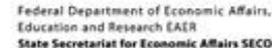
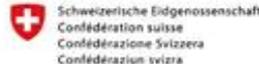




Cities Development Initiative for Asia

Pre-feasibility Studies and Preliminary Engineering in Gazipur & Khulna City Corporations

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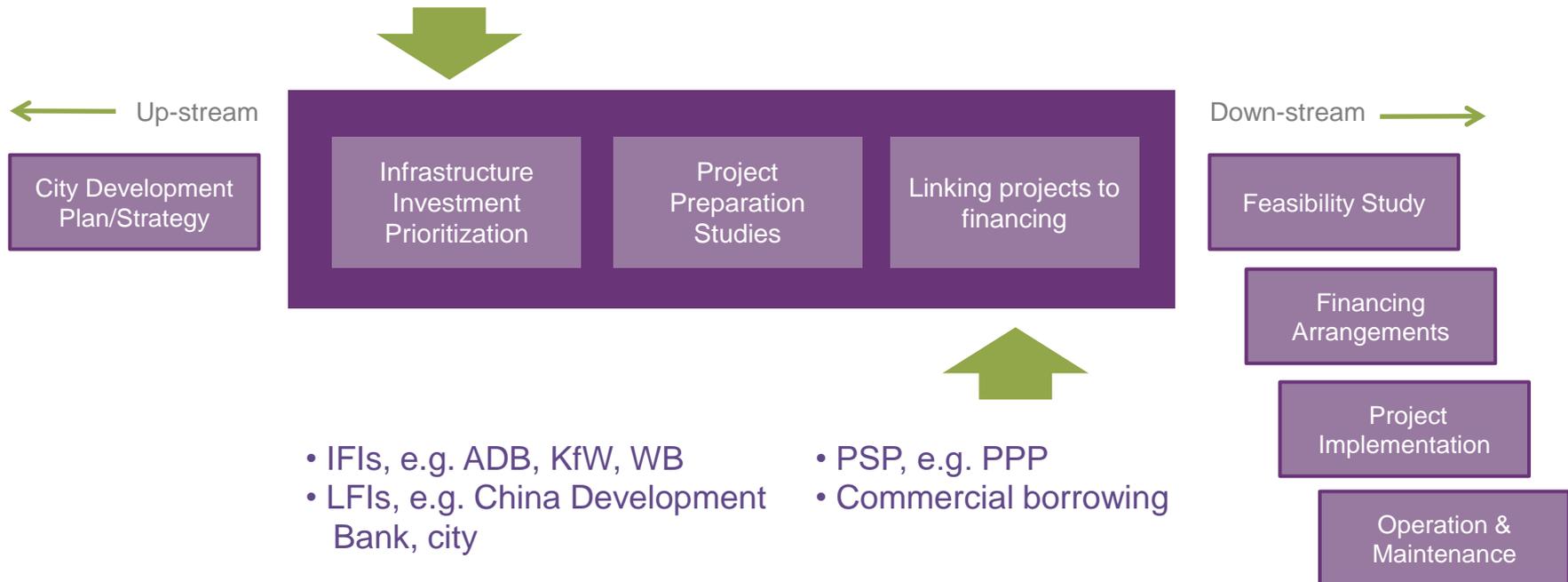
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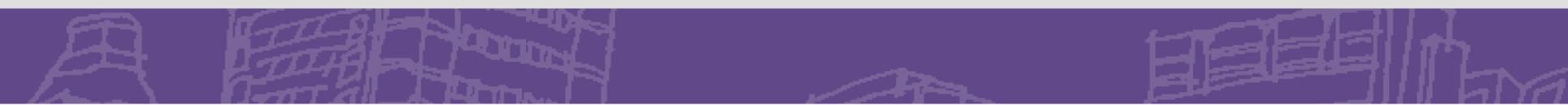
CDIA Focus Areas



- City Infrastructure Investment Programming and Prioritization (CIIPP)



Gazipur & Khulna

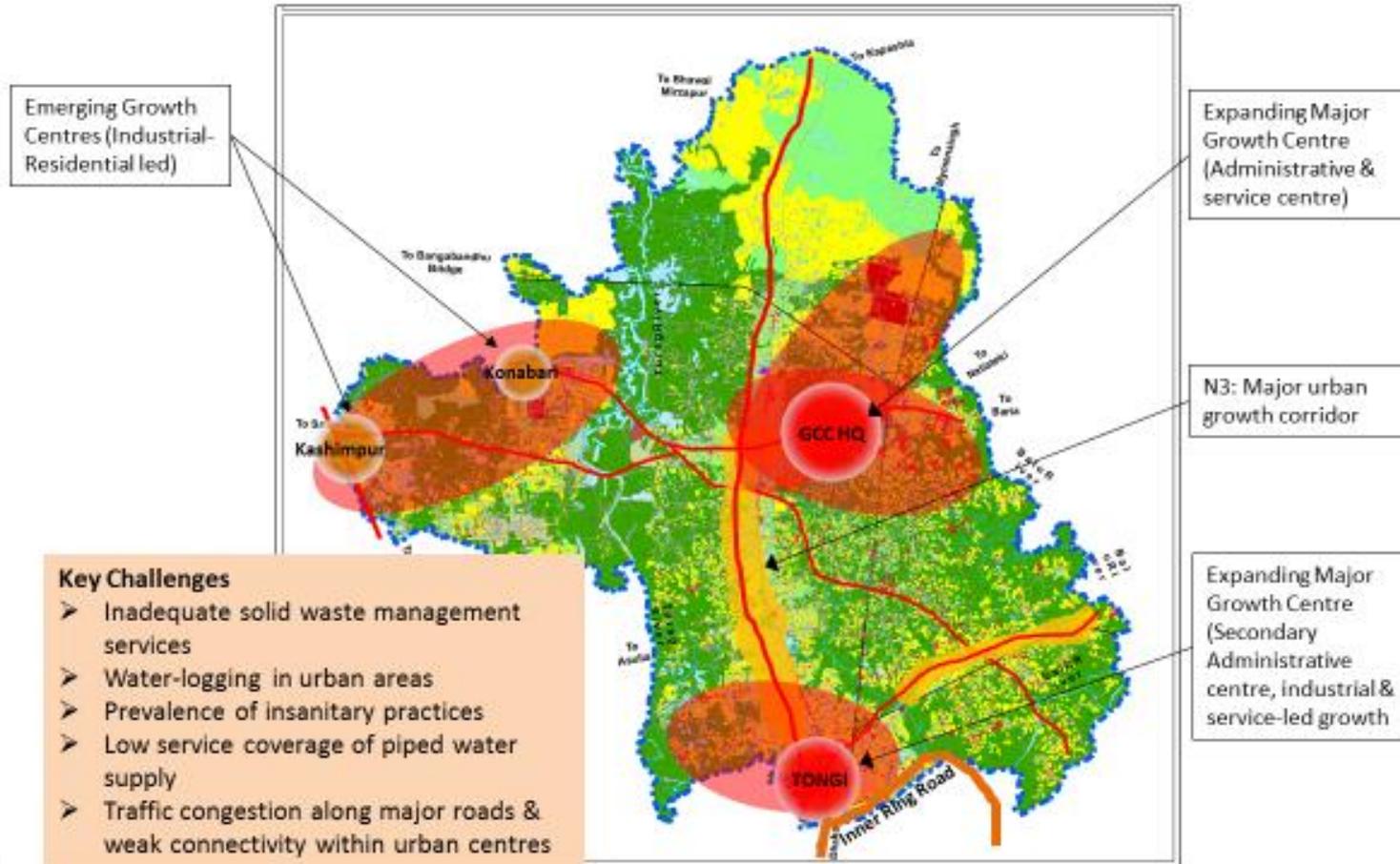


Project Overview

- For each city:
 - Conduct rapid sector assessments;
 - Prepare 20-year road maps;
 - Assist the City Corporations to select priority sub-projects
 - Prepare pre-feasibility studies and preliminary engineering designs.
 - Road map for institutional capacity development
- Feeds into the City Region Development Project II
- Identifies projects for potential KfW funding



Gazipur key challenges (population 2.1 million)



Gazipur 20-year road map

Sector	Capital Cost (in USD) (in millions)			
	Short-term (2017-2021)	Medium-term (2022 - 2026)	Long-term (2027 - 2036)	Total
Solid Waste Management	0	10.28	4.8	15.07
Drainage	33.19	22.08	10.22	65.49
Transportation (Roads)	23.15	19.28	0	42.43
Sanitation, Sewerage & Septage Management	24.08	1.44	4.19	29.71
Water Supply	0.12	9	33.62	42.74
Total	80.54	62.08	52.83	195.44

Priority Drainage – 15 sub-projects



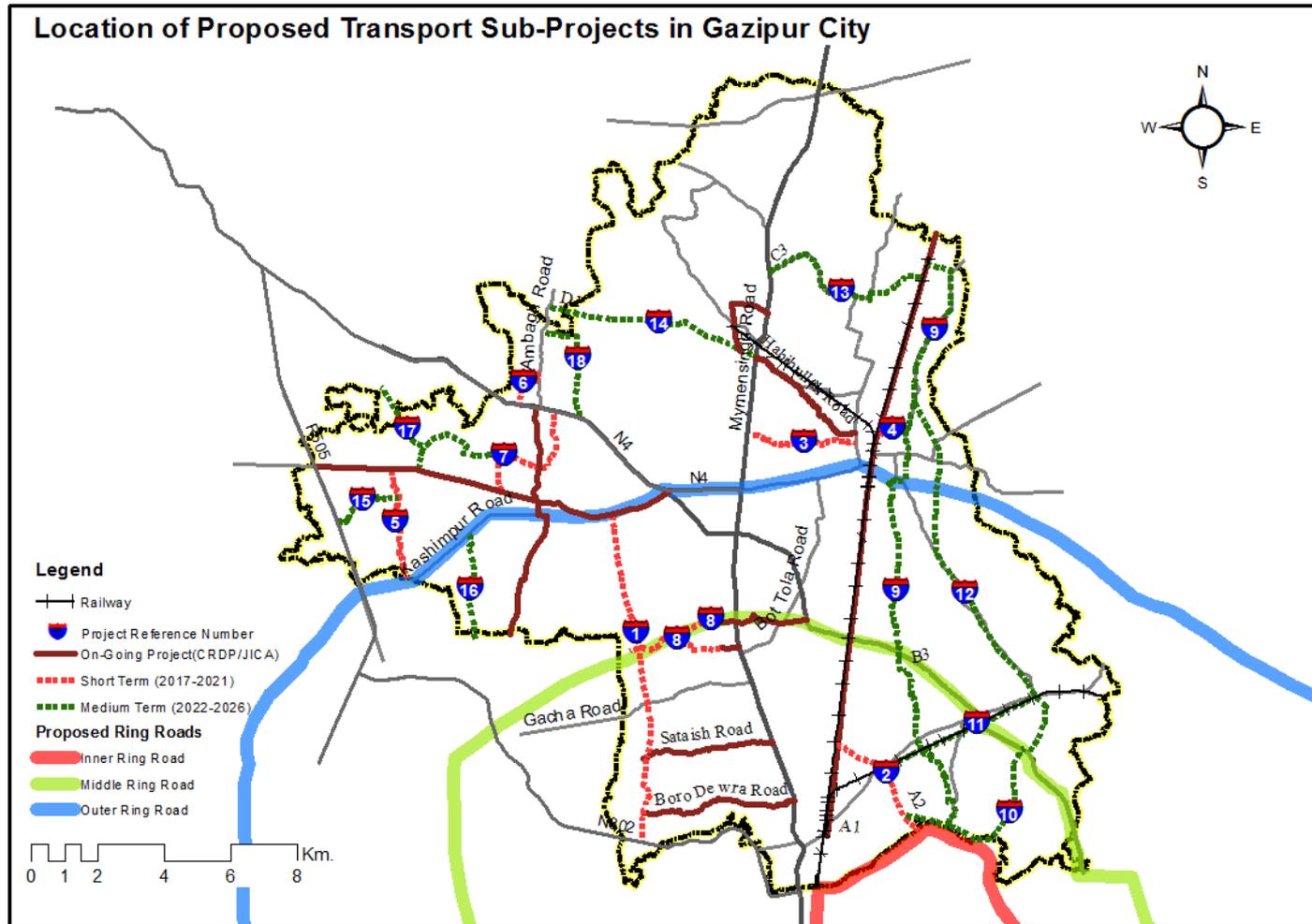
Typical drainage channel for improvement



Drainage sub-projects located in zones 1 & 3 only

Sl. No.	Description	Capital Cost	
		Total	O&M
Zone 1 (Tongi)			
DR-1	Construction of RCC Drain	2.31	0.33
DR-2	Construction of RCC Drain	0.56	0.08
DR-3	Construction of RCC Drain	3.38	0.48
DR-4	Construction of RCC Drain	3.77	0.54
DR-5	Construction of RCC Drain	1.48	0.21
DR-6	Construction of RCC Drain	3.22	0.46
DR-7	Construction of RCC Drain	1.17	0.17
DR-8	Construction of RCC Drain	1.46	0.21
DR-9	Construction of RCC Drain	1.18	0.17
DR-10	Construction of RCC Drain	0.71	0.10
Total - Zone 1		19.24	2.75
Zone 3 (Gazipur)			
DR-11	Construction of RCC Drain	4.15	0.59
DR-12	Construction of RCC Drain	4.78	0.68
DR-13	Construction of RCC Drain	4.42	0.63
DR-14	Construction of RCC Drain	1.65	0.24
DR-15	Re-excavation of Canal	0.67	0.10
Total - Zone 3		15.67	2.23
Total - Zone 1 & 3		34.90	4.98

Priority road projects



Typical road targeted for improvement



Road sub-projects with minimum land issues only

Sl. No.	Name	Capital Cost	O & M Cost
TR-1	Tongi Ashulia Road to Koddar More	14.89	0.42
TR-2	A bridge on Turag at Pagar Gudaraghat and Road from Pagar Gudaraghat to Hyderabad Bridge	4.45	0.15
TR-3	Neyamot Road Widening and upgrading with drain	2.54	0.07
TR-4	New Road from Shimultoly Road to Marta Road	4.28	0.02
TR-5	Improvement of Bhabanipur Primary School to Mother textile (via Latifpur) Road	1.25	0.02
TR-6	Improvement of Aambagh Municipal Road	1.13	0.03
TR-7	Improvement of Jarun Road and East Enayetpur Road	3.50	0.10
TR-8	Improvement of IUT to Icarkandi Road and Signboard to Kamarjuri Road	4.19	0.12
Total		36.22	0.94

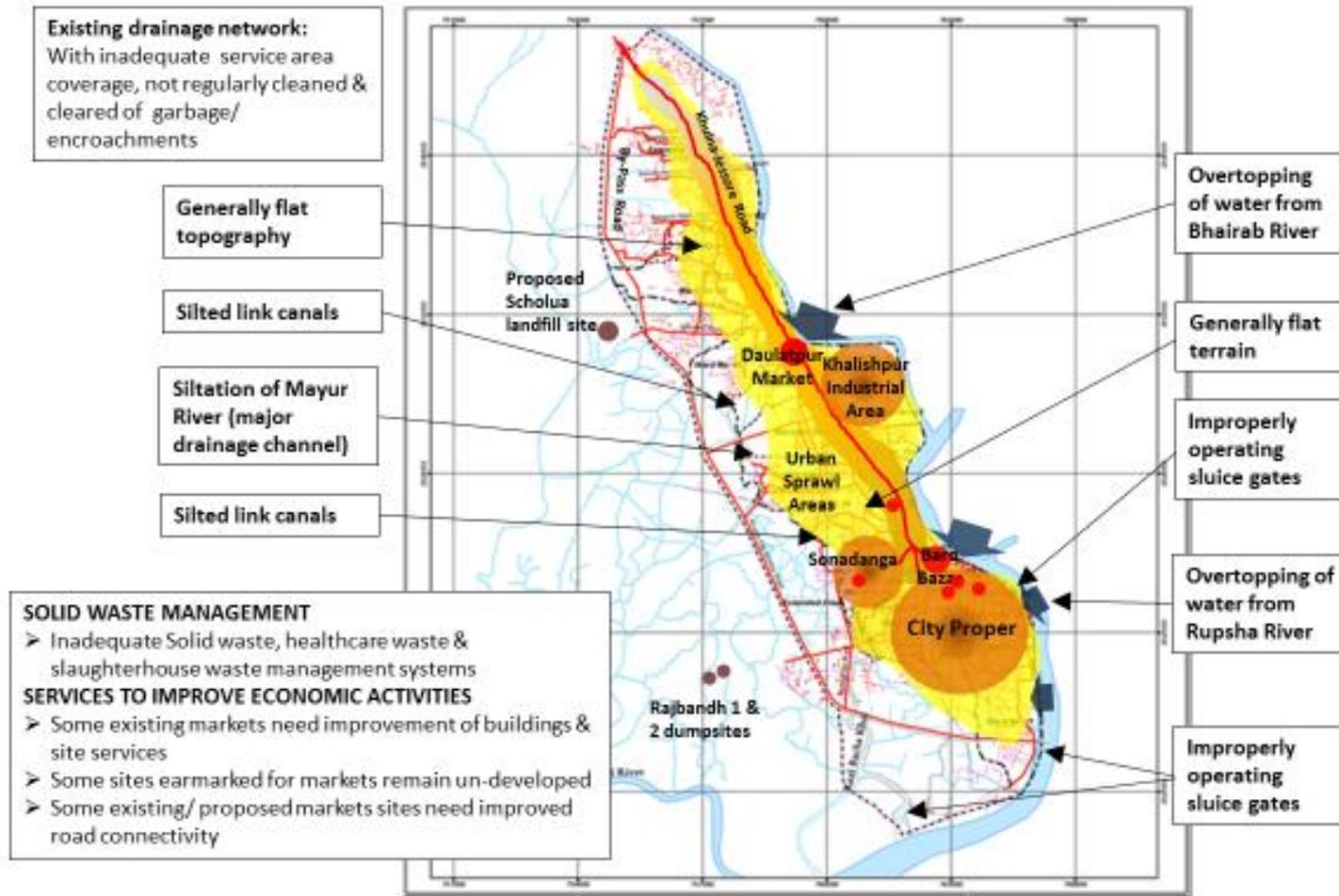
Priority sanitation sub-projects

Sl. No.	Name	Capital Cost	O & M Cost
SSS-1	Conversion of household latrines into sanitary ones	22.91	0
SSS-2	Public/Community latrines	1.17	0.18
Total		24.08	0.18

Priority water sub-projects

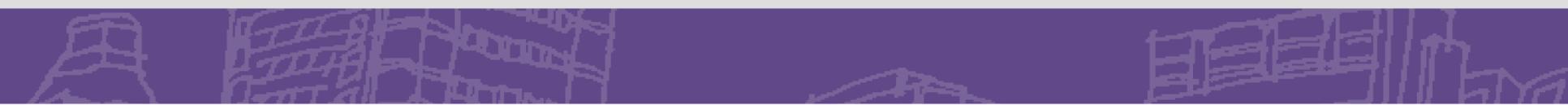
Zone	Observation Well, nos.	Remarks
1	6	Including 5 PTWs
2	6	
3	3	All are PTWs
4	7	
5	7	
Total	29	Including 8 PTWs

Khulna key challenges (1.3 million)

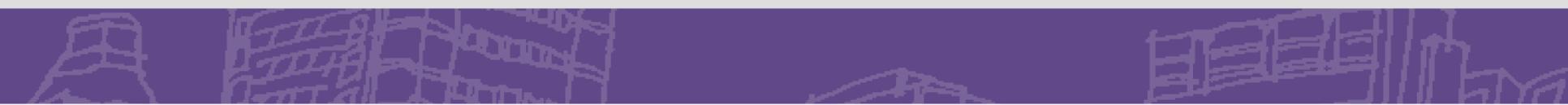


Khulna 20-year road map

Sector	Capital Cost (in USD) (in millions)			
	Short-term (2017-2021)	Medium-term (2022 - 2026)	Long-term (2027 - 2036)	Total
Solid Waste Management	9.14	0.75	2.33	12.22
Drainage & Flood Control	107.76	0.00	0.00	107.76
Services to improve Economic Activities	42.28	8.76	5.63	56.67
Total	159.19	9.51	7.96	176.65



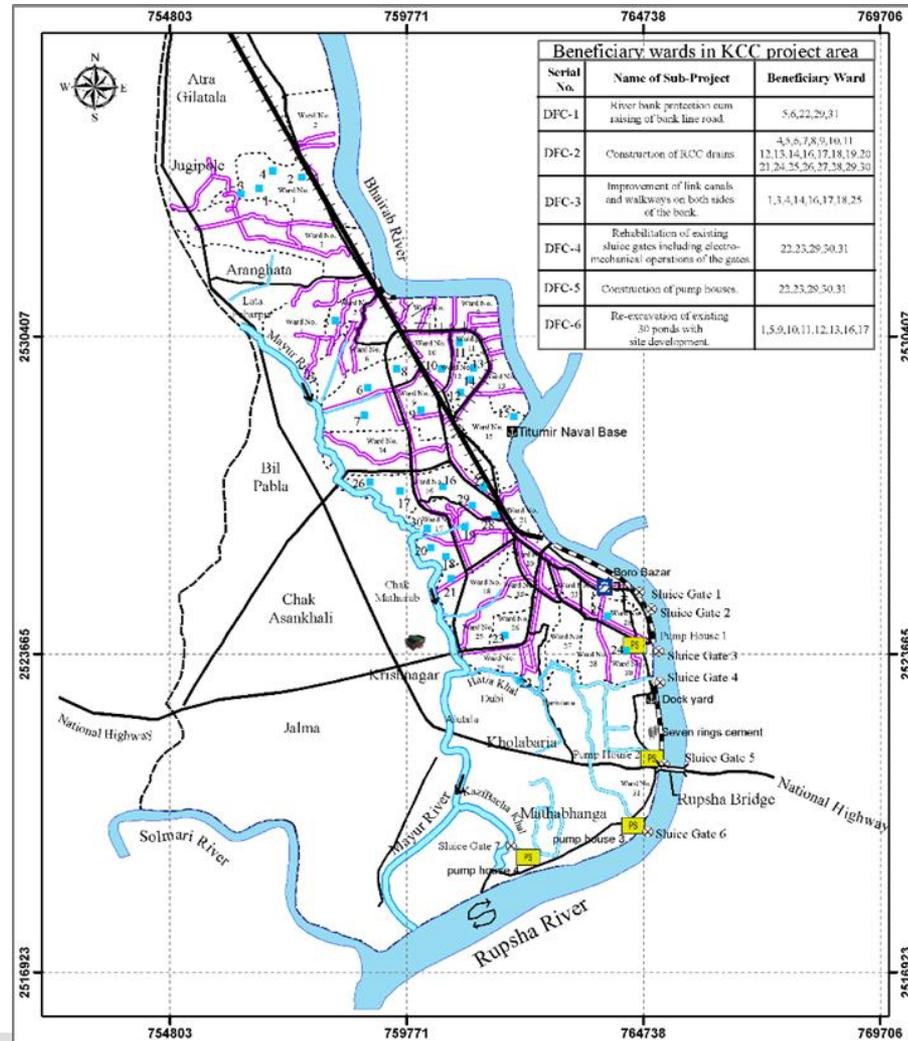
Holistic approach to solid waste management



Priority solid waste management sub-projects

No.	Components	Capital Cost (in millions)			O & M Cost (in millions)		
		BDT	USD	Percent to Total	BDT	USD	Percent to Total
1	Primary waste collection	19.34	\$0.24	2.6%	-	-	0.0%
2	Transfer Stations and Waste Transport	169.32	\$2.12	23.1%	18.91	\$0.24	58.2%
3	Garage and workshop	21.71	\$0.27	3.0%	-	-	0.0%
4	Composting Plant	6.60	\$0.08	0.9%	1.09	\$0.01	3.4%
5	Conversion of Rajbandh-1 dumpsite into controlled landfill and subsequent closure	181.77	\$2.27	24.8%	-	-	0.0%
6	Sanitary landfill at Scholua	267.70	\$3.35	36.6%	7.17	\$0.09	22.1%
7	Healthcare Waste Management System	15.22	\$0.19	2.1%	1.50	\$0.02	4.6%
8	Improved Slaughterhouse Operations	49.92	\$0.62	6.8%	3.81	\$0.05	11.7%
	Total	732.59	\$9.14	100.0%	32.48	\$0.41	100.0%

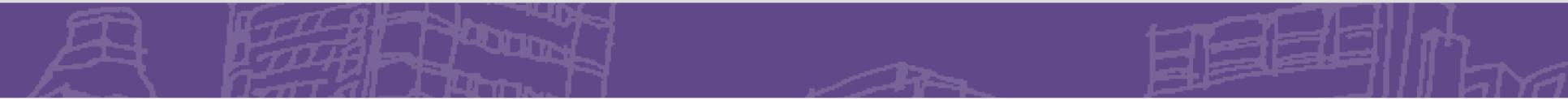
Priority flood control and drainage sub-projects



Priority flood control and drainage sub-projects

Sl. No.	Name of Sub-project	Capital Cost	O&M Costs
DFC-1	Flood Control Works	14.72	1.90
DFC-2	Construction of RCC drains	41.27	5.88
DFC-3	Improvement of link canals & walkways on both sides of banks	14.06	2.00
DFC-4	Rehabilitation of existing sluice gates including electro-mechanical operation of the gates	0.84	0.11
DFC-5	Construction of Pump Houses	18.38	2.63
DFC-6	Re-excavation of 30 existing ponds with site public space recreational development	3.41	0.49
	Total	92.64	13.01

Khulna



Linking to Finance

- Gazipur
 - Road sub-projects: ADB \$ 36 million
- Khulna
 - Solid waste management sub-projects: ADB \$9 million
 - Drainage and gate improvement works: ADB \$ 74 million
 - Flood control and pond rehabilitation: KfW \$ 18 million



“Our struggle for global sustainability
will be won or lost in cities.”

- Ban Ki Moon, UN Secretary General



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