



Periodic Financing Request Report

Project Number: 42266-026
MFF Number: 0075
August 2018

India: Kolkata Environmental Improvement Investment Program (Tranche 3)

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CURRENCY EQUIVALENTS

(as of 1 July 2018)

Currency Unit	–	Indian rupees
\$1.00	=	₹68.4585
₹1.00	=	\$0.01460

ABBREVIATIONS

ADB	–	Asian Development Bank
EARF	–	environmental assessment and review framework
EMP	–	environmental management plan
FFA	–	framework financing agreement
GAP	–	gender action plan
GESI	–	gender equality and social inclusion
IEE	–	initial environmental examination
KEIIP	–	Kolkata Environmental Improvement Investment Program
KEIP	–	Kolkata Environmental Improvement Project
km	–	kilometer
KMC	–	Kolkata Municipal Corporation
m ²	–	square meter
MFF	–	multitranches financing facility
NRW	–	nonrevenue water
O&M	–	operation and maintenance
PAM	–	project administration manual
PFR	–	project financing request
PMU	–	program management unit
S&D	–	sewerage and drainage
STP	–	sewage treatment plant
TA	–	technical assistance

NOTES

- (i) The fiscal year (FY) of the Government of India and its agencies ends on 31 March. "FY" before a calendar year denotes the year in which the fiscal year ends, e.g., FY2018 ends on 31 March 2018.
- (ii) In this report, "\$" refers to United States dollars.

Vice-President	Wencai Zhang, Operations 1
Director General	Hun Kim, South Asia Department (SARD)
Director	Sekhar Bonu, Urban Development and Water Division, SARD
Team leaders	Neeta Pokhrel, Senior Urban Development Specialist, SARD Sourav Majumder, Project Officer (Urban), SARD
Team members	Cielo Añon, Operations Assistant, SARD Saswati Belliappa, Safeguards Specialist, SARD Christopher Lee Damandl, Senior Counsel, Office of the General Counsel Bebedel Fabe, Project Officer, SARD Luca Di Mario, Urban Development Specialist, SARD Jaemin Nam, Financial Management Specialist, SARD Ninette Pajarillaga, Environment Specialist, SARD Zarah Pilapil, Associate Safeguards Officer (Environment), SARD
Peer Reviewer	Sameer A. Kamal, Urban Development Specialist, Southeast Asia Department

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- B. Project Climate Risk Assessment and Management Summary Report
- C. Financial Management Assessment Update

TRANCHE AT A GLANCE

1. Basic Data		Project Number: 42266-026	
Project Name	Kolkata Environmental Improvement Investment Program-Tranche 3	Department/Division	SARD/SAUW
Country Borrower	India Government of India	Executing Agency	Kolkata Municipal Corporation
2. Sector		Subsector(s)	
✓ Water and other urban infrastructure and services	Urban sewerage	ADB Financing (\$ million)	
			100.00
		Total	100.00
3. Strategic Agenda		Subcomponents	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Climate Change Information	
Environmentally sustainable growth (ESG)	Global and regional transboundary environmental concerns	CO ₂ reduction (tons per annum)	48,550
		Climate Change impact on the Project	Medium
		ADB Financing	
		Adaptation (\$ million)	40.00
		Mitigation (\$ million)	15.00
4. Drivers of Change		Components	
Governance and capacity development (GCD)	Civil society participation	Gender Equity and Mainstreaming	
Knowledge solutions (KNS)	Organizational development	Effective gender mainstreaming (EGM)	✓
Partnerships (PAR)	Public financial governance		
	Knowledge sharing activities		
	Pilot-testing innovation and learning		
	Civil society organizations		
	Implementation		
	Private Sector		
Private sector development (PSD)	Public sector goods and services essential for private sector development		
5. Poverty and SDG Targeting		Location Impact	
Geographic Targeting	No	Urban	High
Household Targeting	No		
SDG Targeting	Yes		
SDG Goals	SDG6, SDG13		
6. Risk Categorization:		Low	
7. Safeguard Categorization		Environment: B Involuntary Resettlement: B Indigenous Peoples: C	
8. Financing			
Modality and Sources		Amount (\$ million)	
ADB		100.00	
Sovereign MFF-Tranche (Regular Loan): Ordinary capital resources		100.00	
Cofinancing		0.00	
None		0.00	
Counterpart		43.00	
Government		43.00	
Total		143.00	
Note: An attached technical assistance will be financed on a grant basis by the Urban Climate Change Resilience Trust Fund under the Urban Financing Partnership Facility in the amount of \$2,000,000.			

I. BACKGROUND

1. **Multitranche financing facility.** On 26 September 2013, the Asian Development Bank (ADB) approved a multitranche financing facility (MFF) for the Kolkata Environmental Improvement Investment Program (KEIIP) for an amount not exceeding \$400 million to be used until 31 August 2023.¹ The Government of West Bengal (GOWB), through its Kolkata Municipal Corporation (KMC), is the executing agency. KEIIP's outcomes are improved water supply, sewerage and drainage (S&D), service quality, and operational sustainability in selected areas of KMC.

2. Kolkata is the capital of the Indian state of West Bengal, and one of the densest megacities in the world, with 24,000 people per square kilometer. Kolkata faces multiple challenges. In 2017, Kolkata had an estimated 5.2 million people; while the total population of the city and its suburbs was 14.7 million, making it the third-most populous metropolitan area in India.² KMC is mandated to provide urban services—including water supply and S&D—to its citizens, but services are not uniform across the city.³ In 2007, Kolkata was identified as a hotspot for climate change and among the top 10 cities with high exposure to flooding under climate change forecasts by the Organization for Economic Cooperation and Development. In 2011, a detailed study by the World Bank assessed Kolkata's vulnerability to climate change and recommended investments in S&D systems.⁴ In 2011, KMC prepared an investment plan to improve the urban sector, which estimated the needed physical investment at \$4 billion.⁵ KMC designed KEIIP to increase its climate resilience and urban services by adopting the recommendations from the 2011 World Bank study, and following the investment plan and KMC's relevant master plans and policies.⁶ The program's associated policy framework aims to create an enabling environment for improved services.⁷ Adoption of a water loss roadmap in 2016, property tax reforms in 2017, and increases in urban services through Projects 1 and 2 of KEIIP are helping KMC address some of the challenges identified by the policy framework.

3. KEIIP incorporates a phased sequencing of investment to increase its climate resilience by systematically achieving expansions in the S&D network in peripheral areas of Kolkata, including flood prone areas; increasing sewage treatment capacity; improving water supply through reductions in nonrevenue water (NRW); and increasing operational efficiency of services. Through KEIIP, KMC is also implementing information technology-based solutions for smart management of urban services, such as a geographic information system, upgrading of supervisory control and data acquisition, setting the water supply services into district metering areas, digitizing maintenance systems, and establishing an interactive e-platform for citizen interface. The program consolidates and builds on KMC's Kolkata Environmental Improvement

¹ ADB. Report and Recommendation of the President to the Board of Directors: Proposed Multitranche Financing Facility to India for the Kolkata Environmental Improvement Investment Program. Manila.

² The Brookings Institution. 2015. *Global Metro Monitor*. Washington D.C.

³ The service areas covered by KMC are divided into "core city areas" and "newly added or peripheral areas". An organized underground sewerage and drainage system was introduced in Kolkata in 1859 covering the core KMC area, but not the peripheral areas.

⁴ World Bank. 2011. *India: Vulnerability of Kolkata Metropolitan Area to Increased Precipitation in a Changing Climate*. Washington, DC (World Bank Report No. 53282-IN).

⁵ KMC. 2011. *Kolkata Urban Sector Investment Plan, 2012–2022*. Kolkata.

⁶ KMC. 2014. *Action Plan to Mitigate Flood, Cyclone & Water Logging; and KMC. 2007. Sewerage and Drainage Masterplan for Kolkata City*. Kolkata.

⁷ ADB. 2013. Report and Recommendation of the President to the Board of Directors: Proposed Multitranche Financing Facility to India for the Kolkata Environmental Improvement Investment Program. Framework Financing Agreement. Manila.

Project (KEIP), which was implemented during 2000–2013 with the support of two ADB loans.⁸ The project was rated *successful*, and was noted by ADB and the government for its good implementation performance among ADB-financed urban projects in India.⁹ Long-term and sustained engagement of ADB with this megacity has enabled KMC to retain the successful structure and a majority of the original staff in the dedicated Program Management Unit (PMU) created for KEIP, while adding more capacity to implement KEIIP. This strong ownership from KMC and its experienced and adequately staffed PMU have largely been responsible for making the PMU of KEIP and KEIIP one of the most efficient ADB-funded project implementing agencies in the urban sector of India, disbursing more than \$30 million annually over several consecutive years.

4. **Tranches.** The report and recommendation of the President for the MFF (footnote 1) anticipated three tranches. Two tranches of the MFF were approved with \$300 million converted to loans. The first tranche of \$100 million was approved in October 2013, and supports (i) rehabilitation of water supply services and achievement of 24-hour water supply in one pilot area, Cossipore, through a specialized performance-based NRW reduction contract; (ii) extension of the S&D network; and (iii) development of financial and project management capacity of KMC.¹⁰ The second tranche of \$200 million was approved in August 2016, and supports (i) improvement in the existing water services, including setting the supply system into district metering areas, digitization of maintenance depots, establishment of service centers, NRW reduction; and achievement of 24-hour water supply in two more areas of KMC (Jai Hind and Joka); (ii) extension of the S&D network; and (iii) climate resilience and capacity building for improved efficiency of KMC.¹¹ On 8 May 2018, the Government of India submitted the periodic financing request (PFR) for the \$100 million final tranche of KEIIP, and provided consent for the attached technical assistance (TA) on 14 March 2018 to be funded from the Urban Climate Change Resilience Trust Fund (UCCRTF) under the Urban Financing Partnership Facility, in the amount of \$2 million to strengthen KMC's capacity to provide resilient urban services. Project 3 was included in India's country operations business plan, 2018–2020.¹² Project 3, supported by the third tranche and attached TA, will continue to expand S&D coverage, provide sewage treatment, and strengthen KMC's capacity for resilient urban services.

II. ASSESSMENT OF MULTITRANCHE FINANCING FACILITY IMPLEMENTATION

5. **Progress on road map, strategic context, and policy framework.** The intended objective of the road map, prepared as part of the framework financing agreement (FFA) for KEIIP (footnote 7), is to adequately and gradually deliver urban services; and achieve targets for improved water supply, S&D, and operational capacity to increase Kolkata's climate resilience. The interventions under projects 1 and 2 conform with the road map, which remains consistent with KMC's priorities. The MFF is relevant and responsive to ADB's policy focus of providing municipal services and mitigating the negative impacts of climate change. In 2016, the GOWB approved an amendment to the KMC Act, 1980 to introduce a unit area-based property tax, a key reform under KEIIP, implementation of which commenced in fiscal year 2017. KMC completed

⁸ ADB. Calcutta Environmental Improvement Project. Loan 1813-IND for \$250 million was approved on 19 December 2000, with supplementary Loan 2293-IND for \$80 million approved on 14 December 2006.

⁹ ADB. 2015. Completion Report: Kolkata Environmental Improvement Project. Manila. Project 1 was awarded the best performing ADB-funded project in 2017, after joint annual evaluation by the Ministry of Finance, Government of India, and ADB during their tripartite review meeting of projects in 2017.

¹⁰ ADB. 2014. Periodic Financing Request Report: Kolkata Environmental Improvement Investment Program, Tranche 1. Manila.

¹¹ ADB. 2016. Periodic Financing Request Report: Kolkata Environmental Improvement Investment Program, Tranche 2. Manila.

¹² ADB. 2017. *Country Operations Business Plan: India, 2018–2020*. Manila.

comprehensive mapping of properties and utilities using remote sensing and geographic information systems and established a state-of-the-art web-based interactive platform for all KMC departments and citizens to improve urban services. KMC approved its Water Loss Policy Roadmap in February 2016, which includes a commitment to strengthen operational sustainability of services by introducing household-level tariffs by 2019.

6. **Multitranche financing facility progress.** Implementation of the MFF is satisfactory, with good physical progress, and the MFF is expected to be fully utilized within the completion period. With the adoption of the water loss reduction roadmap and introduction of an area-based property tax, KMC is generally on track to achieve the agreed reforms under the MFF. A midterm review of the MFF carried out by ADB in September 2017 confirmed that the MFF and both ongoing tranches are on track to achieve the expected outcomes and outputs. The PMU disbursed over \$40 million in 2017 and is on track to disburse over \$50 million in 2018 under KEIIP.

7. **Progress of Projects 1 and 2.** Projects 1 and 2 are on track to achieving their expected outcomes and outputs.¹³ As of 10 August 2018, overall physical progress under Project 1 is at around 75%, contract award is at 96.8% (\$96.8 million) and disbursement is at 53.5% (\$53.5 million). Project 2 is also performing very well. It achieved contract award of over 70% and disbursement over 10% within its first year of implementation. As of 10 August 2018, overall physical progress under Project 2 is at around 30%, cumulative contract award is at 87.1% (\$174.2 million), and disbursement is at 18.5% (\$37.1 million).

8. **Compliance with framework financing agreement undertakings and covenants in loan and project agreements.** KMC is generally complying with the FFA undertakings and loan covenants: (i) Of Project 1's 27 loan covenants, 4 have been complied with; 22 (ongoing covenants) are being complied with; and 1 is not yet due; (ii) of Project 2's 32 loan covenants, 4 have been complied with, 28 are being complied with, and 1 is not yet due; and (iii) all 7 FFA undertakings are being complied with. Although there are delays in implementing some reforms, KMC expects to meet them by the end of the MFF period. A detailed compliance review of the covenants and undertakings is in the government's PFR submitted for tranche 3.

9. **Compliance with safeguard requirements.** ADB assessed the implementation of social and environmental safeguards under Projects 1 and 2, which are classified as category B for both environment and involuntary resettlement and found them to be in compliance with ADB's Safeguard Policy Statement, 2009. An environmental assessment and review framework (EARF) and resettlement framework were prepared for Project 1 and updated for Project 2. ADB approved all initial environmental examinations (IEEs), including environmental management plans (EMPs) and resettlement plans; they were included in the bid documents and contracts, disclosed on the ADB and project websites, and relevant information was shared with concerned stakeholders. No major safeguard issue or gap in implementation has been identified. Grievance redress mechanisms were established. To date, only one major social grievance was received under Project 2, which was successfully resolved at the PMU level. The remaining grievances were minor and resolved in coordination with the contractors at the field level. Implementation of EMPs, resettlement plans, and due diligence reports under both Projects 1 and 2 is satisfactory. Adequate measures are used by the PMU to prevent income loss and disruption during implementation. No indigenous people have been identified in the project-affected areas. Semi-annual environmental and social monitoring reports are submitted timely and publicly disclosed.

¹³ Projects 1 and 2 are rated *on track* in ADB's online project performance rating platform e-operations system.

10. **Gender.** Implementation of gender action plans (GAP) for both projects are satisfactory. GAP monitoring reports are being submitted regularly and updates are provided in the quarterly progress reports for the projects. Social and gender experts from the project consultants are assisting the PMU in regular updating of the GAP implementation matrix.

11. **Lessons.** Project 1 was designed on the basis of consolidated lessons from KEIP implementation, both with respect to technical design and implementation, and capacity development needs for policy reforms. Key success factors include (i) having an experienced, long-term, and adequately staffed PMU; (ii) using high-technology, such as micro-tunneling for large S&D pipes; (iii) ensuring sector interventions are focused and phased; and (iv) following masterplans. Lessons are detailed in the KEIP project completion report (footnote 9). The PMU has an efficient contract management and monitoring system, such as e-measurement of works, and skilled personnel in place to ensure timely implementation of KEIIP.

III. PERIODIC FINANCING REQUEST

A. Impact and Outcome

12. Project 3 is aligned with the following impact: access to water supply and sanitation in the service areas of Kolkata Municipal Corporation improved (program-defined). The outcome will be sanitation service quality, operational sustainability, and climate resilience in selected areas of KMC improved.¹⁴

B. Outputs

13. **Output 1: Sewerage and drainage network extension to peripheral areas continued.** Project 3 will continue expanding S&D services in selected peripheral areas of KMC to at least 3,000 additional households and provide sewage treatment for at least 100,000 households covered under KEIIP. It will construct (i) at least 43 km of additional sewer drain pipes; (ii) four pumping stations and at least 13 km of pumping mains and one existing pumping station upgraded; and (iii) three sewage treatment plants (STPs), with at least 115 million liters per day combined capacity.¹⁵

14. **Output 2: Operational capacity for urban services strengthened.** Project 3 will support KMC in enhancing its operational capacity and resilience of urban services. It will provide planning, preparatory and transaction advisory services for a comprehensive sanitation improvement in Kolkata, improve inclusiveness of public places, and provide training and capacity building of KMC staff in resilient urban services operations.¹⁶

C. Summary Cost Estimates and Financing Plan

15. Project 3 is estimated to cost \$143 million, and its investment plan is shown in Table 1.¹⁷

¹⁴ The design and monitoring framework is in Appendix 1.

¹⁵ Subprojects proposed will follow the subproject selection criteria in Schedule 4 of the MFF FFA (footnote 7).

¹⁶ Output 2 is also supported by the associated TA and will be delivered by the loan consultants being recruited under project 2, the TA consultants, and the project's incremental administration budget.

¹⁷ Cost estimates have been prepared by the PMU and project team based on subproject appraisal reports and the PMU's draft procurement plan. The cost estimate model is available from the project team and PMU.

Table 1: Summary Cost Estimates
(\$ million)

Item	Amount ^a
A. Base Cost^b	
1. Sewerage and drainage network extension to peripheral area continued	118.3
2. Operational capacity for urban services strengthened	2.0
Subtotal (A)	120.3
B. Contingencies^c	13.3
C. Financing Charges^d	9.4
Total (A+B+C)	143.0

^a In early-2018 prices, using an exchange rate of \$1 = ₹65.

^b Includes taxes and duties of \$12.2 million to be financed from the state government and KMC resources by cash contribution.

^c Physical contingencies are computed at 5.0% for civil works and equipment. Price contingencies are computed at 1.5%–1.6% on foreign exchange costs and 4.5%–4.6% on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

^d Includes interest and commitment charges. Interest during construction for the Asian Development Bank loan has been computed at the 5-year United States dollar fixed-swap rate plus a spread of 0.5% and a maturity premium of 0.1%. Commitment charges for an Asian Development Bank loan are 0.15% per year to be charged on the undisbursed loan amount.

Source: Asian Development Bank estimates.

16. The government submitted the PFR request for a regular loan of \$100 million from ADB's ordinary capital resources to help finance Project 3. The loan will have a 20-year term, including a grace period of 5 years, an annual interest rate determined in accordance with ADB's London interbank offered rate-based lending facility, and such other terms and conditions set forth in the draft loan and project agreements. Based on the straight-line repayment method, the average maturity is 12.75 years and the maturity premium payable to ADB is 0% per year.

17. The summary financing plan is in Table 2. The ADB loan will finance Project 3 expenditures in relation to civil works and equipment, incremental administrative costs, and contingencies. The Government of India will on-lend the ADB loan proceeds to the GOWB. The Government of India and GOWB have assured ADB that they will meet any financing shortfall to ensure that project outputs are fully achieved and provided ADB with (i) reasons for their decision to borrow under ADB's London interbank offered rate-based lending facility, based on the terms and conditions; and (ii) an undertaking that the choice was their own decision and not made based on any communication or advice from ADB.

Table 2: Summary Financing Plan

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank		
Ordinary capital resources (regular loan)	100.0	70%
Government of West Bengal and KMC	43.0	30%
Total	143.0	100.0%

KMC = Kolkata Municipal Corporation.

Source: Asian Development Bank estimates.

18. Climate mitigation is estimated to cost \$15 million and climate adaptation is estimated to cost \$40 million, of which ADB will finance 100%. Details are in Appendix 1 of the project administration manual (PAM).¹⁸

¹⁸ Project administration manual for Project 3 is in Appendix 4.

D. Implementation Arrangements

19. The implementation arrangements are summarized in Table 3 and described in detail in the PAM for Project 3 (footnote 18).

Table 3: Implementation Arrangements for Project 3

Aspects	Arrangements		
Implementation period	August 2018–April 2023		
Estimated completion date	30 April 2023		
Estimated loan closing date	31 August 2023		
Management			
(i) Oversight body	Chair: Minister-in-Charge, Municipal Affairs Department. Members: Mayor, KMC; Secretary, Municipal Affairs Department; Chief Executive Officer, KMDA; and the Municipal Commissioner, KMC. Member-secretary: Project Director, PMU. Invitees: Directors General of the KMC's Water Supply Department and Sewerage and Drainage Department.		
(ii) Executing agency	Government of West Bengal through KMC		
(iii) Key implementing agencies	Program Management Unit created under the KMC		
(iv) Implementation unit	PMU, which is fully staffed with more than 80 personnel.		
Procurement ^a	NCB (Plant)	3 contracts	\$35.11 million
	NCB (Works)	5 contracts	\$82.26 million
	Shopping	Multiple contracts	\$0.2 million
Consulting services ^b	TA consultants (QCBS)	83 person-months	\$2 million
Retroactive financing and/or advance contracting	Advance contracting for eligible expenditures incurred for civil works and equipment. Retroactive financing of eligible expenditures incurred not more than 12 months before the signing of the loan agreement and up to a maximum of 20% of the loan amount.		
Disbursement	The loan proceeds will be disbursed following ADB's <i>Loan Disbursement Handbook</i> (2017, as amended from time to time) and detailed arrangements agreed between the government and ADB.		

ADB = Asian Development Bank, KMC= Kolkata Municipal Corporation, KMDA = Kolkata Metropolitan Development Authority, NCB = national competitive bidding, PMU = Program Management Unit, QCBS = quality and cost-based selection, TA = technical assistance.

^a Tendering of works contract packages, under advance action, began in October 2017.

^b Loan consultants engaged under Project 2 will support KMC in design, supervision and management of Project 3.

Source: Asian Development Bank.

E. Project Readiness

20. Readiness for Project 3 is high, with the following status as of 30 July 2018: (i) the PMU is fully staffed; (ii) all detailed design is completed; (iii) consultants, currently at an advance stage of engagement under Project 2, will carry out supervision for Project 3; (iv) under advance action, about 29% of works contracts have already been awarded, 22% of works packages are in the tender evaluation stage, 36% have been tendered and the remaining 13% of works contracts will be tendered by September 2018; (v) no land is expected to be acquired, and safeguards due diligence has been completed and accepted by ADB for all subprojects; and (vi) most of the environmental certificates and clearances required for works under Project 3 have been received.

IV. TECHNICAL ASSISTANCE

21. **Strengthening the Capacity of Kolkata Municipal Corporation for Resilient Urban Services.** A total of \$2 million in TA will be financed on a grant basis by the Urban Climate Change Resilience Trust Fund under the Urban Financing Partnership Facility and administered by ADB

to strengthen KMC's capacity in providing climate change-resilient urban services.¹⁹ The TA will assist KMC in (i) preparing detailed feasibility report and transaction advice for climate-resilient solid waste management services for Kolkata; (ii) analyzing gaps and pilot area interventions to make Kolkata's public spaces inclusive; and (iii) improving resilience by building institutional capacity, including through smart urban management systems and community awareness. KMC will provide counterpart staff, office space, and other in-kind contributions. KMC will be the executing and implementing agency for the TA, which will be implemented over 3 years.²⁰

V. DUE DILIGENCE

A. Technical

22. **Use of innovative and high-level technologies.** Project 3 will continue using innovative and high-level technologies, similar to Projects 1 and 2, which are expected to have demonstrative effects for cities in West Bengal. Examples include (i) adopting micro-tunneling to lay large S&D pipes to minimize disruption to traffic and communities; (ii) using electronic measurement systems to manage construction contracts; (iii) using remote sensing, GIS, and information technology based solutions to strengthen city's resilience on disaster management and inclusiveness of public spaces; and (v) using sequencing batch reactors for all STPs, which have smaller footprints and higher treatment efficiency than conventional treatment methods, with supervisory control and data acquisition. All chosen technologies remain appropriate and were selected after life-cycle and least-cost analysis.

23. **Climate change adaptation and mitigation.** All subprojects under KEIIP, including Project 3, are in line with recommendations of the World Bank report (footnote 4) for building Kolkata's climate change resilience. The subproject designs take into account potential climate change scenarios such as increased precipitation. Investments prioritize flood-prone, densely populated, and underserved areas to maximize benefits and increase climate resilience.²¹ The attached TA will further strengthen KMC's capacity to provide resilient urban services.

B. Economic and Financial

24. **Economic analysis.** The economic rationale for the intervention is sound, as Project 3 aims to provide stronger and more sustainable basic urban services that focus on provision of adequate sanitation in the city. The economic analysis evaluated the economic feasibility of Project 3 and considered economic benefits that include savings in: (i) earnings that might otherwise be lost (a) during disease-related sick days, and (b) if a lack of drainage causes waterlogging in residential, commercial and institutional areas; and (ii) road maintenance costs in the waterlogged areas. Project 3's economic internal rate of return is estimated at 11.1%, higher than the economic opportunity cost of capital of 9.0%, indicating a significant economic return. The results of the sensitivity analysis for Project 3 are satisfactory, except when all downside risks are considered simultaneously, i.e., (i) a capital cost overrun of 20%, (ii) an overrun in O&M costs of 20%, (iii) a decrease in estimated benefits of 20%, and (iv) a 1-year delay in implementation. Given that unquantifiable benefits—such as environmental improvements and increased property values—were not included in the analysis, Project 3 is likely to be economically viable, even when all downside risks are combined.²²

¹⁹ Financing partners: the Rockefeller Foundation and the governments of Switzerland and the United Kingdom.

²⁰ Technical Assistance for Strengthening the Capacity of Kolkata Municipal Corporation for Resilient Urban Services (Supplementary Appendix A).

²¹ Detailed information is in Appendix 1 of the PAM (Appendix 4) and the Project Climate Risk Assessment and Management Reporting Report (Supplementary Appendix B).

²² The detailed Economic Analysis for Project 3 is in Appendix 6.

25. **Financial analysis.** A financial analysis was conducted to determine KMC's overall financial health, its ability to absorb incremental O&M costs, and debt-service costs of the assets constructed under Project 3. Project 3's ability to meet its costs—including capital expenditure and O&M—out of its revenue streams on a present-value basis was not assessed because S&D does not generate revenue. An incremental recurrent-cost analysis was considered more appropriate for understanding Project 3's financial viability, which indicated that KMC's S&D department would continue to generate surplus revenues, and O&M will remain sustainable if revenue subsidies from the GOWB continue. Although Project 3 is justified primarily on the grounds of economic development and financial sustainability, reforms being carried out by KMC under KEIP include full water supply metering to the household level and property tax reforms, which are expected to enhance KMC's overall financial sustainability.²³

C. Governance

26. A financial management assessment concluded that the KMC can conduct adequate financial management of Project 3.²⁴ A significant strength of KMC's financial management system is its experience in implementing large externally funded projects, such as KEIP and Projects 1 and 2 of KEIP. All projects have experienced timely receipt of counterpart funds and timely disbursements to contractors and consultants, and efficient project management conducted by adequate staff. KMC has established legal, institutional, and monitoring frameworks for budgeting, accounting, and auditing. Based on these factors, the overall risk assessment for Project 3 is moderate. The risk mitigation measures include (i) the commitment of KMC to maintain full PMU staffing, and (ii) extending sufficient training and capacity building support with the help of loan consultants to enhance the PMU's financial management capacity. Consultants will assist with close monitoring and resolution of capacity gaps.

27. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the Governments of India and West Bengal, and KMC. The specific policy requirements and supplementary measures are described in the PAM (footnote 18). Based on the risk assessments, some project design mitigation measures aim to (i) use the established mechanism for regular voluntary disclosure of project-related information to residents; (ii) use the e-procurement system to enhance transparency; and (iii) use and strengthen the established grievance redress mechanism to ensure rapid, effective resolution of grievances.

D. Poverty, Social and Gender

28. Project 3 will promote poverty reduction by developing infrastructure, improving residents' quality of life, reducing health morbidity and related health expenditures, and stimulating economic growth. It will provide S&D connections to at least 3,000 households, and sewage treatment to about 100,000 households, including those who are more impacted and vulnerable (e.g., women, children and the poor). Poor households in the project areas will receive 100% free coverage of S&D and sewage collection. The project is classified as effective gender mainstreaming. The Project 3 gender equality and social inclusion (GESI) action plan is included in the PAM, Appendix 4 of the PFR report for Project 3 (footnote 18). The GESI action plan for Project 3 is consistent with the GAP for Projects 1 and 2, continues the focus on gender inclusion and mainstreaming, and has clear targets, responsibilities, and allocation of resources. Capacity

²³ The detailed Financial Analysis for Project 3 is in Appendix 7.

²⁴ The detailed Financial Management Assessment Update is in Supplementary Appendix C.

building and training on technical, financial, and consumer management skills will strengthen KMC's female staff involved in urban services provision.²⁵

E. Safeguards

29. **Environment (category B).** The EARF prepared for Projects 1 and 2 was updated to reflect recently notified government environmental regulations and to guide environmental assessment of subprojects that may be changed and/or updated following ADB approval of Project 3.²⁶ Seven IEE reports and EMPs were prepared for Project 3 subprojects.²⁷ No environmentally-sensitive areas are within or adjacent to the subproject sites.²⁸ Potential impacts are site-specific, few if any are irreversible,²⁹ and they can be mitigated and minimized by applying proven mitigation measures and environmentally-sound design and construction consistent with good practices, as reflected in internationally recognized standards.³⁰ Stakeholders were consulted during IEE development, and their views incorporated. The consultation process will continue during implementation. The IEEs and EMPs will form part of the bid and contract documents. The PAM includes a grievance redress mechanism. All draft IEEs will be updated if changes incur after detailed design, and works will not commence until ADB reviews and approves final IEEs. The EARF and IEEs are disclosed to affected people and posted on the ADB and project websites. The PMU has demonstrated good safeguards compliance monitoring capacity in previous projects. Adequate consulting support is provided, including for Project 3. The PMU will report semi-annually to ADB on EMP implementation.

30. **Involuntary resettlement (category B).** The resettlement framework adopted for KEIIP in accordance with national and state laws and the ADB Safeguard Policy Statement, 2009 for Projects 1 and 2 remains applicable for Project 3. All Project 3 subprojects have been assessed for involuntary resettlement impacts. The total land requirement for tranche 3 is 4.744 hectares, all of which is vacant and unused government land. The PMU prepared seven due diligence reports for Project 3 subprojects and disclosed those on its website.³¹ One S&D subproject is financed by both Projects 2 and 3; the resettlement plan was prepared, approved and disclosed as part of Project 2. Temporary economic impacts resulting from pipelaying works are anticipated to affect 43 shop owners (including six women, one of whom has an income that is below the poverty line). Resettlement plan implementation for two alignments with impacts will be undertaken under Project 2, and for one alignment under Project 3.³² The grievance redress mechanism is in place and will be disclosed to the beneficiaries and communities around project sites before contracts are awarded. The PMU will prepare semiannual social safeguard monitoring reports; its robust and experienced team has the capacity to monitor compliance.

31. **Indigenous peoples (category C).** No indigenous peoples are found at or near the project sites; therefore, no indigenous people impacts are anticipated.

²⁵ A detailed Updated Summary of Poverty Reduction and Social Strategy is in Appendix 8.

²⁶ A detailed Updated Environmental Assessment and Review Framework is in Appendix 9.

²⁷ Seven IEEs were prepared covering all civil works packages; detailed IEEs for Project 3 are in Appendices 10-16.

²⁸ The East Kolkata Wetlands, a designated wetland under the Ramsar Convention, is located 500 meters from S&D subproject 32. However, this work will only involve pipelaying, with wastewater conveyed to the proposed STPs. No subprojects are hydrologically linked to the East Kolkata Wetlands.

²⁹ Construction impacts are mainly expected to result from (i) excavations in narrow roads to lay sewer mains; (ii) potentially hazardous working conditions; (iii) disposal of a moderate quantity of waste soils; and (iv) disturbance of residences, businesses and traffic. Potential impacts resulting from operations of proposed STPs (specifically odor and noise) will be mitigated by including acoustic enclosures and odor control in the STP design.

³⁰ Such standards include International Finance Corporation. [Environmental, Health, and Safety Guidelines](#).

³¹ Detailed due diligence reports for Project 3 are in Appendices 17-23.

³² ADB assessed implementation of the resettlement plans under Projects 1 and 2 and found satisfactory.

F. Summary of Risk Assessment and Risk Management Plan

32. Major risks to Project 3's success and measures to mitigate those risks are summarized in Table 4.³³ Integrated benefits and impacts from Project 3 are expected to outweigh costs.

Table 4: Summary of Risks and Mitigating Measures

Risks	Mitigating Measures
The lack of an approved water and sewerage tariff structure may constrain KMC from achieving financial sustainability	KMC has confirmed its full commitment to implementing the water loss policy roadmap, including introduction of water and sewerage tariffs, starting in the following pilot areas: Cossipore, East Kolkata and Joka
Competing priorities on the part of the government of West Bengal and KMC may affect timely project completion	The project incorporates advance planning by KMC, adequate staffing of the PMU, and support from the associated TA

KMC = Kolkata Municipal Corporation, PMU = Program Management Unit, TA = technical assistance.

Source: Asian Development Bank.

VI. ASSURANCES AND CONDITIONS

33. The government and the KMC 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 updated facility administration manual and loan documents.

34. The government and the KMC have agreed with ADB on certain covenants for the project, which are set forth in the loan agreement and project agreement.

VII. THE PRESIDENT'S DECISION

35. On the basis of the approval by ADB's Board of Directors for the provision of loans under the multitranche financing facility in an aggregate principal amount not exceeding \$400,000,000 to India for the Kolkata Environmental Improvement Investment Program, the President has approved the tranche as described in paragraphs 16 and 17 and such other terms and conditions as are substantially in accordance with those set forth in the draft loan and project agreements.

36. Acting under the authority delegated by the Board, the President has also approved the administration by ADB of technical assistance not exceeding the equivalent of \$2,000,000 to the Government of India for Strengthening the Capacity of Kolkata Municipal Corporation for Resilient Urban Services to be provided on a grant basis by the Urban Climate Change Resilience Trust Fund under the Urban Financing Partnership Facility (footnote 19).

13 August 2018

Takehiko Nakao
President

³³ The risk assessment and management plan prepared for the MFF remains unchanged.

DESIGN AND MONITORING FRAMEWORK FOR PROJECT 3

Impact of the Project is aligned with:			
Access to water supply and sanitation in the service areas of Kolkata Municipal Corporation improved ^a			
Results Chain	Performance Indicators with Targets and Baselines^b	Data Sources and Reporting	Risks
<p>Outcome</p> <p>Sanitation service quality, operational sustainability, and climate resilience in selected areas of KMC improved</p>	<p>By 2024:</p> <p>a. 100% of collected sewage from 100,000 households in project areas treated (2017 baseline: 25%)</p> <p>b. Project areas prone to flooding reduced to 5% or less (2017 baseline: Around 60% or approximately 600 hectares of project areas experience flooding)</p> <p>c. O&M cost recovery by KMC's S&D Department exceeds 100% (2017 baseline: 100%)</p>	<p>a and b. Annual reports of KMC's S&D Department, and PMU's project quarterly reports</p> <p>c. KMC's audited financial statements</p>	<p>The lack of an approved water and sewerage tariff structure may constrain KMC from achieving financial sustainability</p>
<p>Outputs</p> <p>1. Sewerage and drainage network extension to peripheral areas continued</p> <p>2. Operational capacity for urban services strengthened</p>	<p>By 2023:</p> <p>1a. At least 43 km of additional sewer drain pipes commissioned (2017 baseline: 0)</p> <p>1b. Four additional pumping stations and at least 13 km of pumping mains commissioned, and one existing pumping station upgraded (2017 baseline: 0)</p> <p>1c. Three additional STPs with at least 115 MLD of combined capacity commissioned (2017 baseline: two existing STPs with 102 MLD of combined capacity)</p> <p>1d. At least 3,000 additional households (including 100% of vulnerable households, and households headed by female) in the project areas connected to S&D network^c (2017 baseline: 0)</p> <p>By 2023:</p> <p>2a. At least 20% staff employed at the three additional STPs constructed under the project are female (2017 baseline: 0)</p>	<p>1a-1d. PPMS and quarterly progress reports from the PMU approved by KMC</p> <p>2a. KMC's annual reports</p>	<p>Competing priorities on the part of the Government of West Bengal and KMC may affect timely project completion</p>

Results Chain	Performance Indicators with Targets and Baselines ^b	Data Sources and Reporting	Risks
	<p>2b. At least 80% of eligible KMC and PMU staff, including 100% of eligible female staff, reported increased knowledge on climate resilience, NRW reduction and smart water management (2017 baseline: 0%)^d</p> <p>2c. 80% of female who participated in IEC activities reported increased awareness on water hygiene and safe sanitation practices (2017 baseline: 0%)</p> <p>2d. Vulnerability map of public places completed and its use for climate resilience and inclusiveness pilot tested (2017 baseline: 0)</p> <p>2e. Detailed feasibility assessment, due diligence, and transaction advisory for climate-resilient solid waste management and drainage infrastructure of KMC completed (2017 baseline: None)</p>	<p>2b-2e. Annual reports of KMC's Water and S&D departments, PPMS, and quarterly progress reports from the PMU approved by KMC</p>	
<p>Key Activities with Milestones</p>			
<p>Output 1. Sewerage and drainage extension to peripheral areas continued</p>			
<p>1.1 Commission S&D network and one pumping station in borough IX (Q2 2018–Q2 2021)</p>			
<p>1.2 Commission S&D network and one pumping station in borough XVI (Q3 2018–Q1 2022)</p>			
<p>1.3 Commission S&D network and one pumping station in borough XII (Q4 2018–Q2 2022)</p>			
<p>1.4 Construct and commission STP near Joka Tram Depot (Q2 2018–Q2 2021)</p>			
<p>1.5 Construct and commission STP near MG Road (Q3 2018–Q3 2021)</p>			
<p>1.6 Construct and commission STP at Rajpur Sonarpur (Q4 2018–Q4 2021)</p>			
<p>1.7 Construct and commission one pumping station at Lalababu Nikashi and upgrade one pumping station at Sakuntala Park (Q4 2018–Q2 2021)</p>			
<p>1.8 Install house connections (Q4 2018–Q3 2022)</p>			
<p>Output 2. Operational capacity for urban services strengthened</p>			
<p>2.1 Develop capacity of KMC staff on climate-resilient urban services management and solid waste management. (Q2 2018–Q2 2023)</p>			
<p>2.2 Complete feasibility study and transaction advisory on solid waste management for Kolkata (Q4 2018–Q2 2021)</p>			
<p>2.3 Complete mapping and piloting to improve public spaces (Q3 2018–Q2 2020)</p>			
<p>2.4 Conduct regular monitoring, reporting and evaluation, and implement project communication strategy (Q2 2018–Q2 2023)</p>			
<p>2.5 Disclose project information to public (Q1 2018–Q2 2023)</p>			
<p>Inputs</p>			
<p>ADB: \$100 million (regular ordinary capital resources loan)</p>			
<p>UCCRTF under UFPF: \$2 million (technical assistance)</p>			
<p>Government and KMC: \$43 million</p>			
<p>Assumptions for Partner Financing</p>			
<p>Not Applicable</p>			

ADB = Asian Development Bank, IEC = information, education and communication, km = kilometer, KMC = Kolkata Municipal Corporation, MLD = million liters per day, NRW = nonrevenue water, O&M = operation and maintenance, PMU = program management unit, PPMS = program performance monitoring system, Q = quarter, S&D = sewerage and drainage, STP = sewage treatment plant, UCCRTF = Urban Climate Change Resilience Trust Fund, UFPF = Urban Financing Partnership Facility, WSD = Water Supply Department.

^a Defined by the Investment Program following the impact statement of the multitranche financing facility's design and monitoring framework (DMF). This is aligned with the Kolkata Municipal Corporation (KMC)'s roadmap to improve its water supply and S&D services (*Kolkata Urban Sector Investment Plan, 2012-2022*). The DMF was adjusted to comply with the recent DMF Guidelines. ADB. 2016. *Guidelines for Preparing a Design and Monitoring Framework*. Manila. <https://www.adb.org/sites/default/files/institutional-document/32509/guidelines-preparing-dmf.pdf>.

^b All baseline data were provided by the Program Management Unit, and based on the 2011 Census, KMC's annual reports, and studies conducted by KMC and its consultants. No baseline data are provided for incremental outputs. All data sources and reports will be verified by a third party appointed by the KMC.

^c Vulnerable households include those headed by female or composed of people who are living below the poverty line, are landless or without legal title to land or tenure security, are members of a scheduled caste and scheduled tribe, and disabled persons. Data on vulnerability, including households headed by female, will be collected through the service connection form during household surveys, which will have specific fields to capture vulnerability status.

^d Gender-disaggregated data on KMC's water supply and S&D departments, KMC, and the PMU will be collated and all female staff who qualify for the training will be included. Eligibility criteria are case-based and will be defined by the safeguards monitoring unit prior to each training. Criteria will vary based on the requirements of the type of training, language and technical skills.

Source: Asian Development Bank.