RCC work in deck slab sidewalk	39	m^3	7,967	311,894	7,967	311,891	7,827	306,439
11	RCC work girder & cross girder	4	m^3	9,040	33,718	9,035	33,702	8,884	33,137
13	E/W in approach road	78	m^3	77	5,987	69	5,404	77	5,987
22	Spot welding	8,120	Nos	2	14,372	2	14,372	2	14,697
23	Lapping welding	84	Nos	12	991	12	986	12	991
25	Breaking of pile head	2	m^3	2,882	7,118	2,820	6,966	2,882	7,118
27	Soil bore hole	2	Nos	5,000	10,000	5,000	10,000	5,000	10,000
28	First brick work at toe	31	m^3	3,694	114,513	3,456	107,144	3,597	111,519
	Total				2,175,997		2,164,172		2,161,363
	per meter				36,267		36,070		36,023

(6) Ghat with HBB road

Table 15 Caluculation of unit cost per ghat on HBB roads

(Rate and amount in Tk)

Item Code	Item of Works	Quantity	Unit	Barisal		Faridpur		Khulna	
				Rate	Total	Rate	Total	Rate	Total
	i) Single span (6.99m), single								
1.26	*Construction of cofferdams*		LS		20,000		20,000		20,000
1.27	Pumping and bailing out water		LS		5,000		5,000		5,000
1.28.2	Sand (minimum FM 0.80) filling	10	m^3	506	5,064	490	4,905	490	4,905
1.29.1	Brick Works 91:4)	38	m^3	3,697	141,224	3,456	132,029	3,597	137,420
-	Providing PVC pipe	25	m	96	2,404	96	2,404	97	2,416
-	Providing weep hole	24	each	193	4,637	178	4,275	187	4,479
1.29.4.1	Single layer brick flat soling	95	m^2	187	17,823	171	16,316	180	17,114
1.29.5	HBB works	51	m^2	320	16,334	293	14,953	307	15,666
2.10	Construction of blinding concrete	5	m^3	4,321	21,002	4,150	20,167	4,249	20,652
2.10	Construction of RCC of required strength in vertical member	8	m^3	7,035	52,764	7,039	52,791	6,911	51,833
2.10	Construction of RCC of required strength in girder/diaphragm.	4	m^3	10,709	43,909	10,705	43,889	10,541	43,217
2.10	Construction of RCC of required strength on bottom slab	9	m^3	6,243	56,190	6,246	56,212	6,131	55,181
2.10	Construction of RCC of required strength in deck slab, side walk	10	m^3	7,637	78,131	7,640	78,162	7,500	76,728
2.6.1	Supply and fabrication of MS plain/deformed reinforcement	6,507	kg	79	511,645	79	510,930	79	511,645
2.8.2	Pre cast pile Driving for 0-6m i/c breaking head.	210	m	350	73,588	342	71,719	350	73,588
2.8.2	Pre cast pile Driving for 6m-12m i/c breaking head.	81	m	467	37,989	455	37,028	467	37,989
2.8.2	Concreting of Pre-cast pile of 200x200 size.	13	m^3	7,747	97,618	7,250	91,353	7,620	96,013
3.2.1	Plastering	18	m^2	129	2,257	126	2,204	130	2,272
4.1.7	Brick on End edging.	20	m	49	988	45	906	47	950
4.2.3	Providing 150mm dia RCC precast mooring posts.	10	each	375	3,750	375	3,750	375	3,750
-	Manufacturing and supplying wooden fenders.	0	m^3	40,930	16,781	40,930	16,781	40,930	16,781
-	Supplying of 400mm dia fender.	6	each	294	1,763	294	1,763	294	1,763
	(i) Total Costs for single span single unit				**1,210,861**		**1,187,535**		**1,199,360**
	(ii) Additional Two span (6x2=12m)								
1.26	Excavation of Foundation for structure	38	m^3	61	2,330	61	2,307	61	2,330
1.29.4.1	Single layer brick flat soling	21	m^2	187	3,930	171	3,597	180	3,773
2.10	Construction of blinding concrete of the required strength	2	m^2	4,321	6,914	4,150	6,639	4,249	6,799
2.10	Construction of RCC of required strength in vertical member	10	m^3	7,035	73,166	7,039	73,203	6,911	71,875
2.10	Girder/diaphragm.	6	m^3	10,709	66,612	10,705	66,583	10,541	65,563
2.10	Pile cap	9	m^3	6,586	59,272	6,589	59,302	6,467	58,204
2.10	Construction of RCC of required strength in deck slab.	18	m^3	7,637	136,863	7,640	136,917	7,500	134,405
2.6.1	Supply and fabrication of MS plain.	8,034	kg	79	631,713	79	630,830	79	631,713
2.8.2	Pile Driving.	210	m	350	73,588	342	71,719	350	73,588
	Pile Driving.	81	m	467	37,989	355	28,890	467	37,989
2.8.2	Reinforced cement concrete work in pre-cast RCC piles.	13	m^3	7,747	97,618	7,750	97,653	6,720	84,673
2.8.2	Manufacturing and supplying wooden.	1	m^3	40,930	27,014	40,930	27,014	40,930	27,014
2.8.2	Supplying of 400mm dia fender.	12	each	294	3,525	294	3,525	294	3,525
	(ii) Total Costs for additional two span (12.0m)				**1,220,534**		**1,208,179**		**1,201,451**

Table 15 Caluculation of unit cost for ghats with on HBB roads (cont.)

(A)	Total Costs for triple span single unit Ghat (i)+(ii)				2,431,395		2,395,714		2,400,811
(B)	Site Development & connecting road								
2.3b	Earth fill	1,385	m^3	77	106,313	69	95,953	77	106,313
2.3c	Compaction of earth	1,385	m^3	18	25,470	18	25,470	18	25,470
2.6a	Earth work in excavation	171	m^2	61	10,484	61	10,380	61	10,484
3.10	Sand (Minimum FM 0.50) filling	186	m^3	346	64,174	346	64,174	360	66,789
3.15	Single layer brick flat soling	371	m^2	187	69,422	171	63,552	180	66,658
3.14	Brick on end edging.	140	lm	49	6,919	45	6,342	47	6,649
2.29.5	HBB.	171	m^2	320	54,766	293	50,135	307	52,526
4.10.b	Brick pointing.	200	m^2	52	10,376	52	10,376	52	10,376
	Total Costs for Site development and connecting road.				347,923		326,382		345,264
(C)	Total Cost of the contract= (A)+(B)				2,779,318		2,722,096		2,746,075
	Say				2,779,318		2,722,097		2,746,076

Note: 1) Breaking of pile head is a separate item and its quantity is included in RCC.

2) Pile cap for pre-cast piles, its quantity is equal to numbers of pile. As this is made of steel plate and MS Rod, it will increase the costs.

(7) Bus bay on Type 6 Upazila road

Table 16 Calculation of unit cost per bus bay on Type 6 Upazila roads

Sl. No.	Item Code	Item of Works	Quan -tity	Unit	Barisal division		Faridpur division		Khulna division	
					Unit Rate (Tk)	Amount (Tk)	Unit Rate (Tk)	Amount (Tk)	Unit Rate (Tk)	Amount (Tk)
1	2.1.04.01	Earth Filling for embankment ((8.23+12.73)/2*1.5-(4+8.5)/2*1.5)*10*2+((9.16+13.66)/2*1.5-	336	m^3	76.76	25,782	69.28	23,270	76.76	25,782
2	2.1.08.02	Mechanical compaction of embankment ((8.23+12.73)/2*1.5-(4+8.5)/2*1.5)*10*2+((9.16+13.66)/2*1.5-	336	m^3	27.99	9,401	27.99	9,401	27.99	9,401
3	3.1.03	E/W in Box Cutting up 450mm ((3.7+0.125*2)+(5.5+0.125*2))/2*10*2+(5.5+0.125*2)*2	252	m^2	33.72	8,506	33.48	8,445	33.72	8,506
4	3.1.06.01	250 mm (Sand FM=0.80 filling) Improved Sub-grade Compaction (((3.7+0.125*2)+(5.5+0.125*2))/2*10*2+(5.5+0.125*2)*27)*0.25	63	m^3	430.56	27,152	416.46	26,263	416.46	26,263
5	3.2.02.03	150 mm thick compacted Aggregate-Sand (1:1)Sub-Base ((3.7+5.5)/2*10*2+5.5*27)*0.075+(((3.7+0.125*2)+(5.5+0.125*2))/2*10*2+(5.5+0.125*2)*27)*0.075	37	m^3	1,705.35	63,023	1,582.93	58,499	1,648.27	60,914
6	3.2.03.02	150mm WBM (Material) for compacted base course ((3.7+5.5)/2*10*2 +5.5*27)*0.15*1.33	48	m^3	1,836.89	88,134	1,672.58	80,250	1,763.32	84,604
7	3.2.19	Labour for compacted base course (WBM) ((3.7+5.5)/2*10*2 +5.5*27)*0.15	36	m^3	203.16	7,329	200.80	7,244	201.68	7,276
8	3.2.15.02	Brick on end edging (125mm across) (10*2 + 27)*2	94	m	84.07	7,903	77.01	7,239	80.70	7,586
9	3.2.24.01	Track Coat @ 0.5 kg/m2 (3.7+5.5)/2*10*2 +5.5*27	241	m^2	47.64	11,457	48.25	11,604	47.18	11,347
10	3.2.25	Bituminous Prime Coat (3.7+5.5)/2*10*2 +5.5*27	241	m^2	63.22	15,204	63.86	15,358	62.78	15,099
11	3.2.29.1	25mm thick compacted BC (3.7+5.5)/2*10*2 +5.5*27	241	m^2	215.14	51,741	217.61	52,335	210.18	50,548
12	3.2.34	7mm thick compacted BC seal coat (3.7+5.5)/2*10*2 +5.5*27	241	m^2	71.10	17,100	69.66	16,753	68.98	16,590
13	6.050	Turf works for slope and soft shoulder (2.704+1.83)*(10*2 + 27)* 2	426	m^2	11.04	4,705	11.04	4,705	10.55	4,496
Total						337,438		321,367		328,411

(8) Guard post and sign board

Table 17 Calculation of unit costs for guard posts and sign boards

(Rate and amount in Tk)

No.	Item Code	Item of Works	Quantity	Unit	Barisal		Faridpur		Khulna	
					Rate	Amount	Rate	Amount	Rate	Amount
1	LGED standard	Supply and installation of guard post (10 guard post per curve section)	1	no	1,144	11,439	1,144	11,439	1,144	11,439
2	LGED standard	Supply and installation of sign board	1	no	5,304	5,304	5,304	5,304	5,304	5,304

2. Unit costs for facilities of growth centers and rural markets

Unit costs for facilities of growth centers rural markets are shown in Table 18. All unit costs are calculated from the rates cited in the "Schedule of rates" for Faridpur Division, Barisal Division, and Khulna Division published by LGED in May 2008.

Table 18 Unit costs for facilities at growth centers and rural markets

No.	Item of Works	Quantity of work	Barisal		Faridpur		Khulna	
			Rate	Amount	Rate	Amount	Rate	Amount
		a	b=c/a	c	d=e/a	e	f=g/a	g
1	Fish and meat shed (18.0m x 12.0m)	216 m^2	6,712	1,449,719	6,608	1,427,375	6,669	1,440,475
2	Multipurpose shed (18.0m x 8.0m)	144 m^2	6,097	878,025	6,025	867,553	6,067	873,718
3	General shed without platform (18.0m x 8.0m)	144 m^2	7,484	1,077,680	7,401	1,065,790	7,453	1,073,175
4	Women's shed (18.0m x 6.0m)	108 m^2	12,867	1,389,660	13,021	1,406,299	12,834	1,386,089
5	Market management committee office (8.25m x 8.25m)	136 m^2	4,572	622,395	3,756	511,296	4,263	580,362
6	Male toilet facilities	1 place	628,696	628,696	680,928	680,928	626,498	626,498
7	Female toilet facilities	1 place	409,701	409,701	479,304	479,304	408,119	408,119
8	Slaughter house	1 place	361,090	361,090	356,600	356,600	421,302	421,302
9	Tube well (3 nos.)	3 place	26,411	79,234	26,338	79,014	26,396	79,189
10	Dust bin (2 nos)	2 place	11,809	23,617	11,770	23,539	11,797	23,594
11	Truck stand area (96m2)	96 m^2	2,971	285,211	3,032	291,042	3,033	291,166
12	Surface drain (79m)	79 m	1,003	79,265	948	74,931	979	77,335
13	Open sale platform (18m x 12m)	216 m^2	787	169,981	741	159,958	763	164,748
14	Environmental mitigation and enhancement works for market	1 place	152,419	152,419	152,419	152,419	152,242	152,242
15	Labor camp with facilities	1 place	100,000	100,000	100,000	100,000	100,000	100,000
16	Internal road with HBB (576m2)	576 m^2	685	394,827	643	370,419	668	384,730
17	Shed for severe flood (155.5m2 x 3 floors)	467 m^2	4,536	2,116,227	4,515	2,106,428	4,503	2,100,700
18	Earth filling works (m3)	77 m^3	77	-	77	-	77	-
19	Tree plantation	65 no.	65	-	65	-	65	-
20	Ghat (60m)	60 m	36,267	2,175,997	36,070	2,164,172	36,023	2,161,363

Note: Detailed cost estimation of "20 Ghat (60m) is shown in Table 14.

2.1 Calculation of unit costs for facilities of growth centers and rural markets

(1) Fish and meat sheds

Table 19 Calculation of unit cost per fish and meat shed (18.0m x 12.0m)

(Rate and amount in Tk)

No.	Specification Clause No.	Item of Works	Unit	Quantity	Barisal		Faridpur		Khulna	
					Rate	Amount	Rate	Amount	Rate	Amount
1	5.001	Excavate foundation in all kinds of soil	m^3	43	61	2,636	61	2,609	61	2,636
2	2.1.04.01	Back fill in foundations trenches	m^3	14	77	1,100	69	993	77	1,100
3	5.007.01	Sand filling in foundation trenches	m^3	96	598	57,399	582	55,870	582	55,870
4	3.2.11	Single layer brick flat soiling	m^2	257	188	48,266	172	44,166	180	46,276
5	6.039.1	Cement concrete work in foundation, floor (1:2:4)	m^3	21	4,267	90,584	4,096	86,955	4,195	89,061
6		Reinforced cement concrete works (1:2:4)								
	4.1.10.01.1	a) Footing of column	m^3	4	4,321	19,317	4,150	18,549	4,249	18,994
	5.031.01	b) RCC work in column.	m^3	7	8,032	52,207	7,796	50,675	7,949	51,666
	5.032.01	c) RCC work in Gread beam & Tie beam	m^3	15	6,989	105,671	6,784	102,570	6,916	104,575
7	5.010.02	Brick work with 1st class bricks (1:4)	m^3	25	3,616	89,464	3,399	84,082	3,533	87,410
8	5.048.01	Supply, fabricate and fix in position of M/S	kg	3,072	79	241,551	79	241,213	79	241,551
9	5.049	Mild steel work in roof truss.	kg	5,011	107	533,972	107	533,972	107	533,972
10	5.061.2	Supplying, fitting and fixing for roofing	m^2	295	510	150,412	510	150,412	510	150,412
11	5.062.01	0.45mm thick colored of the brand and color	m	45	81	3,647	81	3,647	81	3,647
12	5.019.01	25mm thick artificial patent stone floor (1:2:4)	m^2	205	181	37,184	174	35,785	180	36,905
13	5.102.02.01	12mm thickness cement plaster (1:6)	m^2	44	109	4,858	106	4,710	111	4,908
14	5.102.03	Minimum 6mm thick cement plaster (1:4)	m^2	69	95	6,528	91	6,271	95	6,567
15	5.107.1	White washing three coats	m^2	69	9	637	9	608	9	637
16	5.028	Providing polythene sheet	m^2	271	16	4,287	16	4,287	16	4,287
		Total				1,449,719		1,427,375		1,440,475

(2) Multipurpose sheds

Table 20 Calculation of unit cost per multipurpose shed (18.0m x 8.0m)

(Rate and amount in Tk)

No.	Specification Clause No.	Item of Works	Unit	Quantity	Barisal		Faridpur		Khulna	
					Rate	Amount	Rate	Amount	Rate	Amount
1	5.001	Excavate foundation in all kinds of soil to the required width including all permanent and temporary shuttering	m^3	28	61	1,747	61	1,729	61	1,747
2	2.1.04.01	Back fill in foundations including compaction.	m^3	10	77	729	69	658	77	729
3	5.007.01	Sand filling in foundation trenches and inside plinth with sand (minimum F.M. 0.80) in 150mm layers in/c leveling, watering and consolidating each layer up to finished level etc. all complete as per direction of the E-I-C. Dry density after compaction shall not be less than 99% of MDD.	m^3	41	598	24,696	582	24,038	582	24,038
4	3.2.11	Single layer brick flat soiling with 1st class or picked jhama kiln burnt bricks.	m^2	155	188	29,215	172	26,733	180	28,011
5	6.039.1	Cement concrete work in foundation, floor. Crushing strength of concrete cylinder should not be less than 10MPa (N/mm2) after 28 days curing.	m^3	12	4,267	52,482	4,096	50,379	4,195	51,599
6	4.1.10.01.1	a) Footing of column. Minimum concrete cylinder strength 21MPa (N/mm2) after 28 days curing.	m^3	4	4,321	17,113	4,150	16,432	4,249	16,827
7	5.031.01	b) RCC work in column. Minimum concrete cylinder strength 21MPa (N/mm2) after 28 days curing.	m^3	4	8,032	30,039	7,796	29,158	7,949	29,728
8	5.032.01	c) RCC work in Tie beam & lintel. Minimum concrete cylinder strength 21MPa (N/mm2) after 28 days curing.	m^3	7	6,989	48,502	6,784	47,079	6,916	47,999
9	5.010.02	Brick work with 1st class bricks as per design & drawing in cement mortar (1:4) in foundation and plinth, filling the interstices tightly with mortar, raking out joins, cleaning and soaking bricks at least for 24 hours before use, washing of sand, curing for requisite period. etc. all complete as per direction of the E-I-C (Minimum F.M. of sand: 1.2).	m^3	4	3,616	12,837	3,399	12,065	3,533	12,543
10	5.048.02	Supply, fabricate and fix in position reinforcement mild steel deformed bars of the required strength indicated on the drawings and specification. (Chairs and separators will not be paid separately and are to be included in the unit rate). Mild steel deformed bar minimum yield strength 275MPa (N/mm2).	kg	1,730	79	136,030	79	135,840	79	136,030
11	5.049	Mild steel work in roof truss, supplying and fabrication of mild steel sections as per design, hoisting, fitting and fixing in position with bolts and nuts or rivets or welded and providing two coats of anticorrosive paint over a prime coat of red oxide paint etc. all complete as per direction of the E-I-C (Measurement be given for solid steel section only.)	kg	3,700	107	394,272	107	394,272	107	394,272
12	5.061.2	Supplying, fitting and fixing for roofing 0.45mm thick galvanized iron corrugated sheet colored Brand GALCO/Jameel/ or any other standard Brand, (Bangladesh made) roofing fitted and fixed on MS sections with 'J' hook with screws, limpet washers and putty etc. all complete as per direction of the E-I-C.	m^2	183	510	93,306	510	93,306	510	93,306
13	5.062.01	0.45mm thick colored of the brand and color as of roofing material iron plain sheet ridging with 300mm lap on either side fitted and fixed with galvanized bolts and nuts etc. all complete as per direction of the E-I-C.	m	38	81	3,080	81	3,080	81	3,080
14	5.019.01	25mm thick artificial patent stone floor (1:2:4) with portland cement, best quality coarse sand (50% minimum F.M. 1.2 and 50% minimum F.M. 2.5) and 10mm down graded picked jhama chips in/c chips screening, mixing, laying the concrete in alternate panels, compacting and finishing the top with neat cement, etc. all complete as per direction of the E-I-C.	m^2	144	181	26,097	174	25,112	180	25,898
15	5.102.02.01	12mm thickness cement plaster (1:6) to wall both inner and outer.	m^2	3	109	302	106	293	111	305
16	5.102.03.01	Minimum 6mm thick cement plaster (1:4) to RCC columns, and finishing the corners and edges in/c washing of sand cleaning the surface, scaffolding and curing for the requisite period etc. all complete as per direction of the E-I-C (Sand of minimum F.M. 1.2 be used).	m^2	48	95	4,570	91	4,390	95	4,597
17	5.107.1	White washing three coats over a coat of priming with slacked stone lime mixed with gums, blue in/c scaffolding and necessary cleaning before and after the wash, polishing the surface with sand paper etc. all complete for all floors as per direction of the E-I-C.	m^2	48	9	446	9	426	9	446
18	5.028	Providing polythene sheet (0.18mm thick) on floor in ground floor underneath the cement concrete, etc. all complete as per specifications and direction of the E-I-C.	m^2	162	16	2,563	16	2,563	16	2,563
		Total				**878,025**		**867,553**		**873,718**

(3) General shed

Table 21 Calculation of unit cost per general shed without platform (18.0m x 8.0m)

(Rate and amount in Tk)

No.	Specification Clause No.	Item of Works	Unit	Quantity	Barisal		Faridpur		Khulna	
					Rate	Amount	Rate	Amount	Rate	Amount
1	5.001	Excavate foundation in all kinds of soil	m^3	28	61	1,747	61	1,729	61	1,747
2	2.1.04.01	Back fill in foundations	m^3	10	77	729	69	658	77	729
3	5.007.01	Sand filling in foundation (FM 0.80)	m^3	41	589	24,325	582	24,038	582	24,038
4	3.2.11	Single layer brick flat soiling .	m^2	155	188	29,215	172	26,733	180	28,011
5	6.039.1	Cement concrete work in foundation, floor (1:2:4)	m^3	12	4,267	52,482	4,096	50,379	4,195	51,599
6		Reinforced cement concrete works (1:2:4)								
	4.1.10.01.1	a) Footing of column	m^3	4	4,321	17,415	4,150	16,723	4,249	17,125
	5.031.01	b) RCC work in column.	m^3	6	8,032	47,870	7,796	46,466	7,949	47,374
	5.032.01	c) RCC work in Gread beam & Tie beam	m^3	12	6,989	86,172	6,784	83,643	6,916	85,278
7	5.010.02	Brick work with 1st class bricks (1:4)	m^3	4	3,616	12,837	3,399	12,065	3,533	12,543
8	5.048.01	Supply, fabricate and fix in position of M/S	kg	2,627	79	206,561	79	206,272	79	206,561
9	5.049	Mild steel work in roof truss,	kg	4,379	107	466,626	107	466,626	107	466,626
10	*5.061.2*	*Supplying, fitting and fixing for roofing*	m^2	*183*	*510*	*93,306*	*510*	*93,306*	*510*	*93,306*
11	5.062.01	0.45mm thick colored of the brand and color	m	38	81	3,080	81	3,080	81	3,080
12	5.019.01	25mm thick artificial patent stone floor (1:2:4)	m^2	144	181	26,094	174	25,112	180	25,898
13	5.102.02.01	12mm thickness cement plaster (1:6)	m^2	3	109	302	106	293	111	305
14	5.102.03	Minimum 6mm thick cement plaster (1:4)	m^2	62	95	5,875	91	5,644	95	5,911
15	5.107.1	White washing three coats	m^2	52	9	481	9	459	9	481
16	5.028	Providing polythene sheet	m^2	162	16	2,563	16	2,563	16	2,563
		Total				*1,077,680*		*1,065,790*		*1,073,175*

(4) Women's shed

Table 22 Calculation of unit cost per women's shed (18.0m x 6.0m)

(Rate and amount in Tk)

No.	Specification Clause No.	Item of Works	Unit	Quantity	Barisal		Faridpur		Khulna	
					Rate	Amount	Rate	Amount	Rate	Amount
1	5.001	Earth work in excavation foundation	m^3	39	61	2,374	61	2,350	61	2,374
2	2.1.04.01	Back fill in foundations	m^3	13	77	991	69	894	77	991
3	5.007.01	Sand filling in foundation (F.M. 0.80)	m^3	27	598	16,133	582	15,703	582	15,703
4	3.2.11	Single layer brick flat soiling with 1st class	m^2	154	188	28,875	172	26,422	180	27,684
5	6.039.1	Cement concrete work (1:2:4)	m^3	12	4,267	49,153	4,096	47,184	4,195	48,327
6		Reinforced cement concrete works (1:2:4)								
	4.1.10.01.1	a) Footing of column	m^3	4	4,321	17,415	4,150	16,723	4,249	17,125
	5.031.01	b) RCC work in column	m^3	6	8,032	47,870	7,796	46,466	7,949	47,374
	5.032.01	c) RCC work in Tie beam, grade beam & lintel	m^3	11	6,989	74,501	6,784	72,315	6,916	73,728
7	5.010.02	Brick work with 1st class bricks	m^3	11	3,616	39,199	3,399	36,841	3,533	38,299
8	5.017.02	125mm brick work with 1st class bricks in cement mortar (1:4)	m^2	203	489	99,343	488	99,132	504	102,378
9	5.006.02	38mm thick Damp Proof Course (DPC) with cement concrete (1:1.5:3)	m^2	17	261	4,373	252	4,216	258	4,327
10	5.048.01	Supply, fabricate and fix in position reinforcement MS deformed bars	kg	2,431	79	191,150	79	190,882	79	191,150
11	5.049	Mild steel work in roof truss, supplying and fabrication of mild steel	kg	4,004	107	426,666	107	426,666	107	426,666
12	5.061.2	Supplying, fitting and fixing for roofing 0.45mm thick galvanized iron	m^2	148	510	75,461	510	75,461	510	75,461
13	5.062.02	0.45mm thick colored roofing ridging	m	35	89	3,120	81	2,837	89	3,120
14	5.019.01	25mm thick artificial patent stone floor (1:2:4)	m^2	108	181	19,571	174	18,834	180	19,424
15	5.102.02.01	12mm thickness cement plaster (1:6)	m^2	267	109	29,215	106	28,326	111	29,517
16	5.102.03	Minimum 6mm thick cement plaster (1:4)	m^2	62	95	5,875	91	5,644	95	5,911
17	5.102.01	Minimum 12mm thick cement plaster (1:4) to skirting, dado	m^2	42	142	6,001	915	38,709	143	6,040
18	5.107.1	White washing three coats over a coat of priming with slacked	m^2	329	9	3,037	9	2,898	9	3,037
19	5.028	Providing polythene sheet (0.18mm thick) on floor in ground	m^2	154	16	2,436	16	2,436	16	2,436
20	5.125	Supplying, fitting and fixing of rolling shutter made of 24 SWG	m^2	45	3,912	176,019	3,892	175,130	3,912	176,019
21	5.130	Supplying, fitting and fixing in women shed grill	m^2	16	1,733	27,905	1,698	27,337	1,733	27,905
		ELECTRICAL WORK								
22		Supplying, fitting and fixing main/sub-main switches with fuse								
	8.01.01.01	(a) 500 Volts ICTP, i) 200 amps	no.	1	4,643	4,643	4,640	4,640	2,676	2,676
	8.01.02.01	(b) 250 Volts ICTP, i) 30 amps	no.	5	641	3,207	639	3,194	643	3,213
23	8.02.01	Supplying, fitting and fixing fuse distribution board. i) 4 way	nos.	5	1,933	9,663	1,931	9,653	1,935	9,674
24		Supplying, fitting and fixing every meter with cutout teak								
	8.03.01.01	500 volts 3 phase 200 amps	no.	1	10,237	10,237	10,234	10,234	10,238	10,238
25	8.06.01.02	Supplying, fitting and fixing PVC insulated	m	50	66	3,288	66	3,276	66	3,295
26	8.06.01.04	Supplying, fitting and fixing 20mm thick switch board, i) 250mmx350mm	nos.	5	129	645	129	643	129	645
27	8.07.03	25mm (1") thick wooden cupboard	each	1	236	236	236	236	236	236
28	8.10	Supplying, fitting and fixing meter board i) 30 amps.	nos.	5	75	373	75	373	75	373
29	8.24	Supplying, fitting and fixing 5 amps 2-pin socket with switch	nos.	5	260	1,300	260	1,298	261	1,305
30	8.21.03	Supplying, fitting and fixing and 250 volts capacitor type ceiling fan	nos.	5	1,547	7,736	1,544	7,721	1,549	7,743
31	8.41.02.03	Supplying, fitting and fixing the following electric bulb (100 watt)	each	10	34	338	33	334	34	338
32	8.23.05	Supplying, fitting and fixing teak wood batters minimum 20mm thick	m	50	26	1,313	26	1,288	27	1,359
		Total				**1,389,660**		**1,406,299**		**1,386,089**

(5) Market Management Committee office

Table 23 Calculation of unit cost per MMC office (8.25m x 8.25m)

(Rate and amount in Tk)

No.	Specification Clause No.	Item of Works	Unit	Quantity	Barisal		Faridpur		Khulna	
					Rate	Amount	Rate	Amount	Rate	Amount
1	5.001	Earth work in excavation foundation	m^3	14	61	833	61	824	61	833
2	2.1.04.01	Back fill in foundations including compaction.	m^3	5	77	347	69	313	77	347
3	5.007.01	Sand filling in foundation (FM 0.80)	m^3	27	598	16,127	582	15,697	582	15,697
4	3.2.11	Single layer brick flat soiling with 1st class or picked jhama kiln burnt bricks.	m^2	22	188	4,067	172	3,721	180	3,899
5	6.039.1	Cement concrete work in foundation, floor. Crushing strength of concrete cylinder should not be less than 10MPa (N/mm2) after 28 days curing.	m^3	2	4,267	6,912	4,096	6,635	4,195	6,796
6		Reinforced cement concrete works of the required strengths indicated on the drawings and in the specification. (Excluding the cost of the reinforcement which is priced separately).								
	5.032.01	a) RCC in great beam, roof beam 7 lintel. Minimum concrete cylinder strength 21MPa (N/mm2) after 28 days curing.	m^3	1	6,989	9,854	6,784	9,565	6,916	9,752
	5.046.01	b) RCC work in roof slab. Minimum concrete cylinder strength 21MPa (N/mm2) after 28 days curing.	m^3	6	6,205	40,145	6,235	40,343	6,092	39,416
7	5.010.02	Brick work with 1st class bricks (1:4)	m^3	4	3,616	14,031	3,399	13,187	3,533	13,709
8	5.049	Mild steel work in roof truss,	kg	751	107	80,005	107	80,005	107	80,005
9	4.1.14.01	250mm brick work with 1st class bricks in cement	m^3	5	3,697	19,964	3,456	18,664	3,597	19,426
10	5.017.02.01	125mm brick work with 1st class bricks in cement mortar (1:4)	m^2	21	514	10,674	488	10,129	504	10,461
11	5.006.01	25mm thick Damp Proof Course (DPC) with cement concrete (1:1.5:3) with Portland cement	m^2	3	174	598	166	573	172	592
12	5.019.02	38mm thick artificial patent stone floor (1:2:4) with portland cement	m^2	30	264	7,941	254	7,653	262	7,888
13	5.065	Supplying and making door and window frames with seasoned wood of required size from B.F.I.D.C	m^3	0	40,000	15,600	40,000	15,600	40,000	15,600
14	5.068	Supplying, fitting and fixing 38mm thick well matured season wood from B.F.I.D.C	m^2	12	2,500	30,125	2,500	30,125	2,500	30,125
15	5.130	Supplying, fitting and fixing in women shed grill	m^2	2	1,733	3,952	1,698	3,871	1,733	3,952
16	5.125	Painting to door and window frames and shutters in two coats with synthetic enamel paint	m^2	4	3,912	15,842	3,892	15,762	3,912	15,842
17	5.107.2	Color wash with yellow ochre in two coats over a coat	m^2	28	7	188	6	180	7	188
18	5.102.02.01	12mm thickness cement plaster (1:6) to wall both inner and outer.	m^2	21	109	2,272	106	2,202	111	2,295
19	5.102.03	Minimum 6mm thick cement plaster (1:4) to RCC columns	m^2	72	95	6,858	91	6,589	95	6,900
20	5.102.02.01	Minimum 12mm thick cement plaster (1:4) to skirting, dado	m^2	46	109	5,048	106	4,894	111	5,100
21	5.107.1	White washing three coats over a coat of priming	m^2	11	9	100	9	95	9	100
22	7.22.02.01	100mm dia rain water PVC 'B' class pipe	m	119	744	88,285	744	88,285	747	88,615
23	7.03.01	Supplying, fitting and fixing, Bangladesh pattern "BISF STANDARD" *long pan (Model-313, Size-520mm x 290mm x 260mm)*	each	11	4,204	46,163	4,166	45,743	4,198	46,093
24	7.22.02.01	Supplying, fitting and fixing 100mm dia C.I. Trap (Siphon trap or 'P' trap)	each	2	744	1,489	744	1,489	747	1,494
25	7.24	Supplying, fitting and laying PVC Sewerage pipe	each	2	1,079	2,159	1,066	2,132	1,079	2,159
26	7.37.05	Construction of soak well with 250mm thick solid brick work (1:6) and 250mm honey comb brick work (1:6)	each	1	32,105	32,105	31,434	31,434	31,931	31,931
27	7.33.03	Supplying, placing and fixing with all necessary fittings 500 liter best quality plastic tank for storing water in toilets, complete in all respect as per direction of the E-I-C.	each	2	9,564	19,128	9,545	19,091	9,564	19,128
28	7.16.04	Supplying, fitting and fixing toilet paper holder (150mm x 150mm)	each	1	142	142	142	142	142	142
29	7.17.02	Supplying, fitting glass plate shelf (600mm x 125mm)	each	2	293	586	292	584	294	588
30	7.12.01	Supplying, fitting "BISF STANDARD" Hand basin	each	2	2,937	5,873	2,911	5,823	2,937	5,873
31	7.21.02	Supplying fitting and fixing PVC vent pipe	each	1	916	916	894	894	924	924
		ELECTRICAL WORK								
32	8.08	Sub distribution board	no.	1	4,666	4,666	4,656	4,656	4,670	4,670
33	8.10	Switch board	no.	1	75	75	75	75	75	75
34	8.41.02.03	100w wall Mounted Light Fitting	no.	4	34	135	33	134	34	135
35	8.34	100w Ciling Mounted Light Fitting	no.	4	119	477	118	472	119	477
36	8.21.01	56" dia sweep ceiling fan (National Tongi)	no.	2	1,547	3,094	2,101	4,203	2,106	4,212
37	8.24	2 pin 5A switch socket	no.	2	260	520	260	519	261	522
38	8.25	3 pin 5A switch socket	no.	4	506	2,025	506	2,023	507	2,029
39	8.06.01.02	Cancel Conduit Wearing (BRB Cable) (6x60)	m	4	66	263	66	262	66	264
40	8.06.01.04	Cancel Conduit Wearing (BRB Cable) (6x10)	m	100	129	12,893	129	12,868	129	12,905
41	8.03.01.05	Fitting, fixing of meter with cut out teak wood	no.	20	5,484	109,680	180	3,602	3,448	68,965
42	8.35	Metal Timber switch (6x4)	no.	1	40	40	39	39	40	40
43	8.17.02	*25mm PVC pipe (7x6)*	m	6	33	200	33	200	33	200
		Total				**622,395**		**511,296**		**580,362**

(6) Male toilet facilities

Table 24 Calculation of per toilet unit cost for male toilet facilities

(Rate and amount in Tk)

No.	Specification Clause No.	Item of Works	Unit	Quantity	Barisal		Faridpur		Khulna	
					Rate	Amount	Rate	Amount	Rate	Amount
1	5.001	Excavate foundation in all kinds of soil to the required width	m^3	4	61	246	61	243	61	246
2	2.1.04.01	Back fill in foundations including compaction.	m^3	10	77	788	69	712	77	788
3	3.2.11	Single layer brick flat soiling with 1st class or picked jhama kiln	m^2	34	188	6,345	172	5,806	180	6,084
4	6.039.1	Cement concrete work in foundation, floor (1:2:4)	m^3	3	4,267	14,635	4,096	14,049	4,195	14,389
5		Reinforced cement concrete works (1:2:4)								
	4.1.10.01.1	a) Footing of column.	m^3	1	4,321	3,932	4,150	3,776	4,249	3,867
	5.031.01	b) RCC work in column.	m^3	2	8,032	13,735	7,796	13,332	7,949	13,592
	5.032.01	c) RCC work in grade beam & lintel.	m^3	2	6,989	15,445	6,784	14,992	6,916	15,285
	4.1.10.01.1	d) RCC work in sunshed (Parapet).	m^2	16	4,321	70,093	4,150	67,307	4,249	68,924
	5.046.01	e) RCC work in roof slab	m^3	6	6,205	39,090	6,235	39,283	6,092	38,380
	5.046.02	f) Rcc work in roof beam.	m^3	1	6,514	8,012	6,527	8,028	6,387	7,856
6	5.049	Supply, fabrication & fixed in position MS rod	kg	2,252	107	239,973	107	239,973	107	239,973
7	5.010.02	Brick work with 1st class bricks (1:4)	m^3	2	3,616	8,100	3,399	7,613	3,533	7,914
8	5.017.02	125mm brick work with 1st class bricks in cement mortar (1:4)	m^2	72	489	35,150	488	35,075	504	36,224
9	5.006.02	38mm thick Damp Proof Course (DPC) with cement concrete (1:1.5:3)	m^3	4	261	1,036	252	999	258	1,025
10	5.019.01	25mm thick artificial patent stone floor (1:2:4)	m^2	60	181	10,787	174	10,381	180	10,706
11	5.102.02.01	12mm thickness cement plaster (1:6)	m^2	70	109	7,703	106	7,469	111	7,783
12	5.102.03	Minimum 6mm thick cement plaster (1:4)	m^2	105	95	9,930	91	9,540	95	9,990
13	5.102.01	Minimum 12mm thick cement plaster (1:4)	m^2	78	142	10,998	915	70,939	143	11,068
14	5.107.1	White washing three coats over a coat	m^2	175	9	1,619	9	1,545	9	1,619
15	5.068	Supplying and making door frames with seasoned wood	m^3	0	44,459	17,339	44,459	17,339	44,459	17,339
16	5.070	Supplying, fitting and fixing 38mm thick well matured season solid wood from B.F.I.D.C flush door shutters	m^2	12	2,497	29,489	2,497	29,489	2,497	29,489
17	5.107.2	Painting to door frames and shutters in two coats	m^2	31	7	208	6	200	7	208
18	5.028	Providing polythene sheet (0.18mm thick) on floor	m^2	46	16	728	16	728	16	728
19	7.22.02.01	Supplying, fitting, fixing and laying 150mm/200mm dia PVC "B" class 150mm dia PVC "B" Class pipe	m	33	744	24,564	744	24,561	747	24,653
20	7.34.01	Construction of masonry inspection pit	each	3	4,014	12,043	3,835	11,505	3,948	11,843
21	7.39.01	Manufacturing and supplying of RCC ring	each	60	288	17,280	281	16,883	286	17,140
22	7.03.01	Supplying, fitting and fixing, Bangladesh pattern "BISF STANDARD" long pan	each	7	4,204	29,430	4,166	29,162	4,198	29,385
		Total				628,696		680,928		626,498

(7) Female toilet facilities

Table 25 Calculation of per toilet unit cost for female toilet facilities

(Rate and amount in Tk)

No.	Specification Clause No.	Item of Works	Unit	Quantity	Barisal		Faridpur		Khulna	
					Rate	Amount	Rate	Amount	Rate	Amount
1	5.004	Excavate foundation in all kinds of soil	m^3	5	61	310	61	307	61	310
2	2.1.04.01	Back fill in foundations and filling in floor	m^3	7	77	546	69	493	77	546
3	3.2.11	Single layer brick flat soiling	m^2	22	188	4,217	172	3,859	180	4,043
4	6.039.1	Cement concrete work in foundation, floor (1:2:4)	m^3	2	4,267	9,600	4,096	9,216	4,195	9,439
5		Reinforced cement concrete works (1:2:4)								
	4.1.10.01.1	a) Footing of column	m^3	1	4,321	3,975	4,150	3,818	4,249	3,909
	5.031.01	b) RCC work in column	m^3	2	8,032	15,261	7,796	14,813	7,949	15,102
	5.032.01	c) RCC work in grade beam & lintel.	m^3	1	6,989	8,666	6,784	8,412	6,916	8,576
	4.1.10.01.1	d) RCC work in sunshed (Parafet)	m^2	13	4,321	56,005	4,150	53,779	4,249	55,071
	5.046.01	e) RCC work in roof slab	m^3	3	6,205	18,118	6,235	18,208	6,092	17,789
	5.046.02	f) RCC work in roof beam	m^3	1	6,514	4,169	6,527	4,177	6,387	4,088
6	5.049	Supply, fabricate and fix in position reinforcement mild steel deformed bars	kg	1,187	107	126,487	107	126,487	107	126,487
7	5.010.02	Brick work with 1st class bricks (1:4)	m^3	2	3,616	7,811	3,399	7,341	3,533	7,632
8	5.017.02	125mm brick work with 1st class bricks in cement mortar (1:4)	m^2	52	489	25,567	488	25,512	504	26,348
9	5.006.02	38mm thick Damp Proof Course (DPC) (1:1.5:3)	m^2	3	261	759	252	732	258	751
10	5.019.01	25mm thick artificial patent stone floor (1:2:4)	m^2	36	181	6,548	174	6,301	180	6,498
11	5.102.01	12mm thickness cement plaster (1:6)	m^2	48	142	6,817	915	43,971	143	6,861
12	5.102.03	Minimum 6mm thick cement plaster (1:4)	m^2	71	95	6,761	91	6,495	95	6,802
13	5.102.01	Minimum 12mm thick cement plaster (1:4) to skirting ,dado	m^2	50	142	7,037	915	45,389	143	7,082
14	5.107.1	White washing three coats	m^2	120	9	1,103	9	1,053	9	1,103
15	5.068	Supplying and making door frames with seasoned wood	m^3	0	44,459	13,338	44,459	13,338	44,459	13,338
16	5.070	Supplying, fitting and fixing 38mm thick well matured season solid wood from B.F.I.D.C flush door shutters	m^2	10	2,497	24,246	2,497	24,246	2,497	24,246
17	5.107.2	Painting to door frames and shutters in two coats	m^2	25	7	168	6	161	7	168
18	5.028	Providing polythene sheet (0.18mm thick) on floor	m^2	31	16	490	16	490	16	490
19	7.34.01	Construction of masonry inspection pit	each	3	4,014	12,043	3,835	11,505	3,948	11,843
20	7.22.02.01	Supplying fitting fixing and laying 150 mm dia PVC pipe	m	23	744	17,118	744	17,118	747	17,182
21	7.39.01	Manufacturing and supplying of RCC ring of 04m wall	each	40	288	11,520	281	11,255	286	11,426
22	7.03.01	Supplying, fitting and fixing, Bangladesh pattern "BISF STANDARD" long pan (Model-313, Size-520mm x 290mm x 260mm) of pan	each	5	4,204	21,021	4,166	20,830	4,198	20,990
		Total				409,701		479,304		408,119

(8) Slaughter house

Table 26 Calculation of unit cost per slaughter house

(Rate and amount in Tk)

No.	Specification Clause No.	Item of Works	Unit	Quantity	Barisal		Faridpur		Khulna	
					Rate	Amount	Rate	Amount	Rate	Amount
1	5.001	Excavate foundation in all kinds of soil	m^3	7	61	424	61	419	61	424
2	2.1.04.01	Back fill in foundations including compaction.	m^3	2	77	177	69	159	77	177
3	5.007.01	Sand filling in floor trenches and inside plinth	m^3	9	598	5,577	582	5,429	582	5,429
4	3.2.11	Single layer brick flat soiling	m^2	23	188	4,287	172	3,923	180	4,110
5	6.039.1	Cement concrete work in foundation, floor (1:2:4)	m^3	2	4,267	7,382	4,096	7,086	4,195	7,257
6		Reinforced cement concrete works (1:2:4)								
	4.1.10.01.1	a) Column of Footing	m^3	1	4,321	3,500	4,150	3,361	4,249	3,442
	5.031.01	b) RCC work in column	m^3	1	8,032	8,032	7,796	7,796	7,949	7,949
	5.032.01	c) RCC work in grade beam & lintel.	m^3	3	6,989	19,359	6,784	18,791	6,916	19,158
	5.031.04	d) RCC work in sunshed (Parafet)	m^3	17	4,321	72,038	4,150	69,174	7,949	132,504
	5.046.01	e) RCC work in roof slab & water tank	m^3	3	6,205	20,103	6,235	20,203	6,092	19,738
	5.046.02	f) Rcc work in roof beam	m^3	2	6,514	9,901	6,527	9,921	6,387	9,709
7	5.049	Supply, fabricate and fix in position reinforcement mild steel deformed bars	kg	1,550	107	165,168	107	165,168	107	165,168
8	5.017.02	125mm brick work with 1st class bricks in cement mortar (1:4)	m^2	12	489	6,092	488	6,079	504	6,278
9	5.019.01	25mm thick artificial patent stone floor (1:2:4)	m^2	46	181	8,350	174	8,036	180	8,287
10	5.102.02.01	12mm thickness cement plaster (1:6)	m^2	36	109	3,983	107	3,884	111	4,024
11	5.102.02.01	Minimum 6mm thick cement plaster (1:4)	m^2	61	95	5,808	107	6,550	111	6,787
12	5.107.1	White washing three coats over a coat	m^2	61	9	567	9	541	9	567
13	7.22.02.01	Supplying, fitting, fixing and laying 150mm/200mm dia PVC "B" class 150mm dia PVC "B" Class pipe	m	15	744	11,164	744	11,164	747	11,206
14	7.39.01	Manufacturing and supplying of RCC ring	each	10	288	2,880	281	2,814	286	2,857
15	7.34.01	Construction of masonry inspection pit	each	1	4,014	4,014	3,835	3,835	3,948	3,948
16		Supplying, fitting and fixing G.I. Pipe						-		-
	7.25.03	a) 40 mm dia pipe for collection rain water from roof	m	2	533	1,066	528	1,056	533	1,066
	7.25.05	b) 25mm dia pipe for supply of water from tube-well	m	2	334	668	331	662	334	668
	7.25.06	c) 20 mm dia GI pipe	m	1	252	126	249	125	252	126
17	7.27.05	Supplying, fitting and fixing best quality and heavy type bib cock. 20mm dia plastic bib cock with heavy iron thread	each	1	61	61	61	61	62	62
18	5.028	Providing polythene sheet (0.18mm thick)	m^2	23	16	364	16	364	16	364
		Total				361,090		356,600		421,302

(9) Tubewell

Table 27 Calculation of per 3 tubewell unit cost for tubewells

(Rate and amount in Tk)

No.	Specification Clause No.	Item of Works	Unit	Quantity	Barisal		Faridpur		Khulna	
					Rate	Amount	Rate	Amount	Rate	Amount
1	7.34.01	Construct masonry brick work in accordance pit	m^3	0	4,014	1,084	3,835	1,035	3,948	1,066
2	6.039.1	Cement concrete work in foundation	m^3	1	4,267	2,688	4,096	2,580	4,195	2,643
3	5.102.02.01	12mm thick cement plaster (1:6)	m^2	16	109	1,710	107	1,668	111	1,728
4	10.03.02	Boring by using 100mm dia cutter and 38mm dia G.I. Pipe	m	150	356	53,469	356	53,469	356	53,469
5		Supplying and lowering 38mm dia water grade PVC pipe								
	10.03.01	a) Hand pump No. 6 complete set (EPL/RFL)	each	3	1,345	4,035	1,338	4,014	1,345	4,035
	10.03.02	b) 38mm dia G.I pipe	m	9	356	3,251	356	3,251	356	3,251
	10.03.03	c) 38mm dia water graded PVC pipe	m	120	94	11,300	94	11,300	94	11,300
	10.03.04	d) 38mm dia water graded PVC strainer	m	15	92	1,379	92	1,379	92	1,379
	10.03.05	e) 38mm dia socket adapter	each	3	52	156	52	156	52	156
	10.03.06	f) Best quality 38mm dia PVC cap	each	3	54	162	54	162	54	162
		Total				79,234		79,014		79,189

(10) Dust bin

Table 28 Calculation of per 2 dust bin unit cost for dust bins

(Rate and amount in Tk)

No.	Specification Clause No.	Item of Works	Unit	Quantity	Barisal		Faridpur		Khulna	
					Rate	Amount	Rate	Amount	Rate	Amount
1	3.2.11	Single layer brick flat soling	m^2	3	188	470	172	430	180	451
2	4.2.01.01.04	Reinforced cement concrete works	m^3	1	9,040	6,780	9,040	6,780	9,040	6,780
3	4.1.26	Supply, fabricate and fix in position reinforcement mild steel 10mm dia 150mm C/C deformed bars	kg	100	143	14,347	143	14,347	143	14,347
4	5.055	Minimum 6mm thick cement plaster with net cement finishing (1:4)	m^2	18	110	1,981	108	1,943	110	1,977
5	5.028	Providing polythene sheet (0.18mm thick)	m^2	3	16	40	16	40	16	40
		Total				23,617		23,539		23,594

(11) Truck stand

Table 29 Calculation of unit cost per truck stand ($96m^2$)

(Rate and amount in Tk)

No.	Specification Clause No.	Item of Works	Unit	Quantity	Barisal		Faridpur		Khulna	
					Rate	Amount	Rate	Amount	Rate	Amount
1	3.1.03	Earth work in box cutting	m^3	96	34	3,237	33	3,214	34	3,237
2	4.1.08	Sand filling	m^3	24	506	12,154	490	11,772	490	11,772
3	2.1.08.02	Spreading, watering and compacting	m^3	14	28	403	28	403	28	403
4	4.2.01.01.04	Reinforcement concrete work	m^3	21	9,040	188,025	9,040	188,025	9,040	188,025
5	4.2.06.03	Fabricate MS rod	Kg	1,014	79	79,731	85	85,967	85	86,068
6	5.028	Providing polythene sheet	m^2	105	16	1,661	16	1,661	16	1,661
		Total				285,211		291,042		291,166

(12) Surface drain

Table 30 Calculation of unit cost per surface drain (79m)

(Rate and amount in Tk)

No.	Specification Clause No.	Item of Works	Unit	Quantity	Barisal		Faridpur		Khulna	
					Rate	Amount	Rate	Amount	Rate	Amount
1	5.001	Excavate foundation in all kinds of soil	m^3	35	61	2,126	61	2,105	61	2,126
2	2.1.04.01	Back fill in foundations including compaction.	m^3	12	77	910	69	821	77	910
3	3.2.11	Single layer brick flat soling with 1st class or picked jhama bricks.	m^2	150	188	28,202	172	25,806	180	27,039
4	6.039.1	Cement concrete work in foundation of drain (Thickness 75mm).	m^3	11	4,267	45,655	4,096	43,826	4,195	44,887
5	5.028	Providing polythene sheet (0.18mm thick) below the CC work	m^2	150	16	2,373	16	2,373	16	2,373
		Total				79,265		74,931		77,335

(13) Open sales platform

Table 31 Calculation of unit cost per open sales platform (18m x 12m)

(Rate and amount in Tk)

No.	Specification Clause No.	Item of Works	Unit	Quantity	Barisal		Faridpur		Khulna	
					Rate	Amount	Rate	Amount	Rate	Amount
1	3.1.03	Earth work in box cutting	m^2	223	34	7,511	33	7,458	34	7,511
2	3.1.06.01	Sand (F.M.0.80) filling 450mm thickness	m^3	97	431	41,850	416	40,480	416	40,480
3	3.2.13	Brick on edge pavement in single layer of Herring Bone Bond	m^2	216	320	69,178	293	63,329	307	66,349
4	5.010.02	Brick work with 1st class bricks as per design & drawing in cement (1:4)	m^3	12	3,616	44,768	3,399	42,075	3,533	43,740
5	5.055	12mm thickness cement plaster (1:6) to wall out side.	m^2	27	110	2,971	108	2,914	110	2,966
6	5.028	Providing polythene sheet (0.18mm thick)	m^2	234	16	3,702	16	3,702	16	3,702
		Total				169,981		159,958		164,748

(14) Environmental mitigation and enhancement works

Table 32 Calculation of per work unit cost for environmental mitigation and enhancement works

(Rate and amount in Tk)

No.	Specification Clause No.	Item of Works	Unit	Quantity	Barisal		Faridpur		Khulna	
					Rate	Amount	Rate	Amount	Rate	Amount
1		Construction of alternative temporary market shed, internal	L.S.	1	100,000	100,000	100,000	100,000	100,000	100,000
2	6.05	Grass turfing on slopes and other exposed earth surfaces	m^2	361	11	3,985	11	3,985	11	3,809
3		Providing and maintaining adequate potable								
		i) Water supply tube-well	no.	1	9,000	9,000	9,000	9,000	9,000	9,000
	10.73	ii) Sanitation facilities (Sanitary latrine)	no.	1	5,000	5,000	5,000	5,000	5,000	5,000
4	7.39.03	Camp site waste disposal facilities to the entire satisfaction of the Engineer	L.S.	1	5,000	5,000	5,000	5,000	5,000	5,000
5	2.1.07	Dust suppression measures (excluding watering for compaction) water	m^3	1,805	2	3,393	2	3,393	2	3,393
6		Water Quality Protection Measures:								
		i) Soil erosion and sedimentation control	L.S.	1	3,000	3,000	3,000	3,000	3,000	3,000
		ii) Prevention of spillages, leakages of polluting	L.S.	1	2,000	2,000	2,000	2,000	2,000	2,000
7	3.1.01.01	Stripping topsoil from borrowed agricultural lands	m^2	500	11	5,520	11	5,520	11	5,520
8	3.1.01.01	Rehabilitation of ancillary sites including stockpile sites,	m^2	500	11	5,520	11	5,520	11	5,520
9		Environmental monitoring	LS	1	10,000	10,000	10,000	10,000	10,000	10,000
		Total				152,419		152,419		152,242

(15) Worker's resting shed with facilities

Table 33 Calculation of unit cost per worker's resting shed with facilities

(Rate and amount in Tk)

No.	Specification Clause No.	Item of Works	Unit	Quantity	Barisal		Faridpur		Khulna	
					Rate	Amount	Rate	Amount	Rate	Amount
1	1.16	Provide, erect and maintain workers' resting sheds including access roads	L.S.	1	100,000	100,000	100,000	100,000	100,000	100,000
		Total				100,000		100,000		100,000

(16) Internal road with HBB

Table 34 Calculation of unit cost per internal road with HBB (576m^2)

(Rate and amount in Tk)

No.	Specification Clause No.	Item of Works	Unit	Quantity	Barisal		Faridpur		Khulna	
					Rate	Amount	Rate	Amount	Rate	Amount
1	3.1.03	Earth work in box cutting	m^2	576	34	19,423	33	19,284	34	19,423
2	3.1.05	Preparation of bed by cutting	m^2	576	6	3,462	6	3,393	6	3,462
3	3.1.06.01	Sand (F.M.0.80) filling 150mm thick	m^3	86	431	37,200	416	35,982	416	35,956
4	3.2.11	Single layer brick flat soling (materials)	m^2	576	188	108,294	172	99,095	180	103,830
5	3.2.12	Single layer brick flat soling (labor)	m^2	576	22	12,943	27	15,466	28	15,903
6	3.2.13	Brick on edge pavement in single layer of HBB (materials)	m^2	576	320	184,476	293	168,877	307	176,930
7	3.2.14	Brick on edge pavement in single layer of HBB (labor)	m^2	576	50	29,030	49	28,322	51	29,226
		Total				394,827		370,419		384,730

(17) Cyclone resistant multipurpose market shed

Table 35 Calculation of unit cost per cyclone resitant multipurpose market shed (155.5m^2 x 3 floors)

(Rate and amount in Tk)

No.	Specification Clause No.	Item of Works	Unit	Quantity	Barisal		Faridpur		Khulna	
					Rate	Amount	Rate	Amount	Rate	Amount
1	7.25.02	Supplying, fitting, fixing 50mm G.I.pipe	m	117	649	75,922	643	75,266	649	75,922
2	5.001	Earthwork in excavation of canals, drains, etc.	m^3	104	61	6,348	61	6,285	61	6,348
3	5.002	Single layer brick flat soling	m^2	241	188	45,319	172	41,404	180	43,382
4	5.005.01	Mass concrete works in foundation	m^3	6	4,321	26,559	4,150	25,503	4,249	26,116
5	5.007.01	Sand filling in foundation trenches and inside plinth	m^3	55	598	33,184	582	32,300	582	32,300
6	5.010.01	Brick work with 1st class blockin cement mortar (1:6) in foundation	m^3	3	3,340	9,579	3,124	8,960	3,260	9,350
7	5.019.01	25mm thick artificial patent stone floor (1:2:4) with portland cement	m^2	190	181	34,506	174	33,207	180	34,247
8	5.046.01	Reinforced cement concrete works (1:2:4) to give a minimum cylinder strength of 210kg/cm2 concrete	m^3	19	6,205	120,974	6,235	121,573	6,092	118,778
9	5.046.02	Reinforced cement concrete works (1:2:4) to give a minimum cylinder strength of 210kg/cm2 concrete	m^3	5	6,514	30,529	6,527	30,592	6,387	29,937
10	5.046.03.01	Reinforced cement concrete works (1:2:4) to give a minimum cylinder strength of 210kg/cm2 concrete	m^3	4	8,760	32,078	8,778	32,144	8,590	31,456
11	5.046.03.02	Reinforced cement concrete works (1:2:4) to give a minimum cylinder strength of 210kg/cm2 concrete	m^3	3	8,791	22,725	8,809	22,772	8,621	22,285
12	5.046.05.01	Reinforced cement concrete works (1:2:4) to give a minimum cylinder strength of 210kg/cm2 concrete	m^3	7	8,030	54,642	8,046	54,755	7,874	53,583
13	5.046.05.02	Reinforced cement concrete works (1:2:4) to give a minimum cylinder strength of 210kg/cm2 concrete	m^3	6	8,062	46,670	8,079	46,766	7,906	45,765
14	5.046.06.01	Reinforced cement concrete works (1:2:4) to give a minimum cylinder strength of 210kg/cm2 concrete	m^3	16	7,749	122,286	7,765	122,539	7,599	119,915
15	5.046.06.02	Reinforced cement concrete works (1:2:4) to give a minimum cylinder strength of 210kg/cm2 concrete	m^3	27	7,781	207,994	7,797	208,424	7,630	203,961
16	5.046.08.01	Reinforced cement concrete works (1:2:4) to give a minimum cylinder strength of 210kg/cm2 concrete	m^3	4	7,693	32,417	7,709	32,484	7,544	31,789
17	5.046.08.02	Reinforced cement concrete works (1:2:4) to give a minimum cylinder strength of 210kg/cm2 concrete	m^3	3	7,725	22,611	7,741	22,658	7,575	22,173
18	5.048.01	Supplying, and fabrication of MS high strength deformed bar	kg	14,300	79	1,124,409	79	1,122,836	79	1,124,409
19	5.056	Supplying, fan hook of 12mm dia MS rod (one meter long) fabrication	each	10	89	890	89	890	89	890
20	5.102.01	Minimum 12mm thick cement plaster (1:4) to dado and plinth wall up to 150mm below ground level	m^2	22	142	3,114	139	3,041	143	3,134
21	5.102.03.01	Minimum 6mm thick cement plaster (1:4) to ceiling RCC columns, beams, surface of stair case	m^2	237	95	22,429	91	21,547	95	22,564
22	5.102.03.02	Minimum 6mm thick cement plaster (1:4) to ceiling RCC columns, beams, surface of stair case	m^2	373	95	35,409	94	35,104	99	36,764
23	5.107.01	White washing three coats over a coat of priming with slacked stone lime mixed	m^2	610	9	5,630	9	5,374	9	5,630
		Total				2,116,227		2,106,428		2,100,700

3. Unit costs for poverty reduction interventions

(1) Tree-planting and caretaking by LCS

Table 36 Calculation of per kilometer unit cost for tree-planting and caretaking by LCS

Item	Unit	Qty	Unit Cost (tk.)	Total (tk.)
Total				**207,700**
1 Plantation				**67,400**
1.1 Seedlings	no	1,000	35	35,000
1.2 Pigeon peas	LS			2,400
1.3 bamboo stick and jute rope	no	1,000	12	12,000
1.4 Fertilizer	no	1,000	8	8,000
1.5 Labor charge	no	1,000	10	10,000
2 Care taking				**131,400**
2.1 Labor charge (365 days for 2 years*2persons)	day	1,460	90	131,400
3 Tools and equipment for care takers				**5,400**
3.1 Iron spade	no	1	700	700
3.2 Iron rammer *(durmuz)*	no	1	400	400
3.3 Bucket	no	1	500	500
3.4 Basket	no	1	300	300
3.5 Iron chopper *(dao)*	no	1	500	500
3.6 Iron scythe	no	1	300	300
3.7 Iron bars *(shabol)*	no	1	600	600
3.8 Apron	no	2	700	1,400
3.9 Umbrella	no	2	350	700
4 Micellaneous				**3,500**
4.1 Signboard (900mmx600mm)	no	1	3,000	3,000
4.2 Flag	no	2	250	500

(2) Village road maintenance by LCS

Table 37 Calculation of per kilometer unit cost for maintenance of village roads by LCS's

Item	Unit	Qty	Unit Cost (tk.)	Total (tk.)
Total				**171,350**
1 Maintenance of Village roads				**164,250**
1.1 Labor charge (365 days for 5 years)	day	1,825	90	164,250
2 Tools and equipment for care takers				**3,850**
2.1 Iron spade	no	1	700	700
2.2 Iron rammer *(durmuz)*	no	1	400	400
2.3 Basket	no	1	300	300
2.4 Iron chopper *(dao)*	no	1	500	500
2.5 Iron scythe	no	1	300	300
2.6 Iron bars *(shabol)*	no	1	600	600
2.7 Apron	no	1	700	700
2.8 Umbrella	no	1	350	350
3 Micellaneous				**3,250**
3.1 Signboard (900mmx600mm)	no	1	3,000	3,000
3.2 Flag	no	1	250	250

4. Cost estimation of Upazila and Union road upgrading

Estimate costs for Upazila and Union roads are shown in Table 38 and Table 39, respectively.

Table 38 Cost estimates for Upazila roads selecte for upgraing

Loan/GOB financing Division/Greater District District UPAZILA	Road Code (Gazetted)	Road Type	Pavement subcomponent (million tk.)			Bridges and culvert subcomponent (million tk.)				Safety measures subcomponent (million tk.)				Total (mill. tk.)
			Earthen road	HBB/ BFS	Sub-total	Bridge	Culvert	Ghats	Sub-total	Bus bay	Guard post	Sign board	Sub-total	
			a	b	c=a+b	d	e	f	g=d+e+f	h	i	j	k=h+i+j	l=c+g+k
Project Area Grand total			**3,239.6**	**1,451.2**	**4,690.8**	**1,007.0**	**125.7**	**5.4**	**1,138.1**	**39.0**	**16.3**	**7.2**	**62.5**	**5,891.4**
Upazila road upgrading to be financed by loan														
Total			**2,715.3**	**1,164.9**	**3,880.1**	**808.0**	**92.6**	**5.4**	**906.1**	**31.9**	**13.3**	**6.0**	**51.2**	**4,837.3**
Barisal Division			**1,081.5**	**480.5**	**1,562.1**	**294.6**	**59.8**		**354.4**	**13.5**	**5.6**	**2.2**	**21.2**	**1,937.7**
Barguna			**73.1**	**80.3**	**153.4**		**1.8**		**1.8**	**1.5**	**0.5**	**0.2**	**2.1**	**157.4**
AMTALI	504092001	6	6.8	20.8	27.6					0.3	0.1	0.0	0.4	28.0
BAMNA	504192004	6	25.7		25.7		1.8		1.8	0.2	0.1		0.3	27.8
BARGUNA-S	504282001	6	32.8	44.5	77.3					0.7	0.3	0.1	1.1	78.4
BETAGI	504472004	6		15.0	15.0					0.2	0.1	0.0	0.2	15.2
PATHARGHATA	504852002	6	7.8		7.8					0.1	0.0	0.0	0.1	7.9
Barisal			**270.1**	**132.9**	**403.0**	**282.2**	**15.4**		**297.6**	**3.5**	**1.8**	**0.5**	**5.8**	**706.4**
AGAILJHARA	506022005	6		28.6	28.6					0.3	0.1	0.0	0.5	29.1
BABUGANJ	506032003	6	11.8	9.7	21.5					0.2	0.1	0.1	0.3	21.8
BAKERGANJ	506072006	6	43.3	4.1	47.4		2.4		2.4	0.4	0.2	0.1	0.6	50.4
BANARIPARA	506102001	6	42.3	24.9	67.2	216.0	10.0		226.0	0.6	0.6	0.1	1.3	294.5
BARISAL-S	506512004	6	34.6	5.1	39.7					0.3	0.1		0.4	40.2
GOURANADI	506322006	6		9.7	9.7					0.1	0.0	0.0	0.2	9.8
HIZLA	506362001	6	43.9	6.0	50.0					0.4	0.2	0.0	0.6	50.6
MEHENDIGANJ	506622005 & 506622002	6	33.8	44.9	78.7	24.1			24.1	0.8	0.3	0.0	1.1	103.8
MULADI	506692003	6				42.1	2.1		44.2		0.1		0.1	44.3
UZIRPUR	506942003	6	60.2		60.2		0.9		0.9	0.4	0.2	0.1	0.8	61.9
Bhola			**230.4**		**230.4**		**5.8**		**5.8**	**1.7**	**0.7**	**0.3**	**2.7**	**238.9**
BHOLA-S	509182012	6	21.3		21.3					0.2	0.1	0.0	0.2	21.6
BORHANUDDIN	509212004	6	32.2		32.2		5.8		5.8	0.2	0.1	0.0	0.4	38.3
CHARFASSION	509252007	6	73.2		73.2					0.5	0.2	0.1	0.9	74.1
LALMOHAN	509542002	6	51.1		51.1					0.4	0.2	0.1	0.6	51.7
MONPURA	509652001	6	27.7		27.7					0.2	0.1	0.0	0.3	28.0
TAZUMUDDIN	509912004	6	25.0		25.0					0.2	0.1	0.0	0.3	25.3
Jhalakati			**102.9**	**113.4**	**216.2**		**20.0**		**20.0**	**2.0**	**0.7**	**0.3**	**3.1**	**239.3**
JHALOKATHI-S	542402003	6	73.3	20.7	94.0		2.2		2.2	0.8	0.3	0.2	1.2	97.5
KATHALIA	542432009	6	22.5	15.6	38.1		0.9		0.9	0.3	0.1		0.5	39.5
NALCHITY	542732003	6	7.1	52.8	59.9		3.9		3.9	0.7	0.2	0.1	0.9	64.7
RAJAPUR	542842009	6		24.2	24.2		13.0		13.0	0.3	0.1	0.1	0.4	37.6
Patuakhali			**227.8**	**54.1**	**282.0**	**3.3**	**3.9**		**7.3**	**2.3**	**0.9**	**0.4**	**3.6**	**292.9**
BAUPHAL	578382004	6	49.3	3.9	53.2					0.4	0.2	0.1	0.6	53.8
DASHMINA	578522003	6		13.0	13.0					0.1	0.0	0.1	0.3	13.3
DUMKI	578962002	6	0.6	20.3	21.0					0.2	0.1	0.0	0.4	21.3
GALACHIPA	578572002	6	21.0		21.0		0.9		0.9	0.2	0.1	0.0	0.3	22.2
KALAPARA	578662001	6	32.2		32.2					0.2	0.1	0.0	0.4	32.6
MIRJAGANJ	578762005	6	58.5	9.7	68.1					0.5	0.2	0.1	0.9	69.0
PATUAKHALI-S	578952010	6	66.1	7.3	73.4	3.3	3.0		6.4	0.6	0.2	0.1	0.9	80.6
Pirojpur			**177.3**	**99.8**	**277.1**	**9.0**	**12.9**		**21.9**	**2.4**	**0.9**	**0.5**	**3.8**	**302.8**
BHANDARIA	579142006	6	46.7		46.7	5.0	0.6		5.6	0.3	0.2	0.1	0.6	52.8
KAWKHALI	579472001	6	14.7	11.0	25.7		3.8		3.8	0.2	0.1	0.0	0.4	29.8
MOTHBARIA	579582003	6	57.2	57.0	114.1		3.9		3.9	1.1	0.4	0.2	1.7	119.7
NAZIRPUR	579762004	6	21.0		21.0					0.2	0.1	0.1	0.3	21.3
PEROJPUR-S	579802006	6	24.4	5.0	29.3	4.0	4.5		8.6	0.2	0.1	0.1	0.4	38.3
SWARUPKATHI	579872008	6		19.6	19.6					0.2	0.1		0.3	19.9
ZIANAGAR	579882004	6	13.4	7.3	20.6					0.2	0.1	0.0	0.3	20.9

Table 38 Cost estimates for Upazila roads selected for upgrading (continued)

Loan/GOB financing Division/Greater District District UPAZILA	Road Code (Gazetted)	Road Type	Pavement subcomponent (million tk.)			Bridges and culvert subcomponent (million tk.)				Safety measures subcomponent (million tk.)				Total (mill. tk.)
			Earthen road	HBB/ BFS	Sub-total	Bridge	Culvert	Ghats	Sub-total	Bus bay	Guard post	Sign board	Sub-total	
			a	b	c=a+b	d	e	f	g=d+e+f	h	i	j	k=h+i+j	l=c+g+k
Greater Faridpur			**803.4**	**214.6**	**1,018.1**	**413.8**	**19.3**	**5.4**	**438.5**	**7.9**	**3.7**	**1.8**	**13.4**	**1,469.9**
Faridpur			**229.0**	**123.6**	**352.6**	**57.0**	**1.2**		**58.2**	**2.7**	**1.1**	**0.6**	**4.5**	**415.3**
ALFADANGA	329032006	6	47.6	17.0	64.6					0.5	0.2	0.1	0.9	65.5
BHANGA	329102005	4	85.6	3.5	89.1	16.7			16.7	0.3	0.2	0.1	0.6	106.4
BOALMARI	329182006	6	14.6	25.1	39.7					0.4	0.1	0.1	0.6	40.3
CHARBHADRASAN	329212004	6		18.1	18.1		1.2		1.2	0.2	0.1	0.0	0.3	19.7
FARIDPUR-S	329472011	6	6.8	13.3	20.1					0.2	0.1	0.0	0.3	20.4
MADHUKHALI	329562009	6	18.5		18.5					0.1	0.1	0.0	0.2	18.7
NAGARKANDA	329622020	6	47.6		47.6	30.3			30.3	0.3	0.2	0.1	0.6	78.5
SADARPUR	329842009	6	8.3	46.5	54.9	10.0			10.0	0.6	0.2	0.2	1.0	65.8
Gopalganj			**157.6**	**28.5**	**186.0**	**55.6**	**1.5**		**57.1**	**1.5**	**0.7**	**0.4**	**2.5**	**245.7**
GOPALGANJ-S	335322008	6		24.7	24.7					0.3	0.1	0.1	0.4	25.1
KASIANI	335432008	6	49.7	3.8	53.5	49.0	1.5		50.5	0.4	0.2	0.2	0.8	104.8
KOTWALIPARA	335512004	6	49.5		49.5	6.7			6.7	0.4	0.2	0.1	0.6	56.8
MUKSUDPUR	335582011	6	24.5		24.5					0.2	0.1	0.0	0.3	24.8
TUNGIPARA	335912005	6	33.9		33.9					0.2	0.1	0.0	0.4	34.3
Madaripur			**184.8**	**32.4**	**217.3**	**251.2**	**9.1**		**260.2**	**1.7**	**0.9**	**0.2**	**2.9**	**480.4**
KALKINI	354402005	6	85.3		85.3	119.6	9.1		128.6	0.6	0.4	0.1	1.1	215.1
MADARIPUR-S	354542005	6	42.5	4.7	47.1	116.6			116.6	0.4	0.2	0.1	0.6	164.3
RAJOIR	354802008	6	37.8		37.8	15.0			15.0	0.3	0.2	0.0	0.5	53.2
SHIBCHAR	354872008	6	19.2	27.8	47.0					0.4	0.2	0.0	0.7	47.7
Rajbari			**154.4**	**9.1**	**163.5**	**36.0**			**36.0**	**1.2**	**0.6**	**0.3**	**2.1**	**201.5**
BALIAKANDI	382072001	6	53.3	1.9	55.2					0.4	0.2	0.1	0.7	55.9
GOALANDA	382292007	6	34.1	7.2	41.4	33.3			33.3	0.3	0.2	0.1	0.5	75.2
PANGSHA	382732014	6	36.0		36.0	2.7			2.7	0.3	0.1	0.1	0.4	39.1
RAJBARI-S	382762009	6	31.0		31.0					0.2	0.1	0.1	0.4	31.4
Shariatpur			**77.6**	**21.1**	**98.7**	**14.0**	**7.5**	**5.4**	**27.0**	**0.8**	**0.4**	**0.2**	**1.4**	**127.0**
BHEDARGANJ	386142003	6	27.4	4.0	31.3	9.0	4.5		13.5	0.2	0.1	0.1	0.4	45.3
DAMUDDYA	386252006	6	24.8		24.8					0.2	0.1	0.1	0.3	25.1
JANJIRA	386942004	6	17.7		17.7	5.0	3.0	5.4	13.5	0.1	0.1	0.0	0.2	31.4
NARIA	386652004	6	5.2		5.2					0.0	0.0	0.0	0.1	5.3
SHARIATPUR-S	386692008	6	2.6	17.1	19.7					0.2	0.1	0.0	0.3	20.0
Greater Khulna			**830.3**	**469.7**	**1,300.0**	**99.7**	**13.5**		**113.2**	**10.5**	**4.1**	**2.0**	**16.6**	**1,429.7**
Bagerhat			**244.9**	**95.2**	**340.1**	**8.3**	**4.4**		**12.7**	**2.9**	**1.1**	**0.6**	**4.6**	**357.4**
BAGERHAT-S	201082008	6		8.3	8.3					0.1	0.0	0.0	0.1	8.4
CHITALMARI	201142003	6	14.5	5.0	19.5					0.2	0.1	0.0	0.3	19.8
FAKIRHAT	201342009	6	26.1	6.3	32.4	8.3			8.3	0.3	0.1	0.0	0.4	41.1
MOLLAHAT	201562004	6	83.8	0.7	84.5		1.8		1.8	0.6	0.3	0.2	1.1	87.5
MONGLA	201582010	6	31.9	6.1	38.1					0.3	0.1		0.4	38.5
MORRELGANJ	201602008	6	77.2	28.3	105.5		2.6		2.6	0.9	0.4	0.2	1.4	109.5
RAMPAL	201732005	6		40.3	40.3					0.5	0.1	0.1	0.7	41.0
SHARANKHOLA	201772001	6	11.5		11.5					0.1	0.0	0.0	0.1	11.6
Khulna			**342.5**	**186.9**	**529.4**	**63.1**	**3.2**		**66.3**	**3.7**	**1.4**	**0.7**	**5.8**	**601.5**
BATIAGHATA	247122007	6	25.3	37.0	62.4					0.6	0.2	0.1	0.9	63.3
DACOPE	247172010	6	54.8	4.8	59.7	21.6	2.9		24.5	0.5	0.2	0.1	0.8	84.9
DIGHALIA	247402004	6	18.5	4.7	23.2					0.2	0.1	0.0	0.3	23.5
DUMURIA	247302005 & 247642008	4	214.7	23.0	237.6	41.5			41.5	1.0	0.4	0.2	1.5	280.7
KOIRA	247532004	6	8.4	58.8	67.1					0.7	0.2	0.1	1.1	68.2
PAIKGACHA	247642009	6	18.9	23.5	42.4					0.4	0.1	0.1	0.6	43.0
RUPSA	247752006	6		10.7	10.7		0.4		0.4	0.1	0.0	0.0	0.2	11.2
TEROKHADA	247942008	6	1.9	24.4	26.3					0.3	0.1	0.1	0.4	26.7
Satkhira			**242.9**	**187.6**	**430.5**	**28.2**	**5.9**		**34.1**	**3.9**	**1.5**	**0.8**	**6.1**	**470.8**
ASSASUNI	287042008	6	21.9	137.4	159.4		3.3		3.3	1.7	0.6	0.4	2.6	165.3
DEBHATA	287252006 & 287822008 & 287042006	6	100.1	12.9	113.0		1.8		1.8	0.9	0.4	0.1	1.4	116.2

Table 38 Cost estimates for Upazila roads selected for upgrading (continued)

Loan/GOB financing Division/Greater District District UPAZILA	Road Code (Gazetted)	Road Type	Pavement subcomponent (million tk.)			Bridges and culvert subcomponent (million tk.)				Safety measures subcomponent (million tk.)				Total (mill. tk.)
			Earthen road	HBB/ BFS	Sub-total	Bridge	Culvert	Ghats	Sub-total	Bus bay	Guard post	Sign board	Sub-total	
			a	b	c=a+b	d	e	f	g=d+e+f	h	i	j	k=h+i+j	l=c+g+k
KALAROA	287432008	6	50.1		50.1	8.3	0.8		9.1	0.4	0.2	0.1	0.6	59.7
KALIGANJ	287472007	6		15.4	15.4					0.2	0.1	0.0	0.3	15.6
SATKHIRA-S	287822005	6		9.5	9.5					0.1	0.0	0.0	0.2	9.6
SHYAMNAGAR	287862004	6	41.8	11.8	53.5	19.9			19.9	0.4	0.2	0.1	0.7	74.1
TALA	287902006	6	29.1	0.7	29.7					0.2	0.1	0.0	0.4	30.1
Upazila road upgrading to be financed by GOB budget														
Total			**524.3**	**286.3**	**810.6**	**199.0**	**33.1**		**232.1**	**7.1**	**3.0**	**1.3**	**11.4**	**1,054.1**
Barisal Division			**269.8**	**173.2**	**442.9**	**108.4**	**33.1**		**141.5**	**4.0**	**1.6**	**0.6**	**6.2**	**590.6**
Barisal			**35.1**	**34.8**	**69.9**					**0.7**	**0.2**	**0.0**	**0.9**	**70.8**
MEHENDIGANJ	506622006	6	10.8	27.6	38.3					0.4	0.1		0.5	38.9
UZIRPUR	506942004	6	24.3	7.3	31.6					0.3	0.1	0.0	0.4	32.0
Jhalakati			**44.2**	**109.9**	**154.1**	**44.6**	**9.1**		**53.7**	**1.6**	**0.6**	**0.2**	**2.4**	**210.2**
JHALOKATHI-S	542402004	6	22.7	42.6	65.2	44.6	5.3		49.9	0.7	0.3	0.0	1.0	116.1
NALCHITY	542732004	6	13.9	24.4	38.3					0.4	0.1	0.1	0.6	38.9
RAJAPUR	542842005	6	7.6	42.9	50.6		3.8		3.8	0.5	0.2	0.1	0.8	55.2
Patuakhali			**86.7**	**6.0**	**92.7**	**3.3**	**5.9**		**9.3**	**0.7**	**0.3**	**0.2**	**1.2**	**103.1**
DASHMINA	578522006	6	46.4		46.4	3.3	2.3		5.6	0.3	0.2	0.1	0.6	52.7
DUMKI	578962003	6	40.3	6.0	46.2		3.6		3.6	0.4	0.1	0.1	0.6	50.5
Pirojpur			**103.7**	**22.5**	**126.2**	**60.5**	**18.0**		**78.5**	**1.0**	**0.5**	**0.2**	**1.7**	**206.4**
BHANDARIA	579142009	6	10.9	4.8	15.8	21.1			21.1	0.1	0.1	0.0	0.2	37.1
NAZIRPUR	579762005	6	2.5	17.6	20.1		0.8		0.8	0.2	0.1	0.1	0.4	21.2
SWARUPKATHI	579872004	6	90.4		90.4	39.4	17.3		56.7	0.7	0.3	0.1	1.1	148.2
Greater Faridpur			**186.3**	**30.5**	**216.8**	**90.6**			**90.6**	**1.7**	**0.8**	**0.4**	**2.9**	**310.3**
Faridpur			**42.5**	**17.9**	**60.4**					**0.5**	**0.2**	**0.1**	**0.8**	**61.2**
FARIDPUR-S	329472012	6	42.5	17.9	60.4					0.5	0.2	0.1	0.8	61.2
Gopalganj			**35.4**	**7.9**	**43.4**	**13.0**			**13.0**	**0.3**	**0.2**	**0.1**	**0.6**	**57.0**
GOPALGANJ-S	335322015	6	35.4	7.9	43.4	13.0			13.0	0.3	0.2	0.1	0.6	57.0
Rajbari			**65.6**	**4.7**	**70.3**	**46.6**			**46.6**	**0.5**	**0.3**	**0.1**	**0.9**	**117.8**
BALIAKANDI	382072007	6	20.0	4.7	24.7					0.2	0.1	0.0	0.3	25.0
PANGSHA	382732012	6	45.6		45.6	46.6			46.6	0.3	0.2	0.1	0.6	92.8
Shariatpur			**42.7**		**42.7**	**31.0**			**31.0**	**0.3**	**0.2**	**0.1**	**0.6**	**74.3**
SHARIATPUR-S	386692006	6	42.7		42.7	31.0			31.0	0.3	0.2	0.1	0.6	74.3
Greater Khulna			**68.3**	**82.7**	**151.0**					**1.4**	**0.5**	**0.3**	**2.2**	**153.2**
Khulna			**68.3**	**82.7**	**151.0**					**1.4**	**0.5**	**0.3**	**2.2**	**153.2**
DUMURIA	247302003	6		18.3	18.3					0.2	0.1	0.1	0.3	18.7
KOIRA	247532002	6		23.4	23.4					0.3	0.1	0.1	0.4	23.8
PAIKGACHA	247642007	6	68.3	41.0	109.3					1.0	0.4	0.2	1.5	110.7

Table 39 Cost estimates for Union roads

Division/ Greater District District Upazila	Road Code (Gazetted)	Pavement subcomponent (million tk.)			Bridges and culvert subcomponent (million tk.)			Total cost (mill. tk.)
		Earthen road a	HBB/BFS b	Upgrade total c=a+b	Bridge d	Culvert e	Total f=d+e	g=c+f
Project area total		**220.8**	**71.2**	**292.1**		**0.5**	**0.5**	**292.6**
Barisal Division		**126.5**	**27.0**	**153.5**		**0.4**	**0.4**	**153.9**
Bhola		**78.0**		**78.0**		**0.4**	**0.4**	**78.3**
BHOLA-S	509183010	9.8		9.8				9.8
BORHANUDDIN	509213003	16.3		16.3		0.4	0.4	16.6
CHARFASSION	509253004	21.3		21.3				21.3
DAULATKHAN	509293008	15.4		15.4				15.4
MONPURA	509653003	15.3		15.3				15.3
Jhalakati		**13.4**	**0.4**	**13.8**				**13.8**
RAJAPUR	542843006	13.4	0.4	13.8				13.8
Patuakhali		**35.1**	**26.6**	**61.7**				**61.7**
GALACHIPA	578573014	15.0	16.7	31.6				31.6
PATUAKHALI-S	578953018	20.1	9.9	30.1				30.1
Greater Faridpur		**82.7**	**38.2**	**120.9**				**120.9**
Faridpur		**18.2**	**9.4**	**27.6**				**27.6**
BHANGA	329103004	2.6	6.3	8.9				8.9
MADHUKHALI	329563008	15.0	3.1	18.1				18.1
NAGARKANDA	329623006	0.7		0.7				0.7
Gopalganj		**8.6**		**8.6**				**8.6**
KOTWALIPARA	335513008	8.6		8.6				8.6
Madaripur		**15.0**		**15.0**				**15.0**
MADARIPUR-S	354543010	15.0		15.0				15.0
Rajbari		**34.7**	**7.7**	**42.4**				**42.4**
BALIAKANDI	382073004	13.7	7.7	21.4				21.4
PANGSHA	382733017	21.0		21.0				21.0
Shariatpur		**6.2**	**21.2**	**27.4**				**27.4**
BHEDARGANJ	386143006		21.2	21.2				21.2
DAMUDDYA	386253003	6.2		6.2				6.2
Greater Khulna		**11.6**	**6.0**	**17.6**		**0.1**	**0.1**	**17.7**
Satkhira		**11.6**	**6.0**	**17.6**		**0.1**	**0.1**	**17.7**
KALAROA	287433001	5.2	6.0	11.2				11.2
SATKHIRA-S	287823016	6.4		6.4		0.1	0.1	6.6

Table 40 Quantities, unit costs, and costs of Upazila road upgrading

Ranking and selection			Identity of Upazila road					Quantities								Unit cost (tk.)								Costs (tk.)							
Ranking	Selected ?	Financing	Division/Greater District	District	Upazila	Road Code (Gazetted)	Road Type	BC/CC /RCC/WBM (km)	Earthen road (km)	HBB/ BFS (km)	Bridge (m)	Culvert (m)	Ghat (no)	Bus bay (Earthen) (no)	Bus bay (HBB/BFS) (no)	Guard post (no)	Sign board (no)	BC/CC /RCC/WBM (km)	Earthen road (km)	HBB/ BFS (km)	Bridge (m)	Culvert (m)	Ghat (no)	Bus bay (Earthen) (no)	Bus bay (HBB/BFS) (no)	Guard post (no)	Sign board (no)	BC/CC /RCC/WBM	Earthen road	HBB/ BFS	Bridge	Culvert	Ghat	Bus bay	Guard post	Sign board (no)	Total
1	Yes	Loan	Greater Faridpur	Shariatpur	DAMUDDYA	386252006	6	1.200	4.750					5		71	14	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304	24,757,391					181,458	81,224	76,217	25,096,290
2	Yes	Loan	Barisal Division	Pirojpur	NAZIRPUR	579762004	6		3.850					4		58	10	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304	21,036,196					155,212	66,352	53,040	21,310,801
3	Yes	Loan	Greater Faridpur	Gopalganj	GOPALGANJ-S	335322008	6	4.200		5.300					5	80	16	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304		24,659,469				272,126	91,520	82,854	25,105,969
4	Yes	Loan	Greater Faridpur	Rajbari	RAJBARI-S	382762009	6	3.600	5.950					6		89	12	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304	31,011,890					227,300	101,816	66,092	31,407,097
5	Yes	Loan	Greater Faridpur	Faridpur	BOALMARI	329182006	6	4.400	2.800	5.400				3	5	123	17	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304	14,593,830	25,124,742				384,225	140,712	89,747	40,333,257
6	Yes	Loan	Greater Khulna	Bagerhat	MOLLAHAT	201562004	6	0.400	15.743	0.157		6		16	0	238	45	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304	83,771,245	742,263		1,807,284		624,864	272,272	237,997	87,455,925
7	Yes	Loan	Barisal Division	Bhola	BHOLA-S	509182012	6	8.100	3.900					4		58	3	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304	21,309,394					157,228	66,352	17,238	21,550,212
8	Yes	Loan	Greater Faridpur	Rajbari	BALIAKANDI	382072001	6	7.075	10.225	0.400				10	0	160	22	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304	53,293,541	1,861,092				411,150	183,040	114,620	55,863,444
9	Yes	Loan	Barisal Division	Barisal	UZIRPUR	506942003	6	12.500	11.020			3		11		165	24	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304	60,212,697			909,795		444,270	188,760	129,226	61,884,748
10	Yes	Loan	Greater Faridpur	Shariatpur	NARIA	386652004	6	6.940	1.000					1		15	2	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304	5,212,082					38,202	17,160	9,352	5,276,796
11	Yes	Loan	Barisal Division	Barisal	BABUGANJ	506032003	6		2.160	2.000				2	2	62	10	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304	11,802,126	9,673,076				197,200	70,928	53,040	21,796,370
12	Yes	Loan	Greater Faridpur	Faridpur	FARIDPUR-S	329472011	6	3.542	1.300	2.858				1	3	63	8	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304	6,775,707	13,297,502				196,405	72,072	40,098	20,381,785
13	Yes	Loan	Greater Faridpur	Madaripur	SHIBCHAR	354872008	6		3.693	5.968				4	6	144	8	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304	19,248,220	27,767,493				447,503	164,736	42,432	47,670,384
14	Yes	Loan	Greater Faridpur	Faridpur	BHANGA	329102005	4	2.120	8.580	0.370	50			9	0	167	13	9,982,297	9,422,945	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304	85,648,107	3,486,489	16,657,000			346,768	191,048	68,612	106,398,024
15	Yes	Loan	Barisal Division	Patuakhali	DASHMINA	578522003	6	0.340		2.690					3	41	12	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		13,010,287				148,112	46,904	65,924	13,271,227
16	Yes	Loan	Greater Faridpur	Faridpur	ALFADANGA	329032006	6	1.720	9.130	3.650				9	4	191	26	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304	47,586,311	16,982,465				536,189	218,504	140,245	65,463,714
17	Yes	Loan	Greater Faridpur	Shariatpur	SHARIATPUR-S	386692008	6	5.460	0.500	3.680				1	4	63	6	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304	2,606,041	17,122,046				208,049	72,072	32,198	20,040,407
18	Yes	Loan	Greater Faridpur	Rajbari	PANGSHA	382732014	6	4.000	6.900		8			7		112	10	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304	35,963,368		2,665,120			263,592	128,128	53,721	39,073,929
19	Yes	Loan	Greater Faridpur	Faridpur	SADARPUR	329842009	6		1.600	10.000	30			2	10	182	34	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304	8,339,332	46,527,300	9,994,200			574,568	208,208	180,336	65,823,944
20	Yes	Loan	Barisal Division	Pirojpur	BHANDARIA	579142006	6	8.000	8.540		15	2		9		136	12	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304	46,662,108		5,012,205	606,530		344,289	155,584	65,726	52,846,442
21	Yes	Loan	Greater Faridpur	Gopalganj	KOTWALIPARA	335512004	6	4.810	9.500		20			10		150	11	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304	49,514,782		6,662,800			362,916	171,600	56,339	56,768,437
22	Yes	Loan	Barisal Division	Pirojpur	ZIANAGAR	579882004	6	1.550	2.450	1.500				2	2	60	1	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304	13,386,670	7,254,807				181,362	68,640	7,618	20,899,098
23	Yes	Loan	Greater Faridpur	Shariatpur	BHEDARGANJ	386142003	6		5.250	0.850	27	15		5	1	108	14	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304	27,363,432	3,954,821	8,994,780	4,526,235		244,202	123,552	74,256	45,281,277
24	Yes	Loan	Barisal Division	Barisal	BAKERGANJ	506072006	6		7.930	0.840		8		8	1	132	22	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304	43,329,101	4,062,692		2,395,793		365,947	151,008	116,688	50,421,229
25	Yes	Loan	Greater Khulna	Satkhira	KALAROA	287432008	6	1.443	9.407		25	3		9		149	17	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304	50,056,285		8,304,825	753,035		368,397	170,456	91,972	59,744,970
26	Yes	Loan	Barisal Division	Pirojpur	SWARUPKATHI	579872008	6			4.050					4	61		5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		19,587,979				222,994	69,784		19,880,757
27	Yes	Loan	Barisal Division	Barisal	AGAILJHARA	506022005	6	3.060		5.910					6	88	8	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		28,583,940				325,406	100,672	41,935	29,051,953
28	Yes	Loan	Barisal Division	Jhalakati	JHALOKATHI-S	542402003	6		13.415	4.285		7		13	4	265	32	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304	73,298,851	20,724,565		2,189,573		776,757	303,160	169,728	97,462,634
29	Yes	Loan	Barisal Division	Barisal	MEHENDIGANJ	506622005 & 506622002	6	2.480	6.194	9.276	72			6	9	241	9	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304	33,843,689	44,863,727	24,058,584			760,449	275,704	45,712	103,847,863
30	Yes	Loan	Barisal Division	Barguna	AMTALI	504092001	6	7.300	1.250	4.300				1	4	83	7	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304	6,829,934	20,797,113				287,152	94,952	36,653	28,045,805
31	Yes	Loan	Barisal Division	Pirojpur	KAWKHALI	579472001	6	3.668	2.688	2.280		12		3	2	75	8	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304	14,687,090	11,027,307		3,772,617		233,904	85,800	42,717	29,849,434
32	Yes	Loan	Barisal Division	Pirojpur	PEROJPUR-S	579802006	6	2.599	4.457	1.028	12	15		4	1	90	19	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304	24,352,812	4,971,961	4,009,764	4,548,975		236,285	102,960	100,766	38,323,523
33	Yes	Loan	Barisal Division	Jhalakati	NALCHITY	542732003	6	0.275	1.300	10.925		13		1	11	184	10	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304	7,103,131	52,839,178		3,857,531		653,942	210,496	51,873	64,716,151
34	Yes	Loan	Barisal Division	Patuakhali	MIRJAGANJ	578762005	6	2.800	10.700	2.000				11	2	190	18	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304	58,464,234	9,673,076				541,489	217,360	95,609	68,991,768
35	Yes	Loan	Greater Khulna	Satkhira	SHYAMNAGAR	287862004	6	5.715	7.848	2.487	60			8	2	164	13	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304	41,760,575	11,758,017	19,931,580			439,409	187,616	68,308	74,145,504
36	Yes	Loan	Greater Faridpur	Faridpur	NAGARKANDA	329622020	6	4.000	9.130			91		9		161	14	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304	47,586,311		30,315,740			348,782	184,184	73,763	78,508,780
37	Yes	Loan	Greater Khulna	Satkhira	ASSASUNI	287042008	6		4.125	29.067		11		4	29	498	70	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304	21,949,843	137,422,705		3,313,354		1,705,071	569,712	371,280	165,331,965
38	Yes	Loan	Barisal Division	Barguna	PATHARGHATA	504852002	6	3.230	1.428					1		21	6	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304	7,802,516					57,570	24,024	32,521	7,916,631
39	Yes	Loan	Greater Khulna	Bagerhat	BAGERHAT-S	201082008	6	13.749		1.751					2	26	3	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304		8,278,362				92,982	29,744	17,975	8,419,064
40	Yes	Loan	Barisal Division	Patuakhali	GALACHIPA	578572002	6	16.460	3.850			3		4		58	7	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304	21,036,196			909,795		155,212	66,352	36,196	22,203,751
41	Yes	Loan	Greater Faridpur	Gopalganj	MUKSUDPUR	335582011	6	2.500	4.700					5		70	8	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304	24,496,787					179,548	80,080	41,548	24,797,963
42	Yes	Loan	Greater Faridpur	Gopalganj	TUNGIPARA	335912005	6	2.000	6.500					7		98	9	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304	33,878,535					248,311	112,112	48,672	34,287,630
43	Yes	Loan	Barisal Division	Barisal	BARISAL-S	506512004	6	3.605	6.334	1.061				6	1	111		5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304	34,608,641	5,131,567				313,773	126,984		40,180,965
44	Yes	Loan	Barisal Division	Barisal	HIZLA	506362001	6		8.040	1.250				8	1	140	8	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304	43,930,135	6,045,673				392,957	160,160	42,432	50,571,356
45	Yes	Loan	Greater Khulna	Satkhira	SATKHIRA-S	287822005	6	16.450		2.000					2	30	4	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304		9,455,582				106,205	34,320	19,549	9,615,656
46	Yes	Loan	Greater Khulna	Khulna	RUPSA	247752006	6			2.260		1			2	34	6	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304		10,684,808		361,457		120,011	38,896	31,824	11,236,996
47	Yes	Loan	Greater Khulna	Bagerhat	SHARANKHOLA	201772001	6	7.040	2.160					2		32	5	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304	11,493,736					84,590	36,608	24,906	11,639,840
48	Yes	Loan	Barisal Division	Bhola	TAZUMUDDIN	509912004	6	1.185	4.575					5		69	8	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304	24,997,558					184,440	78,936	42,128	25,303,063
49	Yes	Loan	Greater Khulna	Satkhira	TALA	287902006	6	3.348	5.460	0.142				5	0	84	6	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304	29,053,611	671,346				221,365	96,096	33,199	30,075,617
50	Yes	Loan	Greater Faridpur	Madaripur	RAJOIR	354802008	6		7.250		45			7		133	6	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304	37,787,596		14,991,300			276,962	152,152	31,824	53,239,835
51	Yes	Loan	Greater Khulna	Khulna	KOIRA	247532004	6		1.570	12.430				2	12	210	24	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304	8,354,243	58,766,444				721,547	240,260	127,296	68,209,771
52	Yes	Loan	Greater Faridpur	Gopalganj	KASIANI	335432008	6		9.530	0.820	147	5		10	1	196	30	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304	49,671,144	3,815,239	48,971,580	1,508,745		406,165	224,224	159,120	104,756,216
53	Yes	Loan	Barisal Division	Barisal	GOURANADI	506322006	6	8.380		2.000					2	30	2	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		9,673,076				110,120	34,320	12,264	9,829,780
54	Yes	Loan	Barisal Division	Jhalakati	RAJAPUR	542842009	6	2.000		5.000		43			5	74	11	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		24,182,690		13,040,395		275,301	84,656	60,617	37,643,659
55	Yes	Loan	Greater Khulna	Satkhira	DEBHATA	287252006 & 287822008 & 287042006	6	6.560	18.810	2.730		6		19	3	323	26	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304	100,091,286	12,906,870		1,843,430		881,607	369,512	138,236	116,230,940
56	Yes	Loan	Barisal Division	Pirojpur	MOTHBARIA	579582003	6		10.461	11.779		13		10	12	334	38	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304	57,158,351	56,969,581		3,942,445		1,070,288	382,096	201,552	119,724,313
57	Yes	Loan	Greater Khulna	Satkhira	KALIGANJ	287472007	6	6.050		3.250					3	49	7	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304		15,365,321				172,583	56,056	37,071	15,631,031
58	Yes	Loan	Greater Faridpur	Madaripur	MADARIPUR-S	354542005	6	2.500	8.150	1.000	350			8	1	153	14	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304	42,478,471	4,652,730	116,599,000			362,688	175,032	74,984	164,342,905
59	Yes	Loan	Barisal Division	Bhola	MONPURA	509652001	6	13.289	5.061					5		76	8	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304	27,653,036					204,033	86,944	43,886	27,987,900
60	Yes	Loan	Barisal Division	Bhola	LALMOHAN	509542002	6	6.005	9.345					9		140	13	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304	51,060,586					376,742	160,160	71,039	51,668,527
61	Yes	Loan	Barisal Division	Bhola	CHARFASSION	509252007	6		13.400					13		201	18	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304	73,216,892					540,219	229,944	95,472	74,082,526
62	Yes	Loan	Greater Faridpur	Rajbari	GOALANDA	382292007	6		6.550	1.550	100			7	2	137	10	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304	34,139,139	7,211,732	33,314,000			329,805	156,728	53,040	75,204,444
63	Yes	Loan	Barisal Division	Barguna	BARGUNA-S	504282001	6		6.000	9.210				6	9	228	18	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304	32,783,683	44,544,515				748,993	260,832	95,472	78,433,495
64	Yes	Loan	Greater Faridpur	Madaripur	KALKINI	354402005	6		16.370		359	30		16		374	14	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304	85,321,787		119,597,260	9,052,470		625,362	427,856	74,256	215,098,991
65	Yes	Loan	Barisal Division	Barguna	BETAGI	504472004	6	14.620		3.100					3	46	3	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		14,993,268				170,687	52,624	14,846	15,231,425
66	Yes	Loan	Barisal Division	Patuakhali	DUMKI	578962002	6		0.116	4.206				0	4	65	8	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304	633,818	20,342,479				236,260	74,360	42,432	21,329,348
67	Yes	Loan	Greater Khulna	Bagerhat	MONGLA	201582010	6	0.700	6.000	1.300				6	1	110		5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304	31,927,045	6,146,128				304,005	125,840		38,503,018
68	Yes	Loan	Barisal Division	Patuakhali	PATUAKHALI-S	578952010	6		12.100	1.500	10	10		12	2	211	14	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304	66,113,760	7,254,807	3,341,470	3,032,650		570,400	241,384	74,256	80,628,727
69	Yes	Loan	Greater Khulna	Khulna	DUMURIA	247302005 & 247642008	4	8.800	21.100	2.400	125			21	2	360	29	10,173,232	9,579,849	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304	214,655,186	22,991,637	41,524,125			953,764	411,840	154,358	280,690,909
70	Yes	Loan	Greater Khulna	Bagerhat	CHITALMARI	201142003	6	3.715	2.720	1.065				3	1	57	9	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304	14,473,594	5,035,098				163,075	65,208	48,182	19,785,155

Table 40 Quantities, unit costs, and costs of Upazila road upgrading (continued)

Ranking and selection			Identity of Upazila road					Quantities									Unit cost (tk.)									Costs (tk.)								
Ranking	Selected ?	Financing	Division/Greater District	District	Upazila	Road Code (Gazetted)	Road Type	BC/CC /RCC/WBM (km)	Earthen road (km)	HBB/ BFS (km)	Bridge (m)	Culvert (m)	Ghat (no)	Bus bay (Earthen) (no)	Bus bay (HBB/BFS) (no)	Guard post (no)	Sign board (no)	BC/CC /RCC/WBM (km)	Earthen road (km)	HBB/ BFS (km)	Bridge (m)	Culvert (m)	Ghat (no)	Bus bay (Earthen) (no)	Bus bay (HBB/BFS) (no)	Guard post (no)	Sign board (no)	BC/CC /RCC/WBM	Earthen road	HBB/ BFS	Bridge	Culvert	Ghat	Bus bay	Guard post	Sign board (no)	Total
71	Yes	Loan	Greater Faridpur	Shariatpur	JANJIRA	386942004	6	6.010	3.390		15	10	2	3		59	5	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304		17,668,959		4,997,100	3,017,490	5,444,194	129,504	67,496	26,780	31,351,522
72	Yes	Loan	Barisal Division	Barisal	MULADI	506692003	6	21.000			126	7				56		5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304				42,102,522	2,122,855			64,064		44,289,641
73	Yes	Loan	Greater Khulna	Khulna	DACOPE	247172010	6		10.306	1.020	65	10		10	1	186	16	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304		54,840,021	4,822,347	21,592,545	2,861,533		457,768	212,784	84,864	84,871,862
74	Yes	Loan	Greater Faridpur	Faridpur	MADHUKHALI	329562009	6	6.150	3.550					4		53	2	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304		18,502,892					135,616	60,632	11,647	18,710,787
75	Yes	Loan	Greater Faridpur	Faridpur	CHARBHADRASAN	329212004	6			3.900		4			4	58	6	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304			18,145,647		1,206,996		200,244	66,352	31,824	19,651,063
76	Yes	Loan	Greater Khulna	Khulna	TEROKHADA	247942008	6	3.502	0.355	5.155				0	5	83	11	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304		1,889,017	24,371,763				287,645	94,952	58,372	26,701,750
77	Yes	Loan	Barisal Division	Patuakhali	BAUPHAL	578382004	6	8.160	9.030	0.800				9	1	147	12	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		49,339,443	3,869,230				408,091	168,168	63,760	53,848,692
78	Yes	Loan	Greater Khulna	Khulna	DIGHALIA	247402004	6		3.480	1.000				3	1	67	2	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304		18,517,686	4,727,791				189,386	76,648	10,608	23,522,119
79	Yes	Loan	Barisal Division	Patuakhali	KALAPARA	578662001	6	12.598	5.902					6		89	7	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		32,248,216					237,938	101,816	37,227	32,625,197
80	Yes	Loan	Barisal Division	Bhola	BORHANUDDIN	509212004	6	4.255	5.885			19		6		88	2	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		32,455,329			5,762,035		237,253	100,672	12,313	38,267,602
81	Yes	Loan	Barisal Division	Jhalakati	KATHALIA	542432009	6	1.360	4.110	3.230		3		4	3	110		5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		22,456,823	15,622,018		909,795		343,538	125,840		39,458,014
82	Yes	Loan	Greater Khulna	Khulna	PAIKGACHA	247642009	6		3.550	4.970				4	5	128	14	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304		18,890,168	23,497,122				402,944	146,432	74,256	43,010,922
83	Yes	Loan	Greater Khulna	Khulna	BATIAGHATA	247122007	6	3.606	4.758	7.836				5	8	191	22	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304		25,318,147	37,046,971				602,443	218,504	115,454	63,301,520
84	Yes	Loan	Greater Khulna	Bagerhat	FAKIRHAT	201342009	6	1.710	4.900	1.340	25			5	1	103	9	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304		26,073,753	6,335,240	8,304,825			263,051	117,832	49,958	41,144,659
85	Yes	Loan	Barisal Division	Barisal	BANARIPARA	506102001	6	6.407	7.750	5.138	647	33		8	5	528	17	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		42,345,590	24,850,132	216,026,036	10,007,745		595,339	604,032	92,112	294,520,987
86	Yes	Loan	Greater Khulna	Bagerhat	MORRELGANJ	201602008	6	0.505	14.500	5.995		9		15	6	308	29	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304		77,157,025	28,343,108		2,560,319		886,198	352,352	155,294	109,454,295
87	Yes	Loan	Greater Khulna	Bagerhat	RAMPAL	201732005	6			8.530					9	128	16	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304			40,328,059				452,963	146,432	84,864	41,012,318
88	Yes	Loan	Barisal Division	Barguna	BAMNA	504192004	6		4.700			6		5		70		5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		25,680,551			1,819,590		189,480	80,080		27,769,701
89	Yes	GOB	Barisal Division	Pirojpur	NAZIRPUR	579762005	6	4.423	0.450	3.647		3		0	4	62	13	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		2,458,776	17,638,854		758,163		218,946	70,928	71,415	21,217,082
90	Yes	GOB	Greater Faridpur	Faridpur	FARIDPUR-S	329472012	6	0.500	8.150	3.850				8	4	180	13	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304		42,478,471	17,913,011				509,020	205,920	76,286	61,177,707
91	Yes	GOB	Greater Faridpur	Rajbari	BALIAKANDI	382072007	6	5.100	3.840	1.000				4	1	73	9	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304		20,014,396	4,652,730				198,039	83,512	46,487	24,995,164
92	Yes	GOB	Greater Khulna	Khulna	DUMURIA	247302003	6	15.422		3.878					4	58	14	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304			18,334,374				205,931	66,352	76,734	18,683,391
93	Yes	GOB	Barisal Division	Barisal	UZIRPUR	506942004	6	21.450	4.450	1.500				4	2	89	4	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		24,314,565	7,254,807				261,991	101,816	23,036	31,956,215
94	Yes	GOB	Barisal Division	Patuakhali	DASHMINA	578522006	6		8.500		10	8		9		136	22	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		46,443,551		3,341,470	2,274,488		342,676	155,584	116,688	52,674,456
95	Yes	GOB	Greater Faridpur	Gopalganj	GOPALGANJ-S	335322015	6	1.000	6.800	1.700	39			7	2	152	21	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304		35,442,159	7,909,641	12,992,460			347,057	173,888	113,896	56,979,102
96	Yes	GOB	Greater Faridpur	Shariatpur	SHARIATPUR-S	386692006	6		8.200		93			8		171	18	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304		42,739,075		30,982,020			313,254	195,624	95,472	74,325,445
97	Yes	GOB	Greater Khulna	Khulna	PAIKGACHA	247642007	6	0.500	12.830	8.670				13	9	323	29	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304		68,270,664	40,989,949				962,846	369,512	155,504	110,748,475
98	Yes	GOB	Barisal Division	Pirojpur	SWARUPKATHI	579872004	6	4.070	16.537		118	57		17		288	19	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		90,357,294		39,429,346	17,286,105		666,687	329,472	102,154	148,171,058
99	Yes	GOB	Barisal Division	Jhalakati	NALCHITY	542732004	6	1.000	2.545	5.045				3	5	114	11	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		13,905,745	24,400,334				380,380	130,416	56,238	38,873,114
100	Yes	GOB	Barisal Division	Pirojpur	BHANDARIA	579142009	6	14.600	2.000	1.000	63			2	1	61	6	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		10,927,894	4,836,538	21,051,261			135,690	69,784	30,739	37,051,906
101	Yes	GOB	Greater Khulna	Khulna	KOIRA	247532002	6	4.160		4.940					5	75	10	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304			23,355,288				262,326	85,800	51,828	23,755,242
102	Yes	GOB	Barisal Division	Barisal	MEHENDIGANJ	506622006	6		1.970	5.700				2	6	116		5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		10,763,976	27,568,267				393,263	132,704		38,858,210
103	Yes	GOB	Barisal Division	Jhalakati	RAJAPUR	542842005	6	1.120	1.400	8.880		12		1	9	154	18	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		7,649,526	42,948,457		3,760,486		545,375	176,176	95,658	55,175,679
104	Yes	GOB	Greater Faridpur	Rajbari	PANGSHA	382732012	6	6.030	8.750		140			9		147	14	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304		45,605,720		46,639,600			334,265	168,168	75,361	92,823,114
105	Yes	GOB	Barisal Division	Patuakhali	DUMKI	578962003	6	2.128	7.368	1.236		12		7	1	130	14	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		40,258,362	5,977,961		3,639,180		365,094	148,720	76,541	50,465,859
106	Yes	GOB	Barisal Division	Jhalakati	JHALOKATHI-S	542402004	6	0.200	4.150	8.800	133	18		4	9	282	2	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		22,675,381	42,561,534	44,585,235	5,337,464		651,836	322,608	10,447	116,144,505
107			Greater Khulna	Khulna	DACOPE	247172005	4		9.750	9.850		5		10	10	294	34	10,173,232	9,579,849	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304		99,189,008	94,361,508		1,536,191		904,888	336,336	180,336	196,508,268
108			Greater Khulna	Bagerhat	BAGERHAT-S	201082009	6	4.120		2.580					3	39	3	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304			12,197,701				137,004	44,616	16,339	12,395,661
109			Greater Khulna	Khulna	TEROKHADA	247942009	6	3.420	1.558	4.186		0		2	4	85	14	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304		8,290,389	19,790,534		75,304		283,301	97,240	73,140	28,609,908
110			Greater Khulna	Bagerhat	SHARANKHOLA	201772007	6	4.840	9.650		8	7		10		153		5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304		51,349,331		2,630,969	1,957,891		377,913	175,032		56,491,135
111			Barisal Division	Patuakhali	BAUPHAL	578382003	6	6.400	8.160		106			8		130	11	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		44,585,809		35,419,582			328,969	148,720	59,451	80,542,531
112			Barisal Division	Barguna	BETAGI	504472002	6	3.000	3.600	0.300				4	0	58	6	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		19,670,210	1,450,961				161,651	66,352	29,979	21,379,154
113			Barisal Division	Barguna	AMTALI	504092007	6	2.000	13.700					14		206	10	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		74,856,076					552,313	235,664	55,540	75,699,593
114			Barisal Division	Barisal	HIZLA	506362004	6		7.000	5.000	142			7	5	220	6	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		38,247,630	24,182,690	47,448,874			557,505	251,680	31,824	110,720,203
115			Barisal Division	Patuakhali	GALACHIPA	578572004	6		13.000	2.000				13	2	225	16	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		71,031,313	9,673,076				634,213	257,400	84,864	81,680,866
116			Barisal Division	Patuakhali	KALAPARA	578662002	6	21.200					2					5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304						5,558,636				5,558,636
117			Barisal Division	Barguna	BARGUNA-S	504282007	6	1.600	2.959	7.351	15			3	7	162	3	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		16,167,820	35,553,391	5,012,205			524,039	185,328	18,366	57,461,148
118			Barisal Division	Barisal	BAKERGANJ	506072010	6	8.657	4.348	1.425	175	4	2	4	1	111	7	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		23,757,242	6,892,067	58,475,725	1,213,060	5,558,636	253,750	126,984	38,195	96,315,659
119			Greater Khulna	Bagerhat	MONGLA	201582009	6		1.650	7.300	85			2	7	143	12	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304		8,779,937	34,512,875	28,236,405			452,265	163,592	63,648	72,208,723
120			Greater Khulna	Bagerhat	RAMPAL	201732007	6	4.050	6.980	1.470	30			7	1	136	12	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304		37,141,796	6,949,853	9,965,790			351,411	155,584	64,539	54,628,973
121			Barisal Division	Pirojpur	NAZIRPUR	579762006	6	12.757		0.043					0	1	0	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304			207,971				2,368	1,144	249	211,732
122			Barisal Division	Barisal	UZIRPUR	506942011	6		4.877	5.823				5	6	159	18	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		26,647,670	28,163,161				517,231	181,896	95,472	55,605,430
123			Barisal Division	Patuakhali	DASHMINA	578522005	6			15.100		3			15	226	36	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304			73,031,724		758,163		831,409	258,544	190,944	75,070,783
124			Greater Faridpur	Faridpur	FARIDPUR-S	329472013	6	3.600	3.500	8.400				4	8	178	6	5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304		18,242,288	39,082,932				565,000	203,632	32,577	58,126,429
125			Greater Khulna	Khulna	PAIKGACHA	247642006	6	3.400	4.250	10.550				4	11	223	7	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304		22,614,990	49,878,197				726,669	255,112	34,505	73,509,473
126			Barisal Division	Patuakhali	DUMKI	578962004	6	1.620	3.589	4.646		10		4	5	124	10	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		19,610,106	22,470,556		3,153,956		400,500	141,856	53,185	45,830,159
127			Greater Khulna	Khulna	DUMURIA	247302004	6	2.750	1.550	13.450				2	13	225	15	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304		8,247,820	63,588,791				774,928	257,400	80,681	72,949,620
128			Greater Khulna	Bagerhat	BAGERHAT-S	201082012	6	3.550	2.600	1.000		2		3	1	54	6	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304		13,835,053	4,727,791		602,428		154,924	61,776	32,047	19,414,018
129			Barisal Division	Patuakhali	KALAPARA	578662004	6	5.300	4.080					4		61	5	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304		22,292,904					164,485	69,784	27,685	22,554,858
130			Barisal Division	Barisal	UZIRPUR	506942005 & 506322011	6	0.750		6.000					6	90	20	5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304			29,019,228				330,361	102,960	103,723	29,556,272
131			Greater Khulna	Khulna	PAIKGACHA	247642011	6	1.050	7.470	5.540	500			7	6	220	19	5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304		39,749,171	26,191,963	166,096,500			586,727	251,680	98,158	232,974,199
132			Greater Faridpur	Shariatpur	DAMUDDYA	386252003	6	5.685										5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304										
133			Greater Faridpur	Shariatpur	BHEDARGANJ	386142001	6	16.500										5,212,082	4,652,730	333,140	301,749	2,722,097	38,202	51,345	1,144	5,304										
134			Barisal Division	Pirojpur	BHANDARIA	579142005	6	14.400										5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304										
135			Barisal Division	Bhola	DAULATKHAN	509292006	6	1.580										5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304										
136			Greater Khulna	Bagerhat	BAGERHAT-S	201082014	6	12.000										5,321,174	4,727,791	332,193	301,214	2,746,076	39,162	53,102	1,144	5,304										
137			Barisal Division	Bhola	MONPURA	509652002	6	9.150										5,463,947	4,836,538	334,147	303,265	2,779,318	40,315	55,060	1,144	5,304										

Table 41 Quantities, unit costs, and costs of Union road upgrading

Ranking and selection			Identity of Union road				Quantities					Unit cost (tk.)					Costs (tk.)					
Ranking	Selected ?	Financing	Division/Greater District	District	Upazila	Road Code (Gazetted)	BC/CC /RCC/WBM (km)	Earthen road (km)	HBB/ BFS (km)	Bridge (m)	Culvert (m)	BC/CC /RCC/WBM (km)	Earthen road (km)	HBB/ BFS (km)	Bridge (m)	Culvert (m)	BC/CC /RCC/WBM	Earthen road	HBB/ BFS	Bridge	Culvert	Total
1	Yes	Loan	Greater Faridpur	Madaripur	MADARIPUR-S	354543010		3.500					4,283,921	3,831,436	305,190	235,243		14,993,724				14,993,724
2	Yes	Loan	Greater Faridpur	Rajbari	PANGSHA	382733017	1.000	4.900					4,283,921	3,831,436	305,190	235,243		20,991,214				20,991,214
3	Yes	Loan	Greater Faridpur	Faridpur	NAGARKANDA	329623006	6.076	0.154					4,283,921	3,831,436	305,190	235,243		659,724				659,724
4	Yes	Loan	Greater Faridpur	Shariatpur	DAMUDDYA	386253003		1.450					4,283,921	3,831,436	305,190	235,243		6,211,686				6,211,686
5	Yes	Loan	Barisal Division	Bhola	BORHANUDDIN	509213003	0.410	3.640			2		4,474,422	3,966,756	306,413	236,463		16,286,896			354,695	16,641,590
6	Yes	Loan	Greater Faridpur	Shariatpur	BHEDARGANJ	386143006	0.580		5.530				4,283,921	3,831,436	305,190	235,243			21,187,842			21,187,842
7	Yes	Loan	Greater Faridpur	Faridpur	BHANGA	329103004		0.600	1.650				4,283,921	3,831,436	305,190	235,243		2,570,353	6,321,870			8,892,222
8	Yes	Loan	Barisal Division	Bhola	MONPURA	509653003	0.547	3.413					4,474,422	3,966,756	306,413	236,463		15,271,202				15,271,202
9	Yes	Loan	Barisal Division	Bhola	DAULATKHAN	509293008	1.718	3.432					4,474,422	3,966,756	306,413	236,463		15,356,216				15,356,216
10	Yes	Loan	Barisal Division	Patuakhali	PATUAKHALI-S	578953018		4.500	2.500				4,474,422	3,966,756	306,413	236,463		20,134,899	9,916,889			30,051,788
11	Yes	Loan	Greater Khulna	Satkhira	KALAROA	287433001	3.464	1.185	1.541				4,371,604	3,891,526	304,716	234,911		5,180,350	5,996,842			11,177,192
12	Yes	Loan	Greater Faridpur	Rajbari	BALIAKANDI	382073004		3.200	2.000				4,283,921	3,831,436	305,190	235,243		13,708,548	7,662,872			21,371,420
13	Yes	Loan	Greater Faridpur	Gopalganj	KOTWALIPARA	335513008	0.997	2.003					4,283,921	3,831,436	305,190	235,243		8,580,694				8,580,694
14	Yes	Loan	Barisal Division	Jhalakati	RAJAPUR	542843006		3.000	0.100				4,474,422	3,966,756	306,413	236,463		13,423,266	396,676			13,819,941
15	Yes	Loan	Greater Faridpur	Faridpur	MADHUKHALI	329563008	8.000	3.500	0.800				4,283,921	3,831,436	305,190	235,243		14,993,724	3,065,149			18,058,873
16	Yes	Loan	Barisal Division	Bhola	CHARFASSION	509253004	1.836	4.764					4,474,422	3,966,756	306,413	236,463		21,316,146				21,316,146
17	Yes	Loan	Greater Khulna	Satkhira	SATKHIRA-S	287823016	2.131	1.469			1		4,371,604	3,891,526	304,716	234,911		6,421,886			147,994	6,569,880
18	Yes	Loan	Barisal Division	Bhola	BHOLA-S	509183010	1.820	2.180					4,474,422	3,966,756	306,413	236,463		9,754,240				9,754,240
19	Yes	Loan	Barisal Division	Patuakhali	GALACHIPA	578573014		3.350	4.200				4,474,422	3,966,756	306,413	236,463		14,989,313	16,660,374			31,649,687
20			Barisal Division	Patuakhali	DUMKI	578963008		2.000					4,474,422	3,966,756	306,413	236,463		8,948,844				8,948,844
21			Barisal Division	Patuakhali	BAUPHAL	578383024	1.390	2.810					4,474,422	3,966,756	306,413	236,463		12,573,126				12,573,126
22			Greater Faridpur	Faridpur	BOALMARI	329183003		3.500		15			4,283,921	3,831,436	305,190	235,243		14,993,724		4,577,850		19,571,574
23			Barisal Division	Patuakhali	DASHMINA	578523005		5.000			10		4,474,422	3,966,756	306,413	236,463		22,372,110			2,473,403	24,845,513
24			Barisal Division	Bhola	TAZUMUDDIN	509913006		6.000					4,474,422	3,966,756	306,413	236,463		26,846,532				26,846,532
25			Greater Khulna	Satkhira	KALIGANJ	287473001			2.000		1		4,371,604	3,891,526	304,716	234,911			7,783,052		281,893	8,064,945
26			Greater Faridpur	Shariatpur	GOSHAIRHAT	386363011		2.150	0.200				4,283,921	3,831,436	305,190	235,243		9,210,431	766,287			9,976,718
27			Greater Khulna	Satkhira	SHYAMNAGAR	287863004		7.525	1.675				4,371,604	3,891,526	304,716	234,911		32,896,317	6,518,306			39,414,623
28			Barisal Division	Jhalakati	JHALOKATHI-S	542403001		6.500	7.840				4,474,422	3,966,756	306,413	236,463		29,083,743	31,099,365			60,183,107
29			Barisal Division	Barguna	BETAGI	504473012		4.000					4,474,422	3,966,756	306,413	236,463		17,897,688				17,897,688
30			Barisal Division	Jhalakati	KATHALIA	542433009		0.400	4.330				4,474,422	3,966,756	306,413	236,463		1,789,769	17,176,052			18,965,821
31			Barisal Division	Jhalakati	NALCHITY	542733003		1.250	3.420				4,474,422	3,966,756	306,413	236,463		5,593,027	13,566,304			19,159,332
32			Barisal Division	Barguna	BARGUNA-S	504283016		5.600					4,474,422	3,966,756	306,413	236,463		25,056,763				25,056,763
33			Greater Khulna	Bagerhat	MORRELGANJ	201603003		5.840	0.760				4,371,604	3,891,526	304,716	234,911		25,530,165	2,957,560			28,487,725
34			Greater Khulna	Satkhira	TALA	287903013		5.250					4,371,604	3,891,526	304,716	234,911		22,950,919				22,950,919
35			Greater Khulna	Bagerhat	CHITALMARI	201143001	4.886	5.750					4,371,604	3,891,526	304,716	234,911		25,136,720				25,136,720
36			Barisal Division	Barguna	BAMNA	504193003	2.150	0.850					4,474,422	3,966,756	306,413	236,463		3,803,259				3,803,259
37			Greater Khulna	Bagerhat	MONGLA	201583006		2.000	1.500				4,371,604	3,891,526	304,716	234,911		8,743,207	5,837,289			14,580,496
38			Greater Faridpur	Faridpur	SADARPUR	329843001	1.000	3.250	3.350	15			4,283,921	3,831,436	305,190	235,243		13,922,744	12,835,311	4,577,850		31,335,905
39			Greater Faridpur	Gopalganj	KASIANI	335433002	5.001						4,283,921	3,831,436	305,190	235,243						
40			Barisal Division	Bhola	LALMOHAN	509543007	14.300				3		4,474,422	3,966,756	306,413	236,463					709,389	709,389
41			Barisal Division	Patuakhali	MIRJAGANJ	578763007		8.500		20			4,474,422	3,966,756	306,413	236,463		38,032,586		6,128,260		44,160,846
42			Greater Faridpur	Shariatpur	JANJIRA	386943005		7.780		115			4,283,921	3,831,436	305,190	235,243		33,328,907		35,096,850		68,425,757
43			Barisal Division	Barguna	PATHARGHATA	504853009		6.000					4,474,422	3,966,756	306,413	236,463		26,846,532				26,846,532
44			Greater Faridpur	Shariatpur	NARIA	386653007	3.011	4.639	1.200	31			4,283,921	3,831,436	305,190	235,243		19,873,110	4,597,723	9,460,890		33,931,724
45			Greater Khulna	Bagerhat	MOLLAHAT	201563006		8.950		32	14		4,371,604	3,891,526	304,716	234,911		39,125,852		9,750,912	3,335,736	52,212,500
46			Greater Khulna	Satkhira	DEBHATA	287253002	4.250	3.240	0.150				4,371,604	3,891,526	304,716	234,911		14,163,996	583,729			14,747,724
47			Greater Faridpur	Faridpur	FARIDPUR-S	329473014	0.860	4.600	2.840	60			4,283,921	3,831,436	305,190	235,243		19,706,038	10,881,279	18,311,400		48,898,716
48			Barisal Division	Patuakhali	KALAPARA	578663004		10.600	6.200	180			4,474,422	3,966,756	306,413	236,463		47,428,873	24,593,885	55,154,340		127,177,098
49			Greater Faridpur	Gopalganj	TUNGIPARA	335913002	4.135	3.601		28			4,283,921	3,831,436	305,190	235,243		15,426,400		8,545,320		23,971,720
50			Greater Khulna	Satkhira	ASSASUNI	287043001		8.750		60	4		4,371,604	3,891,526	304,716	234,911		38,251,531		18,282,960	845,680	57,380,171
51			Barisal Division	Barguna	AMTALI	504093006	4.000	5.880		30			4,474,422	3,966,756	306,413	236,463		26,309,601		9,192,390		35,501,991
52			Greater Khulna	Bagerhat	KACHUA	201384004	2.226	1.274			1		4,371,604	3,891,526	304,716	234,911		5,569,423			234,911	5,804,334
53			Greater Khulna	Bagerhat	RAMPAL	201733005	1.400	5.850	2.500	100			4,371,604	3,891,526	304,716	234,911		25,573,881	9,728,815	30,471,600		65,774,296
54			Greater Faridpur	Rajbari	PANGSHA	382733028		8.500					4,283,921	3,831,436	305,190	235,243		36,413,330				36,413,330
55			Barisal Division	Bhola	BORHANUDDIN	509213004		4.000					4,474,422	3,966,756	306,413	236,463		17,897,688				17,897,688
56			Greater Faridpur	Madaripur	MADARIPUR-S	354543017		3.993	2.547				4,283,921	3,831,436	305,190	235,243		17,105,697	9,758,668			26,864,365
57			Greater Faridpur	Rajbari	BALIAKANDI	382073022	4.301	1.214	1.296				4,283,921	3,831,436	305,190	235,243		5,200,680	4,965,541			10,166,222
58			Barisal Division	Jhalakati	RAJAPUR	542843008		2.520	0.600				4,474,422	3,966,756	306,413	236,463		11,275,543	2,380,053			13,655,597
59			Barisal Division	Bhola	BHOLA-S	509183017		10.000					4,474,422	3,966,756	306,413	236,463		44,744,219				44,744,219
60			Greater Khulna	Satkhira	SATKHIRA-S	287823013	3.754	1.477	0.419		1		4,371,604	3,891,526	304,716	234,911		6,456,858	1,630,549		281,893	8,369,301

Table 41 Quantities, unit costs, and costs of Union road upgrading (continued)

Ranking and selection			Identity of Union road				Quantities					Unit cost (tk.)					Costs (tk.)					
Ranking	Selected ?	Financing	Division/Greater District	District	Upazila	Road Code (Gazetted)	BC/CC /RCC/WBM (km)	Earthen road (km)	HBB/ BFS (km)	Bridge (m)	Culvert (m)	BC/CC /RCC/WBM (km)	Earthen road (km)	HBB/ BFS (km)	Bridge (m)	Culvert (m)	BC/CC /RCC/WBM	Earthen road	HBB/ BFS	Bridge	Culvert	Total
61			Greater Faridpur	Faridpur	MADHUKHALI	329563004	2.003	2.508					4,283,921	3,831,436	305,190	235,243		10,744,074				10,744,074
62			Greater Khulna	Satkhira	SHYAMNAGAR	287863003	1.303	4.915					4,371,604	3,891,526	304,716	234,911		21,486,431				21,486,431
63			Barisal Division	Bhola	TAZUMUDDIN	509913004		6.000					4,474,422	3,966,756	306,413	236,463		26,846,532				26,846,532
64			Barisal Division	Patuakhali	BAUPHAL	578383026		6.250			1		4,474,422	3,966,756	306,413	236,463		27,965,137			236,463	28,201,600
65			Barisal Division	Jhalakati	NALCHITY	542733015	0.135	3.175	0.790		4		4,474,422	3,966,756	306,413	236,463		14,206,290	3,133,737		945,852	18,285,879
66			Barisal Division	Barguna	BARGUNA-S	504283014		4.800					4,474,422	3,966,756	306,413	236,463		21,477,225				21,477,225
67			Barisal Division	Bhola	CHARFASSION	509253014		3.750		15	4		4,474,422	3,966,756	306,413	236,463		16,779,082		4,596,195	827,621	22,202,898
68			Greater Khulna	Satkhira	TALA	287903010	0.161	5.683					4,371,604	3,891,526	304,716	234,911		24,843,823				24,843,823
69			Greater Faridpur	Shariatpur	BHEDARGANJ	38643008	2.380	4.720		175			4,283,921	3,831,436	305,190	235,243		20,220,108		53,408,250		73,628,358
70			Barisal Division	Patuakhali	DUMKI	578963009		1.250			2		4,474,422	3,966,756	306,413	236,463		5,593,027			472,926	6,065,953
71			Greater Khulna	Bagerhat	MONGLA	201583005		4.200					4,371,604	3,891,526	304,716	234,911		18,360,735				18,360,735
72			Barisal Division	Barguna	BAMNA	504193004			4.950				4,474,422	3,966,756	306,413	236,463			19,635,441			19,635,441
73			Barisal Division	Bhola	LALMOHAN	509543011		7.880		44			4,474,422	3,966,756	306,413	236,463		35,258,445		13,482,172		48,740,617
74			Greater Faridpur	Shariatpur	JANJIRA	386943004		6.900	0.800	165	10		4,283,921	3,831,436	305,190	235,243		29,559,056	3,065,149	50,356,350	2,352,430	85,332,985
75			Barisal Division	Barguna	PATHARGHATA	504853010		7.150					4,474,422	3,966,756	306,413	236,463		31,992,117				31,992,117
76			Barisal Division	Jhalakati	JHALOKATHI-S	542403011	0.760	3.200	5.040		13		4,474,422	3,966,756	306,413	236,463		14,318,150	19,992,449		3,074,019	37,384,618
77			Barisal Division	Bhola	MONPURA	509653004	5.000			15			4,474,422	3,966,756	306,413	236,463				4,596,195		4,596,195
78			Barisal Division	Patuakhali	DASHMINA	578523004		6.000		30	3		4,474,422	3,966,756	306,413	236,463		26,846,532		9,192,390	591,158	36,630,079
79			Barisal Division	Jhalakati	KATHALIA	542433013		4.956	0.160	15	24		4,474,422	3,966,756	306,413	236,463		22,175,235	634,681	4,596,195	5,556,881	32,962,992
80			Greater Faridpur	Faridpur	BOALMARI	329183009	2.737	0.500	3.863	75			4,283,921	3,831,436	305,190	235,243		2,141,961	14,800,838	22,889,250		39,832,049
81			Greater Khulna	Satkhira	KALIGANJ	287473012	1.500	7.700			10		4,371,604	3,891,526	304,716	234,911		33,661,347			2,302,128	35,963,475
82			Barisal Division	Patuakhali	PATUAKHALI-S	578953016		6.550	2.000	45	10		4,474,422	3,966,756	306,413	236,463		29,307,464	7,933,511	13,788,585	2,364,630	53,394,190
83			Barisal Division	Barguna	BETAGI	504473014		7.695		48	29		4,474,422	3,966,756	306,413	236,463		34,430,677		14,707,824	6,857,427	55,995,928
84			Greater Faridpur	Shariatpur	GOSHAIRHAT	386363010		2.908	0.752	250			4,283,921	3,831,436	305,190	235,243		12,457,643	2,881,240	76,297,500		91,636,383
85			Barisal Division	Patuakhali	KALAPARA	578663010		13.900		20	21		4,474,422	3,966,756	306,413	236,463		62,194,465		6,128,260	4,875,867	73,198,592
86			Barisal Division	Patuakhali	GALACHIPA	578573003		6.100		21	2		4,474,422	3,966,756	306,413	236,463		27,293,974		6,434,673	472,926	34,201,573
87			Barisal Division	Barguna	AMTALI	504093008	1.000	5.650	0.500	110			4,474,422	3,966,756	306,413	236,463		25,280,484	1,983,378	33,705,430		60,969,292
88			Greater Khulna	Bagerhat	MORRELGANJ	201603009		7.040	3.610	70			4,371,604	3,891,526	304,716	234,911		30,776,089	14,048,409	21,330,120		66,154,618
89			Barisal Division	Patuakhali	MIRJAGANJ	578763015			6.700	63			4,474,422	3,966,756	306,413	236,463			26,577,263	19,304,019		45,881,282
90			Greater Khulna	Bagerhat	RAMPAL	201733002	2.130		7.720	200			4,371,604	3,891,526	304,716	234,911			30,042,581	60,943,200		90,985,781
91			Greater Faridpur	Rajbari	PANGSHA	382733016	1.600	6.400		8			4,283,921	3,831,436	305,190	235,243		27,417,096		2,441,520		29,858,616
92			Greater Faridpur	Madaripur	MADARIPUR-S	354543008	3.240	3.630					4,283,921	3,831,436	305,190	235,243		15,550,634				15,550,634
93			Barisal Division	Bhola	BORHANUDDIN	509213005		6.020			5		4,474,422	3,966,756	306,413	236,463		26,936,020			1,182,315	28,118,335
94			Greater Khulna	Satkhira	SATKHIRA-S	287823002	10.716	4.534			1		4,371,604	3,891,526	304,716	234,911		19,820,850			140,947	19,961,797
95			Barisal Division	Jhalakati	RAJAPUR	542843004		4.200	2.000		6		4,474,422	3,966,756	306,413	236,463		18,792,572	7,933,511		1,442,424	28,168,508
96			Greater Faridpur	Rajbari	BALIAKANDI	382073005		4.200		50			4,283,921	3,831,436	305,190	235,243		17,992,469		15,259,500		33,251,969
97			Barisal Division	Bhola	CHARFASSION	509253016		9.800					4,474,422	3,966,756	306,413	236,463		43,849,335				43,849,335
98			Greater Khulna	Satkhira	SHYAMNAGAR	287863007			5.250				4,371,604	3,891,526	304,716	234,911			20,430,512			20,430,512
99			Barisal Division	Patuakhali	BAUPHAL	578383027	1.000	7.900					4,474,422	3,966,756	306,413	236,463		35,347,933				35,347,933
100			Barisal Division	Bhola	BHOLA-S	509183012	5.000	1.300					4,474,422	3,966,756	306,413	236,463		5,816,749				5,816,749
101			Barisal Division	Bhola	TAZUMUDDIN	509913003	3.500	2.250					4,474,422	3,966,756	306,413	236,463		10,067,449				10,067,449
102			Barisal Division	Barguna	BARGUNA-S	504283015		7.300		18	27		4,474,422	3,966,756	306,413	236,463		32,663,280		5,515,434	6,479,086	44,657,800
103			Barisal Division	Patuakhali	DUMKI	578963011		2.500			4		4,474,422	3,966,756	306,413	236,463		11,186,055			945,852	12,131,907
104			Greater Khulna	Satkhira	TALA	287903009		1.540	1.200		4		4,371,604	3,891,526	304,716	234,911		6,732,269	4,669,831		845,680	12,247,780
105			Barisal Division	Patuakhali	PATUAKHALI-S	578953005		15.000		45			4,474,422	3,966,756	306,413	236,463		67,116,329		13,788,585		80,904,914
106			Greater Khulna	Satkhira	KALIGANJ	287473010		1.500	4.800		2		4,371,604	3,891,526	304,716	234,911		6,557,405	18,679,325		422,840	25,659,570
107			Barisal Division	Bhola	LALMOHAN	509543012	4.505	8.645		44			4,474,422	3,966,756	306,413	236,463		38,681,378		13,482,172		52,163,550
108			Greater Khulna	Bagerhat	MONGLA	201583004		2.240	3.230	55			4,371,604	3,891,526	304,716	234,911		9,792,392	12,569,629	16,759,380		39,121,401
109			Greater Faridpur	Rajbari	PANGSHA	382733012		6.500	1.000				4,283,921	3,831,436	305,190	235,243		27,845,488	3,831,436			31,676,924
110			Barisal Division	Bhola	BORHANUDDIN	509213007	3.570	2.630					4,474,422	3,966,756	306,413	236,463		11,767,730				11,767,730
111			Greater Khulna	Satkhira	SATKHIRA-S	287823008	3.482	2.768			2		4,371,604	3,891,526	304,716	234,911		12,100,599			469,822	12,570,421
112			Barisal Division	Bhola	BHOLA-S	509183013	3.500	2.000					4,474,422	3,966,756	306,413	236,463		8,948,844				8,948,844
113			Barisal Division	Bhola	CHARFASSION	509253007		3.680	1.320		8		4,474,422	3,966,756	306,413	236,463		16,465,873	5,236,118		1,773,473	23,475,463
114			Barisal Division	Barguna	BARGUNA-S	504283006		8.820		17	6		4,474,422	3,966,756	306,413	236,463		39,464,401		5,209,021	1,466,071	46,139,493
115			Greater Khulna	Satkhira	KALIGANJ	287473009	0.850	6.100	0.350		4		4,371,604	3,891,526	304,716	234,911		26,666,782	1,362,034		845,680	28,874,495
116			Greater Khulna	Satkhira	SATKHIRA-S	287823001	7.073	4.017	0.304				4,371,604	3,891,526	304,716	234,911		17,560,731	1,183,024			18,743,755
117			Greater Khulna	Satkhira	KALIGANJ	287473013	1.350	1.600			4		4,371,604	3,891,526	304,716	234,911		6,994,566			986,626	7,981,192
118			Greater Khulna	Satkhira	KALIGANJ	287473011	3.165		6.937		3		4,371,604	3,891,526	304,716	234,911			26,995,516		704,733	27,700,249
119			Greater Faridpur	Faridpur	FARIDPUR-S	329473010		5.000					4,283,921	3,831,436	305,190	235,243		21,419,606				21,419,606
120			Barisal Division	Bhola	DAULATKHAN	509293003	5.800	3.700					4,474,422	3,966,756	306,413	236,463		16,555,361				16,555,361

grading (continued)

cost (tk.)			Costs (tk.)					
HBB/ BFS (km)	Bridge (m)	Culvert (m)	BC/CC /RCC/WBM	Earthen road	HBB/ BFS	Bridge	Culvert	Total
831,436	305,190	235,243		10,744,074				10,744,074
891,526	304,716	234,911		21,486,431				21,486,431
966,756	306,413	236,463		26,846,532				26,846,532
966,756	306,413	236,463		27,965,137			236,463	28,201,600
966,756	306,413	236,463		14,206,290	3,133,737		945,852	18,285,879
966,756	306,413	236,463		21,477,225				21,477,225
966,756	306,413	236,463		16,779,082		4,596,195	827,621	22,202,898
891,526	304,716	234,911		24,843,823				24,843,823
831,436	305,190	235,243		20,220,108		53,408,250		73,628,358
966,756	306,413	236,463		5,593,027			472,926	6,065,953
891,526	304,716	234,911		18,360,735				18,360,735
966,756	306,413	236,463			19,635,441			19,635,441
966,756	306,413	236,463		35,258,445		13,482,172		48,740,617
831,436	305,190	235,243		29,559,056	3,065,149	50,356,350	2,352,430	85,332,985
966,756	306,413	236,463		31,992,117				31,992,117
966,756	306,413	236,463		14,318,150	19,992,449		3,074,019	37,384,618
966,756	306,413	236,463				4,596,195		4,596,195
966,756	306,413	236,463		26,846,532		9,192,390	591,158	36,630,079
966,756	306,413	236,463		22,175,235	634,681	4,596,195	5,556,881	32,962,992
831,436	305,190	235,243		2,141,961	14,800,838	22,889,250		39,832,049
891,526	304,716	234,911		33,661,347			2,302,128	35,963,475
966,756	306,413	236,463		29,307,464	7,933,511	13,788,585	2,364,630	53,394,190
966,756	306,413	236,463		34,430,677		14,707,824	6,857,427	55,995,928
831,436	305,190	235,243		12,457,643	2,881,240	76,297,500		91,636,383
966,756	306,413	236,463		62,194,465		6,128,260	4,875,867	73,198,592
966,756	306,413	236,463		27,293,974		6,434,673	472,926	34,201,573
966,756	306,413	236,463		25,280,484	1,983,378	33,705,430		60,969,292
891,526	304,716	234,911		30,776,089	14,048,409	21,330,120		66,154,618
966,756	306,413	236,463			26,577,263	19,304,019		45,881,282
891,526	304,716	234,911			30,042,581	60,943,200		90,985,781
831,436	305,190	235,243		27,417,096		2,441,520		29,858,616
831,436	305,190	235,243		15,550,634				15,550,634
966,756	306,413	236,463		26,936,020			1,182,315	28,118,335
891,526	304,716	234,911		19,820,850			140,947	19,961,797
966,756	306,413	236,463		18,792,572	7,933,511		1,442,424	28,168,508
831,436	305,190	235,243		17,992,469		15,259,500		33,251,969
966,756	306,413	236,463		43,849,335				43,849,335
891,526	304,716	234,911			20,430,512			20,430,512
966,756	306,413	236,463		35,347,933				35,347,933
966,756	306,413	236,463		5,816,749				5,816,749
966,756	306,413	236,463		10,067,449				10,067,449
966,756	306,413	236,463		32,663,280		5,515,434	6,479,086	44,657,800
966,756	306,413	236,463		11,186,055			945,852	12,131,907
891,526	304,716	234,911		6,732,269	4,669,831		845,680	12,247,780
966,756	306,413	236,463		67,116,329		13,788,585		80,904,914
891,526	304,716	234,911		6,557,405	18,679,325		422,840	25,659,570
966,756	306,413	236,463		38,681,378		13,482,172		52,163,550
891,526	304,716	234,911		9,792,392	12,569,629	16,759,380		39,121,401
831,436	305,190	235,243		27,845,488	3,831,436			31,676,924
966,756	306,413	236,463		11,767,730				11,767,730
891,526	304,716	234,911		12,100,599			469,822	12,570,421
966,756	306,413	236,463		8,948,844				8,948,844
966,756	306,413	236,463		16,465,873	5,236,118		1,773,473	23,475,463
966,756	306,413	236,463		39,464,401		5,209,021	1,466,071	46,139,493
891,526	304,716	234,911		26,666,782	1,362,034		845,680	28,874,495
891,526	304,716	234,911		17,560,731	1,183,024			18,743,755
891,526	304,716	234,911		6,994,566			986,626	7,981,192
891,526	304,716	234,911			26,995,516		704,733	27,700,249
831,436	305,190	235,243		21,419,606				21,419,606
966,756	306,413	236,463		16,555,361				16,555,361

5. Cost estimation of Growth Centers and rural markets upgrading

Estimate costs for Growth Centers (GCs) and rural markets (RMs) are shown in Table 42.

Table 42 Cost estimates for Growth Centers (GCs) and rural markets (RMs)

Market category	Adjusted rank	District	Upazila	Name	Upgrading proposed	Women's section proposed	Ghat Cost (million taka)	Cyclone resistant market shed	Upgrading proposed	Women's section proposed	Ghat Cost (million taka)	Cyclone resistant market shed	Total cost (million taka)	Total Cumulative cost (million taka)
9 Costal districts (Barisal 6 and Khulna 3 Districts)								9				18.9	18.9	18.9
GC	1	Madaripur	Shib Char	Shibchar		1	0.7			0.6	1.4		2.0	20.9
GC	2	Rajbari	Baliakandi	Sonapur	1		0.7		3.0		1.4		4.4	25.3
GC	3	Madaripur	Shib Char	Madbarerchar	1		0.7		3.0		1.4		4.4	29.7
GC	4	Bhola	Lalmohan	Gazaria	1		0.7		3.0		1.4		4.4	34.1
GC	5	Faridpur	Sadarpur	Chadda Rashi	1		0.7		3.0		1.4		4.4	38.5
GC	6	Bhola	Tazumuddin	Hat Sashiganj	1		0.7		3.0		1.4		4.4	42.9
GC	7	Madaripur	Madaripur Sadar	Mostofapur		1	0.7			0.6	1.4		2.0	44.9
GC	8	Shariatpur	Shariatpur Sadar	Burirhat	1	1	0.7		3.0	0.6	1.4		5.0	49.9
GC	9	Pirojpur	Bhandaria	Bhandaria	1	1	0.7		3.0	0.6	1.4		5.0	54.9
GC	10	Madaripur	Madaripur Sadar	Chillarchar	1		0.7		3.0		1.4		4.4	59.3
GC	11	Shariatpur	Damoudya	Sedhalkura	1		0.7		3.0		1.4		4.4	63.7
GC	12	Bagerhat	Kachua	Badhal		1	0.7			0.6	1.4		2.0	65.7
GC	13	Satkhira	Tala	Pathkelghata	1		0.7		3.0		1.4		4.4	70.1
GC	14	Pirojpur	Nazirpur	Sreeramkathi	1		0.7		3.0		1.4		4.4	74.5
GC	15	Faridpur	Alfadanga	Gopalpur	1		0.7		3.0		1.4		4.4	78.9
GC	16	Bhola	Manpura	Hazir hat	1		0.7		3.0		1.4		4.4	83.3
GC	17	Patuakhali	Bauphal	Kalaia	1	1	0.7		3.0	0.6	1.4		5.0	88.3
GC	18	Khulna	Paikgachha	Kopilmoni		1	0.7			0.6	1.4		2.0	90.3
GC	19	Shariatpur	Zanjira	Janjira	1	1	0.7		3.0	0.6	1.4		5.0	95.3
GC	20	Faridpur	Alfadanga	Alfadanga	1		0.7		3.0		1.4		4.4	99.7
GC	21	Bhola	Burhanuddin	Moazzem hat	1		0.7		3.0		1.4		4.4	104.1
GC	22	Khulna	Dumuria	Dumuria	1		0.7		3.0		1.4		4.4	108.5
GC	23	Khulna	Paikgachha	Garuikhali	1		0.7		3.0		1.4		4.4	112.9
GC	24	Pirojpur	Kawkhali	Kawkhali	1		0.7		3.0		1.4		4.4	117.3
GC	25	Faridpur	Faridpur Sadar	Khalil Mondal	1	1	0.7		3.0	0.6	1.4		5.0	122.3
GC	26	Satkhira	Kalaroa	Sonabaria	1	1	0.7		3.0	0.6	1.4		5.0	127.3
GC	27	Rajbari	Pangsha	Machpara	1		0.7		3.0		1.4		4.4	131.7
GC	28	Bagerhat	Chitalmari	Chitalmari	1		0.7		3.0		1.4		4.4	136.1
GC	29	Rajbari	Rajbari Sadar	Kutir Hat	1		0.7		3.0		1.4		4.4	140.5
GC	30	Bagerhat	Kachua	Gajalia	1		0.7		3.0		1.4		4.4	144.9
GC	31	Khulna	Phultala	Phultala GC		1	0.7			0.6	1.4		2.0	146.9
GC	32	Barisal	Banaripara	Choumohani	1	1	0.7		3.0	0.6	1.4		5.0	151.9
GC	33	Patuakhali	Galachipa	Badura	1	1	0.7		3.0	0.6	1.4		5.0	156.9
GC	34	Barisal	Barisal Sadar	Shahiber hat	1		0.7		3.0		1.4		4.4	161.3
GC	35	Khulna	Terokhada	Katinga	1		0.7		3.0		1.4		4.4	165.7
GC	36	Gopalganj	Kotalipara	Dharabashail	1	1	0.7		3.0	0.6	1.4		5.0	170.7
GC	37	Patuakhali	Patuakhali Sadar	Katachia	1	1	0.7		3.0	0.6	1.4		5.0	175.7
GC	38	Bhola	Bhola Sadar	Majhir hat	1		0.7		3.0		1.4		4.4	180.1
GC	39	Jhalakati	Kanthalia	Amua	1		0.7		3.0		1.4		4.4	184.5
GC	40	Jhalakati	Jhalakati Sadar	Shivgonj	1		0.7		3.0		1.4		4.4	188.9
GC	41	Satkhira	Assasuni	Bardal	1	1	0.7		3.0	0.6	1.4		5.0	193.9
GC	42	Pirojpur	Mathbaria	Sapleza GC	1	1	0.7		3.0	0.6	1.4		5.0	198.9
GC	43	Satkhira	Satkhira Sadar	Bhetkhali	1		0.7		3.0		1.4		4.4	203.3
GC	44	Bagerhat	Morrelganj	Polar hat		1	0.7			0.6	1.4		2.0	205.3
GC	45	Patuakhali	Kalapara	Lalua	1		0.7		3.0		1.4		4.4	209.7
GC	46	Jhalakati	Jhalakati Sadar	Birmohal		1	0.7			0.6	1.4		2.0	211.7
GC	47	Barguna	Betagi	Bodnykhali hat	1		0.7		3.0		1.4		4.4	216.1
GC	48	Faridpur	Madukhali	Borogopaldi	1		0.7		3.0		1.4		4.4	220.5
GC	49	Bagerhat	Rampal	Gilatala	1		0.7		3.0		1.4		4.4	224.9
GC	50	Faridpur	Char Bhadrasan	Moulavir Char	1		0.7		3.0		1.4		4.4	229.3

Table 42 Cost estimates for Growth Centers (GCs) and rural markets (RMs) (continued)

Market category	Adjusted rank	District	Upazila	Name	Upgrading proposed	Women's section proposed	Ghat Cost (million taka)	Cyclone resistant market shed	Upgrading proposed	Women's section proposed	Ghat Cost (million taka)	Cyclone resistant market shed	Total cost (million taka)	Total Cumulative cost (million taka)
GC	51	Patuakhali	Dumki	Murdia	1		0.7		3.0		1.4		4.4	233.7
GC	52	Khulna	Dighalia	Pother bazar	1		0.7		3.0		1.4		4.4	238.1
GC	53	Barguna	Amtali	Gazipur	1	1	0.7		3.0	0.6	1.4		5.0	243.1
GC	54	Satkhira	Kaliganj	Kushlia	1		0.7		3.0		1.4		4.4	247.5
GC	55	Barisal	Agailljhara	Begdhar hat GC	1		0.7		3.0		1.4		4.4	251.9
GC	56	Jhalakati	Nalchity	Nalchity K.M. hat G	1	1	0.7		3.0	0.6	1.4		5.0	256.9
GC	57	Jhalakati	Rajapur	Putiakhali	1		0.7		3.0		1.4		4.4	261.3
GC	58	Barguna	Barguna Sadar	Phuljhuri hat	1	1	0.7		3.0	0.6	1.4		5.0	266.3
Total of GC					51	22	40.6	9	153	13.2	81.2	18.9	266.3	
RM	59	Faridpur	Bhanga	Pukuria bazar	1		0.7		2.0		1.4		3.4	269.7
RM	60	Shariatpur	Bhedarganj	Kartikpur bazar	1		0.7		2.0		1.4		3.4	273.1
RM	61	Pirojpur	Swarupkath	Miar hat bazar	1		0.7		2.0		1.4		3.4	276.5
RM	62	Shariatpur	Naria	Chakdha bazar	1		0.7		2.0		1.4		3.4	279.9
RM	63	Barisal	Hizla	Akotar hat	1		0.7		2.0		1.4		3.4	283.3
RM	64	Barisal	Gaumadi	Mahilera bazar	1		0.7		2.0		1.4		3.4	286.7
RM	65	Faridpur	Nagarkanda	Puradia bazar	1		0.7		2.0		1.4		3.4	290.1
RM	66	Madaripur	Kalkini	Miar hat	1		0.7		2.0		1.4		3.4	293.5
RM	67	Barisal	Bakerganj	Koloshkati bazar	1		0.7		2.0		1.4		3.4	296.9
RM	68	Shariatpur	Gosairhat	Shayka bazar	1		0.7		2.0		1.4		3.4	300.3
RM	69	Gopalganj	Muksudpur	Molladi bazar	1		0.7		2.0		1.4		3.4	303.7
RM	70	Madaripur	Rajoir	Kalibari hat	1		0.7		2.0		1.4		3.4	307.1
RM	71	Faridpur	Boalmari	Teljuri bazar	1		0.7		2.0		1.4		3.4	310.5
RM	72	Bagerhat	Bagerhat Sadar	Chulkati bazar	1		0.7		2.0		1.4		3.4	313.9
RM	73	Patuakhali	Mirzaganj	Mirjagonj Dargar Sh	1		0.7		2.0		1.4		3.4	317.3
RM	74	Barisal	Mehendiganj	Mejokazir char hat	1		0.7		2.0		1.4		3.4	320.7
RM	75	Bhola	Char Fasson	Bojlur bazar	1		0.7		2.0		1.4		3.4	324.1
RM	76	Bhola	Daulat Khan	Miear hat	1		0.7		2.0		1.4		3.4	327.5
RM	77	Khulna	Koyra	Vander pole hat	1				2.0		1.4		3.4	330.9
RM	78	Barisal	Babuganj	Post Office hat	1				2.0		1.4		3.4	334.3
RM	79	Pirojpur	Pirojpur Sadar	Sikdar Mollik bazar	1				2.0		1.4		3.4	337.7
RM	80	Khulna	Batiaghata	Sukdara bazar	1				2.0		1.4		3.4	341.1
RM	81	Satkhira	Shyamnagar	Sirajpur Hat	1				2.0		1.4		3.4	344.5
RM	82	Barguna	Bamna	Sonakhali	1				2.0		1.4		3.4	347.9
RM	83	Shariatpur	Zanjira	Lowkhola bazar	1				2.0		1.4		3.4	351.3
RM	84	Faridpur	Faridpur Sadar	Mominkhar hat	1				2.0		1.4		3.4	354.7
RM	85	Faridpur	Sadarpur	Monikota bazar	1				2.0		1.4		3.4	358.1
RM	86	Shariatpur	Shariatpur Sadar	Arigcon bazar	1				2.0		1.4		3.4	361.5
RM	87	Shariatpur	Damoudya	Moderhat bazar	1				2.0		1.4		3.4	364.9
RM	88	Satkhira	Kalaroa	Shorojkathi bazar	1				2.0		1.4		3.4	368.3
RM	89	Rajbari	Rajbari Sadar	Bashantopur bazar	1				2.0		1.4		3.4	371.7
RM	90	Bhola	Manpura	Bhuyar hat	1				2.0		1.4		3.4	375.1
RM	91	Bagerhat	Chitalmari	Boro Baria bazar	1				2.0		1.4		3.4	378.5
RM	92	Bagerhat	Rampal	Foyla hat	1				2.0		1.4		3.4	381.9
RM	93	Bagerhat	Bagerhat Sadar	Depara bazar	1				2.0		1.4		3.4	385.3
RM	94	Bagerhat	Morrelganj	Foolhata hat	1				2.0		1.4		3.4	388.7
RM	95	Satkhira	Satkhira Sadar	Baikari bazar	1				2.0		1.4		3.4	392.1
RM	96	Bhola	Bhola Sadar	Maller hat	1				2.0		1.4		3.4	395.5
RM	97	Rajbari	Pangsha	Sarsha bazar	1				2.0		1.4		3.4	398.9
RM	98	Khulna	Dumuria	Sharafpur bazar	1				2.0		1.4		3.4	402.3
RM	99	Satkhira	Kaliganj	Tarali bazar	1				2.0		1.4		3.4	405.7
RM	100	Pirojpur	Nazirpur	Shekmatia bazar	1				2.0		1.4		3.4	409.1

Table 42 Cost estimates for Growth Centers (GCs) and rural markets (RMs) (continued)

Market category	Adjusted rank	District	Upazila	Name	Upgrading proposed	Women's section proposed	Ghat Cost (million taka)	Cyclone resistant market shed	Upgrading proposed	Women's section proposed	Ghat Cost (million taka)	Cyclone resistant market shed	Total cost (million taka)	Total Cumulative cost (million taka)
RM	101	Bhola	Lalmohan	Muguria bazar	1				2.0		1.4		3.4	412.5
RM	102	Jhalakati	Rajapur	Charakhali bazar	1				2.0		1.4		3.4	415.9
RM	103	Jhalakati	Nalchity	Taltala bazar	1				2.0		1.4		3.4	419.3
RM	104	Khulna	Terokhada	Mokampur bazar	1				2.0		1.4		3.4	422.7
RM	105	Khulna	Dighalia	Gazir hat bazar	1				2.0		1.4		3.4	426.1
RM	106	Pirojpur	Bhandaria	Ikree bazar	1				2.0		1.4		3.4	429.5
RM	107	Gopalganj	Kotalipara	Bujurgikona bazar	1				2.0		1.4		3.4	432.9
RM	108	Satkhira	Assasuni	Kadakati hat	1				2.0		1.4		3.4	436.3
RM	109	Barguna	Amtali	Lowpara hat	1				2.0		1.4		3.4	439.7
RM	110	Madaripur	Shib Char	Bajitpur Shekpur hat	1				2.0		1.4		3.4	443.1
RM	111	Faridpur	Faridpur Sadar	Duldi bazar	1				2.0		1.4		3.4	446.5
RM	112	Faridpur	Alfadanga	Jhatigram bazar	1				2.0		1.4		3.4	449.9
RM	113	Bagerhat	Kachua	Talleshar bazar	1				2.0		1.4		3.4	453.3
RM	114	Faridpur	Sadarpur	Chandpur bazar	1				2.0		1.4		3.4	456.7
RM	115	Bagerhat	Bagerhat Sadar	C&B bazar	1				2.0		1.4		3.4	460.1
RM	116	Khulna	Dumuria	Thukra bazar	1				2.0		1.4		3.4	463.5
RM	117	Jhalakati	Jhalakati Sadar	Kirtipasha hat	1				2.0		1.4		3.4	466.9
RM	118	Jhalakati	Rajapur	Uttampur bazar	1				2.0		1.4		3.4	470.3
RM	119	Khulna	Paikgachha	Agorghata bazar	1				2.0		1.4		3.4	473.7
RM	120	Satkhira	Kaliganj	Baroda bazar	1				2.0		1.4		3.4	477.1

SPECIAL ASSISTANCE FOR PROJECT FORMATION
FOR
SOUTH-WESTERN BANGLADESH RURAL DEVELOPMENT PROJECT
PEOPLE'S REPUBLIC OF BANGLADESH
FINAL REPORT

ANNEX 19

Economic evaluation

Table of contents

List of tables

1 Introduction

The major components of civil works to be executed under the proposed project are the upgrading of Upazila roads and Union roads and upgrading of growth centers and rural markets. Of these physical infrastructure components, direct and quantifiable benefits will be accrued from improvements of Upazila roads and growth centers. The SAPROF team carried out an economic analysis of Upazila roads and growth centers proposed to be developed under the project, as is presented in the second and third sections. An economic analysis of the Project was also conducted and is described in the last section.

2 Evaluation of Upazila roads and Union roads

2.1 Method

(1) Overview

There are three methods for calculating the economic benefits of road improvement projects, namely: User's Cost Saving (UCS) approach, Vehicle Operating Costs (VOCs) approach and Agricultural Produces Surplus (APS) approach. For the economic evaluation of this Project, the VOCs approach is employed due to the following reasons:

- The APS approach is relatively subjective, and requires more time, effort, and funds for it to be correctly applied.
- The UCS approach is susceptible to underestimation of the actual economic benefits when applied to a short-term project.
- In rural areas of Bangladesh, their demographic, agricultural, and trading characteristics generate a large demand for the movement of goods and people on the rural road network, which constitutes the rationale for calculating benefits based on traffic, i.e. using the VOCs approach.
- The VOCs approach is recommended by the LGED guidelines (LGED, 1999) and the benefit monitoring and evaluation guidelines of ADB and has been used in the formation of preceding LGED projects such as RDP-11, 21, 24, 25, and 26.

The VOCs approach is based on the quantification of savings in financial and economic VOCs accrued by vehicles before and after the implementation of road upgrading projects. The method is explained in detail in Section 7.3 of the F/S and *Guidelines for Effect Monitoring and Evaluation (EME) of Rural Road and Market improvement* (LGED, 1999).

The economic evaluation with the VOCs approach involves the following three steps:

1) Collection of traffic counts;
2) Calculation of VOCs; and
3) Calculation of Economic Internal Rate of Return (EIRR).

(2) Assumptions

a) Costs

The capital cost estimations for Upazila road and Union road development are based on the cost estimates calculated for each road by the SAPROF team, which is contained in Annex 19. Road development is assumed to be completed in two years, 50 % in year one and the remainder in year two. For incremental operation and maintenance costs, it is assumed that the developed roads will receive routine maintenance every year and periodic resealing every five years. The routine maintenance and periodic resealing costs are estimated to be tk. 50,000 and tk. 500,000 per maintenance, respectively.

b) Benefits

The benefit is the reduction in VOCs of motorized and non-motorized vehicles. The pre- and post-Project VOCs are calculated and subtracted to obtain the benefits.

First, the pre-development annual average daily traffic (AADT) is determined for each road using the survey results obtained by LGED during the period of July to September 2007. Traffic of the following categories of vehicles were counted: motorized vehicles (auto-rickshaw, jeep / taxi / car, motor cycle, pick-up / microbus, bus / minibus, truck / tractor), non-motorized vehicles (bicycle, bullock cart, rickshaw, rickshaw van), and pedestrians. As the traffic counts were only conducted during the daytime, once on a hat day and once on a non-hat day during the rainy season, the assumptions stated below are made to derive the AADT.

- The daytime 12-hour (8:00 a.m. to 8:00 p.m.) data is converted to 24-hour data using factors of 30 % for night-time traffic on non-hat days and 45 % for night-time traffic on hat days.
- The number of hat and non-hat days per week is assumed to be two and five, respectively.
- The rainy season is assumed to be six months long, and traffic during this season is assumed to be 20 % less than in the dry season.

Second, the post-development AADT is determined. After the development of the road, it is assumed that an increase in traffic equivalent to 60 % of the pre-development traffic occurs, i.e. the traffic volume is assumed to reach 160 % of the pre-development volume when the full effect of the development is realized. In addition, an 8 % yearly increase in the traffic volume is assumed based on the 5.5 % economic growth per annum and the expenditure elasticity demand for transport of 1.5.

Third, the data set on unit VOCs for various vehicle types and surface roughness used by RDP-21 is employed to calculate the VOCs before and after the development of each road, as this is the best available data set. In this data set, unit VOCs' are given for different surface conditions classified by the international roughness index (IRI). For this analysis, IRI=18, which represents the surface condition of a typical earthen road, and IRI=4, which represents the surface condition of a well-paved surface, are employed to calculate the pre- and post-development VOCs for each road. Since the VOCs used by RDP-21 are expressed in 1997 monetary values, they are converted to 2008 monetary values by multiplying a factor of 1.86, which represents the rate of inflation during the period of 1997 to 2008. The factor is derived from the consumer price index assembled by IMF. The pre- and post development AADT values are multiplied by the unit 2008 VOCs, the length of the road, and 365 to derive the annual total VOCs expressed in 2008 monetary values for each road.

Fourth, the difference between the pre- and the post-development annual total VOCs is calculated to obtain the project benefits. However, a factor of 0.6 is applied to the newly-generated traffic to eliminate overestimation, since the newly-generated traffic will most likely include traffic diverted from other roads. It is assumed that only 40 % and 70 % of the benefit is accrued by the existing traffic in the first and the second year after completion of road development. Form the third year onwards, 100 % of the benefit is assumed to be accrued. For the newly-generated traffic, 60 % of the benefit is assumed to be realized in the third year after development completion, and 100 % from the fourth year onwards.

c) Other assumptions

The project life is set at 20 years, following the practices of past JBIC, ADB, and World Bank- assisted projects.

Calculation of the stream of costs and benefits only takes into account the road sections to be upgraded from earthen, HBB, and BFS.

A standard conversion factor of 0.8 is used to adjust the local content of costs and goods assumed to be non-traded. This conversion factor is the current standard economic conversion factor used for rural infrastructure construction in Bangladesh and is commonly used by other recent projects.

A discount factor of 0.12 is used to derive the net present value (NPV), as the standard discount rate used in economic analyses of projects currently implemented in Bangladesh is 12 %.

(3) Calculation

The EIRR, NPV, and benefit-cost ratio (BCR) are calculated for each Upazila road and Union road using a spreadsheet. The quantified benefits for the roads are the VOCs in economic prices. These benefits are compared with the economic costs of road improvement and maintenance. All costs and benefits are expressed in constant 2008 prices. The calculation format used is presented in Table 1.

Of the 137 Upazila roads proposed for development in the F/S, however, traffic data is available for only 72 roads. Therefore, the average per kilometer benefits of the 72 roads is used to estimate the benefits of the remaining 65 roads.

Similarly, traffic data for Union roads is not available. Therefore, the average per kilometer benefits of the 72 Upazila roads with traffic data is used to estimate the benefits of the Union roads proposed for development.

2.2 Results

Calculation of EIRR, NPV, and BCR has been completed for the 137 Upazila roads proposed for development in the F/S.

Table 1 Example of estimation of EIRR for Upazila roads

Estimation of EIRR for Upazila Roads
South Western Bangladesh Rural Development Project
Base Case and Sensitivity Test

DISTRICT: Barguna ROAD NAME: Gazipur GC - Dhankhali GC via Tepura hat & H/O Kanai Mridha

Total Capital Cost:		918.73	lakh tk. ('00,000 tk.)	Construction Period (Yr.	2
Road Length	Total:	15.700	km	Project Life (Yrs):	20
	Earthen:	13.700	km		
	HBB/BFS:		km		
	BC and other:	2.000	km		

Routine Maint. Cost:	6.85	lakh tk. ('00,000 tk.)	
Periodic Maint. Cost:	68.50	lakh tk. ('00,000 tk.)	

Vehicle type	Without Project Situation					With Project Situation		Annual VOCs Benefits		
	Traffic volume			VKm /Day (Qud)	Vkm VOC (Cud)	VKm /Day (Qd)	Vkm VOC (Cd)	VKm VOC savings	VOCs on Existing Traffic (VOCs ET)	VOCs on Generated Traffic (VOCs GT)
	Hat Day	Non Hat Day	AADT							
Bi	184	146	173	2,364	3.64	4,085	1.52	2.12	1,829,066	798,936
C	16	13	15	209	21.27	361	10.75	10.53	802,251	350,423
R					10.75		4.43	6.32		
Rv	153	125	146	2,004	10.75	3,463	4.43	6.32	4,625,416	2,020,382
AR	5	3	4	54	18.11	93	6.97	11.14	218,821	95,581
J	2		1	9	46.08	15	20.21	25.87	81,304	35,513
M	74	49	62	846	10.75	1,462	4.67	6.08	1,877,857	820,248
Pv	6	5	6	80	34.63	138	15.58	19.04	553,635	241,828
B					67.91		34.05	33.86		
T	2	1	1	19	46.30	33	17.81	28.49	201,476	88,005
P					1.45		0.58	0.87		
					Taka in Lakh				101.90	44.51

Years	Costs			Benefits			Net Benefit	Sensitivity Test			
	Capital Cost	Maint. Cost	Total Cost	Existing Traffic	Generated Traffic	Total Benefits		Cost (+20%)	Benefit (-20%)	Both Case	Existing Traffic
1	367.49		367.49				-367.49	-440.99	-367.49	-440.99	-367.49
2	367.49		367.49				-367.49	-440.99	-367.49	-440.99	-367.49
3		5.48	5.48	40.76		40.76	35.28	40.76	27.13	26.03	35.28
4		5.48	5.48	71.33		71.33	65.85	71.33	51.58	50.49	65.85
5		5.48	5.48	101.90	26.71	128.60	123.12	128.60	97.40	96.31	96.42
6		5.48	5.48	110.05	48.07	158.12	152.64	158.12	121.02	119.92	104.57
7		54.80	54.80	118.85	51.92	170.77	115.97	170.77	81.82	70.86	64.05
8		5.48	5.48	128.36	56.07	184.43	178.95	184.43	142.06	140.97	122.88
9		5.48	5.48	138.63	60.55	199.19	193.71	199.19	153.87	152.77	133.15
10		5.48	5.48	149.72	65.40	215.12	209.64	215.12	166.62	165.52	144.24
11		5.48	5.48	161.70	70.63	232.33	226.85	232.33	180.38	179.29	156.22
12		54.80	54.80	174.64	76.28	250.92	196.12	250.92	145.93	134.97	119.84
13		5.48	5.48	188.61	82.38	270.99	265.51	270.99	211.31	210.22	183.13
14		5.48	5.48	203.70	88.97	292.67	287.19	292.67	228.66	227.56	198.22
15		5.48	5.48	219.99	96.09	316.08	310.60	316.08	247.39	246.29	214.51
16		5.48	5.48	237.59	103.78	341.37	335.89	341.37	267.62	266.52	232.11
17		54.80	54.80	256.60	112.08	368.68	313.88	368.68	240.14	229.18	201.80
18		5.48	5.48	277.12	121.05	398.17	392.69	398.17	313.06	311.96	271.64
19		5.48	5.48	299.29	130.73	430.03	424.55	430.03	338.54	337.45	293.81
20		5.48	5.48	323.24	141.19	464.43	458.95	464.43	366.06	364.97	317.76
			981.58			4533.98	3552.40				

Base Case			Sensitivity Test			
EIRR	NPV	BCR	Cost (+20%)	Benefit (-20%)	Both Case	Normal Traffic
18.11%	395.51	1.97	16.68%	14.96%	12.57%	13.68%

Where:

VKm	=	Vehicle Kilometer	Standard Conversion Factor	
Qud	=	Vehicle Kilometer of Undeveloped Rd	For Capital Cost	0.8
Qd	=	Vehicle Kilometer of developed Rd	For Maintenance Cost	0.8
Cud	=	Per VKm VOC of Undeveloped Road	Traffic Growth Rate (%)	8
Cd	=	Per VKm VOC of developed Road	Discount Factor	0.12

AADT Factor: For Hat Day 45%, Non Hat Day 30% and Seasonal Factor for Dry Season 0.92

Coding Instruction: Bi=Bi-cycle; C=Cart; R=Rickshaw;Rv=Rickshaw Van;AR=Auto Rickshaw; J=Jeep/Car/Taxi; M=Motor Cycle; Pv=Pickup/Microbus; B=Bus/Minibus; T=Truck/Tractor; P=Pedestrian

Table 2 EIRR, NPV, and BCR of Upazila roads selected for upgrading

Division/Greater District District Upazila	Road Code (Gazetted)	Financing	EIRR	NPV (mill. tk.)	BCR	EIRR sensitivity test				Note
						Cost (+20%)	Benefit (-20%)	Both Case	Normal traffic only	
Barisal Division										
Barguna										
AMTALI	504092001	Loan	37%	721	5.37	34%	32%	28%	31%	Traffic data not available
BAMNA	504192004	Loan	27%	351	3.32	25%	23%	20%	22%	
BARGUNA-S	504282001	Loan	31%	1,385	4.09	29%	27%	23%	26%	
BETAGI	504472004	Loan	38%	406	5.51	35%	33%	29%	32%	Traffic data not available
PATHARGHATA	504852002	Loan	35%	181	4.96	32%	30%	27%	29%	Traffic data not available
Barisal										
AGAILJHARA	506022005	Loan	39%	841	5.88	36%	34%	30%	33%	
BABUGANJ	506032003	Loan	38%	593	5.64	35%	33%	29%	32%	
BAKERGANJ	506072006	Loan	34%	1,098	4.80	31%	30%	26%	29%	Traffic data not available
BANARIPARA	506102001	Loan	17%	956	1.84	15%	14%	12%	13%	
BARISAL-S	506512004	Loan	38%	1,107	5.71	35%	33%	30%	32%	
GOURANADI	506322006	Loan	47%	397	7.71	43%	41%	36%	40%	
HIZLA	506362001	Loan	36%	1,182	5.04	33%	31%	27%	30%	Traffic data not available
MEHENDIGANJ	506622006	GO	30%	612	3.78	27%	25%	22%	24%	
MEHENDIGANJ	506622005 & 506622002	Loan	40%	3,023	6.08	36%	34%	31%	33%	
MULADI	506692003	Loan		-299						
UZIRPUR	506942003	Loan	35%	1,390	4.90	32%	30%	27%	29%	Traffic data not available
UZIRPUR	*506942004*	*GO*	*36%*	*760*	*5.10*	*33%*	*31%*	*27%*	*30%*	*Traffic data not available*
Bhola										
BHOLA-S	509182012	Loan	32%	402	4.28	29%	27%	24%	26%	
BORHANUDDIN	509212004	Loan	25%	401	2.99	23%	21%	18%	20%	
CHARFASSION	509252007	Loan	28%	1,024	3.50	26%	24%	21%	23%	
LALMOHAN	509542002	Loan	21%	355	2.37	20%	18%	15%	16%	
MONPURA	509652001	Loan	21%	188	2.35	19%	18%	15%	16%	
TAZUMUDDIN	509912004	Loan	26%	288	3.10	24%	22%	19%	21%	
Jhalakati										
JHALOKATHI-S	542402003	Loan	25%	1,033	2.97	23%	21%	18%	20%	
JHALOKATHI-S	542402004	GO	26%	1,340	3.22	23%	22%	19%	21%	Traffic data not available
KATHALIA	542432009	Loan	21%	257	2.31	19%	17%	15%	16%	
NALCHITY	542732003	Loan	27%	839	3.34	25%	23%	20%	22%	
NALCHITY	542732004	GO	23%	340	2.66	21%	19%	17%	18%	
RAJAPUR	542842005	GO	27%	701	3.31	25%	23%	20%	22%	
RAJAPUR	542842009	Loan	29%	566	3.78	26%	25%	22%	24%	Traffic data not available
Patuakhali										
BAUPHAL	578382004	Loan	31%	965	4.16	29%	27%	24%	26%	
DASHMINA	578522003	Loan	38%	352	5.49	35%	33%	29%	32%	Traffic data not available
DASHMINA	578522006	GO	33%	1,039	4.50	30%	28%	25%	27%	Traffic data not available
DUMKI	578962002	Loan	38%	565	5.49	35%	33%	29%	32%	Traffic data not available
DUMKI	578962003	GO	34%	1,071	4.72	31%	29%	26%	28%	Traffic data not available
GALACHIPA	578572002	Loan	34%	482	4.79	31%	30%	26%	29%	Traffic data not available
KALAPARA	578662001	Loan	32%	592	4.20	29%	27%	24%	26%	
MIRJAGANJ	578762005	Loan	36%	1,617	5.05	33%	31%	27%	30%	Traffic data not available
PATUAKHALI-S	578952010	Loan	34%	1,686	4.68	31%	29%	26%	28%	Traffic data not available
Pirojpur										
BHANDARIA	579142006	Loan	33%	1,044	4.50	30%	28%	25%	27%	Traffic data not available
BHANDARIA	579142009	GO	21%	242	2.39	19%	17%	15%	16%	Traffic data not available
KAWKHALI	579472001	Loan	33%	613	4.62	31%	29%	25%	28%	Traffic data not available
MOTHBARIA	579582003	Loan	36%	2,840	5.09	33%	31%	27%	30%	Traffic data not available
NAZIRPUR	579762004	Loan	35%	488	4.97	32%	30%	27%	29%	Traffic data not available
NAZIRPUR	579762005	GO	37%	529	5.26	34%	32%	28%	31%	Traffic data not available
PEROJPUR-S	579802006	Loan	30%	641	4.04	28%	26%	23%	25%	Traffic data not available
SWARUPKATHI	579872004	GO	26%	1,712	3.22	23%	22%	19%	21%	Traffic data not available
SWARUPKATHI	579872008	Loan	38%	530	5.51	35%	33%	29%	32%	Traffic data not available
ZIANAGAR	579882004	Loan	36%	507	5.17	33%	31%	28%	30%	Traffic data not available

Table 2 EIRR, NPV, and BCR of Upazila roads selected for upgrading (continued)

Division/Greater District District Upazila	Road Code (Gazetted)	Financing	EIRR	NPV (mill. tk.)	BCR	EIRR sensitivity test				Note
						Cost (+20%)	Benefit (-20%)	Both Case	Normal traffic only	
Greater Faridpur										
Faridpur										
ALFADANGA	329032006	Loan	47%	2,647	7.75	43%	41%	36%	40%	
BHANGA	329102005	Loan	33%	2,078	4.65	30%	28%	25%	27%	
BOALMARI	329182006	Loan	42%	1,305	6.42	38%	36%	32%	35%	
CHARBHADRASAN	329212004	Loan	31%	356	4.16	29%	27%	24%	26%	
FARIDPUR-S	329472011	Loan	38%	544	5.52	35%	33%	29%	32%	Traffic data not available
FARIDPUR-S	329472012	GO	37%	1,527	5.26	34%	32%	28%	31%	
MADHUKHALI	329562009	Loan	26%	225	3.20	24%	22%	19%	21%	
NAGARKANDA	329622020	Loan	26%	940	3.29	24%	22%	20%	21%	
SADARPUR	329842009	Loan	35%	1,458	4.86	32%	30%	26%	29%	Traffic data not available
Gopalganj										
GOPALGANJ-S	335322008	Loan	39%	700	5.68	35%	34%	30%	33%	Traffic data not available
GOPALGANJ-S	335322015	GO	27%	731	3.38	25%	23%	20%	22%	
KASIANI	335432008	Loan	27%	1,383	3.53	25%	23%	21%	22%	
KOTWALIPARA	335512004	Loan	34%	1,175	4.64	31%	29%	26%	28%	Traffic data not available
MUKSUDPUR	335582011	Loan	27%	322	3.35	25%	23%	20%	22%	
TUNGIPARA	335912005	Loan	30%	576	3.96	28%	26%	23%	25%	
Madaripur										
KALKINI	354402005	Loan	22%	1,669	2.61	20%	19%	16%	17%	
MADARIPUR-S	354542005	Loan	16%	390	1.68	14%	13%	11%	12%	Traffic data not available
RAJOIR	354802008	Loan	32%	1,028	4.49	30%	28%	25%	27%	
SHIBCHAR	354872008	Loan	46%	1,848	7.45	42%	40%	35%	39%	
Rajbari										
BALIAKANDI	382072001	Loan	36%	1,320	5.06	33%	31%	27%	30%	
BALIAKANDI	382072007	GO	32%	484	4.37	30%	28%	25%	27%	
GOALANDA	382292007	Loan	26%	848	3.18	23%	22%	19%	21%	
PANGSHA	382732012	GO	23%	808	2.76	21%	20%	17%	18%	Traffic data not available
PANGSHA	382732014	Loan	40%	1,140	6.00	36%	34%	30%	33%	
RAJBARI-S	382762009	Loan	35%	726	4.98	32%	31%	27%	29%	
Shariatpur										
BHEDARGANJ	386142003	Loan	29%	695	3.83	27%	25%	22%	24%	Traffic data not available
DAMUDDYA	386252006	Loan	36%	610	5.17	33%	31%	28%	30%	Traffic data not available
JANJIRA	386942004	Loan	25%	344	3.13	23%	22%	19%	20%	Traffic data not available
NARIA	386652004	Loan	36%	128	5.18	33%	31%	28%	30%	Traffic data not available
SHARIATPUR-S	386692006	GO	26%	843	3.19	23%	22%	19%	21%	Traffic data not available
SHARIATPUR-S	386692008	Loan	38%	550	5.62	35%	33%	29%	32%	Traffic data not available
Greater Khulna										
Bagerhat										
BAGERHAT-S	201082008	Loan	38%	230	5.61	35%	33%	29%	32%	Traffic data not available
CHITALMARI	201142003	Loan	23%	169	2.63	21%	19%	17%	18%	
FAKIRHAT	201342009	Loan	27%	523	3.36	25%	23%	20%	22%	
MOLLAHAT	201562004	Loan	41%	2,795	6.43	38%	36%	32%	35%	
MONGLA	201582010	Loan	36%	937	5.18	33%	31%	28%	30%	Traffic data not available
MORRELGANJ	201602008	Loan	24%	1,042	2.79	22%	20%	17%	19%	
RAMPAL	201732005	Loan	29%	602	3.59	26%	24%	21%	23%	
SHARANKHOLA	201772001	Loan	36%	276	5.08	33%	31%	27%	30%	Traffic data not available
Khulna										
BATIAGHATA	247122007	Loan	34%	1,365	4.71	31%	29%	26%	28%	
DACOPE	247172010	Loan	28%	1,207	3.64	26%	24%	21%	23%	
DIGHALIA	247402004	Loan	25%	244	2.93	23%	21%	18%	20%	
DUMURIA	247302003	GO	38%	510	5.60	35%	33%	29%	32%	Traffic data not available
DUMURIA	247302005 & 247642008	Loan	37%	7,187	5.71	34%	32%	29%	31%	
KOIRA	247532002	GO	31%	408	3.99	28%	26%	23%	25%	
KOIRA	247532004	Loan	38%	1,836	5.55	35%	33%	29%	32%	Traffic data not available

Table 2 EIRR, NPV, and BCR of Upazila roads selected for upgrading (continued)

Division/Greater District District Upazila	Road Code (Gazetted)	Financing	EIRR	NPV (mill. tk.)	BCR	EIRR sensitivity test				Note
						Cost (+20%)	Benefit (-20%)	Both Case	Normal traffic only	
PAIKGACHA	247642007	GO	37%	2,779	5.29	34%	32%	28%	31%	Traffic data not available
PAIKGACHA	247642009	Loan	22%	321	2.45	20%	18%	16%	17%	Traffic data not available
RUPSA	247752006	Loan	28%	157	3.49	26%	24%	21%	23%	
TEROKHADA	247942008	Loan	38%	724	5.57	35%	33%	29%	32%	Traffic data not available
Satkhira										
ASSASUNI	287042008	Loan	48%	7,152	8.17	44%	42%	38%	42%	
DEBHATA	287252006 & 287822008 & 287042006	Loan	35%	2,607	4.88	32%	30%	27%	29%	
KALAROA	287432008	Loan	32%	1,140	4.40	29%	28%	25%	27%	Traffic data not available
KALIGANJ	287472007	Loan	32%	285	4.15	29%	27%	24%	26%	
SATKHIRA-S	287822005	Loan	38%	263	5.61	35%	33%	29%	32%	Traffic data not available
SHYAMNAGAR	287862004	Loan	38%	1,933	5.61	34%	33%	29%	32%	
TALA	287902006	Loan	36%	716	5.10	33%	31%	27%	30%	Traffic data not available
Arithmetic average			32%	1,007	4.41	30%	28%	24%	27%	

Table 3 EIRR, NPV, and BCR of Union roads selected for upgrading

Division/Greater District District Upazila	Road Code (Gazetted)	Financing	EIRR	NPV (mill. tk.)	BCR	EIRR sensitivity test				Note
						Cost (+20%)	Benefit (-20%)	Both Case	Normal traffic only	
Barisal Division										
Bhola										
BHOLA-S	509183010	Loan	40%	292	5.97	37%	35%	31%	34%	Traffic date not available
BORHANUDDIN	509213003	Loan	40%	485	5.86	36%	34%	30%	33%	Traffic date not available
CHARFASSION	509253004	Loan	40%	638	5.97	37%	35%	31%	34%	Traffic date not available
DAULATKHAN	509293008	Loan	40%	459	5.97	37%	35%	31%	34%	Traffic date not available
MONPURA	509653003	Loan	40%	457	5.97	37%	35%	31%	34%	Traffic date not available
Jhalakati										
RAJAPUR	542843006	Loan	40%	415	5.98	37%	35%	31%	34%	Traffic date not available
Patuakhali										
GALACHIPA	578573014	Loan	42%	1,025	6.30	38%	36%	32%	35%	Traffic date not available
PATUAKHALI-S	578953018	Loan	41%	945	6.18	38%	36%	32%	35%	Traffic date not available
Greater Faridpur										
Faridpur										
BHANGA	329103004	Loan	43%	309	6.62	40%	37%	33%	37%	Traffic date not available
MADHUKHALI	329563008	Loan	42%	583	6.29	38%	36%	32%	35%	Traffic date not available
NAGARKANDA	329623006	Loan	41%	21	6.19	38%	36%	32%	35%	Traffic date not available
Gopalganj										
KOTWALIPARA	335513008	Loan	41%	271	6.19	38%	36%	32%	35%	Traffic date not available
Madaripur										
MADARIPUR-S	354543010	Loan	41%	473	6.19	38%	36%	32%	35%	Traffic date not available
Rajbari										
BALIAKANDI	382073004	Loan	42%	709	6.41	39%	37%	32%	36%	Traffic date not available
PANGSHA	382733017	Loan	41%	662	6.19	38%	36%	32%	35%	Traffic date not available
Shariatpur										
BHEDARGANJ	386143006	Loan	44%	764	6.79	40%	38%	34%	37%	Traffic date not available
DAMUDDYA	386253003	Loan	41%	196	6.19	38%	36%	32%	35%	Traffic date not available
Greater Khulna										
Satkhira										
KALAROA	287433001	Loan	42%	372	6.42	39%	37%	33%	36%	Traffic date not available
SATKHIRA-S	287823016	Loan	40%	197	5.97	37%	35%	31%	34%	Traffic date not available
Arithmetic average			41%	488	6.19	38%	36%	32%	35%	

The EIRR calculation results of the 88 Upazila roads and 19 Union roads selected for upgrading under SWBRDP are given in Table 2 and Table 3, respectively. The EIRR of the Upazila roads and Union roads selected for development ranges from 16 % to 48 % and 40 % to 44 %, respectively. The average EIRR is 32 % for Upazila roads and 41 % for Union roads indicating the high economic viability of the selected subprojects.

3 Evaluation of growth centers

3.1 Method

(1) Overview

The method adopted for economic analysis of growth center development is the spoilage savings method. This method is the standard method used by market development projects in Bangladesh. The method is explained in detail in Section 7.4 of the F/S and *Guidelines for Effect Monitoring and Evaluation (EME) of Rural Road and Market improvement* (LGED, 1999).

Of the variety of indicators which represent the economic effects of market improvement, the spoilage savings method focuses on the quality deterioration of perishable commodities. Spoilage is the measure of portion of revenue lost to the seller as a result of deterioration of the quality of the product. Through upgrading of markets such spoilage is reduced. The spoilage savings method uses the difference in spoilage before and after market upgrading as the benefit indicator, i.e. the reduction in the spoilage brought about by market improvement is considered the benefit of the investment.

(2) Assumptions

a) Costs

The capital costs for growth center development are estimated to be tk. 4.4 million per growth center. As the benefits of the establishment of WMS are not quantified, the related costs are not accounted for either. Construction is assumed to be completed in one year. The annual operation and maintenance costs are assumed to be 4 % of the capital costs, and other annual miscellaneous costs are assumed to be 2 % of the capital costs in the light of ongoing and completed LGED projects.

b) Benefits

The benefit is the difference in spoilage of perishable goods in the market before and after development. First, the results of the survey on the volume and prices of perishable commodities traded at the growth centers proposed for development, conducted by LGED, are employed to estimate the spoilage before development. These were also utilized in the F/S. As the survey was carried out on a single hat day, however, few assumptions are made in calculating the annual spoilage. It is assumed that there are 104 hat days, 49 peak hat days and 55 off-peak hat days per year. The non-hat days, which amount to 261 days, is equated to 17 off-peak hat days. Therefore, it is assumed that each

growth center has 49 peak hat days and 72 off-peak hat days for the purpose of calculating the annual spoilage. However, no distinction is made between peak and off-peak hat days in calculating the spoilage in this analysis due to unavailability of reliable data.

Second, the spoilage after development is estimated. It is assumed that spoilage will be eliminated for peak hat-days after development, while no change is assumed for off-peak hat days[1]. Therefore, the spoilage savings of peak hat days are considered to be the benefit of market development.
Third, the annual increase in trading volume is assumed to be 5 % because the average GDP growth rate during the period of 1991-2005 (15 years) is 5 % in Bangladesh.

c) Other assumptions
The project life is set to 20 years. A standard conversion factor of 0.8 is used to adjust the costs and goods payable in local currency assumed to be non-traded. A discount factor of 0.12 is used to derive the NPV. It is assumed that for each of growth centers, all capital costs will be incurred in Year 1 and the benefits will be accrued from Year 2 onward. All the above are based on the standard practices followed by other recent projects.

(3) Calculation
EIRR, NPV, and BCR are calculated for each growth center using a spreadsheet. The format used is presented in Table 4.

3.2 Results

Calculation of EIRR, NPV, and BCR has been completed for 68 growth centers proposed for upgrading in the F/S. The results are given in Table 5. The table includes growth centers which were not selected for SWBRDP. Those selected for development are identified by "1" in the "Selected" column.

The EIRR of the growth centers selected for upgrading ranges from 26 % to 80 %. The average EIRR is 57 %, indicating the high economic viability of the proposed subprojects.

[1] Although the SAPROF team doubts the validity of this assumption, it is adopted, as there is no reliable data to assume otherwise, and it is the assumption made by preceding LGED projects.

Table 4 Example of estimation of EIRR for growth centers

District: Bagerhat Upazila: Sharonkhola

Name of growth center: Rosulpur

Name of Commodity	No. of Seller	Quantity Sold (kg)	Avg. Max Sale Price (Tk)	Avg. Min Sale Price (Tk)	Avg. Sale Price (Tk)	Total Sale Max. (Tk)	Total Sale Avg. (Tk)	Spoilage per hat day (Tk)	Spoilage Peak Period (Tk)	Spoilage Off Peak Period (Tk)	Annual Total Spoilage (Tk)
Ata	4	250.0	35.00	32.00	33.50	8,750	8,375	375	18,375	27,000	45,375
Fish	25	300.0	192.00	136.00	164.00	57,600	49,200	8,400	411,600	604,800	1,016,400
Fruits	8	180.0	81.00	58.00	69.50	14,580	12,510	2,070	101,430	149,040	250,470
Meat	8	230.0	203.00	183.00	193.00	46,690	44,390	2,300	112,700	165,600	278,300
Paddy	27	17,000.0	15.00	14.17	14.59	255,000	247,945	7,055	345,695	507,960	853,655
Poultry(no.)	2	150.0	150.00	110.00	130.00	22,500	19,500	3,000	147,000	216,000	363,000
Rice	24	16,500.0	25.00	22.33	23.67	412,500	390,473	22,028	1,079,348	1,585,980	2,665,328
Vegetables	25	620.0	23.50	14.50	19.00	14,570	11,780	2,790	136,710	200,880	337,590

Annual Total Spoilage (Lakh Tk)	58.10
Annual Total Spoilage Savings (Lakh Tk)	23.53

*Note: 1 Lakh = 100,000

Economic Analysis

(Lakh Tk)

Years	Capital Cost	Maint. Cost	Total Cost	Total Benefits	Net Benefits
1	35.20		35.20		-35.20
2		2.11	2.11	23.53	21.42
3		2.11	2.11	24.71	22.59
4		2.11	2.11	25.94	23.83
5		2.11	2.11	27.24	25.13
6		2.11	2.11	28.60	26.49
7		2.11	2.11	30.03	27.92
8		2.11	2.11	31.53	29.42
9		2.11	2.11	33.11	31.00
10		2.11	2.11	34.76	32.65
11		2.11	2.11	36.50	34.39
12		2.11	2.11	38.33	36.21
13		2.11	2.11	40.24	38.13
14		2.11	2.11	42.25	40.14
15		2.11	2.11	44.37	42.25
16		2.11	2.11	46.58	44.47
17		2.11	2.11	48.91	46.80
18		2.11	2.11	51.36	49.25
19		2.11	2.11	53.93	51.82
20		2.11	2.11	56.62	54.51

	(Lakh Tk)
Capital Cost of Investment	44.00
Maintenance Cost (4% of Capital Cost)	1.76
Miscellaneous Cost (2% of Capital Cost)	0.88
Discount Factor	0.12
Standard Conversion Factor	
For Capital Cost	0.8
For Maintenance Cost	0.8
Project Life (Years)	20
Annual growth rate of sales (%)	5

Base Case		
EIRR	NPV	BCR
66.28%	166.74	5.24

Table 5 EIRR, NPV, and BCR of growth centers proposed for upgrading

Rank	District	Upazila	Growth center name	EIRR (%)	NPV ('000 tk.)	BCR
1	Madaripur	Shib Char	Shibchar			
2	Rajbari	Baliakandi	Sonapur	57.88	13,992	4.58
3	Madaripur	Shib Char	Madbarerchar	76.98	20,084	6.08
4	Bhola	Lalmohan	Gazaria	73.52	18,981	5.81
5	Faridpur	Sadarpur	Chadda Rashi	48.27	10,923	3.82
6	Bhola	Tazumuddin	Hat Sashiganj	61.03	14,997	4.83
7	Madaripur	Madaripur Sadar	Mostofapur			
8	Shariatpur	Shariatpur Sadar	Burirhat	55.29	13,165	4.37
9	Pirojpur	Bhandaria	Bhandaria	56.4	13,519	4.46
10	Madaripur	Madaripur Sadar	Chillarchar	44.77	9,808	3.54
11	Shariatpur	Damoudya	Sedhalkura	55.12	13,111	4.36
13	Satkhira	Tala	Pathkelghata	58.72	14,259	4.64
14	Pirojpur	Nazirpur	Sreeramkathi	65.34	16,371	5.17
15	Faridpur	Alfadanga	Gopalpur	53.5	12,593	4.23
16	Bhola	Manpura	Hazir hat	72.73	18,730	5.75
17	Patuakhali	Bauphal	Kalaia	71.79	18,430	5.67
18	Khulna	Paikgachha	Kopilmoni			
19	Shariatpur	Zanjira	Janjira	48.81	11,095	3.86
20	Faridpur	Alfadanga	Alfadanga	58.69	14,249	4.64
21	Bhola	Burhanuddin	Moazzem hat	71.26	18,261	5.63
22	Khulna	Dumuria	Dumuria	30.5	5,297	2.43
23	Khulna	Paikgachha	Garuikhali	31.42	5,583	2.5
24	Pirojpur	Kawkhali	Kawkhali	52.83	12,378	4.18
25	Faridpur	Faridpur Sadar	Khalil Mondal	51.62	11,993	4.08
26	Satkhira	Kalaroa	Sonabaria	29.55	5,001	2.36
27	Rajbari	Pangsha	Machpara	55.08	13,098	4.36
28	Bagerhat	Chitalmari	Chitalmari	63.59	15,815	5.03
29	Rajbari	Rajbari Sadar	Kutir Hat	60.23	14,740	4.76
30	Bagerhat	Kachua	Gajalia	68.95	17,524	5.45
31	Khulna	Phultala	Phultala GC			
32	Barisal	Banaripara	Choumohani	56.12	13,428	4.44
33	Patuakhali	Galachipa	Badura	62.79	15,557	4.96
34	Barisal	Barisal Sadar	Shahiber hat	67.14	16,948	5.31
35	Khulna	Terokhada	Katinga	31.33	5,556	2.49
36	Gopalganj	Kotalipara	Dharabashail	49.83	11,420	3.94
37	Patuakhali	Patuakhali Sadar	Katachia	53.55	12,607	4.24
38	Bhola	Bhola Sadar	Majhir hat	73.14	18,859	5.78
39	Jhalakati	Kanthalia	Amua	55.11	13,107	4.36
40	Jhalakati	Jhalakati Sadar	Shivgonj	64.19	16,006	5.08

Table 5 EIRR, NPV, and BCR of growth centers proposed for upgrading (continued)

Rank	District	Upazila	Growth center name	EIRR (%)	NPV ('000 tk.)	BCR
41	Satkhira	Assasuni	Bardal	30.28	5,230	2.41
42	Pirojpur	Mathbaria	Sapleza GC	68.3	17,315	5.4
43	Satkhira	Satkhira Sadar	Bhetkhali	53.01	12,436	4.19
44	Bagerhat	Morrelganj	Polar hat			
45	Patuakhali	Kalapara	Lalua	74.12	19,175	5.86
46	Jhalakati	Jhalakati Sadar	Birmohal			
47	Barguna	Betagi	Bodnykhali hat	63.99	15,940	5.06
48	Faridpur	Madukhali	Borogopaldi	53.93	12,731	4.27
49	Bagerhat	Rampal	Gilatala	67.61	17,097	5.35
50	Faridpur	Char Bhadrasan	Moulavir Char	43.12	9,281	3.41
51	Patuakhali	Dumki	Murdia	55.65	13,281	4.4
52	Khulna	Dighalia	Pother bazar	25.79	3,848	2.07
53	Barguna	Amtali	Gazipur	65.19	16,324	5.15
54	Satkhira	Kaliganj	Kushlia	43.25	9,322	3.42
55	Barisal	Agailljhara	Begdhar hat GC	63.89	15,911	5.05
56	Jhalakati	Nalchity	Nalchity K.M. hat GC	67.65	17,110	5.35
57	Jhalakati	Rajapur	Putiakhali	56.28	13,480	4.45
58	Barguna	Barguna Sadar	Phuljhuri hat	65.26	16,348	5.16

Note: No EIRR, NPV, and BCR values are presented for the Growth Centers without necessary data for the EIRR calculation.

4 Project evaluation

4.1 Method

(1) Overview

The economic analysis of the Project is carried out considering the quantifiable costs and benefits. The quantifiable costs are the investments by the Project and the costs for subsequent maintenance of Upazila and Union roads, and growth centers. The quantifiable benefits are the benefits derived from Upazila and Union road development and growth center development.

Calculation of the project-level EIRR is based on estimates of the total project cost and the benefits of Upazila and Union road development and growth center development. In addition, the maintenance costs of the developed Upazila and Union roads and growth centers, which are not included in the project costs, are estimated and included in the EIRR calculation.

Table 6 Financial and economic costs of the Project

Item	Financial cost (million tk.)			Economic cost (standard conversion factor=0.8) (million tk.)		
	FC	LC	Total	FC	LC	Total
TOTAL PROJECT COST (A+B)	**325**	**8,775**	**9,100**	**321**	**6,448**	**6,769**
A. PORTION ELIGIBLE FOR JICA LOAN	**325**	**6,977**	**7,302**	**321**	**5,133**	**5,454**
I. Procurement and construction	**117**	**6,170**	**6,286**	**116**	**4,543**	**4,659**
Component 1. Upgrading of Upazila roads		4,837	4,837		3,870	3,870
Component 2: Upgrading of Union roads		293	293		234	234
Component 3: Upgrading of GCs and RMs		328	328		262	262
Component 4: Proc.of vehicles and equip.	114	110	224	114	88	202
Price escalation (foreign 0.5% and local 3%)	1	491	492			
Physical contingency (2%)	2	111	114	2	89	91
II. Procurement of services	**208**	**808**	**1,016**	**205**	**591**	**795**
Component 5: Pov. reduction interventions		397	397		318	318
Component 6: Capacity development	32	55	87	32	44	76
Consultancy services	169	271	441	169	217	386
Price escalation (foreign 0.5% and local 3%)	3	70	73			
Physical contingency (2%)	4	14	18	4	12	16
B. PORTION NON-ELIGIBLE FOR JICA LOA		**1,798**	**1,798**		**1,315**	**1,315**
III. Project component		**1,073**	**1,073**		**859**	**859**
Component 6: Capacity development		19	19		15	15
Component 7: Upgrading of Upazila roads		1,054	1,054		843	843
IV. Land acquisition		31	31		25	25
V. Project operation and recurrent costs		**484**	**484**		**387**	**387**
VI. Taxes and duties		**90**	**90**			
VII. *Contingencies*		**120**	**120**		**44**	**44**
Price escalation (foreign 0.5% and local 3%)		98	98			
Physical contingency (2%)		22	22		44	44

(2) Assumptions

a) Project cost

Table 6 compares the financial and economic costs of the Project. The cost stream of the Project presented in Chapter 6 is used to calculate the total economic cost of tk. 6,769 million. To derive the economic costs, the price escalation and taxes and duties are excluded, and the costs payable in local currency are multiplied by a standard conversion factor of 0.8 to convert the financial costs into economic costs.

A schedule of project costs, used to calculate the project-level EIRR, is shown in Table 7. The project cost will increase from the first year, reach its peak in the third year, and decrease toward the end of the project.

Table 7 Schedule of project costs

Year	Fiscal year	Economic cost (million tk.)	% to total
1	FY 2009/10	336	5%
2	FY 2010/11	2,326	34%
3	FY 2011/12	2,464	36%
4	FY 2012/13	1,173	17%
5	FY 2013/14	470	7%
Total		6,769	100%

b) Maintenance costs of upgraded Upazila and Union roads, and growth centers

The maintenance cost estimates of upgraded Upazila roads and growth centers, presented earlier in this annex, were used to derive the maintenance costs of Upazila roads, Union roads, and growth centers after development.

First, the average maintenance cost per kilometer of Upazila road (Table 8) was derived from the maintenance cost estimates indicated in Section 2. Then, the figure was used to calculate the total maintenance costs for both Upazila road and Union roads, based on the implementation schedule indicated in Chapter 6. Instead of estimating the maintenance costs for each Upazila road, this method was applied, because the necessary data were not available for 38 of the 88 Upazila roads and none of the Union roads selected for upgrading.

The maintenance costs for upgraded growth centers are derived from the cost estimates presented in Section 3.

c) Benefits of upgraded Upazila and Union roads, and growth centers

The estimated benefits of Upazila road development and growth center development, presented earlier in this annex, are used to calculate the benefits of Upazila roads, Union roads, and growth centers.

Estimation of the benefits of Upazila and Union road development used the same method applied to the estimation of the maintenance costs, i.e., the benefits per kilometer of Upazila road (Table 8) were derived, and then multiplied by the length of Upazila and Union roads to be upgraded for each project

year. The benefits of growth center development also followed the method used for the estimation of the maintenance costs.

The total benefits of the two components were calculated in accordance with the implementation schedule of contract packages and project implementation schedule outlined in Chapter 6. Upazila road and growth center development are to take a phased approach: for the 88 Upazila roads and 51 growth centers, 0 %, 40 %, 40 %, 15 %, and 5 % of the total packages of Upazila road and growth centers will be contracted in the 1st, 2nd, 3rd, 4th, and 5th years of project period. Similarly, for the 19 Union roads, 0 % in the first and second, 50 % in the third and fourth, and 0 % of the total packages of Union roads in the fifth year will be contracted. The benefits to be accrued from the the three components during each Project year are presented in Table 9.

Table 8 Annual maintenance cost and benefit for Upazila roads and growth centers

Year	Fiscal year	Upazila roads (per km cost and benefit)		Growth centers (per GC cost and benefit)	
		Maintenance cost ('000 tk.)	Benefit ('000 tk.)	Maintenance cost ('000 tk.)	Benefits ('000 tk.)
1	FY 09/10				
2	FY 10/11			211	2,009
3	FY 11/12	40	664	211	2,109
4	FY 12/13	40	1,161	211	2,215
5	FY 13/14	40	2,094	211	2,326
6	FY 14/15	40	2,574	211	2,442
7	FY 15/16	400	2,780	211	2,564
8	FY 16/17	40	3,003	211	2,692
9	FY 17/18	40	3,243	211	2,827
10	FY 18/19	40	3,502	211	2,968
11	FY 19/20	40	3,783	211	3,117
12	FY 20/21	400	4,085	211	3,272
13	FY 21/22	40	4,412	211	3,436
14	FY 22/23	40	4,765	211	3,608
15	FY 23/24	40	5,146	211	3,788
16	FY 24/25	40	5,558	211	3,978
17	FY 25/26	400	6,002	211	4,177
18	FY 26/27	40	6,483	211	4,385
19	FY 27/28	40	7,001	211	4,605
20	FY 28/29	40	7,561	211	4,835
Total		**1,800**	**73,817**	**4,013**	**61,353**

c) Other assumptions

The project life is set to 20 years.

(3) Calculation

Calculation is done using a spreadsheet. The format used is presented in Table 9.

Table 9 Calculation of project EIRR

Year	Fiscal year	Capital cost of entire project (mill. tk.)	Upazila road development (million tk.)										Union road (million tk.)								Growth Center development (million tk.)										Total	
			FY	FY 10/11	FY 11/12	FY 12/13	FY						FY								FY										Total cost	Total benefit	Net Benefit
			Length of construction				Length of construction				Length of construction		Length of construction				Length of construction				No. of GC constructed								No. of GC constructed				
			Km	352 Km		132 Km		44 Km					km				34 km				GCs	20 GCs		8 GCs		3 GC			FY				
			Benefit	Maint. cost	Benefit	Maint. cost	Benefit	Maint. cost	Benefit	Maint. cost	Benefit	Maint. cost	Benefit	Maint. cost	Benefit	Maint. cost	Benefit	Maint. cost	Benefit	Maint. cost	Benefit	Maint. cost	Benefit	Maint. cost	Benefit	Maint. cost	Benefit	Maint. cost	Benefit	Maint. cost			
1	FY 09/10	336																											336	336	-336
2	FY 10/11	2,326																											2,326		-2,326
3	FY 11/12	2,464																			41	4							2,469	41	-2,428
4	FY 12/13	1,173		14 234																	43	4							1,196	318	-878
5	FY 13/14	470		14 409	14 234												1 23				45	4	15	2					509	769	260
6	FY 14/15			14 738	14 409	5 88											1 40	1 23			47	4	16	2	5				47	1,411	1,364
7	FY 15/16			14 907	14 738	5 153	2 29										1 72	1 40			50	4	17	2	5				49	2,058	2,010
8	FY 16/17			141 980	14 907	5 277	2 51										1 88	1 72			52	4	18	2	6				176	2,500	2,324
9	FY 17/18			14 1,058	141 980	5 340	2 92										14 95	1 88			55	4	19	2	6				188	2,785	2,597
10	FY 18/19			14 1,143	14 1,058	53 367	2 113										1 103	14 95			58	4	20	2	6				109	3,018	2,909
11	FY 19/20			14 1,234	14 1,143	5 397	18 122										1 111	1 103			61	4	21	2	7				65	3,255	3,191
12	FY 20/21			14 1,333	14 1,234	5 428	2 132										1 120	1 111			64	4	22	2	7				49	3,511	3,462
13	FY 21/22			141 1,439	14 1,333	5 463	2 143										1 130	1 120			67	4	23	2	7				176	3,787	3,612
14	FY 22/23			14 1,554	141 1,439	5 500	2 154										14 140	1 130			70	4	24	2	8				188	4,086	3,898
15	FY 23/24			14 1,679	14 1,554	53 540	2 167										1 151	14 140			74	4	25	2	8				109	4,407	4,299
16	FY 24/25			14 1,813	14 1,679	5 583	18 180										1 163	1 151			77	4	74	2	8				65	4,755	4,690
17	FY 25/26			14 1,958	14 1,813	5 630	2 194										1 176	1 163			81	4	77	2	9				49	5,130	5,081
18	FY 26/27			141 2,115	14 1,958	5 680	2 210										1 191	1 176			85	4	81	2	9				176	5,534	5,359
19	FY 27/28			14 2,284	141 2,115	5 734	2 227										14 206	1 191			89	4	85	2	10				188	5,971	5,783
20	FY 28/29			14 2,467	14 2,284	53 793	2 245										1 222	14 206			94	4	89	2	10				109	6,442	6,333
Total		6,769																											8,575	59,778	51,204

Base Case	
EIRR	25.39%
NPV	7,866
BCR	2.46

4.2 Results

The overall economic rate of return of the project is estimated at 25 % for the base case (Table 9). The viability of the Project has been calculated for the following variations of the base case: 1) costs plus 20 %, 2) benefits minus 20 %, and 3) combination of both cases. The results are presented in Table 10. None of the scenarios generate an EIRR below 12%, which is the assumed opportunity cost of capital in Bangladesh.

Table 10 Sensitivity test of project EIRR

(million tk.)

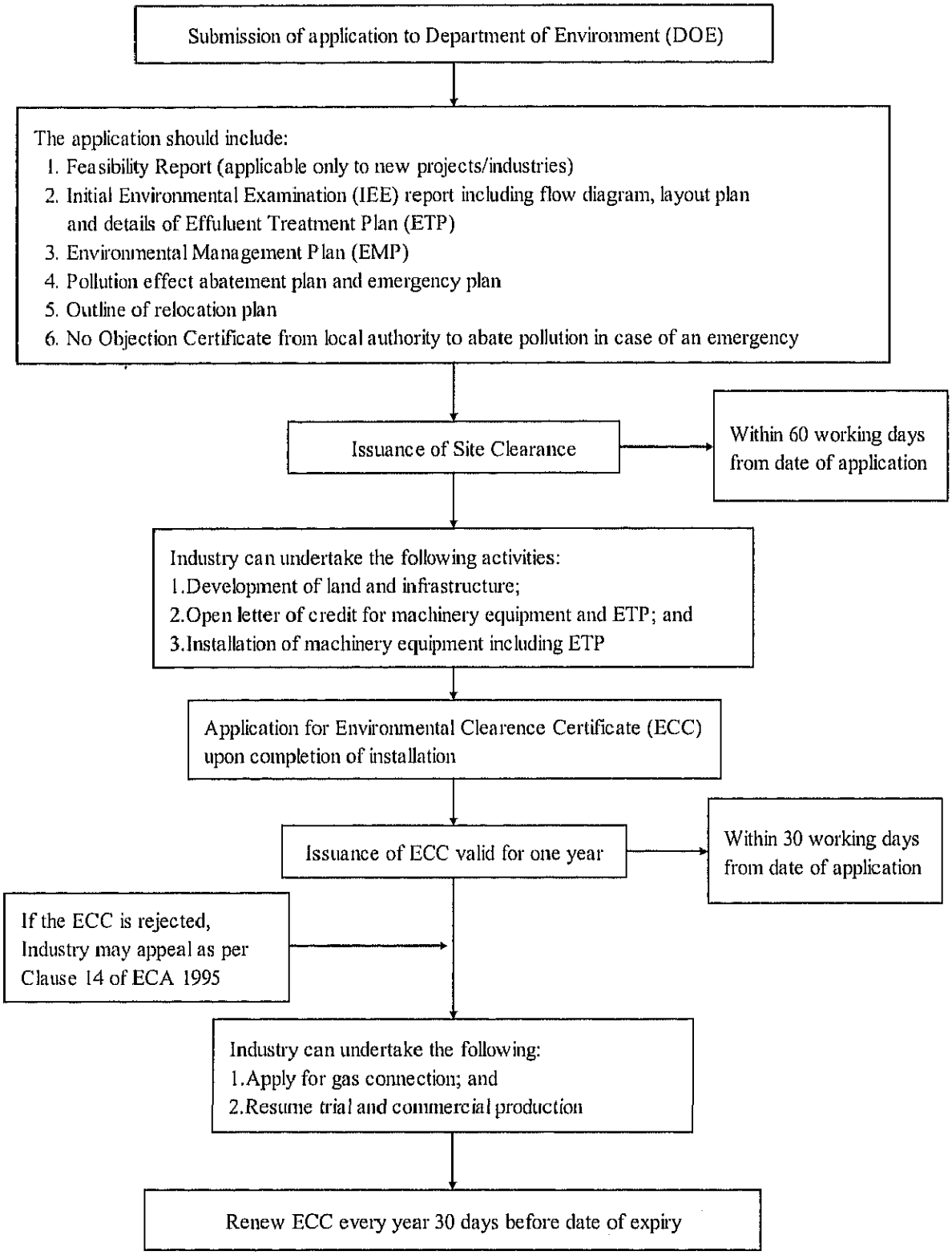
Year	Fiscal year	Costs plus 20%			Benefits minus 20%			Combination of both		
		Total cost	Total benefit	Net Benefit	Total cost	Total benefit	Net Benefit	Total cost	Total benefit	Net Benefit
1	FY 09/10	403		-403	336		-336	403		-403
2	FY 10/11	2,791		-2,791	2,326		-2,326	2,791		-2,791
3	FY 11/12	2,963	41	-2,922	2,469	33	-2,436	2,963	33	-2,930
4	FY 12/13	1,435	318	-1,117	1,196	254	-942	1,435	254	-1,181
5	FY 13/14	611	769	158	509	615	106	611	615	4
6	FY 14/15	56	1,411	1,355	47	1,129	1,082	56	1,129	1,072
7	FY 15/16	58	2,058	2,000	49	1,647	1,598	58	1,647	1,588
8	FY 16/17	211	2,500	2,289	176	2,000	1,824	211	2,000	1,789
9	FY 17/18	226	2,785	2,560	188	2,228	2,040	226	2,228	2,003
10	FY 18/19	130	3,018	2,887	109	2,414	2,306	130	2,414	2,284
11	FY 19/20	78	3,255	3,178	65	2,604	2,539	78	2,604	2,527
12	FY 20/21	58	3,511	3,453	49	2,809	2,760	58	2,809	2,750
13	FY 21/22	211	3,787	3,577	176	3,030	2,854	211	3,030	2,819
14	FY 22/23	226	4,086	3,860	188	3,269	3,081	226	3,269	3,043
15	FY 23/24	130	4,407	4,277	109	3,526	3,417	130	3,526	3,396
16	FY 24/25	78	4,755	4,677	65	3,804	3,739	78	3,804	3,726
17	FY 25/26	58	5,130	5,071	49	4,104	4,055	58	4,104	4,045
18	FY 26/27	211	5,534	5,323	176	4,427	4,252	211	4,427	4,217
19	FY 27/28	226	5,971	5,745	188	4,777	4,589	226	4,777	4,551
20	FY 28/29	130	6,442	6,312	109	5,154	5,045	130	5,154	5,023
Total		10,290	59,778	49,489	8,575	47,823	39,248	10,290	47,823	37,533
		EIRR	**22.33%**		**EIRR**	**21.67%**		**EIRR**	**18.85%**	
		NPV	**6,789**		**NPV**	**5,216**		**NPV**	**4,139**	
		BCR	**2.05**		**BCR**	**1.97**		**BCR**	**1.64**	

SPECIAL ASSISTANCE FOR PROJECT FORMATION
FOR
SOUTH-WESTERN BANGLADESH RURAL DEVELOPMENT PROJECT
PEOPLE'S REPUBLIC OF BANGLADESH
FINAL REPORT

ANNEX 20

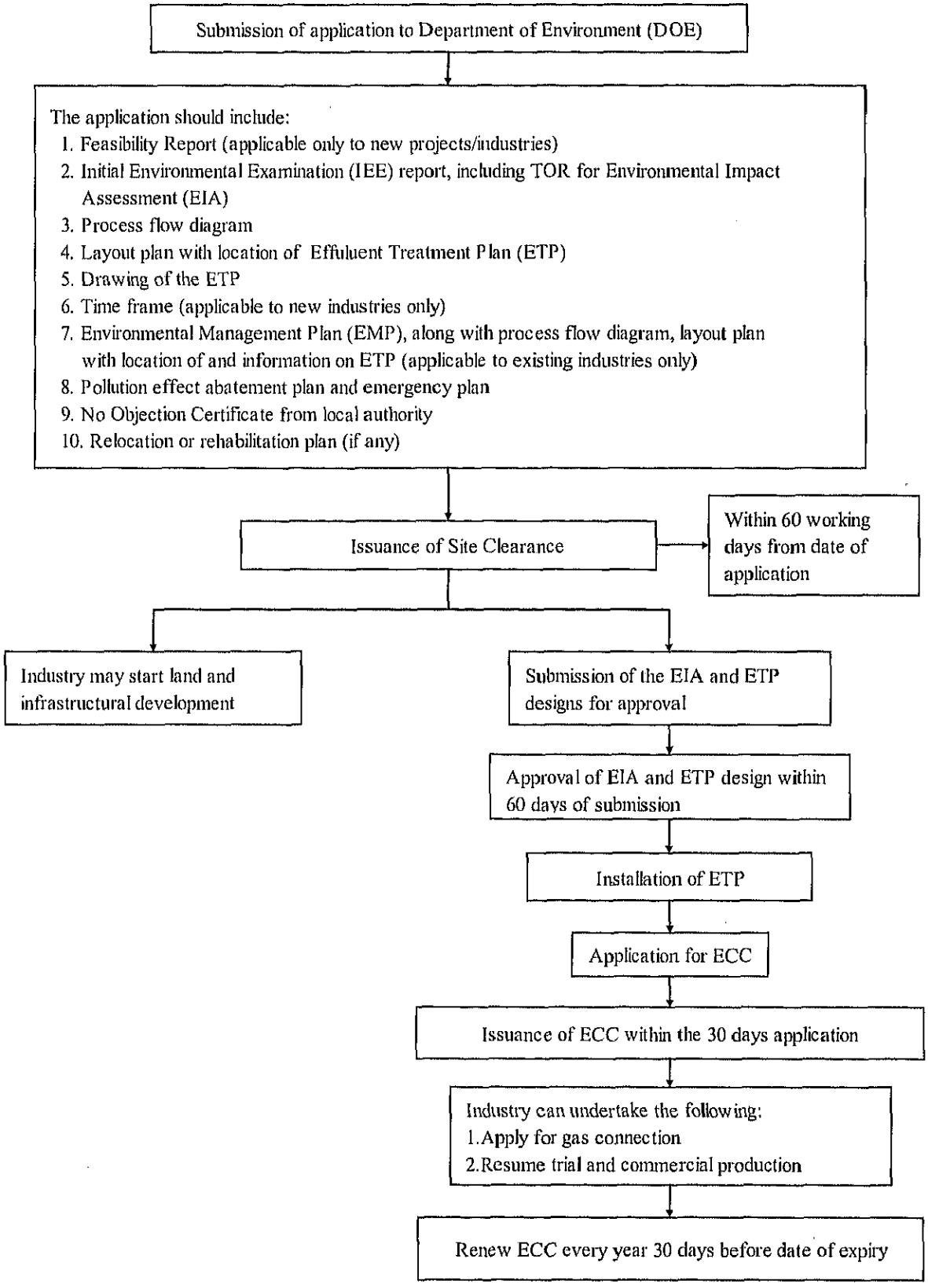
Flow charts of procedures for Environmental Clearance Certificate

List of figures



Source: LGED (2008b)

Figure 1 Procedures of Orange-B category project



Source: LGED (2008b)

Figure 2 Procedures of Red category project

SPECIAL ASSISTANCE FOR PROJECT FORMATION
FOR
SOUTH-WESTERN BANGLADESH RURAL DEVELOPMENT PROJECT
PEOPLE'S REPUBLIC OF BANGLADESH
FINAL REPORT

ANNEX 21

Environmental checklist

List of tables

Table 1 Environmental checklist

Category	Environmental Item	Main Check Items	Present situation confirmed through the SAPROF study Points to consider
1 Permits and Explanation	(1) Environmental Clearance Certificate and other permits	1) Have EIA/IEE reports been officially completed? 2) Have EIA/IEE reports been approved by the Department of Environment? 3) Has an Environmental Clearance Certificate been officially obtained? 4) Have EIA/IEE reports been unconditionally approved? If conditions are imposed for the approval of EIA/IEE reports, are the conditions satisfied? 5) In addition to the above approvals, have other required environmental permits been obtained from the appropriate regulatory authorities of the Government of Bangladesh?	1) -4) IEE/EIA reports have not been prepared yet. The procedure for obtaining the Environmental Clearance Certificate based on the Environmental Conservation Rules 1997 has not been initiated yet. The Project Director confirmed that LGED will complete necessary procedures to obtain Environmental Clearance Certificate. 5) Subprojects that will require other environmental permits have not been identified at present.
	(2) Explanation to the Public	1) Are contents of the project and the potential impacts adequately explained to the public based on appropriate procedures, including information disclosure? Is understanding obtained from the public? 2) Are proper responses made to inquiries and comments from the public and regulatory authorities?	1) - 2) The contents and potential impacts have not been fully explained and disclosed to the public yet.
2 Mitigation Measures	(1) Air Quality	1) Is there a possibility that air pollutants emitted from various sources, such as vehicle traffic, will affect ambient air quality? Does ambient air quality comply with the Bangladesh standards presented by Schedule 2 of Environmental Conservation Rules? 2) Where industrial areas already exist near the route, is there a possibility that the project will aggravate air pollution?	1) The air quality of the project site is not expected to exceed the ambient air quality standards since the traffic volume of target roads is unlikely to increase drastically after the rehabilitation. 2) No industrial areas are identified near the planned road subprojects.
	(2) Water Quality	1) Is there a possibility that soil runoff from bare lands resulting from earthmoving activities, such as cutting and filling, will cause water quality degradation in downstream water areas? 2) Is there a possibility that surface runoff from roads will contaminate water sources such as groundwater? 3) Is there a possibility that drainage from growth centers and rural markets will contaminate the surrounding water bodies?	1) Soil runoff from the bare lands will be minimized because compaction of roadside lands are planned to be carried out. 2) There is no risk of contamination of water sources, since surface runoff from roads will not contain water pollutants.
	(3) Wastes	1) Are wastes from growth centers and rural markets properly collected and disposed of?	1) There are no garbage bins and other waste disposal facilities in growth centers and rural markets to be upgraded. Garbage bins should be installed in the markets.
	(4) Noise and Vibration	1) Do noise and vibrations from vehicles comply with the Bangladesh standards presented by Schedule 4 of Environmental Conservation Rules?	1) Noise and vibrations are not expected to exceed the standards, since traffic volume of Upazila and Union roads is not so heavy.

Table 1 Environmental checklist (continued)

Category	Environmental Item	Main Check Items	Present situation confirmed through the SAPROF study Points to consider
3 Natural Environment	(1) Protected Areas	1) Is the project site located in protected areas designated by the Bangladesh Wildlife Order 1982 or international treaties and conventions? Is there a possibility that the project will affect the protected areas?	1) According to LGED engineers and map information, there are no protected areas in the vicinity of planned subproject sites.
	(2) Ecosystem	1) Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g., coral reefs, mangroves, or tidal flats)? 2) Does the project site encompass the protected habitats of endangered species designated by the Bangladesh Wildlife Order 1982 or international treaties and conventions? 3) If significant ecological impacts are anticipated, are adequate protection measures taken to reduce the impacts on the ecosystem? 4) Are adequate protection measures taken to prevent such impacts as traffic accidents involving wildlife and livestock? 5) Is there a possibility that road rehabilitation will cause such impacts as the destruction of forests, poaching, reduction in wetland areas, and disturbance of ecosystems due to the introduction of exotic (non-native invasive) species and pests? Are adequate measures for preventing such impacts considered?	1) -3) No ecologically valuable sites are identified in the vicinity of planned subprojects, according to LGED engineers and map information. Thus no significant ecological impacts are anticipated at present. 4) There is no or very minor risk of adverse impacts on wildlife and livestock, since the Project only involve rehabilitation of the existing roads and the traffic volume is not heavy. 5) No significant impacts on ecosystems are anticipated.
	(3) Hydrology	1) Is there a possibility that alteration of topographic features and installation of structures, such as tunnels and, culverts and bridges, will adversely affect surface water and groundwater flows? 2) Are the capacity and design of drainage facilities sufficient for preventing the obstruction of natural drainage systems?	1) The Project will not involve massive alteration of topographic features. On the contrary, the installation of culverts and other structures will contribute to improvement of water congestion problems. No adverse impacts on surface water and ground water flows therefore are expected. 2) A sufficient number and capacity of drainage facilities are planned to be installed.
	(4) Topography and Geology	1) Are there soft grounds on the route that may cause slope failures or landslides? Are adequate measures considered to prevent slope failures or landslides, where needed? 2) Is there a possibility that civil works, such as cutting and filling, will cause slope failures or landslides? Are adequate measures considered to prevent slope failures or landslides? 3) Is there a possibility that soil runoff will occur from cut and fill areas, waste soil disposal sites, and borrow sites? Are adequate measures taken to prevent soil runoff?	1) The slopes of embankments are planned to be adequately compacted to prevent slope failures. No significant landslides are expected, since the Project area is flat land. 2) There is a certain possibility of slope failures caused by civil works; therefore adequate preventive measures against slope failures are planned. 3) There is a certain possibility of soil runoff from cut and fill areas; therefore adequate preventive measures are planned.

Table 1 Environmental checklist (continued)

Category	Environmental Item	Main Check Items	Present situation confirmed through the SAPROF study Points to consider
4 Social Environment	(1) Resettlement	1) Is involuntary resettlement caused by project implementation? * If involuntary resettlement is unavoidable, the subproject is considered unqualified for SWBRDP.	1) Involuntary resettlement is not anticipated since the road sub-projects that may cause involuntary resettlement will not be selected. The eligibility criteria for road selection include "no resettlement is required".
	(2) Land Acquisition	1) Is land acquisition caused by project implementation? If land is acquired, are efforts made to minimize the impacts caused by the acquisition? 2) Are adequate explanation on land acquisition and compensation provided to affected persons prior to the acquisition? 3) Is the land acquisition plan, including proper compensation, developed based on socioeconomic studies? 4) Does the acquisition plan pay particular attention to vulnerable groups or persons, including women, children, the elderly, people living below the poverty line, ethnic minorities, and indigenous peoples? 5) Are agreements with the affected persons obtained prior to land acquisition? 6) Is the organizational framework established to properly implement land acquisition? Are the capacity and budget secured to implement the plan? 7) Is a plan developed to monitor the impacts of land acquisition? 8) If land is acquired through donations, is the donation considered voluntary? 9) If land is acquired through donations, is there a possibility that the donation will adversely affect the donor's living standards?	1) Some portions of lands adjacent to road subprojects will be acquired. Efforts to minimize the impacts will be made prior to determining the plan. 2) Land acquisition has not started yet, but adequate explanation should be given to affected persons. 3) Land acquisition has not started yet, but socioeconomic status should be surveyed by LGED prior to the assessment of acquired assets. 4) Land acquisition has not started yet, but vulnerable groups or persons should be given due attention. 5) Land acquisition has not started yet, but agreements with the affected persons should be obtained prior to the acquisition. 6) Land acquisition has not started yet, but an effective organizational framework should be established. 7) Land acquisition process has not started yet, but a land acquisition plan should be developed. 8) If land is to be donated, the donation should be voluntary. 9) LGED should confirm the financial situations of donors and ensure that the donation will not adversely affect the donor's living standards.
	(3) Living and Livelihood	1) Where bridges are newly installed, is there a possibility that the project will affect the existing means of transportation and the associated workers? Is there a possibility that the Project will cause significant impacts, such as changes in sources of livelihood? Are adequate measures considered for preventing these impacts? 2) Is there a possibility that diseases, including communicable diseases such as HIV/AIDS will be introduced due to the immigration of workers associated with the project? Are adequate considerations given to public health, if necessary? 3) Is there a possibility that the project will adversely affect road traffic in the surrounding areas, e.g., by increasing traffic congestion and traffic accidents?	1) Workers for ferries and boats and shopkeepers at ghats may lose their sources of income if large-scale bridges are installed. Adequate information should be disclosed to the affected persons well in advance so that they can find new income sources. 2) There are certain risks to public health; thus safety and health education should be given to construction workers. 3) Traffic problems are not expected, since traffic volume of Upazila and Union roads is not heavy.

Table 1 Environmental checklist (continued)

Category	Environmental Item	Main Check Items	Present situation confirmed through the SAPROF study Points to consider
4 Social Environment	(4) Heritage	1) Is there a possibility that the project will damage local archeological, historical, cultural, and religious heritage sites? Are adequate measures considered to protect these sites in accordance with the Bangladesh laws and customs?	1) According to LGED engineers and map information, no heritage sites are identified. However, there may be some culturally and religiously important sites. If such sites are found to be culturally important, adequate measures to avoid disturbance of those sites should be taken.
	(5) Landscape	1) Is there a possibility that the project will adversely affect the local landscape? Are necessary measures taken?	1) The project will not adversely affect the local landscape, since the project aims at rehabilitating existing rural infrastructures.
	(6) Ethnic Minorities and Indigenous Peoples	1) Where ethnic minorities and indigenous peoples are living on the rights-of-way, are considerations given to reduce the impacts on the culture and lifestyle of ethnic minorities and indigenous peoples? 2) Does the project comply with the country's laws protecting the rights of ethnic minorities and indigenous peoples?	1) Inhabitants belonging to ethnic minorities and indigenous peoples are not identified in the vicinity of subproject sites according to LGED engineers and relevant documents. Some groups of peoples may be identified during the detailed design study. However, road improvement works will not adversely affect their culture and lifestyle. 2) No laws are applicable to indigenous peoples of the Project area.
5 Others	(1) Impacts during Construction	1) Are adequate measures considered to reduce the impacts that may occur during construction (e.g., noise, vibrations, turbid water, dust, exhaust gases, wastes and traffic disturbance)? 2) If construction activities adversely affect the natural environment (ecosystem), are adequate measures considered to reduce the impacts? 3) If construction activities adversely affect the social environment, are adequate measures considered to reduce the impacts? 4) If necessary, is health and safety education (e.g., traffic safety, public health) provided to project personnel, including construction workers?	1) Impacts during construction are identified, and adequate measures are proposed in the IEE report. 2) The planned construction activities will not have adverse impacts on the natural environment, since the project site does not encompass the valuable natural environment. However, vegetation clearance should be minimized. 3) The planned construction activities will not have adverse impacts on the social environment. 4) Health and safety education are proposed in the IEE report.
	(2) Monitoring	1) Does the proponent develop and implement monitoring programs for the environmental items that are considered to have potential impacts? 2) Are the items, methods and frequencies included in the monitoring program judged to be appropriate? 3) Does the proponent establish an adequate monitoring framework (organization, personnel, equipment, and adequate budget to sustain the monitoring framework)? 4) Are any regulatory requirements pertaining to the monitoring report system identified, such as the format and frequency of report submission from the proponent to the regulatory authorities?	1) At present, no consolidated environmental monitoring program was developed by the proponent. A monitoring plan proposed in the IEE report should be taken into account. 2) The monitoring plan has not been established yet. The plan proposed in the IEE report should be taken into account. 3) The proponent has not established a monitoring framework. However, it is proposed in the IEE report. 4) No regulatory requirements pertaining to the monitoring report system are identified. Format and frequency of monitoring reports will be determined to adapt to the characteristics of project components.

SPECIAL ASSISTANCE FOR PROJECT FORMATION
FOR
SOUTH-WESTERN BANGLADESH RURAL DEVELOPMENT PROJECT
PEOPLE'S REPUBLIC OF BANGLADESH
FINAL REPORT

ANNEX 22

Land acquisition in the Project

Table of contents

List of tables

1. Legal procedure for land acquisition

The Acquisition and Requisition of Immovable Property Ordinance 1982 (Ordinance 1982) establishes the legal procedure to be taken for land acquisition in Bangladesh. The procedure is summarized below.

- The Executive Agency, which is LGED for rural road and market improvement projects, makes an assessment of the area of land to be acquired.
- LGED elaborates a Land Acquisition Proposal ("LA Proposal").
- LGED obtains administrative approval from the Local Government Division under the Ministry of Local Government, Rural Development and Cooperatives.
- LGED submits the LA Proposal to the Deputy Commissioner (DC) of the District where land acquisition is required.
- The DC, upon receiving the LA Proposal, conducts a survey for the proposed acquisition and obtains approval from the District Land Allocation Committee.
- DC issues a notice of decision of land acquisition to the land owners and in local newspapers.
- DC assesses the value of the assets to be acquired as per Ordinance 1982 and determines the amount of compensation. One hundred and fifty percent of the assessed value is fixed as the amount of compensation.
- LGED places necessary funds for the land acquisition in DC's account.
- DC makes payment of the compensation to the affected persons.

2. Cases typically requiring land acquisition in the Project

Upgrading of Upazila and Union roads will require acquisition of certain plots of private land. Upazila roads will cause land acquisition on a larger scale than Union roads, since the standards for Upazila roads require wider crests, which in turn requires more land. Upgrading of growth centers and rural markets may require land acquisition on a limited scale if they involve the construction of new facilities on private lands. Typical cases for which land acquisition is required in the Project are indicated as follows.

Widening of roads

Many existing Upazila and Union roads are substandard with respect to road width. Thus, road widening works, to meet the Road Design Standards (RDS/2005), will be necessary for the upgrading, which will involve the acquisition of small strips of roadside land.

Realignment of roads

There are many sharp bends on the existing roads. Such bends need to be straightened as per the Road Design Standards. This will require comparatively larger-scale land acquisition.

Increase in embankment heights

Raising embankment heights will be necessary to avoid submersion in flood water. This inevitably requires additional base widths to prevent slope failures, and in turn necessitates the acquisition of

small strips of roadside land.

Construction of approach roads for large-scale bridges

The construction of bridges over large gaps is planned in the Project. Such large-scale bridges need adequate approach roads, which will require acquisition of certain areas of land.

Development of growth centers and rural markets

Improvement of growth centers and rural markets may require land acquisition if facilities requiring additional land are planned.

3. Area of land to be acquired in the Project

The precise area of land to be acquired in the Project cannot be estimated at the SAPROF phase for the following reasons.

- Sizeable areas of land to be acquired are considered public lands (*khash* lands), which will not require land acquisition.
- Some portions of land will be acquired through voluntary donations if the area to be acquired is small.
- Detailed road designs and specifications of each subproject are not determined yet.

The study therefore makes a rough estimate on the area to be acquired in the Project, using available data on the areas of land acquired in past similar projects. The figures from RDP-24 and RDP-25 are used as reference, as the Project is similar to these projects in terms of the target districts. The area of land to be acquired in Greater Faridpur is estimated based on the figure for RDP-24, whose target districts belong to Grater Faridpur. Similarly, the figure for RDP-25 is employed to estimate the area to be acquired in Barisal Division and Greater Khulna.

Land acquisition associated with the upgrading of Union roads is not included, since the area to be acquired to improve Union roads will be very small. For example, Union roads upgraded in RDP-25 did not involve any land acquisition. Similarly, land acquisition related to growth centers and rural markets is not reckoned because market improvement works will involve land acquisition on a very limited scale. In RDP-25, only four growth centers out of 68 required a total of 0.25 ha of land acquisition.

Table 1 indicates the actually acquired land in RDP-24 and RDP-25.

Table 1 Land acquisition of past similar projects

Project	Area of the acquired land (ha)	Total length of upgraded Upazila road (km)	Acquired Land per kilometer (ha)
RDP-24	14	638	0.022
RDP-25	22.75	1226	0.019

Source: Interviews with PIO of RDP-24 and RDP-25

As indicated in Table 1, the estimated area to be acquired per kilometer is 0.022 ha in RDP-24 and 0.019 ha in RDP-25. Thus, the figure of 0.022 is applied to the Upazila roads in Greater Faridpur, while 0.019 is applied to those in Barisal and Greater Khulna. The total length of Upazila roads to be upgraded under the Project is 880.8 km, i.e., 234.3 km in Grater Faridpur, 382.5 km in Barisal, and 264.0 km in Greater Khulna. Consequently, a total of 17.1 ha of land are estimated to be acquired in the Project.

In terms of the costs of land acquisition, the costs per hectare that were required in RDP-24 and RDP-25, shown in Table 2, are used for the estimate.

Table 2 Actual costs of land acquisition in past similar projects

Project	Area of acquired land (ha)	Actual cost of acquisition (million tk.)	Cost per hectare (million tk.)
RDP-24	14	10.25	0.73
RDP-25	22.75	35	1.54

(Source) Interviews with PIO of RDP-24 and RDP-25

The cost of land acquisition in the Project is calculated based on the costs per hectare of RDP-24 and RDP-25 and the total length of Upazila roads to be upgraded in the Project. Inflation adjustments were also made based on the Consumer Price Index of Bangladesh. The required total cost amounted to tk. 30.8 million.

Table 3 Estimated cost for land acquisition in the Project

Division	Cost per hectare (million tk.)	Area to be acquired (ha)	Inflation Rate (%)	Estimated Cost (million tk.)
Total		**17.14**		**30.79**
Barisal Division	1.54	7.10	137.5	15.03
Greater Faridpur	0.73	5.14	143.6	5.39
Greater Khulna	1.54	4.90	137.5	10.37


JICA