



Report and Recommendation of the President to the Board of Directors

Project Number: 44212
June 2014

Proposed Loan and Administration of Loan and Grants People's Republic of Bangladesh: Coastal Towns Environmental Infrastructure Project

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Asian Development Bank

CURRENCY EQUIVALENTS

(as of 3 June 2014)

Currency unit	=	taka (Tk)
Tk1.00	=	\$0.01290
\$1.00	=	Tk77.425

ABBREVIATIONS

ADB	–	Asian Development Bank
DPHE	–	Department of Public Health Engineering
LGED	–	Local Government Engineering Department
MLGRDC	–	Ministry of Local Government, Rural Development and Cooperatives
O&M	–	operation and maintenance
PAM	–	project administration manual
PDA	–	project design advance
PIU	–	project implementation unit
PMU	–	project management unit
SCF	–	Strategic Climate Fund

NOTES

- (i) The fiscal year (FY) of the Government of Bangladesh and its agencies ends on 30 June. “FY” before a calendar year denotes the year in which the fiscal year ends, e.g., FY2012 ends on 30 June 2012.
- (ii) In this report, “\$” refers to US dollars.

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PROJECT AT A GLANCE

1. Basic Data		Project Number: 44212-013	
Project Name	Coastal Towns Environmental Infrastructure Project	Department /Division	SARD/SAUW
Country	Bangladesh	Executing Agency	Department of Public Health Engineering, Local Government Engineering Department, Ministry of Local Government, Rural Development, and Co-operatives
Borrower	People's Republic of Bangladesh		
2. Sector	Subsector(s)	ADB Financing (\$ million)	
✓ Water and other urban infrastructure and services	Other urban services		8.00
	Urban flood protection		13.50
	Urban policy, institutional and capacity development		2.20
	Urban sanitation		1.70
	Urban solid waste management		0.02
	Urban water supply		9.50
Transport	Urban roads and traffic management		17.08
		Total	52.00
3. Strategic Agenda	Subcomponents	Climate Change Information	
Inclusive economic growth	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Adaptation (\$ million)	6.20
Environmentally sustainable growth	Disaster risk management Global and regional transboundary environmental concerns	Climate Change impact on the Project	High
4. Drivers of Change	Components	Gender Equity and Mainstreaming	
Governance and capacity development	Anticorruption Civil society participation Institutional development Organizational development Public financial governance	Gender equity (GEN)	✓
Knowledge solutions	Application and use of new knowledge solutions in key operational areas Knowledge sharing activities		
Partnerships	Bilateral institutions (not client government) Foundations Official cofinancing		
5. Poverty Targeting		Location Impact	
Project directly targets poverty	Yes	Urban	High
Geographic targeting (TI-G)	Yes		
6. Risk Categorization:	Low		
7. Safeguard Categorization	Environment: B Involuntary Resettlement: B Indigenous Peoples: C		
8. Financing			

PROJECT AT A GLANCE

Modality and Sources	Amount (\$ million)
ADB	52.00
Sovereign Loan: Asian Development Fund	52.00
Cofinancing	42.00
Strategic Climate Fund	10.40
Strategic Climate Fund	30.00
Sanitation Financing Partnership Fund (under the Water Financing Partnership Facility or WFPF)	1.60
Counterpart	23.10
Government	23.10
Total	117.10

9. Effective Development Cooperation

Use of country procurement systems	Yes
Use of country public financial management systems	No

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on (i) a proposed loan, (ii) proposed administration of a loan to be provided by the Asian Development Bank (ADB) Strategic Climate Fund, (iii) proposed administration of a grant to be provided by the ADB Strategic Climate Fund, and (iv) proposed administration of a grant to be provided by the Sanitation Financing Partnership Trust Fund under the Water Financing Partnership Facility, all to the People's Republic of Bangladesh for the Coastal Towns Environmental Infrastructure Project.¹

2. The project will strengthen climate resilience and disaster preparedness in eight vulnerable coastal *pourashavas* (secondary towns with a population of 15,000 to 60,000) of Bangladesh.² The project takes a holistic and integrated approach to urban development and will (i) provide climate-resilient municipal infrastructure; and (ii) strengthen institutional capacity, local governance, and public awareness for improved urban planning and service delivery considering climate change and disaster risks. Key infrastructure investments include (i) drainage; (ii) water supply; (iii) sanitation; (iv) cyclone shelters; and (v) other municipal infrastructure including emergency access roads and bridges, solid waste management, bus terminals, slum improvements, boat landings, and markets.³ Investments will benefit the poor and women. The Ministry of Local Government, Rural Development and Cooperatives (MLGRDC), acting through its Local Government Engineering Department (LGED) and the Department of Public Health Engineering (DPHE), will be the executing agencies of the project.⁴ Project management and administration support will be provided under the project.

II. THE PROJECT

A. Rationale

3. The project is prioritized in the government's Strategic Program for Climate Resilience (2010) under the Pilot Program for Climate Resilience, and will demonstrate new approaches for integrating climate resilience into urban development in coastal *pourashavas*.⁵ The government's Sixth Five-Year Plan, 2011–2015 targets assistance to vulnerable coastal populations requiring investments in climate-resilient infrastructure and urban planning.⁶ The project is consistent with the Bangladesh country partnership strategy, which targets assistance to vulnerable coastal areas in adapting to the risks of climate change,⁷ and is consistent with the ADB Urban Operational Plan to promote climate-change-resilient cities.⁸

4. Climate change is a critical development issue for Bangladesh. The country's low-lying coastal zone (consisting of 19 districts with an estimated population of 38.1 million, of which 8.6 million is urban) is highly vulnerable to cyclones, storm surges, sea level rise, and salinity intrusion. A 1.5°C increase in temperature and 4% increase in precipitation (the median

¹ The design and monitoring framework is in Appendix 1.

² Batch 1 towns: Amtali, Galachipa, Mathbaria, and Pirojpur. Batch 2 towns: Barguna, Bhola, Daulat Khan, and Kalapara. Towns were selected based on their vulnerability, population size, density, and level of past investment.

³ ADB provided project preparatory technical assistance.

⁴ DPHE will act on behalf of MLGRDC as co-executing agency for the water supply and sanitation components.

⁵ Government of Bangladesh. *Strategic Program for Climate Resilience*. 2010. Dhaka. The Pilot Program for Climate Resilience. <http://www.climateinvestmentfunds.org/cif/>.

⁶ Government of Bangladesh, Planning Commission. *Sixth Five Year Plan FY2011–FY2015: Accelerating Growth and Reducing Poverty*. Dhaka.

⁷ ADB. 2011. *Country Partnership Strategy: Bangladesh, 2011–2015*. Manila.

⁸ ADB. 2012. *Urban Operational Plan*. Manila.

projections for Bangladesh from general circulation models) would potentially result in sea levels in the Bay of Bengal rising by 27 centimeters or more by 2050.⁹ Warmer temperatures would result in more frequent and intense cyclones and storm surges, damaging roads and bridges and rendering existing drainage, water supply, and sanitation systems ineffective, as well as threatening public health and safety. The central and southwestern regions of the country are particularly vulnerable. Cyclone Sidr in 2007 (a Category 5 storm with wind speed of 260 kilometers per hour) resulted in economic losses of \$1.7 billion (2.6% of gross domestic product). The poor and women are disproportionately affected and have the lowest capacity to cope with losses. There is a high demand for climate-resilient infrastructure and disaster preparedness to improve the wellbeing of residents and reduce migration to larger cities.

5. Coastal towns suffer from large infrastructure deficits and natural resource constraints that exacerbate sensitivity to climate change. A shortage of drains and severe siltation and solid waste build up result in severe flooding and extended water logging (lasting up to 7 days during monsoon rains). Water supply suffers from (i) low access to piped water, (ii) salinity contamination of shallow and middle aquifers, and (iii) unsustainable groundwater extraction. Feasibility study surveys found that residents without piped water supplies who rely on community pond sand filter systems pay as much as 2–4 times more for water of inferior quality compared to similar towns with piped supplies. There is a high willingness to pay (up to 50% more) for improved services. While there is generally high coverage of household sanitation (up to 94% of households have toilets), there is no septage management or treatment systems, resulting in polluted waterways and a high incidence of waterborne diseases, with large outbreaks occurring after disasters.¹⁰ Emergency access roads are in poor condition, and most cyclone shelters are structurally unsafe as a result of extensive exposure to cyclones and poor maintenance. There is an acute need for new, higher-capacity multi-use cyclone shelters located in core urban areas accessible to poorer populations. It is critical that new investments are designed that consider climate change to manage the long-term costs of natural disasters and ensure investments deliver intended benefits.

6. The high vulnerability of coastal towns is also linked to poor governance and low adaptive capacity.¹¹ Urban planning is in its infancy and development controls are only now emerging. Many *pourashavas* lack established mechanisms for public participation, particularly in the allocation of municipal budgets. Low tax collection efficiency (on average 57% in coastal towns) reflects outdated financial management practices, including limited computerization of accounts and billing systems, and irregular tax assessments. There is an urgent need to strengthen institutional capacity, public awareness, and knowledge management to complement physical investments as part of an integrated approach for building climate change resilience.

7. **Performance-based approach.** The project aims to incentivize governance improvement and build resilience by linking each stage of investment to demonstrated reforms, as proven highly effective in previous ADB urban projects in Bangladesh. The eight project towns are divided into two batches of four, with each town entitled to two stages of investment (stages 1 and 2).¹² Towns will receive funding under each stage if they fulfill agreed

⁹ World Bank. 2010. *Economics of Adaptation to Climate Change: Bangladesh*. Washington DC.

¹⁰ Nearly 10% of all patients in four coastal district hospitals were admitted for diarrhea in 2011. Ministry of Health and Family Welfare. 2012. *District Hospital Health Bulletin*. Dhaka.

¹¹ Adaptive capacity is the ability to respond to climate risks and reduces the likelihood of harmful outcomes.

¹² The first four towns are those studied under the project feasibility study.

performance criteria.¹³ Performance will be evaluated in the following areas: (i) strengthening climate-disaster planning; (ii) strengthening citizen participation; (iii) improving municipal planning, service delivery, and O&M; and (iv) strengthening municipal financial management. A performance evaluation committee will evaluate each *pourashava*.

8. **Lessons.** The project reflects the successful experience in governance-led investment through performance-based allocation from the first and second Urban Governance and Infrastructure Improvement (Sector) Projects.¹⁴ The project also reflects findings of downscaled climate modeling from the technical assistance on Strengthening the Resilience of the Urban Water Supply, Drainage, and Sanitation to Climate Change in Coastal Towns.¹⁵

B. Impact and Outcome

9. The impact of the project will be improved wellbeing in coastal towns. The outcome of the project will be increased climate and disaster resilience in coastal towns benefiting the poor and women.

C. Outputs

10. The project will have the following outputs.

1. Output 1: Improved climate-resilient municipal infrastructure

11. **Stage 1: Climate and disaster risk-reducing infrastructure.** Priority infrastructure will fill critical deficits to strengthen climate and disaster resilience and include the design, rehabilitation, and construction of (i) drainage systems; (ii) cyclone shelters; (iii) water supply systems; (iv) sanitation systems; (v) emergency access roads, bridges, and culverts; and (vi) solid waste management systems.¹⁶ Infrastructure will be designed considering climate projections for the year 2040. The project will develop climate-resilient community infrastructure in poor, vulnerable areas as part of larger infrastructure contracts.¹⁷ Climate-resilient measures will include, but are not limited to, increasing drainage capacity; raising infrastructure levels for roads, cyclone shelters, water and sanitation facilities; and identifying non-saline water sources. Groundwater sources will be prioritized as a least-cost option where salinity levels are within government standards. A design consulting firm will screen all subprojects for climate resilience, and prepare all engineering designs, bidding, and safeguard documents.

12. **Stage 2: Local economic infrastructure.** This component will support local economic development activities and will include the design, rehabilitation, and construction of (i) markets, (ii) bus terminals, (iii) boat landings, and (iv) commercially important roads. These investments will also consider climate resilience in the planning and design stage.

¹³ Performance criteria are in Appendix 5 of the Project Administration Manual, which is accessible from the list of linked documents in Appendix 2. Towns not fulfilling criteria within the stipulated timeframe are dropped, and funds will be reallocated.

¹⁴ ADB. 2008. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of Bangladesh for Second Urban Governance and Infrastructure Improvement Project*. Manila.

¹⁵ ADB. 2011. *Technical Assistance to People's Republic of Bangladesh for Strengthening the Resilience of the Urban Water Supply, Drainage, and Sanitation to Climate Change in Coastal Towns*. Manila.

¹⁶ Improved solid waste management is linked to reduced drainage congestion and improved flood management.

¹⁷ These include community facilities such as metered standposts and community toilets that require community mobilization for O&M.

2. Output 2: Strengthened institutional capacity, governance, and awareness

13. **Municipal governance and service delivery improvements.** Capacity building activities under this subcomponent will focus on (i) strengthening municipal finance systems to improve local revenues, (ii) enhancing citizen participation in *pourashava* planning and decision making process,¹⁸ (iii) strengthening technical capacity and institutional arrangements for improved service delivery and O&M at the *pourashava* level, and (iv) promoting private sector participation in fecal sludge management.

14. **Non-structural measures to reduce climate and disaster risk.** Capacity building support will strengthen the ability of *pourashavas* to prepare and respond to climate-related risks and disasters by (i) reviewing and updating the urban master plans, local building codes, and engineering design standards of LGED and DPHE to incorporate climate change and disaster resilient measures; (ii) improving water safety planning and groundwater monitoring through the development of water safety plans and guidelines; and (iii) establishing disaster management standing committees in each *pourashava*, and delivering appropriate technical training for the members of such committees.

15. **Public awareness, behavior change, and community mobilization.** Knowledge-based awareness-raising activities will focus on (i) education and communication campaigns to raise public awareness of climate change and disaster-related risks and preparedness; waste reduction, reuse and recycling; and the links between water, sanitation and hygiene; (ii) livelihood training programs for poor households targeting women; and (iii) community mobilization to enable poor communities to access and use climate-resilient infrastructure (under output 1). The institutional capacity-building consultants will support these activities.

3. Output 3: Project management and administration supported

16. A project management and supervision consultant firm will be recruited to support (i) overall project management, performance monitoring, and reporting; (ii) contract management including capacity development in e-procurement processes and procedures; (iii) quality control of engineering designs and construction supervision; and (iv) compliance with ADB safeguard policies. A project internal audit consultant will be recruited to conduct independent and objective third-party internal auditing and post-procurement review services.

D. Investment and Financing Plans

17. The estimated project cost is \$117.10 million (Table 1). Infrastructure costs are allocated as follows: (i) batch 1, stage 1: \$31.31 million; (ii) batch 1, stage 2: \$6.50 million; and (iii) batch 2: \$32.81 million.¹⁹ The project administration manual (PAM) has detailed cost estimates.²⁰

¹⁸ Town- and ward-level committees will be formed under the project to improve citizen participation.

¹⁹ Stage 2 funds are allocated based on population size. Towns greater than 25,000 are entitled to up to \$2.0 million, and towns less than 25,000 are entitled to up to \$1.5 million. These costs are exclusive of land acquisition, resettlement, taxes, and detailed engineering design.

²⁰ Project Administration Manual (accessible from the list of linked documents in Appendix 2).

Table 1: Project Investment Plan
(\$ million)

Item	Amount ^a
A. Base Cost^b	
1. Improved climate-resilient municipal infrastructure ^c	81.47
2. Strengthened institutional capacity, governance, and awareness	4.06
3. Project management and administration support ^d	17.87
Subtotal (A)	103.40
B. Contingencies^e	10.96
C. Financing Charges During Implementation^f	2.74
Total (A+B+C)	117.10

^a Includes taxes and duties of \$16.80 million to be financed by the government.

^b In mid-2013 prices.

^c Includes associated costs for land acquisition and resettlement and for a project design advance to support detailed engineering design.

^d Includes project management and supervision consultant, project internal audit consultant, incremental administration, equipment, and taxes and duties. Incremental administration costs include the project management and project implementation unit staff costs.

^e Physical contingencies computed at 5% for civil works and equipment. Price contingencies computed at 1.83% on foreign exchange costs and 6.95% on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

^f Includes interest. Interest during construction has been computed at the Asian Development Fund rate for the Asian Development Bank (ADB) loan and at ADB rates for the ADB-Strategic Climate Fund (SCF) rates for the ADB-SCF loan.

Source: Asian Development Bank estimates.

18. The government has requested a loan in various currencies equivalent to SDR33,941,000 (\$52,000,000) from ADB's Special Funds resources to help finance the project. The loan will have a 25-year term, including a grace period of 5 years, an interest rate of 2.0% per annum during the grace period and thereafter, and such other terms and conditions set forth in the draft loan and project agreements. The loan from ADB will finance (i) full civil works, (ii) equipment costs, (iii) consulting services, and (iv) incremental recurrent costs. The ADB Strategic Climate Fund (SCF) will provide a loan equivalent to \$30.0 million and a grant equivalent to \$10.4 million, both to be administered by ADB.²¹ The SCF loan will have a 40-year term, including a grace period of 10 years and an annual service charge of 0.1%. The Sanitation Financing Partnership Trust Fund under the Water Financing Partnership Facility will provide a grant of \$1.6 million to be administered by ADB to support works and services related to sanitation innovations.²² The government will provide \$23.1 million equivalent to cover (i) taxes and duties; (ii) land acquisition and resettlement; (iii) government staff salaries; and (iv) application fees for environmental clearances and permits. Since this project involves both ADB-administered cofinancing resources and ADF resources, universal procurement will apply.²³

19. The financing plan is in Table 2. The loan proceeds from ADB will be relent to the *pourashavas* under a subsidiary loan agreement with terms and conditions acceptable to ADB.²⁴ The government will assume the foreign exchange risk.

20. A project design advance (PDA) of \$3.5 million equivalent was provided from ADB's Special Funds resources to support advanced preparatory work for the project. The PDA has a

²¹ The Strategic Climate Fund loan and grant are provided under the Pilot Program for Climate Resilience established under the Multi-donor Climate Investment Funds.

²² Financing partner: Bill & Melinda Gates Foundation.

²³ ADB. 2013. *Blanket Waiver of Member Country Procurement Eligibility Restrictions in Cases of Cofinancing for Operations Financed from Asian Development Fund Resources*. Manila.

²⁴ Relending terms are as follows: (i) for revenue-generating projects, a loan:grant ratio of 15:85 with loan terms being 4–6% interest, 20-year term, 5-year grace period, and (ii) for nonrevenue generating projects: 100% grant..

term of 5 years and a grace period defined as the period prior to the refinancing date of the ensuing ADB loan.²⁵ Interest will be charged at 1.0% per annum during the grace period (i.e., period prior to the refinancing date) and 1.5% per annum thereafter. Interest payments are deferred until the PDA is refinanced.

Table 2: Financing Plan

Source	Amount (\$ million)	Share of Total (%)
ADB		
Special Funds resources (loan) ^a	52.0	44.4
ADB Strategic Climate Fund (loan) ^b	30.0	25.6
ADB Strategic Climate Fund (grant) ^b	10.4	8.9
Sanitation Financing Partnership Trust Fund under the Water Financing Partnership Facility (grant) ^c	1.6	1.4
Government of Bangladesh ^d	23.1	19.7
Total	117.1	100.0

ADB = Asian Development Bank.

^a Inclusive of \$3.5 million project design advance.

^b Under the Pilot Program for Climate Resilience financed by the Strategic Climate Fund. The ADB Strategic Climate Fund is administered by ADB.

^c Financing partner: Bill & Melinda Gates Foundation.

^d Inclusive of \$0.88 million contribution to PDA in taxes and duties that is part of total project cost.

Source: ADB estimates.

E. Implementation Arrangements

21. The MLGRDC, acting through LGED and DPHE (for water supply and sanitation) will be the project executing agency. The implementation agencies are the *pourashavas*. The implementation arrangements are summarized in Table 3 and described in detail in the PAM (footnote 20).

Table 3: Implementation Arrangements

Aspects	Arrangements		
Implementation period	June 2014–June 2020		
Estimated completion date	30 June 2020		
Management			
(i) Oversight body	Interministerial project steering committee Secretary of the Ministry of Local Government, Rural Development and Co-operatives (chair) Local Government Engineering Department; Department of Public Health Engineering; Bangladesh Water Development Board; Planning Commission (Physical Infrastructure Division); Ministry of Housing and Public Works (Urban Development Directorate); Ministry of Environment and Forests (Climate Change Unit); Department of Environment; Disaster Management Bureau (Disaster Management and Relief Division); Economic Relations Division; Ministry of Finance (Finance Division); representatives of coastal towns (members)		
(ii) Executing agency	MLGRDC acting through LGED and DPHE (water and sanitation) ^a		
(iii) Key implementing agencies	8 <i>pourashavas</i> (Pirojpur, Amtali, Mathbaria, Galachipa, Barguna, Bhola, Daulat Khan, and Kalapara)		
(iv) Implementation unit	PMU, Dhaka, 23 key staff; PIUs, <i>pourashavas</i> , 10 key staff in each <i>pourashava</i>		
Procurement	ICB	8 contracts	\$27.69 million
	NCB	38 contracts	\$44.95 million
	Shopping	1 contract	\$0.01 million

²⁵ Expected around 31 October 2014, or such other date as may from time to time be agreed between the borrower and ADB.

Aspects	Arrangements		
Consulting services	QCBS, QBS	1,413 person-months (110 international and 1,303 national)	\$10.19 million (DDC, PMSC, ICCDC, PIAC)
Retroactive financing and/or advance contracting	Advance contracting is for the recruitment of consultant contracts, and procurement of works and goods related to batch 1, stage 1 towns. Retroactive financing will apply up to 20% of the loan amount for these contracts and operation costs of the PMU and PIUs incurred prior to the effectiveness of the loan agreement but not earlier than 12 months prior to the signing of the loan agreement.		
Disbursement	The loan and grant proceeds will be disbursed in accordance with ADB's <i>Loan Disbursement Handbook</i> (2012, as amended from time to time) and detailed arrangements agreed upon between the government and ADB.		

ADB = Asian Development Bank, DDC = detailed design consultants, DPHE = Department of Public Health Engineering, ICB = international competitive bidding, ICCDC = institutional capacity community development consultant, LGED = Local Government Engineering Department, MLGRDC = Ministry of Local Government, Rural Development and Cooperatives, NCB = national competitive bidding, PIAC = project internal audit consultant, PIU = project implementation unit, PMSC = project management supervision consultant, PMU = project management unit, QBS = quality-based selection, QCBS = quality- and cost-based selection.

^a A project management unit (PMU) will be established in LGED, with one deputy project director from DPHE.

Source: Asian Development Bank.

III. DUE DILIGENCE

A. Technical

22. Various technical options were examined to climate proof the design. All infrastructure under the project will be screened on the basis of agreed technical selection criteria and will consider climate projections for year 2040 in detailed designs.²⁶ New water sources will be explored—from deep aquifers or upstream surface water systems—to avoid salinity intrusion. Piped water systems will be introduced and/or expanded where needed to fill service gaps in core urban areas. Power backup generators will be provided to ensure normal operation during power disruptions common during cyclones. Road construction materials will be selected that are resistant to high temperatures. To reduce flooding, excavation of existing drainage canals up to design depths coupled with new drains to provide adequate connectivity to secondary drains will be developed. Improved solid waste management will further reduce drainage congestion. Non-structural measures—such as updated urban master plans and guidance for applying climate resilience to building codes, and strengthened capacity for water safety planning and disaster management—will ensure robust service delivery, planning, and disaster preparedness that consider the impacts of climate change.²⁷

B. Economic and Financial

23. **Economic analysis.** The economic analysis was conducted for subprojects for stage 1 in the four Batch 1 *pourashavas* only.²⁸ Representative subprojects were analyzed to estimate the viability of three scenarios: (i) the present situation without the project, (ii) investment without future climate resilience measures, and (iii) investment with future climate resilience measures. The overall economic internal rate of return for Batch 1 *pourashavas* (stage 1) is 23.0%, with future climate resilience measures. The subproject economic internal rates of return were

²⁶ Technical subproject selection criteria are in the PAM (footnote 20).

²⁷ A summary of all climate resilience measures is in the Climate Change: Project Adaptation Report (accessible from the list of linked documents in Appendix 2).

²⁸ Batch 1, stage 2 and batch 2, stage 1 and 2 subprojects will be evaluated by the project management supervision consultant economist once the project scope is defined.

14.0%–17.7% for water supply; 14.2%–30.0% for sanitation; 18.1%–42.9% for drainage;²⁹ 20.3%–24.7% for roads; 21.1%–22.2% for bridges; and 16.5%–35% for cyclone shelters. Sensitivity analysis confirms that all the subprojects are robust. The results are most likely underestimated because some project benefits are not easily quantifiable and cumulative, and thus not included in this analysis (e.g., the impact of death and trauma from disaster events). The feasibility survey indicates that willingness to pay is sufficient to meet O&M costs and debt service, while the affordability analysis indicates the proposed water supply tariff increases are economically and socially viable.

24. **Financial analysis.** The financial analysis focused on the capacity of batch 1 *pourashavas* to pay O&M costs and service debt. The overall financial position of each sample *pourashava* is projected reflecting incremental revenue and expenditures. The tariffs of revenue-generating components (i.e., water supply and sanitation) are not set for full cost recovery; however, by improving operational efficiency, adopting a tariff plan with increases every 4 years, and increasing property tax collection efficiency, the *pourashavas* are expected to generate sufficient revenue to meet O&M costs and service debt to sustain infrastructure and service delivery for all subprojects supported under the project. The financial projections show that the water supply components will require a time-bound cross-subsidy in two out of three batch 1 *pourashavas* receiving water supply investments; the respective *pourashavas* have the capacity to cover these through general revenues. Loan covenants include requirements for introduction of volumetric water tariffs to ensure financial viability, and a minimum cost-recovery ratio. Performance criteria include a target for improving property tax collection efficiency rates to a minimum of 80%.

C. Governance

25. Bangladesh has implemented key governance and anticorruption reforms, including establishing an independent Anti-Corruption Commission in 2004, and enacting the Right to Information Act in 2009, the Whistleblower Protection Act in 2011, and the Money Laundering Prevention Act in 2012. A comprehensive national integrity strategy was adopted in 2012 to address corruption holistically and strengthen governance institutions in a phased manner. The financial management assessment of LGED, DPHE, and sample batch 1 *pourashavas* indicated that—with the support of a dedicated financial management consultant in the project management unit (PMU), an accounts officer in the PMU, and a dedicated project accountant in each project implementation unit (PIU)—there will be adequate financial management capabilities and support for project implementation.³⁰ The capacity of LGED's and *pourashava* finance and accounting staff will be further strengthened through training programs conducted under the project. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government and the LGED, DPHE, and *pourashavas*. The specific policy requirements and supplementary measures are described in the PAM (footnote 20).

26. While LGED has proven experience in ADB procurement, local officials have limited experience implementing large infrastructure projects. Procurement capacity assessments of sample *pourashavas* indicated that a procurement specialist in the PMU will provide *pourashavas* with adequate procurement support to implement the project. E-procurement will be implemented for national competitive bidding (NCB) packages. Other measures to ensure transparency include the presentation of detailed information on procurement at public meetings to supplement web-based disclosure. Capacity of PIU staff will be further strengthened through

²⁹ The economic analysis for drainage includes the solid waste component.

³⁰ The financial management specialist will provide capacity support to both PMU and all PIUs.

training programs conducted under the project, including e-procurement, auditing, quality control, community participation, monitoring, reporting, and evaluation.

D. Poverty and Social

27. Poverty rates in coastal *pourashavas* are 50%, which exceeds the national average of 31.5%. The poor are disproportionately affected by climate hazards because they live in temporary structures in high risk areas (e.g., outside protective embankments), and have less capacity to cope with disaster. They depend directly on climate-sensitive sectors of the economy such as agriculture and fisheries. They have poor access to basic services, and suffer from high rates of waterborne diseases due to salinity and biological contamination, especially after disasters. The project will mobilize community-based organizations to improve access to safe drinking water and sanitation in poor communities. New cyclone shelters will be located in poor and vulnerable areas. The poor will benefit from targeted livelihood training programs and employment opportunities associated with construction activities. Town- and ward-level committees formed under the project will involve the poor.

28. **Gender.** The project is classified as a gender equity theme. The project will significantly benefit women's safety during disasters by improving access and quality of cyclone shelters with separately designed spaces for women. Women will be encouraged to play a major role in community-based organizations and town- and ward-level committees formed in each *pourashava*. Special attention will be given to empowering women by building their technical capacity and skills through targeted livelihood training, and participation in water- and sanitation-related programs, where women will take leadership positions in water safety planning activities. Core labor standards, including equal wages for work of equal value, will be practiced. Resources are allocated for implementation and monitoring of the project's gender action plan.³¹

E. Safeguards

29. The project is classified as category B for environmental safeguards, category B for involuntary resettlement, and category C for indigenous peoples. Draft initial environmental examinations were prepared and disclosed for sample subprojects in batch 1 towns in accordance with ADB's Safeguard Policy Statement (SPS, 2009) and government laws. Project locations are located outside sensitive and protected areas, and any construction impacts will be mitigated through implementation of environmental management plans that will form part of contract documents. Draft resettlement plans were prepared and disclosed in accordance with the ADB's SPS for sample subprojects in batch 1 towns. Impacts to 153 affected persons will occur as a result of 4.45 hectares of private land acquisition, and physical relocation of six residential and business structures for drainage works. The project will not affect indigenous peoples. Significant safeguard impacts will be avoided in future subprojects, which will be guided by the relevant safeguard frameworks, and monitored as part of the semi-annual safeguard monitoring reports. Consultants will support carrying out safeguards-related tasks.

F. Risks and Mitigating Measures

30. Major risks and mitigating measures are summarized in Table 4.³² The integrated benefits of the project are expected to outweigh the costs.

³¹ Gender Action Plan (accessible from the list of linked documents in Appendix 2).

³² Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

Table 4: Summary of Risks and Mitigating Measures

Risks	Mitigating Measures
BWDB flood control systems not improved reducing effectiveness of drainage investments under project	Loan covenant requires repair of BWDB flood control systems prior to contract award. BWDB is a member of the project steering committee.
Weak financial and technical capacity of <i>pourashavas</i> to meet the increased demand for O&M.	O&M plans to be adopted by <i>pourashavas</i> with capacity support, with property tax collection efficiency increased to 80% under the performance criteria. Tariff increases included in loan covenants.
Governance risks related to financial management and procurement.	Project-specific mitigation measures include (i) e-procurement, (ii) business fairs to attract widespread competition, (iii) grievance system in LGED with project website to disclose procurement details, (iv) <i>pourashavas</i> to present procurement details at public meetings, (v) capacity support to PMU and PIU staff in financial management and procurement, (vi) auditing and procurement reviews, and (vii) ADB reserves the right to conduct random audits and to cancel loan and grant funds in case of poor governance.

ADB = Asian Development Bank, BWDB = Bangladesh Water Development Board, LGED = Local Government Engineering Department, O&M = operation and maintenance, PIU = project implementation unit, PMU = project management unit.

Source: Asian Development Bank.

IV. ASSURANCES

31. The government, LGED, and DPHE have assured ADB that implementation of the project shall conform to all applicable ADB policies including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the project administration manual and loan and grant documents. The government, LGED, and DPHE have agreed with ADB on certain covenants for the project, which are set forth in the loan, grant, and project agreements.

V. RECOMMENDATION

32. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve

- (i) the loan in various currencies equivalent to SDR33,941,000 to People's Republic of Bangladesh for the Coastal Towns Environmental Infrastructure Project, from ADB's Special Funds resources, with an interest charge at the rate of 2% per annum during the grace period and thereafter; for a term of 25 years, including a grace period of 5 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft loan and project agreements presented to the Board;
- (ii) the administration by ADB of a loan not exceeding the equivalent of \$30,000,000 to People's Republic of Bangladesh for the Coastal Towns Environmental Infrastructure Project, to be provided by ADB Strategic Climate Fund;
- (iii) the administration by ADB of a grant not exceeding the equivalent of \$10,400,000 to People's Republic of Bangladesh for the Coastal Towns Environmental Infrastructure Project, to be provided by ADB Strategic Climate Fund; and
- (iv) the administration by ADB of a grant not exceeding the equivalent of \$1,600,000 to People's Republic of Bangladesh for the Coastal Towns Environmental Infrastructure Project, to be provided by the Sanitation Financing Partnership Trust Fund under the Water Financing Partnership Facility.

4 June 2014

Takehiko Nakao
President

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
<p>Impact Improved well-being in coastal towns</p>	<p>By 2023: Incidence of waterborne diseases reduced by 50% from 2011 baseline (on average, 9% of patient admissions to district hospitals in 2011 were for diarrhea)</p> <p>Average household incomes in project towns increased by 15% in 2013 prices (2013 baseline: Tk15,800/month)</p>	<p>Ministry of Health and Family Welfare district hospital health bulletin</p>	<p>Assumption The government remains committed to urban development strategy.</p>
<p>Outcome Increased climate and disaster resilience in coastal towns benefiting the poor and women</p>	<p>By 2020 in project towns: Percentage of household reporting inundation for more than 3 days reduced to about 21% (2013 baseline 43%)</p> <p>Drinking water supply systems compliant with government water standards throughout the year increased to 70% (2013 baseline 40%, 13.2% among households headed by women)</p> <p>Additional 12,500 households with access to climate-proofed public sanitation facilities (2013 baseline 0)</p> <p>Additional 7,900 household with access to improved cyclone facilities with separate areas and toilets for women (2013 baseline 0)</p>	<p>For all indicators: Project-specific monitoring and evaluation surveys in a consolidated report from <i>pourashavas</i> and LGED and DPHE consisting of evaluation of climate resilience</p>	<p>Assumption Climate change impacts are within predicted level.</p> <p>Risk BWDB flood control systems not improved.</p> <p>Losing momentum for governance improvement due to change in <i>pourashava</i> leadership.</p>
<p>Outputs 1. Improved climate-resilient municipal infrastructure</p>	<p>By 2020 in project towns:^a Drainage: 79 kms of new and improved drains constructed</p> <p>Cyclone shelters: 21 shelters constructed, with separate and safe facilities for women</p> <p>Water supply: 194 km of pipes installed or upgraded; 12,360 new service connections including services to poor areas</p> <p>Sanitation: 51 new community latrines with separate and safe facilities for women constructed</p>	<p>For all indicators: Project-specific monitoring and evaluation surveys in a consolidated report from <i>pourashavas</i> and LGED and DPHE consisting of an evaluation of climate resilience</p>	<p>Assumptions <i>Pourashavas</i> achieve all governance improvement criteria to be eligible for stage 1 and stage 2 investments.</p> <p>Risks Timely acquisition of required land.</p> <p>Weak compliance with climate-resilient design specifications</p>

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
	<p>5 septage management schemes implemented</p> <p>Emergency access: 97 km of upgraded roads, bridges, culverts</p> <p>Local economic infrastructure.^b At least five subprojects developed under stage 2.</p>		
2. Strengthened institutional capacity, governance, and awareness	<p>Participatory climate-proofed urban master plans approved (33% of participants during consultations are women)</p> <p>Climate-proofed building code guidelines adopted (include design features that cater to women in public facilities)</p> <p>Climate-proofed LGED and DPHE design standard guidelines published</p> <p>Water safety plans with groundwater monitoring (that define a leadership role for women) approved</p> <p>O&M plans approved including tariff plan for cost recovery (33% of participants during consultations are women)</p> <p>GAP and PRAPs approved for towns</p> <p>Computerized financial accounting and billing systems functional</p> <p>At least 4,800 (at least 600 per town including 60% women) undergo and complete livelihood training and knowledge based awareness programs that consider climate change</p>	<p>Approved urban master plans, and adopted building code guidelines.</p> <p>Published LGED and DPHE design standards</p> <p>Adopted water safety plans Adopted O&M plan with tariff plan</p> <p>Resolution adopting GAP and PRAPs with budget support for each town</p> <p>Consolidated annual monitoring report of <i>pourashavas</i> and LGED and DPHE</p>	<p>Assumptions Government's policy on decentralization and devolution will remain in place.</p> <p>Municipal staff acquiring new skills through training remain in their positions</p>
3. Project management and administration supported	<p>Quarterly progress reports and audit reports are submitted on time and of satisfactory quality (gender-disaggregated data collected)</p> <p>Project implemented on time and within budget</p>	<p>For all indicators: Quarterly progress reports issued by PMU</p>	

Activities with Milestones	Inputs
<p>1. Output 1: Improved climate-resilient municipal infrastructure</p> <p>1.1 Procure works, stage 1, batch 1 towns (Q3 2014) 1.2 Procure works, stage 1, batch 2 towns (Q3 2015) 1.3 Procure works, stage 2, batch 1 towns (Q4 2015) 1.4 Procure works, stage 2, batch 2 towns (Q1 2017) 1.5 Implement all civil works (by Q4 2019)</p> <p>2. Output 2: Strengthened institutional capacity, governance, and awareness</p> <p>2.1 Implement capacity building for batch 1 towns (Q2 2014), and batch 2 towns (Q3 2015) 2.2 Implement awareness and training for batch 1 towns (Q3 2014) and batch 2 towns (Q3 2015) 2.3 Evaluate performance for stage 1, batch 2 towns (Q1 2015) 2.4 Evaluate performance for stage 2, batch 1 towns (Q2 2015) 2.5 Establish disaster management standing committees in all towns (Q2 2016) 2.6 Evaluate performance for stage 2, batch 2 towns (Q2 2016)</p> <p>3. Output 3: Project management and administration supported</p> <p>3.1 Establish PMU and PIUs (Q4 2013) 3.2 Mobilize PMSC and ICCDC (Q3 2014) 3.3 Mobilize PIAC (Q4 2014) 3.4 Establish project performance management system (Q3 2014) 3.5 Conduct monitoring and reporting (quarterly)</p>	<p>Loan ADB: \$52,000,000 ADB Strategic Climate Fund: \$30,000,000</p> <p>Grant ADB Strategic Climate Fund: \$10,400,000 Sanitation Financing Partnership Trust Fund under the Water Financing Partnership Facility: \$1,600,000</p> <p>Government: \$23,100,000</p>

ADB = Asian Development Bank, BWDB = Bangladesh Water Development Board, DPHE = Department of Public Health Engineering, GAP = gender action plan, ICCDC = institutional capacity community development consultant, km = kilometer, LGED = Local Government Engineering Department, O&M = operation and maintenance, PIAC = project internal audit consultant, PIU = project implementation unit, PMSC = project management supervision consultant, PMU = project management unit, PRAP = poverty reduction action plan, Q = quarter.

^a Designs consider climate projections for the year 2040.

^b Includes the following: (i) markets, (ii) bus terminals, (iii) boat landings, and (iv) commercially important roads.

Sources: Asian Development Bank.

LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/RRPs/?id=44212-013-3>

1. Loan Agreement: Special Operations
2. Loan Agreement: ADB Strategic Climate Fund
3. Grant Agreement: ADB Strategic Climate Fund
4. Grant Agreement: Sanitation Financing Partnership Trust Fund under the Water Financing Partnership Facility
5. Project Agreement
6. Sector Assessment (Summary): Water Supply and Other Municipal Infrastructure
7. Project Administration Manual
8. Contribution to the ADB Results Framework
9. Development Coordination
10. Financial Analysis
11. Economic Analysis
12. Country Economic Indicators: Bangladesh
13. Summary Poverty Reduction and Social Strategy
14. Gender Action Plan
15. Initial Environmental Examination
16. Environmental Assessment and Review Framework
17. Resettlement Plan
18. Resettlement Framework
19. Risk Assessment and Risk Management Plan

Supplementary Documents

20. Project Climate Risk Assessment and Management
21. Financial Management Assessment
22. Supplementary Economic Appendix