

Evaluation Approach Paper

Topical Paper: Contribution of ADB Sanitation Projects

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A. Background

1. Improvement of sanitation has great impact on the environment, public health or livelihood, especially for the poor and the vulnerable; and in the same light, contributes to enhancing livability of cities. According to the United Nations (UN), “In regions, where a large proportion of the population is not served with adequate water supply and sanitation, sewerage flows directly into streams, rivers, lakes and wetlands, affecting coastal and marine ecosystems, fouling the environment and exposing millions to disease.” In the context of urbanization, domestic wastewater, sewage and solid waste improperly discharged presents a variety of concerns from providing breeding grounds for communicable disease vectors to contributing to air, water and soil pollution.¹ This paper adopts a narrow² definition of “sanitation” as a subsector in Asian Development Bank (ADB) operations, commonly used in the Urban Sector Group, not including solid waste management (treating it as another subsector), and primarily referring to sewer network systems including wastewater treatment plants and on-site options as well.³

2. Sanitation can be divided into on-site and off-site technologies or options. On-site systems (e.g. latrines or septic tanks), store and/or treat domestic waste at the point of generation; whereas off-site systems (e.g. sewerage), domestic waste are transported to another location for treatment, disposal or use. Sanitation can also include drainage of storm water (when there are combined flows of stormwater and sewage); and treatment and disposal of sewage effluents.⁴ In this study, the Independent Evaluation Department (IED) will focus on the narrow definition of sanitation, and will not take up solid waste management. Usually, when solid waste is included in ADB projects, it forms as distinct (sub-)component.

¹ UN-Water. See www.unwater.org/wwd08/docs/10Things.pdf

² Some agencies, for example USAID includes SWM under broader sanitation: see <http://www.tractionproject.org/resources/environmental-health-safety-water-sanitation-and-hygiene/10-things-you-need-know-about>

³ In the broader definition, sanitation can cover: measures necessary for improving and protecting health and well-being of the people. Sanitation is any system that promotes proper disposal of human and animal wastes, proper use of toilet and avoiding open space defecation. <https://esa.un.org/iys/review09/countries/nigeria/pdfs/Nigeria-IYSFAQsSanitation.pdf>, for example. Under UN Sustainable Development Goals, Indicator 6.2 states; By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.

⁴ Comments received from the Operations (quote): “While these definitions are correct, it cannot be ignored that there are some systems which are offsite but without sewer systems—such as septage management which similarly transport excreta to another location for treatment and disposal”.

Table 1: Broad definition of Sanitation, and where ADB usually operates

	Collection, storage, treatment and disposal/re-use/recycling of human excreta	Management (re-use, recycling of Solid waste, i.e. trash or rubbish)	Drainage of household water (grey water)	Sewage effluent treatment, disposal	Collection and management of industrial waste products	Hazardous waste management (hospitals waste, chemical/radio-active and other dangerous substance)
ADB operation	√	√	√	X (there maybe few cases)	X	X

√ = applicable to ADB operations; X = usually not applicable to ADB operations.

Sources: Sub-categories referenced UN-Water: www.unwater.org/wwd08/docs/10Things.pdf

3. Under the sewerage (excreta, grey water and effluent) components, ADB operations deal with treatment plants, septic tanks, sewer and drainage networks, and connections to households, but not the piping inside building⁵ or stores.⁶ For household and small-business waste, ADB usually works on all four main processes of (i) segregation;⁷ (ii) collection; (iii) treatment; and (iv) disposal (in the case of solid waste, composting and recycling), but not usually on re-use of wastes.

4. **A gap between supply and demand for sanitation services remains in Asia.** According to UNESCAP's International Decade for Action "Water for Life 2005–2015,"⁸ many countries were off-track in meeting the Millennium Development Goals (MDG) sanitation target, including several of the most populous countries in Asia. South Asia still struggles with low sanitation coverage of 41%, representing 692 million people. On a global scale, 37% of the population still lack access to basic sanitation. Meanwhile, about 1.7 billion people in the Asia-Pacific region, which is 42% of the population, do not have access to basic sanitation.⁹ In many areas, open defecation is still practiced,¹⁰ particularly in rural area in South Asia, and there are associated impacts with health, environmental and cultural consequences.

B. Degree of emphasis on Sanitation under Strategy 2020, Urban and Water Operational Plans

5. In 2008, ADB launched its long-term Strategy 2020. The strategy placed importance not only on the pace of growth, but on the pattern of growth; the ability to achieve and to sustain poverty reduction depends on economic growth alongside a well-managed natural environment. The strategy says (page 11), "ADB can make substantive contributions toward this vision by focusing its support on three distinct but complementary development agendas of the region,

⁵ South Asia Department commented (quote) sewerage network contracts several Indian states (J&K, Uttarakhand) include household connections beyond the property boundary (i.e., inside buildings) to ensure connections, sewage flow, and utilization of STPs. This simple yet meaningful measure increases connection rate and the sustainability profile (environmental, financial) of these projects. This approach is being requested by new clients (i.e., Tamil Nadu).

⁶ IED will check if ADB projects have done any inside the building piping; including apartments.

⁷ Operations commented that ADB does not usually engage in the "segregation".

⁸ United Nations. <http://www.un.org/waterforlifedecade/>

⁹ <http://www.mdgmonitor.org/mdg-progress-report-asia-the-pacific-2015/>

¹⁰ Ibid see Footnote 1 on UN information sheet.

namely: (i) inclusive economic growth, (ii) environmentally sustainable growth (ESG), and (iii) regional integration.”

6. Environmentally sustainable growth (ESG) has three sub-pillars: (i) climate change, (ii) livable cities, and (iii) complementary actions (mainstreaming environmental considerations).” Under the second pillar livable cities’ focus, “ADB will assist developing countries and their municipalities in addressing a range of environmental problems resulting from rapid urbanization. These include (i) reducing air pollution, (ii) supporting cleaner modes of transport, and (iii) improving and reducing systems for solid waste management.” It is worth noting that sanitation or sewerage was not one of the three focus areas under Livable Cities; perhaps it was assumed that it was part of more general basic infrastructure along with water supply, that did not need separate emphasis.

7. **Sanitation remains one of the seven priorities in the Water Operational Plan (WOP) 2011–2020.**¹¹ The WOP maintains that sanitation must remain an urgent priority for many governments in the region. While improved sanitation, based on the MDG definition, means access to latrines, governments should be encouraged to go further with the provision of even more hygienic, environmentally sound, and dignified technologies, wherever possible. The expansion of sanitation service has a clear link to poverty reduction. WOP says that the high coping costs of illness resulting from poor sanitation services particularly affect the poor, marginalized, and vulnerable people.

8. It is also important to note that the WOP highlighted ADB’s strong commitment to expanding sanitation investment in Appendix 1 under Outputs in its results framework: the target of increasing to at least 25% by 2020 the share of sanitation from total water lending from 14% in 2011. According to the most recent Annual Report of Water Financing Partnership Facility, it says (quote) “ADB remains on track in meeting the target of increasing from 14% to 25%, the share of sanitation from total water investments by 2020. As of end-2016, the share is at 22.34%” (end quote).¹²

9. **ADB’s Urban Operational Plan¹³ envisions transforming Asia into a competitive, equitable, and environmentally sustainable urban region—in short, a livable city.** However, this will require a new approach (from conventional urban projects with lots of sub-components merely tagged to a project, or what was so called “Christmas tree” approach) to ADB’s support for that development. Core to the transformation is a reinvigorated emphasis on the need for a revised integrated planning approach to the provision of infrastructure and services and other public goods. Urban operations are to approach the urban sphere in comprehensive, integrated, and/or sequenced approach.

10. Sustainable Development and Climate Change Department (SDCC) also launched in 2012 regional technical assistance (RETA) 8060¹⁴ Promoting Innovations in Wastewater Management in Asia and the Pacific. This RETA, which closed in 2016, helped increase awareness and interest of developing member countries (DMCs) in wastewater issues and solution options to pave the way for scaled up investments in wastewater projects. The RETA combined knowledge sharing with capacity development to assist DMCs/cities in identifying viable wastewater business opportunities and developing pre-feasibility studies. In the similar light, the

¹¹ ADB. 2011. *Water Operational Plan 2011–2020*. Manila.

¹² Water Financing Partnership Facility. Para 16. Annual Report 2016. Manila.

¹³ ADB. 2013. *Urban Operational Plan 2012–2020*. Manila.

¹⁴ 2012. RETA-8060: Promoting Innovations in Wastewater Management in Asia and the Pacific financed by JFPR. Manila.

2006 Water Financing Program included a target of 500 million people being provided access to drinking water supply and improved sanitation by 2020. Latest data as of 2016, (quote from para 35) Out of 381 million people; 106 million has already been realized; and of the 124 million people attributable to Water Financing Partnerships Facility (WFPP), 16 million has already been realized.

C. Portfolio

11. **Encouraging sanitation sector investments has been difficult historically.** Since early 2000s, sanitation (or wastewater) sector projects, compared to drinking water supply, have been lagging in terms of disbursement and subsector delivery targets. The reasons for this underperformance will be looked at in the paper through the projects that have been completed in the past decade or so. Even before the Strategy 2020 was launched in 2008, ADB had already recognized the need to push the sanitation agenda forward in 2007¹⁵ with a launch of a Discussion Note called “Dignity, Disease, and Dollars”, which was published ahead of the International Year of Sanitation (IYS) of 2008.¹⁶ ADB said that it recognized the need for an open and forward-looking dialogue with its DMCs to ensure that countries take the need for sanitation initiatives and investment. Equally important is the ADB’s “Asian Sanitation Data Book 2008” published in 2009. It is a sanitation data book, which compiled sanitation profiles of major cities in Asian countries; describe challenges and call for more accurate data collection and management to support decision making on sanitation,¹⁷ Albeit local politicians prefer water supply service expansion than sanitation management, as it is more visibly appealing to their constituency; the population is often more willing to pay water tariff than sewerage tariff as well. The 2007 Dignity Paper also stated (quote) “institutions responsible for the regulation and oversight of sanitation and environment often have overlapping mandates that prevent integrated management (of water supply and sanitation).” Strategy 2020 was released in 2008, and subsequently both WOP and Urban Operational Plan were launched. To this date, assessment on the position paper, or on the general progress in the sanitation sub-sector has not been done.

12. Some commonly held views heard through preliminary discussions with SDCC and regional departments staff are: (i) the demand for sewer networks is usually lower than demand for water supply network, as households can resort to basic on-site treatment options, such as septic tanks (but septic tanks also have their problems, such as irregular maintenance, clogging or no desludging); (ii) water supply or road are always higher in the priority list for elected officials, as they are more visible and clean; (iii) wastewater treatment plants may face NIMBY-ism (not-in-my-backyard) for odor and other aesthetic issues; (iv) sanitation and water supply are usually serviced by different entities;¹⁸ (v) sanitation is under the responsibility of municipalities rather than specialized public corporations, (vi) urban sanitation projects require some level of community action (water can be delivered to the household and metered and can be treated like a private good), sanitation cannot be metered and is more of a public good; and (vii) lack of sanitation regulator for sanitation services provider. This is even more crucial in the case of private septage management providers. The latter tend to be more business oriented and efficient, while municipalities in DMCs are generally under-resourced.

¹⁵ Operations commented that the establishment of Sanitation Action Group in 2007 as a sub-group under the Water Committee might also be worth mentioning as that group was instrumental in expanding ADB’s sanitation advocacy.

¹⁶ ADB. 2007. *Dignity, Disease, and Dollars*. Manila. *Asia’s Urgent Sanitation Challenge*. Manila.

¹⁷ ADB, Citynet, UN Habitat and Veolia Environment. 2009. *Asian Sanitation Data Book 2008—Achieving Sanitation for All*. Manila.

¹⁸ Integrated and overlapping mandates are also an issue in other infrastructure sectors such as urban transport.

13. **In the last 6 years, sanitation investments have picked-up pace.** The IED team did some preliminary portfolio analysis. It found that ADB investment in sanitation has steadily increased (with a slight dip in 2016). ADB has increased its access to funding sources for work in this area, such as the trust funds WFPF, Sanitation Financing Partnership Trust Fund, which is funded by the Bill & Melinda Gates Foundation¹⁹ and Technical Assistance Special Fund. This enables engagement in more policy dialogue, and more project and/or investment incubation or preparation in recent years.

(i) Portfolio of Operations

14. **This topical paper will cover ADB’s portfolio for at least 14 years (2003–2016).** As Table 2 below shows, there were 131 loans/grants which budgeted for sanitation (including urban sanitation with septic tanks) amounts (\$3.8 billion). East Asia with the People’s Republic of China tops the chart with \$1.1 billion for sanitation work, followed by South Asia (\$980 million) and Central and West Asia with \$670 million (Appendix 2; Tables 2 and 3).

Table 2: Urban Sanitation and Sewerage, 2003–2016

By Region	No. of Projects	\$ million
ADB-wide	131	3,806.0
Central West	21	669.2
East Asia	36	1,160.0
Pacific	12	88.6
South Asia	37	979.3
Southeast Asia	19	379.0
PSOD	6	529.9

(ii) Evaluated portfolio: Self-evaluated and validated ratings.

15. **Success rates.** For the period under evaluation, out of 131 projects, 64 projects²⁰ in the Water and Other Urban Infrastructure and Services sector were closed/completed and subjected to a completion report. IED will be able to examine output, outcome and impact of these in the paper. On a region-wide basis, East Asia accounted for the only project rated “highly successful”, as well as 11 projects (the most among regions) rated “successful.” The highest number of projects with “less than successful” were found in South Asia (5) and Central West had the most number of projects (5) that were “unsuccessful.” These ratings are for the whole project, not for specific sanitation sub-components; and rated either by self-evaluation through project completion report, or validated by IED afterwards.

¹⁹ The Sanitation Financing Partnership Trust Fund aims to catalyze investments in fecal sludge management focusing on non-networked sanitation options and have current portfolio in the South Asia, Southeast Asia and East Asia

²⁰ IED adds one 2017 recently-completed project completion report of Indonesia Loan 2768: Urban Sanitation and Rural Infrastructure Support to the PNPM Mandiri Project.

Table 3: Urban Sanitation and Sewerage Projects Success Rates by Region (2003–2016)

Region/Success Rating	Highly Satisfactory	Satisfactory	Less than Satisfactory	Unsatisfactory	Projects/Region
Central and West	-	22.2% (2)	22.2% (2)	55.6% (5)	13
East Asia	7.1% (1)	78.6% (11)	14.3% (2)	-	16
Pacific	-	100.0% (6)	-	-	6
South Asia	-	61.5% (8)	38.5% (5)	-	20
Southeast Asia	-	50.0% (2)	50.0% (2)	-	6
Private Sector		66.7% (2)		33.3% (1)	3
Totals per rating	2.0% (1)	63.0% (31)	22.0% (11)	12.0% (6)	(49)
	Total w/ ratings				49
	Total w/o ratings				15

Source: Independent Evaluation Department

D. Methodology and Approach

16. The main objective of this evaluation paper is to highlight the lessons and suggestions, by reviewing the completed projects (of approved loans since 2003) across all the regions (regional departments plus Private Sector Operations Department) in the last 10 years or so (Appendix 1). It will also endeavor to highlight experiences of successes and failures/challenges surrounding ADB's support in the sanitation subsector. It should be noted that Topical Paper is different from Synthesis paper; the latter is where IED tries to depict the "average" level of achievement in the ADB sector portfolio. A Topical Paper tries to highlight "extreme" cases, where there was a great success or breakthrough to break the deadlock or inertia in the sanitation sector, and also failures, where ADB did not learn from past mistakes, or where there was inadequate assessment to gauge the design or capacity of the implementing agencies to pursue this difficult area; or cases where "intervention pathway" or assumptions in the design and implementation turned out to be unfounded (please see Theory of Change section below). For the remaining uncompleted projects that are still ongoing, the evaluation will look at whether any lessons and failures have been addressed, corrected and improved in the project design at the time of approval, and in their initial implementation stage. IED will also look at any added benefits or value-addition under recent initiatives in strengthening quality of sanitation projects under WFPF, Sanitation Financing Partnership Trust Fund and RETAs mentioned in this paper (Appendix 2).

(i) Theory of Change

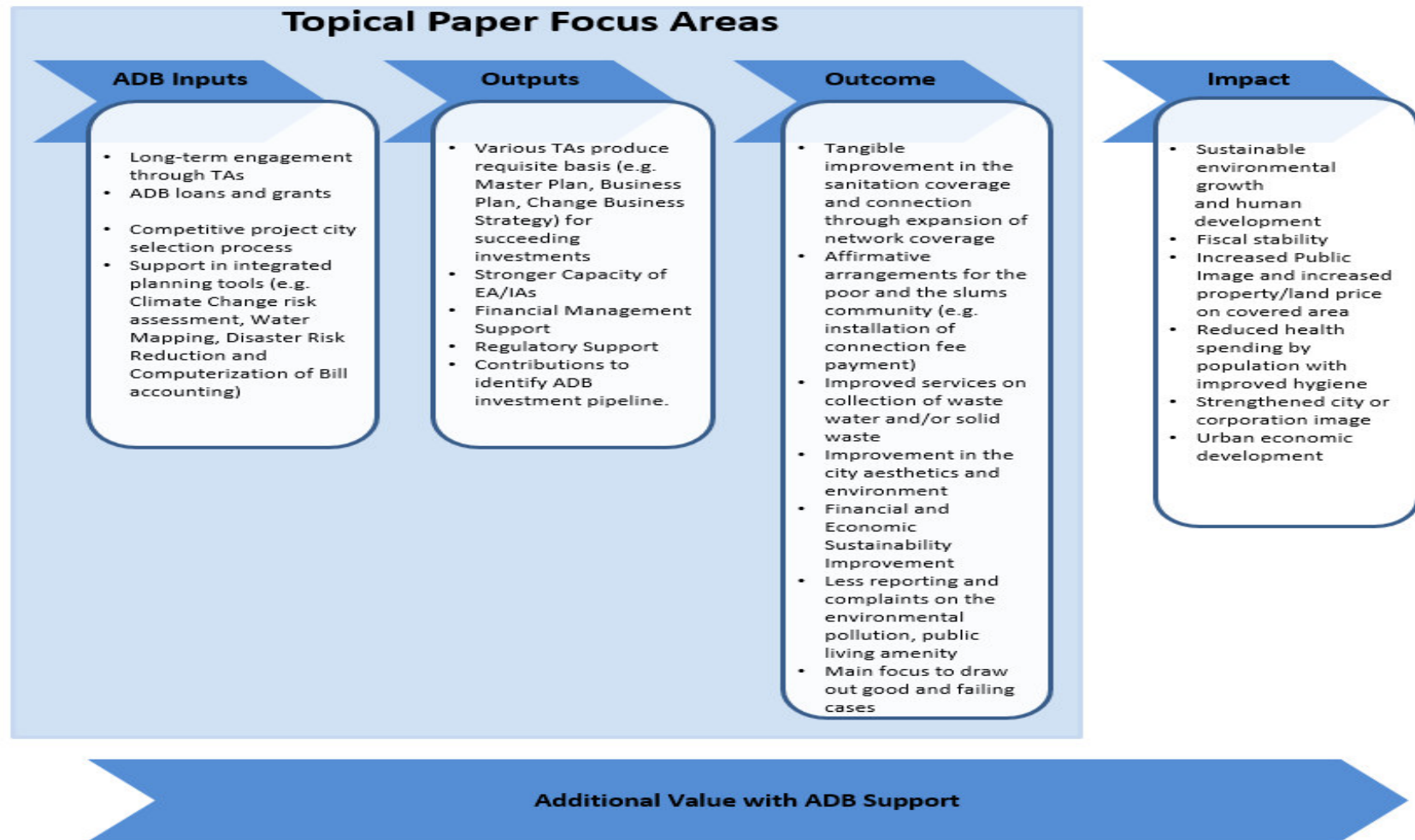
17. The theory of change underlying ADB interventions in the stage of providing sanitation through ADB support is articulated in Figure 2. The key focus to refer to the theory of change under this evaluation is to determine any of the assumptions or intervention pathways among the four stages below, i.e. Input–Output–Outcome–Impact through the delivery of ADB projects. For the first step of ADB inputs, there is an assumption that there is strong demand from the municipality and beneficiaries to improve the sanitation situation. Without this, projects suffer during the implementation. At the end of project, there may be good quality sewer network constructed, but if employees in the implementing agency are not capable of maintaining the network, and there is lack of incentives for effectively collecting user charges (e.g. regulatory restriction to increase fee on sanitation) result in sustainability issues. In the past, there may be efforts to extend sewer network to connect slum areas, but hefty connection fees deter residents from connecting to said network.²¹ Also, the initiative may not catch momentum, if there is

²¹ South Asia Department commented that "In India, contracts where connection fees are embedded in the civil works contract, the cost of connections is recovered by the city authorities/utility during O&M period. There are state and local by-laws which are enforced by city authorities to increase payment of connection fees. In some states,

inadequate education on the importance of sanitation to the wider public. Demonstrative effects have importance for the sanitation services in many countries, where majority of the population may not be willing to pay for the service, unless the benefit from it is widely disseminated by the government, community leaders, and politicians. In some cases, a newly-elected mayor may decide not to expand a pilot network scheme provided by the previous administration.

connection fees are subsidized for below-poverty-level (BPL) households, though this ranges from city-to-city. In Tirunaveli, Tamil Nadu for example, the city supports an incremental payment approach for BPL connection fees, but not a pro-poor subsidy.”

Figure 2: Theory of Change



Source: Independent Evaluation Department.

(ii) Evaluation Scope

(a) Time Period and Category of Projects

18. The evaluation will be based on the available data in the SDCC Water sector database, which comprises loans approved since 2003. The evaluation will also focus on sanitation projects (loans and grants) under the water and other urban services in the Urban portfolio, and thus, will not look into rural water supply or agriculture and natural resources sector. There are around 131 projects amounting to a \$3.8 billion portfolio. IED will look at all completed projects with project completion reports; which were categorized as Urban Sewerage or Urban Sanitation maintained in Water and Urban Sector Group database. As mentioned in para 16, IED will also look at more recent uncompleted projects for any improvements in the design, which might have taken lessons from finished portfolios. Both on-site and off-site projects will be included.

(b) Evaluative Questions of the Topical Paper

19. The main evaluation objective is to draw out the lessons and suggestions for future success in developing and improving sanitation projects, the following sub-questions will be addressed to compile successes and failures in each case:

(i) What are good and bad practice examples during the Preparation and Design stage? Determine the evolution in the way ADB projects are designed and implemented in the sanitation sector, in terms of technical options, policy and institutional engagement, and capacity building – what lessons have been learned and successfully applied. Sub-questions include:

- (a) How did the 2007 Sanitation Position Paper and Asian Sanitation Data Book (2008) which aimed to push for more investment in Sanitation translate in actual approved loans, in terms of volume and number of projects in ADB? Or even 2001 Water Policy and establishment of Water Financing Program in 2006?
- (b) Have there been any additional resources or funds made available to support expansion in the sanitation subsector?
- (c) Have there been additional grant resources or staffing to boost the technical capacity of ADB staff and skills?

(ii) What are successful and more challenging cases where sanitation projects are featured prominently in more recent holistic engagements?

- (a) What is the non-infrastructure support (e.g. governance, financial management, gender) which ADB brings in to boost the delivery of sanitation projects in these targeted cities? In addition to governance, suggest including support for legal and regulatory policy reforms in the sanitation sector (e.g. through TAs, sector development loans etc.).
- (b) Have there been increasing success cases of connecting the sewer network to slums and poorer communities by incorporating incentives and other innovations (such as allowing connection fee in installments, not at the time of connection only)?
- (c) Whether a full range of sanitation options are routinely considered during investment planning/project design stage, covering the whole sanitation service chain (such as alternative lower-cost sanitation technologies such

as simplified/condominial sewerage networks used more widely in other regions, particularly Latin America)?

(iii) Are good value addition regularly being monitored during the project implementation; and if not, why?

- (a) **Value Addition: Sanitation as sustainable business.** Given that sanitation utilities and/or corporations have improved their capacity in the design and implementation of technical/engineering elements of sanitation projects, did they also improve in terms of financial management? Are these services leading to financial sustainability? Is the service (utility) fee for sanitation collected as part of water supply? ²²
- (b) Has there been any innovation in the way tariff or costs are recuperated from the service consumers? Whether ADB projects used opportunities to secure climate change financing, e.g. earning carbon credits from reducing GHG emissions from sewerage treatment plant upgrades. Or other opportunities to generate income from resource recovery from sludge/waste?
- (c) What are the variations among the ADB countries to collect sanitation tariffs? And what is the range of duration (years) to recover capital costs?
- (d) In countries or cities where donors split their sector coverage, is ADB working hand-in-hand with those partners, in terms of joint tariff collection or support to tariff regulatory reforms? Any institutional capacity support that worked?

(iv) What are good and bad cases where ADB sanitation projects show tangible impact on the surrounding environment (e.g. water quality, hygiene, complaints on odor, spillage, leakage to drains and public space;²³ and health and gender)?

- (a) Are baseline data (before Project) collected during project preparation or at the early stage of project implementation after approval?
- (b) For impact monitoring to happen, effective and functioning collaboration among different government agencies and municipalities is needed. Is that happening in any case, and if so, why did it happen and what are the factors that led to it? Are there good collaboration efforts and systems between sanitation service agency and other sector agencies, such as environment and health to keep track of the impacts made?

(v) TA and Knowledge contribution. What are the successful or difficult experiences concerning the Government's post-ADB intervention initiatives to expand or replicate the success of ADB project/s in other areas or cities?

- (a) Are countries now expanding or proliferating the coverage of sanitation by utilizing some skills, knowledge and experience from ADB and other external support in the two sub-sectors? IED will also look at various

²² Sanitation as Sustainable Business please include SME (e.g., fecal sludge management) and the supply side of sanitation infrastructure (e.g., expertise, availability of material) is also a major.

²³ In several of our urban infrastructure projects, poor SWM management is responsible for poor sanitation services also.

knowledge transfer activities and link to ADB projects related to the RETA 8060 mentioned earlier.²⁴

- (b) Has there been cross-fertilization of success stories and know-how in one region (or city) to another within ADB?
- (c) Has there been any effective and efficient coordinated donor harmonization or joint-work in sanitation?
- (d) Have there been any Asia-specific challenges that ADB learned or disseminated outside or to other donors?

E Evaluation components

20. Data to collect and analyze:

- (i) **Staff and management interviews** on recent project development and progress;
- (ii) **Review of other donors' projects** that dealt with same city or corporation in recent years, including Bill and Melinda Gates Foundation on Sanitation Financing Partnership Trust Fund; and
- (iii) **Project documents** (including back-to-office reports, project completion reports, project performance evaluation report, project completion report validation report) review of internally-available publications and data.

21. The topical paper will not involve project site visits. The primary focus will be on the technical/financial/institutional and social side of sanitation operations; IED will not conduct the primary analysis on climate change impact or greenhouse gas reduction verification in the study. The report will review the financial standing of sanitation operations, including experiences with the collection of tariffs/service fees. In lieu of project site visits, the evaluation team will conduct consultations with ADB's Urban and Water Sector Groups. This internal exercise aims to validate preliminary findings of the study regarding successes and failures, prior to finalizing the report.

F. Resource Requirements, Schedule, and Dissemination

22. **Budget.** The budget of \$80,000 for consulting services will be sourced from annual staff consultant budget, and is detailed in Appendix 3.

23. **Staff.** IED internal team will consist of Tomoo Ueda, Team Leader/Principal Evaluation Specialist (4 months); Garrett Kilroy, Evaluation Specialist (1 month); Jerome Jovellanos, Associate Evaluation Officer; and Charina Regodon, Evaluation Assistant. The topical paper will be prepared by IED staff and a consultant team. The team leader will lead the analysis, interviews with the Operations, liaise with and guide international consultants to maintain the focus of the topical paper's methodology, findings and suggestions, the National Officer and Evaluation Assistant involvement will be equivalent to 3 months.

24. **International consultants.** A consultant for sanitation will assist the Team Leader. The scope of the consultant's assessment will be in line with the approved approach paper and refined as agreed with the Team Leader. This includes: (i) document review and analysis related to progress and issues in sanitation management in Asia and the Pacific; (ii) a portfolio review of

²⁴ OGC comments raised that there is RETA 9017: Unlocking Innovation for Development. The ADB project officer is Ms. Lu Shen. In September 2016, ADB has entered into a partnership with The Toilet Board Coalition (TBC) to support 3 innovative pilot sanitation projects in India, Bangladesh and Philippines selected under TBC's Toilet Accelerator model.

ADB projects in this area and their progress, results and experiences; and (iii) interviews with relevant ADB sector staff and management. The consultant for the Sanitation Specialist will involve 60 working days (Appendix 4).

25. **Headquarters-based local consultants.** The headquarters-based consultant will collect data and provide analytical support. This includes: (i) portfolio review, (ii) project design, implementation chronicle, performance and portfolio review, (iii) results synthesis, and (iv) data analysis and presentation.

26. **External peer reviewer.** One external reviewer Arthur McIntosh (0.5 person-months for no more than 5 working days) will (i) comment on the draft report, focusing on areas that need strengthening, and (ii) give guidance on articulating key findings, lessons, and recommendations.

27. The schedule for the Topical Paper is proposed as follows:

Milestone	Target Dates
Evaluation Approach Paper	August 2017
External consultant recruitment	August 2017
Portfolio Review and HQ interviews	August 2017
First draft for peer review	September 2017
One stop meeting	Early October 2017
Interdepartmental circulation of draft report	October 2017
Director level meeting	October 2017
Submission to the editor	end-October 2017
DG approval	mid November 2017

I. Knowledge Dissemination Plan

28. The study will be ready to be distributed in the fourth quarter of 2017. A workshop or brownbag meeting will be held in the first or second quarter 2018.

- Appendixes:
1. List of Sanitation projects (Approved and completed), 2003–2016
 2. List of Sanitation projects with active loans (Approved and not complete), 2010–2016
 3. Cost Estimates (not for public disclosure)
 4. Terms of Reference (not for public disclosure)

List of Relevant Sanitation projects (Approved and completed), 2003–2016

	Approval Year	DMC	Loan/ Grant Number	Project Name	Urban Water Supply	Urban Sanitation and Sewerage	Urban Flood Protection	Urban Solid Waste	Urban Policy, I & C Dev	PCR Rating	PVR/ XVR Rating
1	2003	NEP	2059	Kathmandu Valley Water Services Sector Development Program					10.00	Not yet a PCR?	
2	2003	NEP	2058	Kathmandu Valley Water Services Sector Development Program					5.00	Not yet a pcr?	
3	2003	FIJ	2055	Suva Nausori Water Supply and Sewerage	28.00	19.00				S	
4	2003	IND	2046	Urban Water Supply and Environmental Improvement in Madhya Pradesh	130.20	49.70	6.00	7.70		S	
5	2003	VIE	2034	Central Region Urban Environmental Improvement					44.00	S	LS
6	2003	SAM	2026	Sanitation and Drainage Management		4.50	2.50		1.00	S	
7	2003	PRC	1996	Wuhan Wastewater Management		83.00				S	S
8	2003	SRI	1993	Secondary Towns and Rural Community-Based Water Supply and Sanitation	40.80	4.50			1.50	S	
9	2004	IND	2151	Multisector Projects for Infrastrucutre Rehabilitation in Jammu and Kashmir	65.00		27.50			LS	
10	2004	AZE	2119	Urban Water Supply and Sanitation	12.00	6.00			2.00	partly successful	LS
11	2004	AZE	2120	Urban Water Supply and Sanitation	6.00	3.00			1.00	partly successful	LS
12	2004	BAN	2117	Secondary Towns Integrated Flood Protection (Phase 2)		1.48	71.22	3.66		LS	S
13	2005	IND	2226	Kerala Sustainable Urban Development	35.70	78.90	23.48	9.30	23.20		
14	2005	PAK	2212	Rawalpindi Environmental Improvement					40.00	US	
15	2005	PAK	2211	Rawalpindi Environmental Improvement					20.00	US	
16	2005	PRC	2207	Henan Wastewater Management And Water Supply	10.44	38.89			1.56	S	
17	2005	PAK	2203	Balochistan Devolved Social Services Program					21.50	US	
18	2005	PAK	2202	Balochistan Devolved Social Services Program					40.00	US	
19	2005	SRI	2201	Local Government Infrastructure Improvement	9.90		4.08	8.12	9.82	S	
20	2005	PRC	2176	Fuzhou Environmental Improvement Project	17.15	37.00			1.65	partly successful	
21	2005	PRC	2175	Jilin Water Supply And Sewerage Development	55.30	44.70				S	S
22	2005	MLD	2170	Regional Development Project Phase li					6.00	S	S
23	2006	MON	2301	Urban Development And Housing Project	5.32	5.32		2.66	2.60	S	
24	2006	PRC	2297	Nanjing Qinhuai River Environmental Improvement Project		79.48	4.18		0.79	S	
25	2006	IND	2293	Kolkata Environmental Improvement Project (Supplementary)					80.00	S	
26	2006	SRI	2276	Secondary Towns And Rural Community-Based Water	62.31					LS	

	Approval Year	DMC	Loan/Grant Number	Project Name	Urban Water Supply	Urban Sanitation and Sewerage	Urban Flood Protection	Urban Solid Waste	Urban Policy, I & C Dev	PCR Rating	PVR/XVR Rating
				Supply And Sanitation (Supplementary Loans)							
27	2006	INO	2264	Infrastructure Project Development Facility					8.83	?	
28	2006	VIE	2272	Central Region Small And Medium Towns Development	9.70	34.96		1.63	6.93	S	LS
29	2006	BAN	2265	Secondary Towns Water Supply And Sanitation	34.44	5.33			1.23	S	
30	2006	BHU	2258	Urban Infrastructure Development	4.63	4.63		0.76	3.70		
31	2006	PRC	2240	Wuhan Wastewater And Stormwater Management (Formerly Wuhan Wastewater And Stormworks Management)		44.28	55.14		0.58	partly successful	LS
32	2006	PRC	2239	Guangxi Nanning Urban Environmental Upgrading (Guangxi Nanning Urban Infrastructure Development)		54.95	27.48	1.50	9.36	S	S
33	2006	PRC	2237	Shandong Hai River Basin Pollution Control	8.07	25.96		12.04	7.99	S	
34	2006	PAK	2229	TA Loan For Megacity Development	0.33	0.80		0.48	0.77	US	US
35	2007	PRC	2388	Kunming Qingshuihai Water Supply Project (formerly Kunming Qingshuihai Water Supply, Water Source and Environment Management Project)	70.20				9.80	S	
36	2007	IND	2366	MFF - Rajasthan Urban Sector Development Investment Program (Subproject 1)	24.30	5.20	1.60	3.80	20.50		
37	2007	ARM	2363	Water Supply and Sanitation Sector Project (formerly MUNICIPAL SERVICES AND INFRASTRUCTURE DEVELOPMENT)	32.40	3.60					
38	2007	PRC	2360	Jilin Urban Environmental Improvement Project	65.00	15.00		20.00		S	S
39	2007	PRC	2328	Anhui Hefei Urban Environment Improvement Project		66.16	78.60		1.80	S	
40	2007	IND	2312	MFF - North Karnataka Urban Sector Investment Program (Subproject 1)	13.10	10.90			1.20	LS	LS
41	2008	PAK	2499	Sindh Cities Improvement Investment Program - Project 1	14.51	2.43		6.47	6.37		
42	2008	PRC	2487	Songhua River Basin Water Pollution Control and Management	12.48	137.26		48.52	1.74	HS	
43	2008	INO	2475	Infrastructure Reform Sector Development Program (Subprogram 2)					70.00		
44	2008	UZB	2466	Surkhandarya Water Supply and Sanitation	27.51	0.84		1.65		S	
45	2008	BAN	2462	Second Urban Governance and Infrastructure Improvement (Sector)			24.03				
46	2008	IND	2456	Urban Water Supply and Environmental Improvement in Madhya Pradesh (Supplementary Loan)	44.50	9.00	10.20	2.30		S	

	Approval Year	DMC	Loan/Grant Number	Project Name	Urban Water Supply	Urban Sanitation and Sewerage	Urban Flood Protection	Urban Solid Waste	Urban Policy, I & C Dev	PCR Rating	PVR/XVR Rating
47	2008	SAM	2440	Sanitation and Drainage (Supplementary)		2.78				S	
48	2008	GEO	2441	Municipal Services Development					40.00	S	S
49	2008	PRC	2420	Xinjiang Municipal Infrastructure and Environmental Improvement	6.94	7.77		6.53		S	
50	2009	FIJ	2603	Suva-Nausori Water Supply and Sewerage Development (supplementary loan)		18.09			4.91	S	
51	2009	PRC	2574	Hebei Small Cities and Towns Development Demonstration Sector	14.70	37.16		26.32	1.42		
52	2009	PRC	2550	Liaoning Small Cities and Towns Development Demonstration Sector Project		9.53		9.33	1.19		
53	2010	KGZ	2668	Emergency Assistance for Recovery and Reconstruction	23.56						
54	2010	PAL	2691	Water Sector Improvement Program (formerly Public Sector Reform Program)					12.60	S	
55	2010	PAL	2692	Water Sector Improvement Program (formerly Public Sector Reform Program)					3.40	S	
56	2010	IND	2660	MFF - National Capital Region Urban Infrastructure Financing Facility - Tranche 1	14.80						
57	2010	LAO	0205	Northern and Central Regions Water Supply and Sanitation Sector Project - Supplementary	5.49	0.17	0.25		0.26	S	S
58	2011	SRI	2757	Secondary Towns and Rural Community-Based Water Supply and Sanitation Project (Additional Financing)	4.30					LS	
59	2011	SRI	2758	Secondary Towns and Rural Community-Based Water Supply and Sanitation Project (Additional Financing)	13.30					LS	
60	2011	INO	2768	Urban Sanitation and Rural Infrastructure Support to PNPM Mandiri Project		56.64				S	
61	2014	ARM	3155	Infrastructure Sustainability Support Program (Roads and Water)	2.00				10.00		
62	2007	INO	7262/2349	West Jakarta Water Supply Development	50.00					S	S
63	2010	REG	7318	Asia Water Fund	20.00					U	U
64	1998	KIR	1648	Sanitation, Public Health, and Environmental improvement						PS	PS

ANR = agriculture and natural resources, ARM = Armenia, AZE = Azerbaijan, BHU = Bhutan, CAM = Cambodia, COO = Cook Islands, DMC = developing member country, ESG = environmentally sustainable growth, FIJ = Fiji, GEO = Georgia, HS = Highly Successful, IND = India, INO = Indonesia, KGZ = Kyrgyz republic, LAO = Lao People's Democratic Republic, LS = Less Than Successful, MLD = Maldives, MON = Mongolia, MUL = multisector, NEP = Nepal, PAK = Pakistan, PAL = Palau, PCR = project completion report, PRC = the People's Republic of China, PS = Partly Successful, PVR = project/program completion report validation report, S = Successful, SAM = Samoa, SRI = Sri Lanka, SWM = solid waste management, TAJ = Tajikistan, US = Unsuccessful, UZB = Uzbekistan, VIE = Viet Nam, WSS = water supply and sanitation.

Source: Sustainable Development and Climate Change Department: water sector database.

List of Sanitation projects with active loans (Approved and not complete), 2010–2016

Approval Year	DMC	Loan/Grant Number	Project Name	Urban Water Supply	Urban Sanitation and Sewerage	Urban Flood Protection	Urban Solid Waste	Urban Policy, I & C Dev
2010	UZB	42489-033	Water Supply and Sanitation Services Investment Program - Tranche 2	84.13	53.35			2.52
2010	MON	G42184-022	Southeast Gobi Urban and Border Town Development Project	3.40	3.40		0.90	2.30
2010	PRC	42011-01	Wuhan Urban Environment Improvement	12.00	10.00			3.00
2010	BAN	39298-013	City Region Development (formerly Megacities Development Project)	26.53	2.95	19.64	14.75	12.57
2010	IND	38254-043	North Karnataka Urban Sector Investment Program - Tranche 2	43.12	71.33			2.12
2010	IND	40031-053	Rajasthan Urban Sector Development Investment Program - Tranche 3	13.66	33.22			2.71
2010	NEP	36188-02	Secondary Towns Integrated Urban Environmental Improvement Project	8.40	32.97		4.75	2.89
2010	SRI	37378-013	Jaffna and Kilinochchi Water Supply and Sanitation Project	12.07	7.93			
2010	SRI	37378-013	Jaffna and Kilinochchi Water Supply and Sanitation Project	42.24	27.76			
2010	INO	39071-013	Metropolitan Sanitation Management and Health		31.96			3.04
2010	PRC	42936-014	Songhua River Basin Water Pollution Control And Management Project Private Sector Facility		36.62			
2011	AZE	42408-033	Water Supply and Sanitation Investment Program - Tranche 2	103.50	186.30			10.20
2011	GEO	43405-024	Urban Services Improvement Investment Program - Tranche 2	9.15	30.85			
2011	UZB	42489-043	Water Supply and Sanitation Services Investment Program - Tranche 3	34.86	22.10			1.04
2011	PRC	43024-013	Xinjiang Altay Urban Infrastructure and Environment Improvement Project	15.84	13.86		13.86	1.05
2011	PRC	43023-013	Guangxi Beibu Gulf Cities Development		9.09			
2011	PRC	43054-013	Hai River Estuary Pollution Control and Ecosystem Rehabilitation Project		52.87	39.81		7.32
2011	KIR	43072-013	South Tarawa Sanitation Improvement Sector Project		7.56			
2011	TIM	G44130-02	District Capitals Water Supply Project	8.98	0.35			1.10
2011	VAN	42391-013	Port Vila Urban Development Project		1.11			
2011	BHU	44240-013	Urban Infrastructure Project	0.95	15.35			2.22
2011	IND	38272-033	Uttarakhand Urban Sector Development Investment Program - Tranche 2	79.20	20.80			

Approval Year	DMC	Loan/Grant Number	Project Name	Urban Water Supply	Urban Sanitation and Sewerage	Urban Flood Protection	Urban Solid Waste	Urban Policy, I & C Dev
2011	IND	35290-033	North Eastern Region Capital Cities Development Investment Program - Tranche 2	48.28	12.55		6.37	2.32
2011	SRI	42459-013	Local Government Enhancement Sector Project	3.12	2.24		2.05	10.04
2011	VIE	41462-013	Comprehensive Socioeconomic Development Project in Viet Tri, Hung Yen and Dong Dang		9.55	4.01	1.06	4.21
2012	PAK	37220-033	Sindh Cities Improvement Investment Program - Tranche 2	9.54	1.51		4.27	4.27
2012	PAK	37220-033	Sindh Cities Improvement Investment Program - Tranche 2	28.11	4.44		12.58	12.58
2012	PRC	44021-01	Integrated Development of Key Townships in Central Liaoning		3.00			2.00
2012	PRC	44019-013	Hubei Huangshi Urban Pollution Control and Environment Management Project		25.41		10.88	1.55
2012	PRC	44036-013	Anhui Chao Lake Environmental Rehabilitation Project		58.93			
2012	SAM	G45520-01	Community Sanitation Project		2.00			
2012	IND	41603-023	Bihar Urban Development Investment Program - Tranche 1		48.92			16.08
2012	IND	38254-053	North Karnataka Urban Sector Investment Program - Tranche 3	23.30	27.60			5.70
2012	IND	41116-033	Jammu and Kashmir Urban Sector Development Investment Program - Tranche 2	18.00	16.50		1.50	22.00
2012	SRI	37381-023	Dry Zone Urban Water Sanitation Project (Additional Financing)	38.80	1.20			
2012	CAM	43319-033	GMS Southern Economic Corridor Towns Development		18.42	5.24	3.80	2.60
2012	LAO	43316-012	Pakse Urban Environment Improvement Project		1.06	10.84	10.28	5.32
2012	LAO	43319-022	GMS East-West Economic Corridor Towns Development		6.67	6.33	2.68	3.56
2012	VIE	43319-043	GMS Corridor Towns Development	7.20	9.16	9.31	6.50	7.40
2012	PRC	46921-014	Songhua River Basin Water Pollution Control And Management Project Private Sector Facility,Phase 2		95.00			
2013	AZE	42408-043	Water Supply and Sanitation Investment Program - Tranche 3	128.38	21.62			
2013	GEO	43405-025	Urban Services Improvement Investment Program - Tranche 3	78.43	19.57			

Approval Year	DMC	Loan/Grant Number	Project Name	Urban Water Supply	Urban Sanitation and Sewerage	Urban Flood Protection	Urban Solid Waste	Urban Policy, I & C Dev
2013	UZB	42489-053	Water Supply and Sanitation Services Investment Program - Tranche 4	25.24	16.01			0.75
2013	PRC	45506-002	Gansu Jiuquan Integrated Urban Environment Improvement Project		18.64			1.24
2013	PRC	45508-002	Xinjiang Integrated Urban Development	42.25	39.40	60.90		1.67
2013	PRC	46078-002	Anhui Huainan Urban Water Systems Integrated Rehabilitation Project		40.14	56.20		
2013	PAL	42439-013	Koroi-Arai Sanitation Project		26.90			
2013	PAL	42439-013	Koroi-Arai Sanitation Project		1.90			
2013	IND	42266-023	Kolkata Environmental Improvement Investment Program - Tranche 1	50.00	50.00			
2013	IND	38254-063	North Karnataka Urban Sector Investment Program - Tranche 4	46.90	15.00			
2013	NEP	43524-014	Kathmandu Valley Wastewater Management Project		67.50			12.50
2013	LAO	45301-002	Water Supply and Sanitation Sector Project	27.91	4.23			2.86
2013	PRC	47904-014	Wastewater Treatment and Reuse Project		120.00			
2014	GEO	43405-026	Urban Services Improvement Investment Program - Tranche 4	50.00	58.00			
2014	MON	37697-025	Darkhan Wastewater Management Project		8.60			0.85
2014	MON	37697-025	Darkhan Wastewater Management Project		8.26			0.79
2014	PRC	45507-003	Yunnan Chuxiong Urban Environment Improvement Project		4.13		8.18	
2014	PRC	46062-002	Gansu Baiyin Integrated Urban Development	47.61	23.43			
2014	BAN	44212-013	Coastal Towns Environmental Infrastructure Project	9.50	1.70	13.50	0.02	2.20
2014	BAN	39295-013	Third Urban Governance and Infrastructure Improvement (Sector) Project	15.00	5.00	35.00	7.50	15.00
2014	IND	41116-043	Jammu and Kashmir Urban Sector Development Investment Program - Tranche 3	36.00	24.00			
2014	IND	43253-025	Karnataka Integrated Urban Water Management Investment Program - Tranche 1	36.75	30.75			7.50
2014	IND	42267-026	Rajasthan Urban Sector Development Program - SDP	87.50	81.25			81.25
2014	IND	42267-026	Rajasthan Urban Sector Development Program - SDP	87.50	81.25			81.25
2014	NEP	35173-013	Third Small Towns Water Supply and Sanitation Sector	44.20	3.90			11.90

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2014	CAM	46293-004	Greater Mekong Subregion Tourism Infrastructure for Inclusive Growth - Cambodia		3.00			
2014	INO	43251-025	Metropolitan Sanitation Management Investment Program		79.80			
2014	VIE	46293-005	Greater Mekong Subregion Tourism Infrastructure for Inclusive Growth - Viet Nam		20.00			
2015	GEO	43405-027	Urban Services Improvement Investment Program - Tranche 5		43.00			
2015	GEO	43405-027	Urban Services Improvement Investment Program - Tranche 5 SF		32.00			
2015	UZB	46135-002	Djizzak Sanitation System Development Project SF		81.00			
2015	PRC	47048-002	Hubei Enshi Qing River Upstream Environment Rehabilitation		24.00	24.00		
2015	PRC	47030-002	Jiangxi Pingxiang Integrated Rural-Urban Infrastructure Development		23.71	100.79		
2015	PRC	47070-002	Hunan Dongjiang Lake Integrated Environmental Protection and Management	20.00	18.10			
2015	RMI	46346-002	Ebeye Water Supply and Sanitation Project	2.96	1.56			
2015	IND	35290-043	North Eastern Region Capital Cities Development Investment Program - Tranche 3	56.00	8.00		8.00	8.00
2015	SRI	45148-008	Greater Colombo Water and Wastewater Management Improvement Program - Tranche 3	36.90	86.10			
2015	SRI	45148-008	Greater Colombo Water and Wastewater Management Improvement Program - Tranche 3 SF	1.10	3.90			
2015	CAM	42285-013	Integrated Urban Environmental Management in the Tonle Sap Basin SF		6.07	19.33	5.55	6.05
2015	CAM	46443-002	Second Greater Mekong Subregion Corridor Towns Development Project SF		10.50	15.00	7.50	
2015	VIE	46443-004	Second Greater Mekong Subregion Corridor Towns Development Project SF		36.80	28.25		
2015	PRC	49066-001	Western Counties Water and Wastewater Management Project	61.70	88.30			
2015	PRC	49084-001	Small and Medium-Sized Enterprise Industrial Wastewater and Sludge Treatment Project	10.00	90.00			
2016	MON	42184-024	Southeast Gobi Urban and Border Town Development Project (additional financing)		19.43			

Approval Year	DMC	Loan/Grant Number	Project Name	Urban Water Supply	Urban Sanitation and Sewerage	Urban Flood Protection	Urban Solid Waste	Urban Policy, I & C Dev
2016	KIR	43072-015	South Tarawa Sanitation Sector Improvement Project - Additional Financing		2.80			
2016	IND	42266-025	Kolkata Environmental Improvement Investment Program - Tranche 2	79.98	30.01	90.01		
2016	PRC	50164-001	Integrated Wastewater Management Project		100.00			

AZE = Azerbaijan, BAN = Bangladesh, BHU = Bhutan, CAM = Cambodia, DMC = developing member country, GEO = Georgia, IND = India, INO = Indonesia, KIR = Kiribati, LAO = Lao People's Democratic Republic, MON = Mongolia, NA = Not applicable, NEP = Nepal, PAK = Pakistan, PAL = Palau, PCR = project completion report, PRC = the People's Republic of China, PVR= project/program completion report validation report, SAM = Samoa, SRI = Sri Lanka, TIM = Timore-Leste, UZB = Uzbekistan, VAN = Vanuatu, VIE = Viet Nam.