



RESTRUCTURING PAPER
ON A
PROPOSED PROJECT RESTRUCTURING
OF
IMPROVEMENT OF SOLID WASTE MANAGEMENT TO SUPPORT REGIONAL AND METROPOLITAN CITIES
APPROVED ON DECEMBER 5, 2019
TO
REPUBLIC OF INDONESIA

ENVIRONMENT, NATURAL RESOURCES & THE BLUE ECONOMY

EAST ASIA AND PACIFIC

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ABBREVIATIONS AND ACRONYMS

APBD	<i>Anggaran Pendapatan dan Belanja Daerah</i> (Local Government Budget)
BLUD	<i>Badan Layanan Umum Daerah</i> (Regional Public Service Agency)
BSF	Black Soldier Fly
CMMAI	Coordinating Ministry of Maritime Affairs and Investment
CRW	Citarum River Watershed
DBO	Design, Build, and Operate
LG	Local Government
MOEF	Ministry of Environment and Forestry
MOHA	Ministry of Home Affairs
MPWH	Ministry of Public Works and Housing
MSWTP	Municipal Solid Waste Treatment Plant
PDO	Project Development Objective
RC	Readiness Criteria
RDF	Refuse Derived-Fuel
SISPN	<i>Sistem Informasi Pengelolaan Sampah Nasional</i> (National Waste Management Information System)
SNI	<i>Standar Nasional Indonesia</i> (National Indonesia Standard)
SWM	Solid Waste Management
TPD	Ton Per Day
TPST	<i>Tempat Pengelolaan Sampah Terpadu</i> (Integrated Solid Waste Treatment Facility)
UPTD	<i>Unit Persampahan Teknis Dinas Persampahan</i> (Waste Management Technical Unit)



BASIC DATA

Product Information

Project ID P157245	Financing Instrument Investment Project Financing
Original EA Category Full Assessment (A)	Current EA Category Full Assessment (A)
Approval Date 05-Dec-2019	Current Closing Date 30-Nov-2025

Organizations

Borrower Republic of Indonesia	Responsible Agency
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Project Development Objective (PDO)

Original PDO

The Project Development Objective (PDO) is to improve solid waste management services for urban populations in selected cities across Indonesia.

Summary Status of Financing (US\$, Millions)

Ln/Cr/Tf	Approval	Signing	Effectiveness	Closing	Net Commitment	Disbursed	Undisbursed
IBRD-90240	05-Dec-2019	06-Jan-2020	03-Apr-2020	30-Nov-2025	100.00	45.08	54.92

Policy Waiver(s)

Does this restructuring trigger the need for any policy waiver(s)?

No



I. PROJECT STATUS AND RATIONALE FOR RESTRUCTURING

1. This restructuring paper proposes a level-2 restructuring of the Improvement of Solid Waste Management to Support Regional and Metropolitan Cities Project (the Project). The proposed changes involve modifications to the Result Framework, namely - revisions of one Project Development Objective (PDO) indicator and of one intermediate indicator. There are no changes to PDO and project components.
2. This restructuring is based on the official request from the Director General for Human Settlements, Ministry of Public Works and Housing of the Republic of Indonesia, dated February 26th, 2024. This is the first restructuring of the Project.

Project Status

Background.

3. An International Bank for Reconstruction and Development (IBRD) loan for the Project in the amount of US\$100 million was approved by the IBRD Board of Executive Directors on December 5, 2019, with a closing date of November 30, 2025. The project became effective on April 3, 2020.
4. The project Development Objective (PDO) is to improve solid waste management services for urban populations in selected cities across Indonesia. The project has four components: (1) Institutional and Policy Development; (2) Integrated Planning, Capacity Building, Local Governments and Communities; (3) Solid Waste Infrastructure in Selected Cities; (4) Implementation Support and Technical Assistance.

Implementation Status

5. **Component 1: Institutional and Policy Development (US\$2.7 million Total Budget; US\$0.7 million IBRD)** The Ministry of Environment and Forestry (MOEF) supported local governments (LGs) (i) in the development of local waste policy and strategy in line with the targets (30 percent waste reduction and 70 percent waste handling by 2025) set by the Presidential Regulation No 97/2017 on Policy and Strategy for National Solid Waste Management and (ii) in incorporating the LGs' annual Solid Waste Management reporting into the national waste management information system (SIPSN) which monitors the progress on the waste policy targets. Technical assistance for the waste fee collection procedure and the online waste fee calculator which will enable LGs to calculate the waste fees, is behind the schedule and actions have been agreed to accelerate progress. The National Waste Management Platform has been established by the Ministry of National Development Planning.
6. **Component 2: Integrated Planning Support and Capacity Building for Local Government and Communities (US\$18.2 million Total Budget; US\$18.2 million IBRD).** Under the Project, LGs that meet readiness criteria¹ (RC) and demonstrate commitment to improve waste management operations are eligible for technical support under Component 2. During Project preparation, the Borrower and the World Bank agreed to include eight cities and districts² within the Citarum River Watershed (CRW) as the priority LGs. During Project implementation, seven cities and districts which were compliant with RC and demonstrated strong commitment, were added to the Project. These seven additional cities and districts are: (i)

¹ Readiness criteria consist of: (i) local government has committed to the project targets and has adopted a solid waste masterplan, (ii) land for the waste treatment facilities to be owned by the city or district's government participating in the project, and (iii) a requirement for cities to acquire an endorsement/support letter from the Regional House Representative (DPRD), stating the allocation of operation and maintenance budget for the waste treatment facility.

² These cities and districts are: (i) Bekasi district, (ii) Karawang district, (iii) Purwakarta district, (iv) Bandung district, (v) Cimahi City, (vi) Bandung city, (vii) Cianjur District, and (viii) West Bandung District.



- Padang City, (ii) Cilegon City, (iii) Depok City, (iv) Indramayu District, (v) Tuban District, and (vi) Gianyar District and (vii) Denpasar City.
7. The Ministry of Home Affairs (MOHA) supported eight original LGs and seven additional LGs in preparing the regional regulations to calculate the waste fees for waste generators in order to improve the cost recovery of waste management. The MOHA also supports the separation of the environmental agencies' roles as regulators and operators for the solid waste facilities. Out of 15 LGs, 12 LGs have already established Waste Management Technical Units (UPTDs) and three remaining LGs are in the process of establishing UPTDs. Over time, LGs are expected to upgrade UPTDs into the Regional Public Service Agency (BLUD), i.e., operator that has full flexibility in managing its budget. The BLUD is allowed to retain the collected waste fee and utilize it to finance the LG solid waste management operation. Out of 15 LGs, only the City of Bandung has established BLUD for its solid waste management. By the end of 2024, nine LGs are expected to upgrade their UPTDs to BLUDs. Comprehensive masterplans for solid waste management and investments have also been completed for five LGs and masterplans for ten LGs are in the final stage of development.
 8. **Component 3: Solid Waste Infrastructure in Selected Cities (US\$297 million Total Budget; US\$77 million IBRD).** The Project is financing the construction and putting in operation of integrated solid waste treatment facilities (Tempat Pengelolaan Sampah Terpadu - TPST). With the TPSTs, the project diverts municipal solid waste from landfills to waste recycling and recovery. Originally the project focused on financing and constructing landfills with disposal capacity in the participating cities and districts, but the project focus and investments are shifting from municipal solid waste landfills to TPSTs. These TPSTs are able to separate and treat mixed waste into (i) recyclables, (ii) refuse derived fuel (RDF) for cement and power plant off takers, and (iii) organic waste that is subsequently used to produce (a) compost, (b) black soldier fly (BSF) larvae for chicken and fish feeds and (c) fertilizer. These TPSTs will divert waste away from landfills and will extend the life of the landfills as only residual inert waste (about 15 percent) will be landfilled. Diverting waste from landfills also means there will be an increase of disposal capacity of existing LG's landfills.
 9. RDF, the main product of most TPSTs, is classified as a biomass fuel derived from domestic household waste and domestic household waste equivalent. It is defined in the MoEF's Regulation No 19/2017 which also stipulates emission standards for the cement industry using RDF. On the product standardization, the RDF specification must meet National Indonesia Standard (SNI) no 8966:2021. The country, led by the Coordinating Ministry of Maritime Affairs and Investment (CMMAI), is preparing a comprehensive regulation on the RDF.
 10. In the original eight cities in CRW, all TPSTs have been constructed and are in operation; an expansion of one existing TPST in the City of Bandung is under bidding. As for additional cities and districts, three TPSTs have been fully built for the City of Denpasar (total treatment capacity is up to 1020 ton per day – TPD) and preparation of bidding documents for the TPST in the remaining six LGs is in progress. These TPSTs will have medium-scale treatment capacity between 100 and 350 TPD. The feasibility studies with preliminary basic design for these six TPSTs have been completed and are being incorporated into design, build, and operate (DBO) bidding documents. These upcoming TPSTs will employ various treatment technologies to process the municipal waste into products of the off-takers interest that meet national standards.
 11. **Component 4: Implementation Support and Technical Assistance (US\$ 8.1 million; US\$ 4.1 million IBRD).** Activities are on schedule and the capacity of the central project management unit and their consultants, as well as capacity of the component project implementation units is adequate.

Environmental and Social Risk Management

12. Environmental and Social risk rating is Substantial. This restructuring will not change the environmental and social risk rating of the project.



13. Project performance on environmental and social risk management is rated Moderately Satisfactory. The grievance mechanism has been in place since the start of project implementation. Complaints have been reported over the odor and noise of two TPSTs. The operators of the subject TPSTs have been carrying out stakeholder consultations to discuss proposed measures, e.g., retrofitting its air emission control system to reduce odor and ensuring the waste is quickly processed upon delivery to reduce odor. The Central Project Management Unit has maintained a logbook for grievance redress, recording the issues, the process, and the resolutions. The lessons learned from community grievances until now have been incorporated for Phase 3 TPSTs, including on the design of the buildings and materials for noise and odor minimization.

Financial Management and Disbursements

14. Financial Management is rated as Moderately Satisfactory. The Project is compliant with financial management covenants. Disbursements stand at 45.08 percent as of March 19, 2023, and are expected to exceed 50 percent by the end of July 2024. There is no outstanding audit report and interim financial report for the project.

Procurement

15. Although Procurement is still rated Moderately Satisfactory, procurement activities show major progress from the last mission. The total number of contracts that have been procured and are under implementation has reached 58 while 25 procurement packages are yet to be initiated. Procurement of technical assistance for Strengthening Regulation and Finance on Solid Waste Management is ongoing and procurement for six additional TPSTs using DBO approach is expected to start soon.

Rationale for Restructuring

16. With the inclusion of new participating cities and districts in the project and the shift of investments from landfill disposal capacity to waste treatment facilities that avoid landfill disposal, there is a need to modify PDO Indicator #2 and Intermediate Result Indicator #1. Based on the discussions and agreements between the World Bank and the Steering Committee, an official letter from the Director General for Human Settlements, the Ministry of Public Works and Housing, was received by the World Bank on February 26, 2024 requesting modifications to the Project Results Framework as described below.
17. **PDO Indicator #2.** It is proposed to replace PDO Indicator #2 from “Landfill disposal capacity operational per defined criteria (cubic meters)” with the new indicator “landfill disposal capacity avoided”. The new PDO indicator will measure the actual quantity of municipal solid waste that is diverted from dumpsites/landfills. The proposed new target is 1,100,000 m3 of municipal solid waste to be processed at the solid waste treatment plants until the closing date which would avoid landfill disposal. This is roughly one year of operation for the plants until the closing date.
18. **Intermediate Result indicator #1.** For the intermediate indicator: “Financial sustainability/operational management in selected cities/districts” it is proposed to change the monitoring methodology. Due to financial data limitations in the masterplan documents, it is proposed to measure the indicator through the local government budget allocation based on the operational budget required for the municipal solid waste treatment plants. The revised definition for the intermediate indicator is: “minimum of 80 percent of the municipal solid waste treatment plants’ operating costs are covered by the APBD.” The target of 65 percent remains the same, but the original baseline of 45 percent was inadvertently not revised to 0 when the geographical focus area of the project shifted from the original geographical focus on stronger financial cities



and districts to the Citarum Harum area with financially weaker cities and districts. Since no municipal waste treatment plants were built or financed to-date, the baseline is revised to 0.

19. DESCRIPTION OF PROPOSED CHANGES

Changes to Results Framework.

20. The PDO Indicator #2 will be revised to: “landfill disposal capacity avoided (m3)” with a revised end-target of 1,100,000 m3.

21. The Intermediate Result Indicator #1 definition is revised to: “financial sustainability defined as minimum 80 percent of the MSWTPs operating costs covered by APBD”. Baseline is revised to 0 percent.

II. SUMMARY OF CHANGES

	Changed	Not Changed
Results Framework	✓	
Implementing Agency		✓
DDO Status		✓
Project's Development Objectives		✓
PBCs		✓
Components and Cost		✓
Loan Closing Date(s)		✓
Cancellations Proposed		✓
Reallocation between Disbursement Categories		✓
Disbursements Arrangements		✓
Disbursement Estimates		✓
Overall Risk Rating		✓
Safeguard Policies Triggered		✓
EA category		✓
Legal Covenants		✓
Institutional Arrangements		✓
Financial Management		✓
Procurement		✓
Implementation Schedule		✓



Other Change(s)		✓
Economic and Financial Analysis		✓
Technical Analysis		✓
Social Analysis		✓
Environmental Analysis		✓

IV. DETAILED CHANGE(S)



Results framework

COUNTRY: Indonesia

Improvement of Solid Waste Management to Support Regional and Metropolitan Cities

Project Development Objectives(s)

The Project Development Objective (PDO) is to improve solid waste management services for urban populations in selected cities across Indonesia.

Project Development Objective Indicators by Objectives/ Outcomes

Indicator Name	PBC	Baseline	End Target
Improve solid waste management services for urban populations in selected cities across Indonesia			
1. Proportion of population in selected urban areas with regular household waste collection (Percentage)		65.00	85.00
2. Landfill disposal capacity avoided (Cubic Meter(m3))		0.00	1,100,000.00
Action: This indicator has been Revised	<p>Rationale: <i>PDO Indicator #2. It is proposed to change PDO Indicator #2 from “Landfill disposal capacity operational per defined criteria (cubic meters)” to “landfill disposal capacity avoided”. The new PDO indicator will measure the actual quantity of municipal solid waste that is diverted from dumpsites/landfills. The proposed new target is 1,100,000 m3 of municipal solid waste to be processed at the solid waste treatment plants until the closing date and hence would avoid landfill disposal. This is roughly one year of operation for the plants until the closing date[1][2].</i></p> <p><i>[1] With a 20-year technical lifetime of the waste treatment facilities, the treatment capacity for the treatment of waste is roughly the same (22,000,000 m3) as the original indicator for landfill disposal capacity of 20,000,000m3 for a 20-year period.</i></p> <p><i>[2] From the 1,100,000 m3 target, about 37% comes from the Denpasar waste treatment facilities which are operated by third party operators with contracts established outside the project.</i></p>		



Indicator Name	PBC	Baseline	End Target
3. Solid waste recycled, composted and/or treated with other techniques to reduce waste disposal volumes (Percentage)		4.00	16.00
4. Proportion of targeted beneficiaries with rating ‘Satisfactory’ or above on program interventions. (Percentage)		0.00	70.00
of which women (Percentage)		0.00	70.00

Intermediate Results Indicators by Components

Indicator Name	PBC	Baseline	End Target
Institutional and Policy Development			
Key guidelines on sector financing and regulations adopted (Yes/No)		No	Yes
Planning Support and Capacity Building for Local Government and Communities			
Financial sustainability/operational management in selected cities/districts (Percentage)		0.00	65.00
Action: This indicator has been Revised	<p>Rationale: <i>Intermediate Result indicator #1. For the intermediate indicator: “Financial sustainability/operational management in selected cities/districts” it is proposed to change the monitoring methodology. Due to financial data limitations in the masterplan documents, it is proposed to measure the indicator through the local government budget allocation based on the operational budget required for the municipal solid waste treatment plants. The revised definition for the intermediate indicator is: “minimum of 80% of the municipal solid waste treatment plants’ operating costs are covered by the APBD.” The target of 65% remains the same, but the original baseline of 45%[1] was inadvertently not revised to 0% when the geographical focus area of the project shifted to the Citarum Harum area with financially weaker cities and districts from</i></p>		



Indicator Name	PBC	Baseline	End Target
		<p><i>the original geographical focus on stronger financial cities and districts. Since no municipal waste treatment plants were built or financed to-date, the baseline is revised to 0%.</i></p> <p><i>[1] The original monitoring methodology is the “percentage of participating cities/districts with financial sustainability/operational management” with allocation in the municipal annual budgets that are at least 75% of the estimated sustainable funding operational needs as per approved local waste management master plan or action plan with defined steps to achieve cost recovery levels and a baseline of 45%.</i></p>	
Number of cities with high-quality solid waste management implementation plans (Number)		0.00	12.00
Number of cities addressing potential gender inequalities, including improving access of women to formal employment and better working conditions in the informal sector. (Percentage)		0.00	10.00
Percentage of persons moving from informal to formal waste sector employment that are women (Percentage)		0.00	10.00
Solid Waste Infrastructure in Selected Cities			
Marine plastic waste reduction from land-based sources from selected urban populations (Percentage)		0.00	50.00
Cities with improved livability, sustainability, and/or management (CRI, Number)		0.00	10.00
Grievances registered related to delivery of project benefits that are actually addressed (Percentage)		0.00	100.00



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