

Government of Bangladesh
Local Government Division, Policy Support Unit

Sector Development Plan (FY 2011-25)

Water Supply and Sanitation Sector in Bangladesh

WORKING DOCUMENT NUMBER 19

Calculations of the Sector Investment Plan (SIP)

Prepared by

Devcon

July 2011

The working documents were used as background materials for preparing the Sector Development Plan (SDP). The factual information and views expressed in the working documents are of the authors and does not necessarily of the Policy Support Unit or of the agencies that the authors belong to.

SDP – INVESTMENT PLAN

TOTAL INVESTMENT

Sub-Sector	Scenario 2			Total
	Short Term (2010-2015)	Medium Term (2016-2020)	Long Term (2021-2025)	
Urban Water Supply	165,220	280,467	269,257	714,945
Urban Sanitation	93,513	107,555	134,823	335,891
Urban Drainage	40,485	65,449	74,538	180,472
Rural Water Supply	44,687	42,824	55,111	142,622
Rural Sanitation	36,504	27,726	27,360	91,590
Sector Total in Each Term	380,410	524,021	561,089	1,465,520

Breakdown of total investment (scenario 2)

Urban Water Supply	Scenario 2			Total
	Short Term (2010-2015)	Medium Term (2016-2020)	Long Term (2021-2025)	
Public Investment i/c O&M	105,065	165,029	98,599	368,693
Revenue from Urban Facilities	55,216	86,203	124,092	265,511
Community Contribution as Cost Sharing	89	52	32	173
Private Household Investment	3,170	11,577	18,330	33,076
Private Entrepreneur	-	13,225	24,747	37,972
NGOs	1,680	4,382	3,457	9,519
Total in Each Term	165,220	280,467	269,257	714,945

Urban Sanitation	Scenario 2			Total
	Short Term (2010-2015)	Medium Term (2016-2020)	Long Term (2021-2025)	
Public Investment i/c O&M	58,127	58,023	69,135	185,284
Revenue from Urban Facilities	16,547	27,453	40,917	84,917
Community Contribution as Cost Sharing	63	51	37	152
Private Household Investment	17,673	20,378	23,041	61,091
Private Entrepreneur	-	-	-	-
NGOs	1,104	1,651	1,693	4,447
Total in Each Term	93,513	107,555	134,823	335,891

Urban Drainage	Scenario 2			Total
	Short Term (2010-2015)	Medium Term (2016-2020)	Long Term (2021-2025)	
Public Investment i/c O&M	23,289	34,638	30,021	87,949
Revenue from Urban Facilities	17,196	30,810	44,517	92,524
Community Contribution as Cost Sharing	-	-	-	-
Private Household Investment	-	-	-	-
Private Entrepreneur	-	-	-	-
NGOs	-	-	-	-
Total in Each Term	40,485	65,449	74,538	180,472

Rural Water Supply	Scenario 2			Total
	Short Term (2010-2015)	Medium Term (2016-2020)	Long Term (2021-2025)	
Public Investment i/c O&M	19,862	29,444	33,485	82,791
Revenue from Urban Facilities	-	-	-	-
Community Contribution as Cost Sharing	1,658	2	-	1,660
Private Household Investment	18,192	11,821	17,905	47,919
Private Entrepreneur	-	1,550	3,721	5,270
NGOs	4,975	7	-	4,982
Total in Each Term	44,687	42,824	55,111	142,622

Rural Sanitation	Scenario 2			Total
	Short Term (2010-2015)	Medium Term (2016-2020)	Long Term (2021-2025)	
Public Investment i/c O&M	4,114	1,164	1,138	6,416
Revenue from Urban Facilities	-	-	-	-
Community Contribution as Cost Sharing	298	1	-	299
Private Household Investment	30,642	26,418	26,108	83,168
Private Entrepreneur	-	-	-	-
NGOs	1,450	143	114	1,706
Total in Each Term	36,504	27,726	27,360	91,590

Water Supply Investments

Sources of Funds

Sources of Fund-Urban	Scenario 1			Scenario 2			Scenario 3		
	2015	2020	2025	2015	2020	2025	2015	2020	2025
Public Investment i/c O&M	55,290	127,477	122,717	105,065	165,029	98,599	127,698	152,066	96,505
Revenue from Urban Facilities	39,975	63,746	99,122	55,216	86,203	124,092	65,583	98,926	140,954
Community Contribution as Cost Sharing	124	82	47	89	52	32	72	39	20
Private Household Investment	3,864	8,993	14,771	3,170	11,577	18,330	4,269	13,288	21,758
Private Entrepreneur	-	-	-	-	13,225	24,747	-	27,892	41,908
NGOs	904	701	388	1,680	4,382	3,457	1,732	4,398	3,745
Total in Each Term	100,157	201,000	237,044	165,220	280,467	269,257	199,353	296,609	304,889
Cumulative Total (million BDT)	100,157	301,157	538,202	165,220	445,688	714,945	199,353	495,963	800,852
Total in each term (million USD)	1,431	2,871	3,386	2,360	4,007	3,847	2,848	4,237	4,356
Cumulative Total (million USD)	1,431	4,302	7,689	2,360	6,367	10,213	2,848	7,085	11,441
Sources of Fund-Rural	Scenario 1			Scenario 2			Scenario 3		
	2015	2020	2025	2015	2020	2025	2015	2020	2025
Public Investment i/c O&M	17,602	5,131	23,890	19,862	29,444	33,485	17,347	61,979	34,192
Revenue	-	-	-	-	-	-	-	-	-
Community Contribution as Cost Sharing	1,768	2	-	1,658	2	-	1,209	1	-
Private Household Investment	15,238	6,553	10,870	18,192	11,821	17,905	24,432	18,347	24,637
Private Entrepreneur	-	-	-	-	1,550	3,721	-	6,887	6,034
NGOs	4,823	7	-	4,975	7	-	5,182	7	-
Total in Each Term	39,431	11,692	34,760	44,687	42,824	55,111	48,170	87,221	64,863
Cumulative Total (million BDT)	39,431	51,123	85,883	44,687	87,511	142,622	48,170	135,391	200,254
Total in each term (million USD)	563	167	497	638	612	787	688	1,246	927
Cumulative Total (million USD)	563	730	1,227	638	1,250	2,037	688	1,934	2,861

Water Supply – details of investments

Planning Area	Scenario 1			Scenario 2			Scenario 3		
	2015	2020	2025	2015	2020	2025	2015	2020	2025
Dhaka WASA									
Public	47,737	74,731	91,172	64,634	96,268	94,681	73,084	99,126	101,576
Users	340	244	154	195	-	-	165	-	-
NGO	58	41	19	245	1,195	1,022	261	1,179	1,079
Cost Sharing	-	-	-	-	-	-	-	-	-
Private Entrepreneur	-	-	-	-	4,813	9,468	-	9,913	15,236
Revenue	24,486	35,539	53,376	30,236	44,655	62,981	34,952	50,247	70,236
Net Public Investment	23,251	39,192	37,796	34,397	46,799	22,232	38,132	38,967	16,103
Chittagong WASA									
Public	13,169	32,994	34,259	33,214	35,763	28,781	38,913	35,163	30,864
Users	479	232	73	182	-	-	144	-	-
NGO	94	46	10	184	479	305	189	444	322
Cost Sharing	-	-	-	-	-	-	-	-	-
Private Entrepreneur	-	-	-	-	1,788	2,878	-	3,516	4,630
Revenue	4,569	9,571	16,053	8,223	13,524	18,986	9,898	15,258	21,216
Net Public Investment	8,600	23,423	18,205	24,992	20,451	6,918	29,015	16,389	5,019
Khulna WASA									
Public	4,013	10,051	10,436	8,164	12,723	8,767	9,765	12,696	9,402
Users	182	88	28	104	-	-	91	-	-
NGO	36	17	4	64	181	93	65	171	98
Cost Sharing	-	-	-	-	-	-	-	-	-
Private Entrepreneur	-	-	-	-	636	877	-	1,270	1,410
Revenue	1,337	2,798	4,717	2,116	3,961	5,591	2,575	4,482	6,261
Net Public Investment	2,676	7,253	5,719	6,048	8,125	2,300	7,190	6,944	1,731
Cities without WASA									
Public	3,786	8,300	8,048	7,574	9,658	7,105	8,931	9,581	7,588
Users	117	51	18	62	-	-	56	-	-
NGO	24	10	2	46	121	62	47	113	65
Cost Sharing	1	0	0	1	-	-	0	-	-
Private Entrepreneur	-	-	-	-	483	711	-	958	1,138
Revenue	1,390	2,810	4,356	2,251	3,885	5,191	2,738	4,409	5,841
Net Public Investment	2,395	5,490	3,692	5,322	5,290	1,204	6,192	4,214	609
Municipalities									
Public	25,501	33,866	44,132	45,843	53,530	65,548	55,879	59,867	73,318
Users	1,280	1,208	1,147	937	690	453	922	626	311
NGO	250	224	146	449	873	873	458	898	905
Cost Sharing	13	9	6	8	4	2	4	1	-
Private Entrepreneur	-	-	-	-	2,676	6,555	-	5,987	10,998
Revenue	8,193	13,028	20,619	12,390	20,178	31,344	15,419	24,531	37,400
Net Public Investment	17,295	20,829	23,508	33,446	30,672	27,647	40,456	29,348	24,920
Other Urban Centres									
Public	1,183	31,362	33,839	942	56,568	42,587	6,781	62,492	56,638
Users	1,465	7,171	13,352	1,690	10,887	17,877	2,891	12,662	21,447
NGO	442	364	207	692	1,533	1,103	712	1,592	1,276
Cost Sharing	111	73	41	81	47	30	69	38	20
Private Entrepreneur	-	-	-	-	2,828	4,259	-	6,249	8,496
Revenue	-	-	-	-	-	-	-	-	-
Net Public Investment	1,073	31,290	33,797	861	53,692	38,298	6,713	56,204	48,123
Rural Areas									
Public	19,370	5,133	23,890	21,520	30,996	37,205	18,556	68,867	40,226
Users	15,238	6,553	10,870	18,192	11,821	17,905	24,432	18,347	24,637
NGO	4,823	7	-	4,975	7	-	5,182	7	-
Cost Sharing	1,768	2	-	1,658	2	-	1,209	1	-
Private Entrepreneur	-	-	-	-	1,550	3,721	-	6,887	6,034
Revenue	-	-	-	-	-	-	-	-	-
Net Public Investment	17,602	5,131	23,890	19,862	29,444	33,485	17,347	61,979	34,192
Total Urban									
Public	95,389	191,305	221,886	160,370	264,509	247,470	193,353	278,924	279,387
Users	3,864	8,993	14,771	3,170	11,577	18,330	4,269	13,288	21,758
NGO	904	701	388	1,680	4,382	3,457	1,732	4,398	3,745
Cost Sharing	124	82	47	89	52	32	72	39	20
Private Entrepreneur	-	-	-	-	13,225	24,747	-	27,892	41,908
Revenue	39,975	63,746	99,122	55,216	86,203	124,092	65,583	98,926	140,954
Net Public Investment	55,290	127,477	122,717	105,065	165,029	98,599	127,698	152,066	96,505

Sanitation Investments

Sources of Funds

Sources of Fund- Urban	Scenario 1			Scenario 2			Scenario 3		
	2015	2020	2025	2015	2020	2025	2015	2020	2025
Public Investment i/c O&M	29,834	43,836	60,903	58,127	58,023	69,135	76,970	80,929	81,478
Revenue from Urban Facilities	11,230	18,267	28,527	16,547	27,453	40,917	21,470	37,624	55,835
Community Contribution as Cost Sharing	102	78	66	63	51	37	40	26	10
Private Household Investment	18,588	18,760	21,576	17,673	20,378	23,041	19,649	21,671	24,035
Private Entrepreneur	-	-	-	-	-	-	-	-	-
NGOs	1,797	947	509	1,104	1,651	1,693	782	1,881	1,853
Total in Each Term	61,550	81,889	111,580	93,513	107,555	134,823	118,911	142,131	163,210
Cumulative Total (million BDT)	61,550	143,439	255,020	93,513	201,069	335,891	118,911	261,042	424,253
Total in each term (million USD)	879	1,170	1,594	1,336	1,537	1,926	1,699	2,030	2,332
Cumulative Total (million USD)	879	2,049	3,643	1,336	2,872	4,798	1,699	3,729	6,061
Sources of Fund- Rural	Scenario 1			Scenario 2			Scenario 3		
	2015	2020	2025	2015	2020	2025	2015	2020	2025
Public Investment i/c O&M	4,000	1,164	1,138	4,114	1,164	1,138	4,251	1,165	1,138
Revenue	-	-	-	-	-	-	-	-	-
Community Contribution as Cost Sharing	293	1	-	298	1	-	303	1	-
Private Household Investment	26,178	22,018	21,757	30,642	26,418	26,108	35,106	30,818	30,460
Private Entrepreneur	-	-	-	-	-	-	-	-	-
NGOs	1,430	143	114	1,450	143	114	1,470	143	114
Total in Each Term	31,902	23,325	23,009	36,504	27,726	27,360	41,129	32,126	31,712
Cumulative Total (million BDT)	31,902	55,227	78,236	36,504	64,229	91,590	41,129	73,256	104,967
Total in each term (million USD)	456	333	329	521	396	391	588	459	453
Cumulative Total (million USD)	456	789	1,118	521	918	1,308	588	1,047	1,500

Sanitation – details of investments

Planning Area	Scenario 1			Scenario 2			Scenario 3		
	2015	2020	2025	2015	2020	2025	2015	2020	2025
Dhaka WASA									
Public	40,207	53,391	70,426	70,976	65,526	85,429	89,873	92,649	101,800
Users	6,679	4,703	5,372	3,838	4,356	4,789	3,849	3,720	3,917
NGO	953	345	189	539	1,047	1,228	473	1,373	1,364
Cost Sharing	25	14	15	7	7	8	5	5	5
Private Entrepreneur	-	-	-	-	-	-	-	-	-
Revenue	11,230	17,011	24,186	16,079	23,651	32,912	20,074	31,534	43,206
Net Public Investment	28,952	36,365	46,224	54,890	41,868	52,509	69,795	61,110	58,589
Chittagong WASA									
Public	99	6,995	10,976	3,039	12,024	14,109	6,303	13,773	20,815
Users	1,473	1,660	1,827	1,630	1,713	1,832	1,749	1,798	1,749
NGO	129	94	50	95	231	214	65	224	293
Cost Sharing	7	7	8	4	4	4	3	3	3
Private Entrepreneur	-	-	-	-	-	-	-	-	-
Revenue	-	1,090	2,893	468	2,497	4,936	1,070	3,542	7,425
Net Public Investment	92	5,898	8,075	2,566	9,523	9,169	5,230	10,228	13,386
Khulna WASA									
Public	44	1,100	2,985	41	3,351	3,920	985	3,863	5,937
Users	555	660	731	643	683	737	696	724	715
NGO	49	38	20	33	71	63	20	67	85
Cost Sharing	3	4	4	3	3	3	2	2	2
Private Entrepreneur	-	-	-	-	-	-	-	-	-
Revenue	-	166	661	-	570	1,253	163	863	1,979
Net Public Investment	41	930	2,320	38	2,777	2,664	820	2,998	3,956
Cities without WASA									
Public	30	29	1,026	28	910	1,402	801	1,241	2,316
Users	491	590	679	574	654	742	630	708	777
NGO	34	25	14	23	26	24	14	21	30
Cost Sharing	2	2	2	2	1	1	1	0	-
Private Entrepreneur	-	-	-	-	-	-	-	-	-
Revenue	-	-	192	-	178	442	163	407	871
Net Public Investment	28	27	833	26	731	958	636	833	1,445
Municipalities									
Public	278	258	3,774	257	3,395	5,013	198	6,818	6,328
Users	4,780	5,684	6,601	5,598	6,496	7,474	6,463	7,272	8,328
NGO	309	224	122	209	162	117	106	150	80
Cost Sharing	21	18	15	17	13	10	8	4	-
Private Entrepreneur	-	-	-	-	-	-	-	-	-
Revenue	-	-	594	-	557	1,373	-	1,278	2,353
Net Public Investment	257	240	3,165	240	2,824	3,630	190	5,535	3,974
Other Urban Centres									
Public	507	409	309	396	321	216	320	236	126
Users	4,609	5,464	6,365	5,388	6,476	7,466	6,262	7,449	8,549
NGO	323	221	114	205	112	46	104	46	-
Cost Sharing	43	33	23	31	22	12	21	11	-
Private Entrepreneur	-	-	-	-	-	-	-	-	-
Revenue	-	-	-	-	-	-	-	-	-
Net Public Investment	464	376	286	365	299	204	299	225	126
Rural Areas									
Public	4,294	1,165	1,138	4,412	1,165	1,138	4,553	1,166	1,138
Users	26,178	22,018	21,757	30,642	26,418	26,108	35,106	30,818	30,460
NGO	1,430	143	114	1,450	143	114	1,470	143	114
Cost Sharing	293	1	-	298	1	-	303	1	-
Private Entrepreneur	-	-	-	-	-	-	-	-	-
Revenue	-	-	-	-	-	-	-	-	-
Net Public Investment	4,000	1,164	1,138	4,114	1,164	1,138	4,251	1,165	1,138
Total Urban									
Public	41,165	62,181	89,495	74,737	85,527	110,089	98,480	118,579	137,322
Users	18,588	18,760	21,576	17,673	20,378	23,041	19,649	21,671	24,035
NGO	1,797	947	509	1,104	1,651	1,693	782	1,881	1,853
Cost Sharing	102	78	66	63	51	37	40	26	10
Private Entrepreneur	-	-	-	-	-	-	-	-	-
Revenue	11,230	18,267	28,527	16,547	27,453	40,917	21,470	37,624	55,835
Net Public Investment	29,834	43,836	60,903	58,127	58,023	69,135	76,970	80,929	81,478

Drainage Investments

Source of Funds

Sources of Fund	Scenario 1			Scenario 2			Scenario 3		
	2015	2020	2025	2015	2020	2025	2015	2020	2025
Public Investment i/c O&M	23,252	34,851	31,450	23,289	34,638	30,021	32,070	36,959	31,969
Revenue from Urban Facilities	14,256	25,716	37,314	17,196	30,810	44,517	23,927	41,008	58,194
Community Contribution as Cost Sharing	-	-	-	-	-	-	-	-	-
Private Household Investment	-	-	-	-	-	-	-	-	-
Private Entrepreneur	-	-	-	-	-	-	-	-	-
NGOs	-	-	-	-	-	-	-	-	-
Total in Each Term	37,508	60,567	68,763	40,485	65,449	74,538	55,997	77,967	90,163
Cumulative Total (million BDT)	37,508	98,075	166,838	40,485	105,934	180,472	55,997	133,965	224,128
Total in each term (million USD)	536	865	982	578	935	1,065	800	1,114	1,288
Cumulative Total (million USD)	536	1,401	2,383	578	1,513	2,578	800	1,914	3,202

Drainage – details of investments

Planning Area	Scenario 1			Scenario 2			Scenario 3		
	2015	2020	2025	2015	2020	2025	2015	2020	2025
Dhaka WASA									
Public	17,311	24,371	28,871	18,720	26,416	31,376	25,295	31,345	37,359
Users	-	-	-	-	-	-	-	-	-
NGO	-	-	-	-	-	-	-	-	-
Cost Sharing	-	-	-	-	-	-	-	-	-
Private Entrepreneur	-	-	-	-	-	-	-	-	-
Revenue	8,422	15,121	21,767	10,107	18,019	25,860	13,935	23,816	33,667
Net Public Investment	8,888	9,250	7,104	8,613	8,396	5,517	11,359	7,529	3,692
Chittagong WASA									
Public	5,858	7,610	8,903	6,329	8,249	9,678	8,446	9,784	11,521
Users	-	-	-	-	-	-	-	-	-
NGO	-	-	-	-	-	-	-	-	-
Cost Sharing	-	-	-	-	-	-	-	-	-
Private Entrepreneur	-	-	-	-	-	-	-	-	-
Revenue	2,431	4,359	6,509	2,942	5,231	7,757	4,085	6,955	10,126
Net Public Investment	3,426	3,250	2,394	3,387	3,018	1,921	4,362	2,829	1,395
Khulna WASA									
Public	1,534	1,947	2,233	1,655	2,107	2,423	2,218	2,489	2,877
Users	-	-	-	-	-	-	-	-	-
NGO	-	-	-	-	-	-	-	-	-
Cost Sharing	-	-	-	-	-	-	-	-	-
Private Entrepreneur	-	-	-	-	-	-	-	-	-
Revenue	555	996	1,487	672	1,195	1,772	933	1,589	2,313
Net Public Investment	978	951	746	983	912	651	1,285	900	564
Cities without WASA									
Public	1,597	1,948	2,163	1,720	2,109	2,350	2,306	2,490	2,792
Users	-	-	-	-	-	-	-	-	-
NGO	-	-	-	-	-	-	-	-	-
Cost Sharing	-	-	-	-	-	-	-	-	-
Private Entrepreneur	-	-	-	-	-	-	-	-	-
Revenue	552	925	1,298	671	1,119	1,563	936	1,499	2,060
Net Public Investment	1,045	1,023	866	1,049	990	787	1,370	991	732
Municipalities									
Public	10,128	13,924	14,113	10,888	15,004	15,262	15,132	17,311	18,161
Users	-	-	-	-	-	-	-	-	-
NGO	-	-	-	-	-	-	-	-	-
Cost Sharing	-	-	-	-	-	-	-	-	-
Private Entrepreneur	-	-	-	-	-	-	-	-	-
Revenue	2,294	4,314	6,252	2,804	5,245	7,565	4,038	7,149	10,028
Net Public Investment	7,834	9,610	7,861	8,084	9,759	7,697	11,094	10,161	8,132
Other Urban Centres									
Public	1,081	10,768	12,480	1,173	11,564	13,449	2,600	14,549	17,453
Users	-	-	-	-	-	-	-	-	-
NGO	-	-	-	-	-	-	-	-	-
Cost Sharing	-	-	-	-	-	-	-	-	-
Private Entrepreneur	-	-	-	-	-	-	-	-	-
Revenue	-	-	-	-	-	-	-	-	-
Net Public Investment	1,081	10,768	12,480	1,173	11,564	13,449	2,600	14,549	17,453
Rural Areas									
Public	-	-	-	-	-	-	-	-	-
Users	-	-	-	-	-	-	-	-	-
NGO	-	-	-	-	-	-	-	-	-
Cost Sharing	-	-	-	-	-	-	-	-	-
Private Entrepreneur	-	-	-	-	-	-	-	-	-
Revenue	-	-	-	-	-	-	-	-	-
Net Public Investment	-	-	-	-	-	-	-	-	-
Total									
Public	37,508	60,567	68,763	40,485	65,449	74,538	55,997	77,967	90,163
Users	-	-	-	-	-	-	-	-	-
NGO	-	-	-	-	-	-	-	-	-
Cost Sharing	-	-	-	-	-	-	-	-	-
Private Entrepreneur	-	-	-	-	-	-	-	-	-
Revenue	14,256	25,716	37,314	17,196	30,810	44,517	23,927	41,008	58,194
Net Public Investment	23,252	34,851	31,450	23,289	34,638	30,021	32,070	36,959	31,969