Report and Recommendation of the President to the Board of Directors

Project Number: 43251-025
March 2014

Proposed Loans
Republic of Indonesia: Metropolitan Sanitation Management Investment Project

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 6 February 2014)

Currency unit	–	rupiah (Rp)
Rp1.00	=	$0000816993
$1.00	=	Rp12,240

ABBREVIATIONS

ADB	–	Asian Development Bank
AMDAL	–	Analisis Mengenai Dampak Lingkungan (environmental impact assessment)
ASEAN	–	Association of Southeast Asian Nations
CPMU	–	central project management unit
EIRR	–	economic internal rate of return
EMP	–	environmental management plan
FIRR	–	financial internal rate of return
MDG	–	Millennium Development Goal
MPW	–	Ministry of Public Works
MSMHP	–	Metropolitan Sanitation Management and Health Project
O&M	–	operation and maintenance
OCR	–	ordinary capital resources
PIU	–	project implementation unit
TA	–	technical assistance
WWTP	–	wastewater treatment plant

NOTE

In this report, "$" refers to US dollars.

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PROJECT AT A GLANCE

1. Project Name: Metropolitan Sanitation Management Investment Program **2. Project Number:** 43251-025

3. Country: Indonesia **4. Department/Division:** Southeast Asia Department/Urban Development and Water Division

5. Sector Classification:

Sectors	Primary	Subsectors
Water and other Municipal Infrastructure and Services	√	Water supply and sanitation

6. Thematic Classification:

Themes	Primary	Subthemes
Social development		Human development
Environmental sustainability	√	Urban environmental improvement
Capacity development		Organizational development

6a. Climate Change Impact

No Climate Change Indicator available.

6b. Gender Mainstreaming

Gender equity theme (GEN)	
Effective gender mainstreaming (EGM)	√
Some gender elements (SGE)	
No gender elements (NGE)	

7. Targeting Classification:

General Intervention	Targeted Intervention		
	Geographic dimensions of inclusive growth	Millennium development goals	Income poverty at household level
		√ MDG7	

8. Location Impact:

National	Medium
Urban	High

9. Project Risk Categorization: Low

10. Safeguards Categorization:

Environment	B
Involuntary resettlement	B
Indigenous peoples	C

11. ADB Financing:

Sovereign/Nonsovereign	Modality	Source	Amount ($ Million)
Sovereign	Project loan	Ordinary capital resources	80.0
Total			80.0

12. Cofinancing:

Financier	Category	Amount ($ Million)	Administration Type
Australian Grant	Official-Grant	48.8	Not ADB Administered
ASEAN Infrastructure Fund	Official-Others	40.0	Full
Total		40.0	

13. Counterpart Financing:

Source	Amount ($ Million)
Government	79.2
Total	79.2

14. Aid Effectiveness:

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on (i) a proposed loan from Asian Development Bank's (ADB) ordinary capital resources (A-loan) and (ii) a proposed loan funded through the participation of the ASEAN Infrastructure Fund (B-loan), both to the Republic of Indonesia for the Metropolitan Sanitation Management Investment Project.

2. The project will support the Government of Indonesia in the improvement of urban wastewater services in the cities of Cimahi, Jambi, Makassar, Palembang, and Pekanbaru, which currently lack any piped sewerage and wastewater treatment facilities. The project will respond to the needs of urban communities (including low-income households) by constructing new separate sewerage systems and wastewater treatment plants (WWTPs), setting up local wastewater infrastructure management institutions, and strengthening the relevant regional government departments.[1]

II. THE PROJECT

A. Rationale

3. Indonesia has one of the lowest coverage rates of conventional off-site urban sewerage in Asia. Only 11 out of its 330 cities have partial sewerage systems, and only 2% of the national urban population is connected to central WWTPs; the remaining urban population depends on poorly constructed and maintained septic tanks and unlined pit latrines, which result in leachates penetrating the aquifers. Some 80% of gray water drains directly to surface waters.[2] The present sanitation services are inadequate and unintegrated, due to inadequate and poorly enforced regulations. This results in limited desludging of septic tanks, inadequate septage treatment facilities, and fragmented operational responsibility.[3] Improved access to safe water and basic sanitation is part of the Government of Indonesia's effort to achieve its 2015 Millennium Development Goal (MDG) targets.[4] While the government's MDG reports suggest that good progress has been achieved with respect to sanitation, in practice the available facilities are substandard, and rely on unsustainable septage removal and treatment facilities.[5] As a result, there is significant environmental pollution, widespread contamination of surface and groundwater with the associated spread of water-related diseases,[6] and high infant mortality.[7] The inadequate sanitation systems and their resulting environmental and health impacts produce economic opportunity losses of about $5.6 billion annually, equivalent to 2.3% of the country's gross domestic product.[8] These issues can be solved by the introduction of (i)

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[1] The design and monitoring framework is in Appendix 1.

[2] "Gray water" is wastewater originating from domestic activities such as laundry, dishwashing, and bathing.

[3] Septage refers to the liquid sludge removed from septic tanks that needs to be treated and disposed safely.

[4] Specifically, 75.3% of the urban population has sustainable access to an improved water supply by 2015, and 76.8% of urban households have sustainable access to basic sanitation by 2015.

[5] Ministry of National Development Planning/National Development Planning Agency (BAPPENAS). 2012. *Report on The Achievement of the 2010 Millennium Development Goals In Indonesia 2011.* Jakarta; and Ministry of National Development Planning/National Development Planning Agency (BAPPENAS). 2010. *Report on The Achievement of the Millennium Development Goals Indonesia 2010.* Jakarta.

[6] Such as: diarrhea, skin ailments, intestinal worms (related to sanitation and hygiene) or malaria, and dengue (vector and insect-borne diseases).

[7] Indonesia's infant mortality rate from diarrhea alone is 40 in 1,000, compared to a typical rate of 1 in 1,000 for Southeast Asian countries. Budi Hidayat. 2011. *Lessons in Urban Sanitation Development Acceleration Program (PPSP) 2006-2010.* Jakarta.

[8] World Bank. Water and Sanitation Program. 2008. *Economic Impacts of Sanitation in Indonesia.* Jakarta. http://www.wsp.org/sites/wsp.org/files/publications/esi_indonesia.pdf

public sewerage and wastewater treatment facilities; (ii) an institutional framework for their effective operation and maintenance (O&M); and (iii) public awareness of good sanitation practices.

4. **Project sites.** The project's target areas are the most densely populated districts of five cities. Cimahi, located in the province of Central Java, has a population of 617,000 (2012). The current sanitation facilities in Cimahi are limited to septic tanks, pit latrines, and public toilets. About 30% of the population lacks access to any sanitation facility, and disposes of waste directly to open drains and rivers. Many residents suffer from waterborne diseases. Jambi, located in the province of Central Sumatra, has a population of 558,500 (2010); 6% of the population does not have a toilet. In general, wastewater is disposed through septic tanks from which polluted effluent is discharged into open drains or directly to the surrounding paddy fields. Makassar, the capital of South Sulawesi province, has a population of about 1.4 million (2011). Sanitation facilities comprise individual septic tanks, three small bore sewerage systems with sewage treatment, and one septage treatment plant. Open defecation is still a major health problem in the Losari area of Makassar.[9] Palembang, the capital of South Sumatra province, has a population of 1.47 million (2009); 69% of the population use septic tanks, about 4% use pit latrines, and the remaining 27% lack access to basic sanitation. The city has a single septage treatment facility. Pekanbaru, the capital of Riau province, has a population of 1.29 million (2012). There is neither a centralized sewerage system nor communal septic tanks in the city, and most residents rely on individual pit latrines and septic tanks. Open defecation is widely practiced.

5. **Sector issues.** A central government assessment summarizes the urban sanitation sector in Indonesia as lacking an adequate regulatory framework, suffering from fragmented institutional involvement, lacking local government resources to provide public services, and lacking community awareness of sanitation issues. [10] Although the responsibility for supplying and managing improved sanitation has been devolved to local governments, their capacity to ensure that the necessary systems are in place and operating effectively is limited. ADB is currently implementing the Metropolitan Sanitation Management and Health Project (MSMHP), which finances urban sanitation in Medan and Yogyakarta cities, and is complemented by capacity development technical assistance (TA) to strengthen institutions.[11] To support the government's plan for sanitation, the project will continue the MSMHP work with new sewerage system developments in cities that lack sewerage systems.

6. **Related policies and strategies.** The proposed project supports (i) the implementation of the government's Road Map for Acceleration of Urban Sanitation Development, 2010–2014, which targets sewerage systems in 16 cities and the implementation of community-based sanitation in all other cities; (ii) the ADB's Water Supply and Sanitation Sector Assessment;[12] (iii) ADB's Water Operational Plan, 2011–2020, which aims to improve wastewater treatment and management in developing member countries;[13] and (iv) ADB's Urban Operational Plan, 2012–2020 to promote environmentally sustainable green cities.[14] In particular, the project will

[9] Losari has a population of 214,000 (2009).
[10] Ministry of National Development Planning/National Development Planning Agency (BAPPENAS). 2010. *Report on The Achievement of the Millennium Development Goals Indonesia 2010.* Jakarta.
[11] ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Technical Assistance Grants to the Republic of Indonesia for the Metropolitan Sanitation Management and Health Project*. Manila (Loan 2654-INO); ADB. 2010. *Technical Assistance to the Republic of Indonesia for Capacity Development for the Metropolitan Sanitation Management and Health Project.* Manila (TA 7562-INO).
[12] ADB. 2013. *Water Supply and Sanitation Sector Assessment, Strategy and Road Map.* Manila.
[13] ADB. 2011. *Water Operational Plan, 2011–2020*. Manila.
[14] ADB. 2013. *Urban Operational Plan, 2012–2020.* Manila.

support the government's 2010–2014 National Medium-Term Development Plan on greener growth through strengthened control of wastewater pollution and the ADB country partnership strategy on environmental sustainability by improving environmental quality through better water supply and sanitation.[15]

7. At sector level, the Ministry of Public Works (MPW) sets the national policy and strategy for wastewater systems development, which aims for (i) increased sanitation coverage, giving priority to the poor; (ii) an increased role for the community and the private sector in sanitation operation and management; (iii) development of a regulatory framework for urban sanitation; (iv) capacity building for wastewater management; and (v) increased investment, including development of alternative funding sources for wastewater infrastructure. This will be the second wastewater project under the Government's Roadmap to Acceleration of Urban Sanitation Development, after the MSMHP. ADB is a key agency supporting this initiative.

8. **Lessons.** A review of the outcome of urban sanitation projects in Indonesia indicates that local ownership is fundamental to sustainability. Facilities provided by the central government without local involvement are mismanaged, ineffective or abandoned over time. Local governments will be represented in this project's implementation unit (PIU), and fully participate in project procurement and management to ensure strong project ownership. Lessons from the implementation of the MSMHP and other urban projects will be taken into account, specifically experience from procurement activities and the benefits of micro-marketing techniques to raise public awareness regarding the importance of good sanitation.

9. **Special features.** The project will pursue improved planning and implementation of sewerage and wastewater treatment facilities with cofinancing from the ASEAN Infrastructure Fund,[16] and collaborative cofinancing from the Government of Australia.[17] The project will be supported by TA for the creation of autonomous institutions, within local authorities, through capacity development, the implementation of regulations governing the sewerage service delivery, and awareness-raising of the importance of good sanitation practices and the benefits of public sewerage systems.[18]

B. Impact and Outcome

10. The impact of the project will be the reduced pollutant discharges to the environment in the participating cities (Cimahi, Jambi, Makassar, Palembang, and Pekanbaru). The outcome will be the increased connection of the population to improved wastewater services in the participating cities.

C. Outputs

11. The project will have two outputs:

[15] ADB. 2012. *Country Partnership Strategy: Indonesia, 2012–2014*. Manila.

[16] The ASEAN Infrastructure Fund will cofinance $40.0 million equivalent for the WWTPs in Cimahi, Makassar, and the Pekanbaru subprojects.

[17] Palembang subproject is being internally reviewed by the Government of Australia. In the event that ADB and the Government of Australia reach an agreement for ADB to administer the funds, a separate approval for additional financing will be sought.

[18] The TA was processed as a subproject under a TA cluster: ADB. 2013. *Technical Assistance to the Republic of Indonesia for Sustainable Infrastructure Assistance Program.* Manila (financed by the Government of Australia). The TA will be administered in parallel to the proposed loans.

(i) **Output 1: Infrastructure development for off-site wastewater systems completed.** Output 1 will construct 66 kilometers (km) of trunk and main sewers, 83,200 sewer connections,[19] and five WWTPs with a total installed capacity of 83,000 cubic meters per day (m^3/d), and with provision for future expansion.[20] At least 10% of the connections (and associated service charges)—for poor households, households headed by women, and other vulnerable groups—will be subsidized, and 64 community-based sanitation systems will be installed in non-sewered areas serving low-income families. These systems will be directly funded by local government budgets.

(ii) **Output 2: Project implementation support institutionalized.** The capacity of the executing and implementing agencies will be strengthened through provision of management support and training in (i) procurement and construction supervision; and (ii) design and commissioning of sewerage systems. TA for institutional development and management and capacity building support for sustainability will be implemented separately (footnote 18). This will include development by the government of public sanitation awareness campaigns that seek to build appreciation and understanding of the benefits of sewerage systems and the need for adequate charges to ensure that they remain fully operational and correctly maintained.

D. Investment and Financing Plans

12. The project is estimated to cost $248.02 million equivalent (Table 1).

Table 1: Project Investment Plan
($ million)

Item		Amount[a]
A.	**Base Cost**[b]	
	1. Output 1: Infrastructure development for sewerage and wastewater systems completed	179.63
	2. Output 2: Project implementation support institutionalized	14.95
	Subtotal (A)	**194.58**
B.	**Contingencies**[c]	**44.68**
C.	**Financing Charges During Implementation**[d]	**8.76**
	Total (A+B+C)	**248.02**

[a] Includes taxes and duties of $23.13 million equivalent to be financed from government resources. The financing will be provided as a tax exemption.
[b] October 2012 prices.
[c] Physical contingencies computed at 11% for civil works. Price contingencies computed at 1.9% for 2013, 2.2% for 2014, 1.9% for 2015, and 1.8% for 2016–2018 on foreign exchange costs; and 5.1% for 2013, 4.8% for 2014, and 4.1% for 2015–2018 on local currency costs; includes provision for potential exchange rate fluctuation under an assumption of a purchasing power parity exchange rate
[d] Includes interest and commitment charges. For the Asian Development Bank loan, interest during construction has been computed at the 5-year forward London interbank offered rate plus a spread of 0.5% plus nil maturity premium (not capitalized); commitment charges are 0.15% per year to be charged on the undisbursed loan amount. For the Association of Southeast Asian Nations Infrastructure Fund loan, interest during construction has been computed at the 5-year forward London interbank offered rate plus a spread of 1.4%; commitment charges are 0.15% per year to be charged on the undisbursed loan amount.
Source: Asian Development Bank.

[19] 70,400 domestic and 12,800 commercial connections.
[20] The A-loan and B-loan will finance about 52.2 km of trunk and main sewers, 61,900 connections, and four WWTPs with a total installed capacity of 59,900 m3/d and provision for future expansion. The Government of Australia will finance 13.9 km of trunk and main sewers, 21,300 connections, and a WWTP of 23,100 m3/d and provision for future expansion in Palembang.

13. The government has requested a loan of $80 million from ADB's ordinary capital resources (A-loan) and a loan of $40 million funded through the participation of ASEAN Infrastructure Fund (B-loan) to help finance the project. The A-loan will have a 17-year term, including a grace period of 7 years, an annual interest rate determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility, a commitment charge of 0.15% per year, and such other terms and conditions set forth in the draft loan agreement. Based on this repayment schedule, the average loan maturity is 12.66 years; hence, no maturity premium is payable to ADB. The B-loan will have the same term, grace period and repayment schedule as the A-loan, and a lending rate and other terms and conditions as set forth in the draft loan agreement. The A-loan proceeds will finance civil works and equipment for the sewerage systems of Cimahi, Jambi, Makassar, Pekanbaru, and Jambi WWTP, consulting services, and contingencies. The B-loan will fund the civil works and equipment of Cimahi, Makassar, Pekanbaru WWTPs and contingencies.[21] Advanced action will be carried out for the recruitment of project implementation support consultant.

14. The Government of Australia will provide collaborative cofinancing equivalent to $48.83 million on a grant basis to finance (i) the detailed engineering design in Cimahi and Makassar; and (ii) detailed engineering design, capital costs for sewerage, the WWTP, and construction supervision in Palembang.[22] The central government will provide $35.04 million equivalent to finance detailed engineering design in Jambi and Pekanbaru, increased awareness campaigns, all taxes and duties (as a tax exemption), and financing costs. The local governments will provide a total of $44.15 million equivalent to finance land acquisition, involuntary resettlement, and property connections. In addition, the local governments will finance 64 community-based sanitation systems from their budgets. The financing plan is in Table 2.

Table 2: Financing Plan

Source	**Amount** ($ million)	**Share of Total** (%)
Asian Development Bank		
Ordinary capital resources (loan)	80.00	32.3
ASEAN Infrastructure Fund (loan)[a]	40.00	16.1
Government of Australia (grant)[b]	48.83	19.7
Central government	35.04	14.1
Local government	44.15	17.8
Total	**248.02**	**100.0**

ASEAN = Association of Southeast Asian Nations.
[a] Administered by the Asian Development Bank.
[b] Through the Indonesia Infrastructure Initiative.
Source: Asian Development Bank.

E. Implementation Arrangements

15. The MPW, through the Directorate General of Human Settlements, will be the executing agency. The Directorate General of Human Settlements will establish a central project management unit (CPMU) composed of technical and administrative staff. The MPW will appoint *Satuan Kerja* (the regional directorate of development, sanitation, environment and housing) as a provincial PIU for Cimahi, Jambi, Makassar, and Pekanbaru to implement, monitor progress, and manage the contracts. The local government will establish a local project management unit in each city to support the provincial PIU. In Palembang, the local government will establish the PIU.

[21] Transportation and insurance costs may be financed under the A-loan or the B-loan.
[22] Through the Indonesia Infrastructure Initiative.

16. The implementation arrangements are summarized in Table 3 and described in detail in the project administration manual.[23]

Table 3: Implementation Arrangements

Aspects	**Arrangements**		
Implementation period	June 2014–June 2020		
Estimated completion date	30 June 2020		
Management			
Oversight body	National Interagency Coordination National Development Planning Agency (chair) Ministry of Public Works, Ministry of Finance, Ministry of Home Affairs, and Ministry of Health (members)		
Executing agency	Ministry of Public Works, Directorate General for Human Settlements		
Central project management unit	Directorate of Environmental Sanitation Development		
Key implementing agencies and units	1. Satuan Kerja (SATKER), Provincial Unit of the Directorate General for Human Settlements for Cimahi (West Java Province), Jambi City (Jambi Province), Makassar (South Sulawesi Province), Pekanbaru (Riau Province) 2. City Government of Palembang (Palembang City)		
Procurement	International competitive bidding	9 contracts	$134.71 million
	National competitive bidding	1 contract	$5.34 million
Consulting Services	Project implementation consultants	1,288 person-months	$13.75 million
	Capacity building project management (TA) consultants	109 person-months	$2.00 million
Disbursement	The loan proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2012, as amended from time to time), and disbursements under the TA will be disbursed in accordance with ADB's *Technical Assistance Disbursement Handbook* (2010, as amended from time to time) and detailed arrangements agreed upon between the government and ADB.		

ADB = Asian Development Bank, SATKER = *Satuan Kerja* (regional directorate for housing and environment sanitation and development), TA = technical assistance.
Source: Asian Development Bank.

III. DUE DILIGENCE

A. Technical

17. The project involves the installation of about 66 km of sewer networks and 83,200 new connections in the five cities. A new WWTP will be constructed in each city designed to meet the government's effluent water quality standards.[24] The technologies selected for the WWTPs are a mixture of upflow anaerobic sludge blanket reactors and aerated lagoons, which are easy to operate and have low maintenance costs. Adequate land for the Jambi and Makassar WWTPs has been acquired, and further land acquisition is being carried out for Cimahi, Palembang, and Pekanbaru. Flood risk assessments will ensure that the designs provide adequate protection against fluvial flooding. Engineering designs will be based on internationally accepted standards with due consideration given to local conditions. A total of 10 construction contract packages will be awarded—nine through international competitive bidding, and one through national competitive bidding. The project's implementation support component will provide technical support and training to raise local understanding of the O&M of wastewater services and septage solids treatment. The expected project benefits will include (i) reduction in pollutant discharges to the environment which will improve groundwater and river water quality; (ii) improved public health due to reduced exposure to untreated wastewater and gray water

[23] Project Administration Manual (accessible from the list of linked documents in Appendix 2).
[24] WWTP effluent standards are set by the Ministry of Environment.

flows and reduced pathogen counts in groundwater and river water; (iii) improved institutional capability and governance through strengthening of organizational structures and training; and (iv) increased community participation and empowerment.

B. Economic and Financial

18. The economic feasibility[25] of the subprojects was evaluated, based on the following benefits: (i) health impact in terms of health care costs and productivity savings; (ii) economic opportunity loss; (iii) obviated costs of constructing and desludging septic tanks; (iv) willingness to pay for sewerage management services; and (v) increased economic opportunities, employment creation, and poverty reduction as a result of the cities' improved livability and attractiveness to businesses. Under the anticipated project best-case scenario, all five subprojects are economically feasible, with economic internal rates of return (EIRRs) above the minimum 12.0% threshold. Sensitivity tests show that all subprojects remain economically feasible given a (i) 10% increase in investment cost, (ii) 10.0% increase in O&M cost, or (iii) a 10.0% reduction in total benefits. A 1-year delay in economic benefits for Jambi reduces its EIRR to slightly below the benchmark. Under a worst-case scenario (a simultaneous 10% increase in investment and O&M costs, combined with a 10.0% reduction in total benefits), the EIRRs for the Cimahi and Palembang subprojects fall slightly below the 12.0% threshold; the EIRR for Pekanbaru drops to 10.9%, and for Jambi to 10.7%. All subprojects are very sensitive to reductions in total benefits, followed closely by increased investment.

19. The financial analysis[26] addresses the: (i) financial viability of the proposed subprojects; (ii) affordability of proposed wastewater fees; and (iii) sustainability of the proposed subprojects and availability of a subsidy from the respective city governments, where necessary.[27] The Cimahi, Jambi, Makassar, and Pekanbaru subprojects will be funded by debt undertaken by the central government, with the assets subsequently transferred to the cities. These four cities will commit to implementing tariffs (which will apply to all connected households and commercial establishments) as soon as the systems are completely operational, to ensure the recovery of O&M costs through collection of wastewater fees. In most cases, the tariffs necessary to cover O&M costs were below the respondents' willingness to pay. For all five cities, the proposed wastewater fees are about 0.15%–1.0% of average household income, below the 2.0% affordability threshold.

C. Governance

20. The MPW has implemented several water supply and sanitation projects funded by multilateral institutions, which has given them experience in financial management, fund disbursement, and procurement of civil works and consultancy services. The capacity development TA will help strengthen the capacity of the PIU and project management unit staff in each city to carry out project-related tasks.

21. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government and the MPW. The specific policy requirements and supplementary measures are described in the project administration manual (footnote 23).

[25] Economic analysis (accessible from the list of linked documents in Appendix 2).
[26] Financial analysis (accessible from the list of linked documents in Appendix 2).
[27] A subsidy will be required in Cimahi and Pekanbaru for the first 2 years.

D. Poverty and Social

22. The project is classified as an MDG-targeted intervention. The project will have positive social impacts through reduction of the high incidence of water-related diseases, and will improve the quality of life in urban communities. It promotes inclusive development through subsidies for the domestic connections and monthly wastewater fees of poor households, households headed by women, as well as the sick and disabled. Measures will be taken to help expand sewerage connections and sustain behavioral change through joint stakeholder planning on hygiene and environmental management.

23. The project is classified as effective gender mainstreaming. It will benefit women by implementing a gender action plan[28] (30% of capacity building recipients at community and institutional levels will be women); similar quotas are set for consultations and in sanitation promotion, as well as in job opportunities in sanitation management through female recruitment. A national gender and social development specialist will support the PIUs to ensure that the gender action plan is fully implemented.

E. Safeguards

24. **Involuntary resettlement (category B).** Resettlement plans[29] have been prepared for each of the subprojects (Cimahi, Palembang, and Pekanbaru) that involve land acquisition; a total of 32.397 hectares will be acquired, with 63 households (240 persons) affected. The Pekanbaru subproject will have significant impacts, with 22 households (97 persons) losing more than 10% of their productive land. Palembang will have 24 households (75 persons) requiring relocation. Due diligence reports for Jambi and Makassar have been prepared, and land acquisition for these subprojects was carried out in accordance with the provisions of prevailing local laws and regulations and ADB's Safeguard Policy Statement (2009); no corrective action plans or resettlement plans are considered necessary for Jambi and Makassar. All other impacts are partial and temporary. The total land acquisition and resettlement cost is estimated at $9.502 million (including base costs, allowances, and contingencies). A cutoff date was established with stakeholder consultations.[30] Information was disclosed to affected persons throughout project preparation, with a public information booklet distributed in February 2013.

25. **Indigenous peoples (category C).** No indigenous peoples will be affected by the subprojects. Land to be acquired is not part of any ancestral domain. Field investigations conducted in the project area failed to reveal the existence of any indigenous peoples or ethnic minorities.

26. **Environment (category B).** Initial environmental examinations[31] were conducted in accordance with the ADB's Safeguard Policy Statement and government regulations. Stakeholder consultations were conducted from May to November 2012. Issues raised during the consultation are addressed in the environmental management plans (EMPs). Subprojects will not cause irreversible environmental impacts. The EMPs include mitigation measures and cost estimates for their implementation. The EMPs will be updated at the detailed design stage; once approved by ADB, they will form part of the contract bidding documents. Implementation of the EMPs will be enforced by an environment officer in the local project management unit. A

[28] Gender action plan (accessible from the list of linked documents in Appendix 2).
[29] Resettlement plans (accessible from the list of linked documents in Appendix 2).
[30] Summary of Stakeholder Consultation and Participation (supplementary document, accessible from the list of linked documents in Appendix 2).
[31] Initial environmental examinations (accessible from the list of linked documents in Appendix 2).

hydrology and flooding study shall be conducted during the design phase for the WWTPs to ensure that the occurrence of flooding is properly evaluated. Adverse impacts during operation will be minimized by specified O&M procedures and environmental monitoring.

27. In compliance with the Environmental Protection and Management Law, 2009, an *Analisis Mengenai Dampak Lingkungan* (environmental impact assessment [AMDAL])—will be prepared by the detailed engineering design consultant for each subproject. AMDALs will be funded by the Government of Australia through the Indonesia Infrastructure Initiative in Cimahi, Makassar, and Palembang at the detailed engineering design stage and by local governments in Jambi and Pekanbaru after detailed engineering design. The government environmental permits and approvals for construction will be obtained before the award of civil works contracts.

28. **Disclosure.** Resettlement and environment documents were prepared in consultation with local communities and are in accordance with ADB's Safeguard Policy Statement and Indonesian laws and regulations. The documents have been endorsed, approved and posted on the ADB website. A grievance redress mechanism will help to facilitate resolution of complaints regarding project performance. The resettlement plans, initial environmental examinations, and EMPs will be updated and disclosed after detailed design and cleared by ADB prior to contract awards.

F. Risks and Mitigating Measures

29. Major risks and mitigating measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan.[32]

Table 4: Summary of Risks and Mitigating Measures

Risks	Mitigating Measures
Waste disposal practices of households, industries, and commercial establishments outside project areas may reduce expected impact of project on environmental pollution of rivers and waterways.	City governments to promote city-wide reduction of environmental pollution, including promotion of the construction of on-site wastewater treatment in areas outside planned wastewater collection system
Project implementation delays will result in cost overruns, require additional financing, and reduce the economic benefits of the project.	Ensure detailed engineering design by ADB, the Government of Australia, and consultants hired through government contracts commences as scheduled. Undertake advanced action to recruit technical assistance consultants by Q1 2014, with project implementation support consultants to commence by Q4 2014
Slow progress in community mobilization, awareness programs not well implemented, and property owners do not apply for sewerage connections.	Ensure joint sanitation marketing and sustainability plans are in place by 2017; the city governments will continue providing awareness and promotion campaigns until project completion.
City governments fail to provide sufficient funds to finance house connections	Memorandums of understanding developed to stipulate time-bound elements of project for city government funding and ensure allocations from the local or central government budgets
Lack of domestic water supply will make demand for sewer connection not viable for some households in Cimahi and Pekanbaru	Cities to ensure water connections are made to 100% of properties requiring sewer connection by 2020

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

Risks	Mitigating Measures
Institutional arrangements for wastewater utilities not established and maintained	City governments to establish regulations for wastewater service providers, issue a decree for compulsory connections in served areas, and abide with the memorandums of understanding between central government and local governments. Covenant of the loan agreement.
Insufficient budget allocation for O&M and cost recovery tariffs for O&M not introduced and/or collected	City governments to commit to subsidies as required; local governments need to allocate sufficient financing, through subsidies, to cover annual O&M shortfalls until tariffs reach cost-recovery levels.

ADB = Asian Development Bank, INDII = Indonesia Infrastructure Initiative, O&M = operation and maintenance, Q = quarter.
Source: Asian Development Bank.

IV. ASSURANCES AND CONDITIONS

30. The government has assured ADB that implementation of the project shall conform to all applicable ADB policies including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the project administration manual and loan documents. The government has agreed with ADB on certain covenants for the project, which are set forth in the loan agreements (A-loan and B-loan). No withdrawals shall be made from the loan account in each agreement until the government has established the CPMU.

V. RECOMMENDATION

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

(i) the A-loan of $80,000,000 to the Republic of Indonesia for the Metropolitan Sanitation Management Investment Project, from ADB's ordinary capital resources, with interest rate to be determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility; for a term of 17 years, including a grace period of 7 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft loan agreement presented to the Board; and

(ii) the B-loan of $40,000,000 to the Republic of Indonesia for the Metropolitan Sanitation Management Investment Project, to be funded through the participation of the ASEAN Infrastructure Fund on terms and conditions as are substantially in accordance with those set forth in the draft loan agreement presented to the Board.

Takehiko Nakao
President

7 March 2014

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
Impact Reduced pollutant discharges to the environment in the participating cities	Open defecation in sewered areas reduced to 3% in 2025 (2013 baseline: 10%) A potential BOD_5 loading reduction of about 21.6 tons/day achieved by 2025[a]	National socioeconomic survey statistics (SUSENAS) Community sanitation strategies surveys held on semiannual basis	**Assumptions** Central and local governments continue to prioritize reduction of wastewater and environmental pollution in urban areas Grant resources to be mobilized for surveys (baseline and at project completion) **Risks** Waste disposal practices of households, industries, and commercial establishments outside of project area reduce expected impact of project on environmental pollution of rivers, waterways, and groundwater Fluvial flood occurrences more extreme than predicted resulting in sewer and WWTPs washout and significant pollution
Outcome Increased connection of the population to improved wastewater services in the participating cities	Total number of domestic property connections to the central sewer system by 2020 Cimahi – 8,900 Jambi – 17,700 Makassar – 9,000 Palembang – 19,000 Pekanbaru – 15,800 (2013 baseline: 0 connections) 70,270 households connections to the central sewer systems by 2020, of which 10% are poor households and households headed by women Total number of commercial property connections to the central sewer system by 2018 Cimahi – 1,000 Jambi – 2,600 Makassar – 5,400 Palembang – 2,300 Pekanbaru – 1,500 (2013 baseline: 0 connections) 64 additional community-based sanitation systems completed by 2018 (2013 baseline: 0) A total of 352,000 people and 12,800 businesses connected to sewerage and wastewater in	Data on sanitation provided by the regional body for planning and development (BAPPEDA) National socioeconomic survey statistics (SUSENAS) PPMS, including sex-disaggregated indicators and indicators for connection of poor and vulnerable groups such as households headed by women, by the project executing agency	**Assumptions** City governments have sufficient resources to implement project and provide adequate subsidies Urban communities are committed to connecting to the sewer system, and do connect Wastewater tariffs cover at least the operation and maintenance costs **Risks** Delay in project implementation Slow progress in community mobilization Awareness programs not well implemented Property owners do not connect to the sewer system

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
	Cimahi, Jambi, Makassar, Palembang, and Pekanbaru by 2020 (2013 baseline: 0 people connected to off-site facilities)		
Outputs 1. Infrastructure development for off-site wastewater systems completed	Length of trunk mains and main sewers laid by 2020: Cimahi – 7.6 km Jambi – 14.6 km Makassar – 16.4 km Palembang – 13.9 km Pekanbaru – 13.6 km (2013 baseline: 0 sewers) All subproject wastewater treatment works implemented by end of 2016 Cimahi – 11.1 mld Jambi – 15.0 mld Makassar – 19.1 mld Palembang – 23.1 mld Pekanbaru – 14.7 mld (2013 baseline: 0 WWTP) Construction contracts with at least 35% qualified local workers, with preferential hiring from local areas with low incomes and poor hygienic conditions. All the poor households and households headed by women access subsidized monthly tariffs. Public consultations on sewerage connection held, with women accounting for 30% of participants.	Data provided by CPMU PPMS by the project executing agency	**Assumptions** Continued commitment of city governments Detailed engineering design completed on time and of good quality Construction contractors implement pipelines, pumping stations, and WWTPs to implementation schedule AMDAL approval received on time WWTP AMDAL and effluent discharge license approval **Risks** Slow progress in community mobilization AMDALs delayed Discharge licenses not given Lack of domestic water supply makes sewerage connection not viable for some households in Cimahi and Pekanbaru
2. Project implementation support institutionalized	Gender-disaggregated indicators established in project performance monitoring system by 2015 By 2018, 10%, are female staff in management positions in newly created executing and/or implementing agencies and service delivery organizations. Capacity-building activities on hygiene promotion, education, planning and participatory monitoring completed (30% of participants are women)	Data provided by CPMU PPMS by the project executing agency	

Activities with Milestones	Inputs
1. Infrastructure development for off-site wastewater systems completed	**ADB: $80.00 million (loan)** **ASEAN Infrastructure Fund: $40 million (loan)**
1.1 Detailed engineering design for the trunk mains, main sewers, and WWTPs complete by Q1 2014	**Item** / **Amount** ($ million)
1.2 Award of TA contract by Q2 2014	Civil works 106.31 Equipment 0.30 Consulting services 10.44 Project implementation support 2.95
1.3 Award of project implementation support consultant contract by Q3 2014	
1.4 Award of goods and civil works contracts (all main sewerage and WWTPs) by Q4 2014	
1.5 Construction of property connection pipes to the lateral sewers commenced by Q3 2016	**Government of Indonesia: $79.19 million**
1.6 First customer properties connected to the piped system and start of operation of sewerage system and treatment plant by the end of 2017	**Item** / **Amount** ($ million)
1.7 Completion of the main elements of the wastewater collection systems and WWTPs by the end of 2017	Land acquisition 6.49 Involuntary resettlement 1.62 Civil works Equipment 53.53 Materials 0.03 Consulting services 0.91 Project implementation support 7.52 Interest during implementation 0.33 Commitment charges 8.44 0.32
1.8 Completion of the lateral systems and connecting chambers by Q2 2020.	
2. Project implementation support institutionalized	**Government of Australia: $48.83 million (grant)**
2.1 Completion of TA contract by end of 2018	**Item** / **Amount** ($ million)
2.2 Completion of project implementation support consultant contract by Q4 2020	Civil works 40.96 Consulting services 7.87
2.3 Nongovernment organization support as partners to facilitate development of on-site sanitation by 2018	

ADB = Asian Development Bank, AMDAL = environmental impact assessment (Analisis Mengenai Dampak Lingkungan), ASEAN = Association of Southeast Asian Nations, BAPPEDA = Badan Perencanaan Pembangunan Daerah (regional body for planning and development), BOD_5 = 5-day biochemical oxygen demand, CPMU = central project management unit, km = kilometer, ml/d = million liters per day , PPMS = project performance monitoring system, Q = quarter, SUSENAS = Indonesia national socioeconomic survey, TA = technical assistance, WWTP = wastewater treatment plant.

[a] BOD_5 refers to the amount of dissolved oxygen consumed in five days by biological processes breaking down organic matter.

Source: Asian Development Bank.

LIST OF LINKED DOCUMENTS

http://adb.org/Documents/RRPs/?id=43251-025-3

1. Loan Agreement: A-loan
2. Loan Agreement: B-loan
3. Sector Assessment (Summary): Sanitation
4. Project Administration Manual
5. Contribution to the ADB Results Framework
6. Development Coordination
7. Financial Analysis
8. Economic Analysis
9. Country Economic Indicators
10. Summary Poverty Reduction and Social Strategy
11. Gender Action Plan
12. Initial Environmental Examination: Cimahi City Off-Site Wastewater Collection System and Treatment
13. Initial Environmental Examination: Jambi City Off-Site Wastewater Collection System and Treatment
14. Initial Environmental Examination: Losari Off-Site Wastewater Collection System and Treatment
15. Initial Environmental Examination: Palembang City Off-Site Wastewater Collection System and Treatment
16. Initial Environmental Examination: Pekanbaru City Off-Site Wastewater Collection System and Treatment
17. Resettlement Plan: Cimahi City Off-Site Wastewater Collection System and Treatment
18. Resettlement Plan: Palembang City Off-Site Wastewater Collection System and Treatment
19. Resettlement Plan: Pekanbaru City Off-Site Wastewater Collection System and Treatment
20. Risk Assessment and Risk Management Plan

Supplementary Documents

21. Summary of Stakeholder Consultation and Participation
22. Technical Assistance: Capacity Development for the Metropolitan Sanitation Management Investment Project