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Report No: PAD5634

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT PAPER

ON A

PROPOSED ADDITIONAL CREDIT

IN THE AMOUNT OF SDR 11.4 MILLION  
(US\$15 MILLION EQUIVALENT)

TO THE

REPUBLIC OF MADAGASCAR

FOR THE

SECOND ADDITIONAL FINANCING TO THE INTEGRATED URBAN DEVELOPMENT AND  
RESILIENCE PROJECT FOR GREATER ANTANANARIVO

May 16, 2024

Urban, Resilience And Land Global Practice  
Eastern and Southern Africa Region

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## CURRENCY EQUIVALENTS

Exchange Rate Effective April 30, 2024

Currency Unit = Malagasy Ariary (MGA)

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MGA 4,436.95 = US\$1

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US\$1 = SDR 0.7587

## FISCAL YEAR

January 1 - December 31

Regional Vice President: Victoria Kwakwa

Country Director: Idah Z. Pswarayi-Riddihough

Regional Director: Iain G. Shuker

Practice Manager: Catalina Marulanda

Task Team Leader(s): Gael Fetranaiaina Raserijaona, Pierre Francois-Xavier  
Boulenger

## ABBREVIATIONS AND ACRONYMS

2AF	Second Additional Financing
AF	Additional Financing
AGETIPA	Executing Agency for Public Interest Works ( <i>Agence d'Exécution des Travaux d'Intérêt Public et d'Aménagement</i> )
APIPA	Antananarivo Flood Protection Agency ( <i>Autorité pour la Protection contre les Inondations de la Plaine d'Antananarivo</i> )
CERC	Contingent Emergency Response Component
CMOD	Delegated Contract Management Agreement ( <i>Convention de Maitrise d'Ouvrage Délégée</i> )
COVID-19	Coronavirus Disease 2019
CUA	Municipality of Antananarivo ( <i>Commune Urbaine d'Antananarivo</i> )
CPF	Country Partnership Framework
DRM	Disaster Risk Management
EFA	Economic and Financial Analysis
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
E&S	Environment and Social
FM	Financial Management
FY	Fiscal Year
GA	Greater Antananarivo
GPE	Global Partnership for Education
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
GBV/SEAH	Gender Based Violence /Sexual Exploitation and Abuse and Sexual harassment
IDA	International Development Association
IP	Implementation Progress
IPF	Investment Project Financing
ISR	Implementation Status and Results
OP	Operational Policy
PAP	People Affected by the Project
PDO	Project Development Objective
PMU	Project Management Unit
PRODUIR	Integrated Urban Development and Resilience Project for Greater Antananarivo ( <i>Projet Intégré de Développement Urbain Intégré et Résilience du Grand Antananarivo</i> )
RAP	Resettlement Action Plan
RF	Results Framework
SAMVA	Antananarivo Autonomous Sanitation Service ( <i>Service Autonome de Maintenance de la Ville d'Antananarivo</i> )
SMA	Municipal Sanitation Company ( <i>Société Municipale d'Assainissement</i> )
STEP	Systematic Tracking of Exchanges in Procurement
TA	Technical Assistance
UIFR	Unaudited interim financial reports
US\$	United States Dollars

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**BASIC INFORMATION – PARENT (Integrated Urban Development and Resilience Project for Greater Antananarivo - P159756)**

Country	Product Line	Team Leader(s)		
Madagascar	IBRD/IDA	Gael Fetraniaina Raserijaona		
Project ID	Financing Instrument	Resp CC	Req CC	Practice Area (Lead)
P159756	Investment Project Financing	SAEU2 (9348)	AECS2 (5547)	Urban, Resilience and Land

Implementing Agency: Fonds d'Intervention pour le Développement, Ministry of Decentralization and Planning

Is this a regionally tagged project?	
No	

Bank/IFC Collaboration
No

Approval Date	Closing Date	Expected Guarantee Expiration Date	Original Environmental Assessment Category	Current EA Category
17-May-2018	31-Jan-2025		Full Assessment (A)	Full Assessment (A)

**Financing & Implementation Modalities**

<input type="checkbox"/> Multiphase Programmatic Approach [MPA]	<input type="checkbox"/> Contingent Emergency Response Component (CERC)
<input checked="" type="checkbox"/> Series of Projects (SOP)	<input type="checkbox"/> Fragile State(s)
<input type="checkbox"/> Performance-Based Conditions (PBCs)	<input type="checkbox"/> Small State(s)
<input type="checkbox"/> Financial Intermediaries (FI)	<input type="checkbox"/> Fragile within a Non-fragile Country
<input type="checkbox"/> Project-Based Guarantee	<input type="checkbox"/> Conflict
<input type="checkbox"/> Deferred Drawdown	<input type="checkbox"/> Responding to Natural or Man-made disaster
<input type="checkbox"/> Alternate Procurement Arrangements (APA)	<input type="checkbox"/> Hands-on Expanded Implementation Support (HEIS)



**Development Objective(s)**

The Project Development Objective is to enhance urban living conditions and flood resilience in selected low-income neighborhoods of Greater Antananarivo; and to improve the Recipient’s capacity to respond promptly and effectively to an Eligible Crisis or Emergency.

**Ratings (from Parent ISR)**

	Implementation					Latest ISR
	22-Dec-2021	26-Jun-2022	16-Dec-2022	26-Apr-2023	01-Nov-2023	16-May-2024
Progress towards achievement of PDO	MU	MS	MS	S	S	S
Overall Implementation Progress (IP)	MU	MS	MS	MS	MS	S
Overall Safeguards Rating	MS	S	S	S	MS	MS
Overall Risk	S	S	S	S	S	S
Financial Management	MS	MS	MS	MS	MS	MS
Project Management	MU	MS	MS	MS	MS	S
Procurement	MS	MS	MS	MS	MS	MS
Monitoring and Evaluation	MS	MS	S	S	S	S

**BASIC INFORMATION – ADDITIONAL FINANCING (Second Additional Financing to the Integrated Urban Development and Resilience Project for Greater Antananarivo - P181650)**



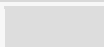
Project ID	Project Name	Additional Financing Type	Urgent Need or Capacity
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P181650	Second Additional Financing to the Integrated Urban Development and Resilience Project for Greater Antananarivo	Cost Overrun/Financing Gap	Constraints No
Financing instrument Investment Project Financing	Product line IBRD/IDA	Approval Date 07-Jun-2024	
Projected Date of Full Disbursement 31-Oct-2025	Bank/IFC Collaboration No		
Is this a regionally tagged project? No			

#### Financing & Implementation Modalities

<input type="checkbox"/> Series of Projects (SOP)	<input type="checkbox"/> Fragile State(s)
<input type="checkbox"/> Performance-Based Conditions (PBCs)	<input type="checkbox"/> Small State(s)
<input type="checkbox"/> Financial Intermediaries (FI)	<input type="checkbox"/> Fragile within a Non-fragile Country
<input type="checkbox"/> Project-Based Guarantee	<input type="checkbox"/> Conflict
<input type="checkbox"/> Deferred Drawdown	<input checked="" type="checkbox"/> Responding to Natural or Man-made disaster
<input type="checkbox"/> Alternate Procurement Arrangements (APA)	<input type="checkbox"/> Hands-on Expanded Implementation Support (HEIS)
<input checked="" type="checkbox"/> Contingent Emergency Response Component (CERC)	

#### Disbursement Summary (from Parent ISR)

Source of Funds	Net Commitments	Total Disbursed	Remaining Balance	Disbursed
IBRD				 %
IDA	125.00	77.28	42.10	 65 %
Grants				 %

**PROJECT FINANCING DATA – ADDITIONAL FINANCING (Second Additional Financing to the Integrated Urban Development and Resilience Project for Greater Antananarivo - P181650)**

**FINANCING DATA (US\$, Millions)**

**SUMMARY (Total Financing)**

	Current Financing	Proposed Additional Financing	Total Proposed Financing
<b>Total Project Cost</b>	125.00	15.00	140.00
<b>Total Financing</b>	125.00	15.00	140.00
<b>of which IBRD/IDA</b>	125.00	15.00	140.00
<b>Financing Gap</b>	0.00	0.00	0.00

**DETAILS - Additional Financing**

**World Bank Group Financing**

International Development Association (IDA)	15.00
IDA Credit	15.00

**IDA Resources (in US\$, Millions)**

	Credit Amount	Grant Amount	SML Amount	Guarantee Amount	Total Amount
<b>Madagascar</b>	15.00	0.00	0.00	0.00	15.00
National Performance-Based Allocations (PBA)	15.00	0.00	0.00	0.00	15.00
<b>Total</b>	<b>15.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>15.00</b>

**COMPLIANCE**

**Policy**

Does the project depart from the CPF in content or in other significant respects?

Yes  No



Does the project require any other Policy waiver(s)?

Yes  No

## INSTITUTIONAL DATA

### Practice Area (Lead)

Urban, Resilience and Land

### Contributing Practice Areas

Water

### Climate Change and Disaster Screening

This operation has been screened for short and long-term climate change and disaster risks

## PROJECT TEAM

### Bank Staff

Name	Role	Specialization	Unit
Gael Fetraniaina Raserijaona	Team Leader (ADM Responsible)	Urban development	SAEU2
Pierre Francois-Xavier Boulenger	Team Leader	Sanitation	SAEW3
Ahmadou Moustapha Diallo	Procurement Specialist (ADM Responsible)	Procurement	EAERU
Beby Vololoniaina Razafindrakoto	Procurement Specialist	Procurement	EAERU
Miarana Heriniana Aime Razaf	Procurement Specialist	Procurement	EAERU
Maharavo Harimandimby Ramarotahiantsoa	Financial Management Specialist (ADM Responsible)	Financial management	EAEG2
Andrianjaka Rado Razafimandimby	Social Specialist (ADM Responsible)	Social safeguards	SAES3
Paul-Jean Feno	Environmental Specialist (ADM Responsible)	Environment safeguards	SAEE3
FNU Alphonse	Team Member	Social safeguards	SAES3
Hasina Manarantsoa Andrianaribako	Environmental Specialist	Environment safeguards	SAEE3
Lira Hariravaka Rajenarison	Team Member	Public sector	EAEG2



## The World Bank

Second Additional Financing to the Integrated Urban Development and Resilience Project for Greater Antananarivo (P181650)

Mohammad Ilyas Butt	Procurement Team	Procurement	EAERU
Nicholas James Callender	Team Member	Disaster Risk Management	SAEU2
Noro Hajalalaina Rasoloarimanana Andriamihajas	Procurement Team	Operational assistance	AEMMG
Sandrine Razafimahefa	Team Member	Operational assistance	AEMMG
Seraphine Nsabimana	Team Member	Operational assistance	SAEU3
Tahiana Andriamanantena Ep Ranaivoson	Team Member	Urban development	SAEU2
Vaniah Emode Andrianjaka	Environmental Specialist	Environment safeguards	SAEE3
<b>Extended Team</b>			
<b>Name</b>	<b>Title</b>	<b>Organization</b>	<b>Location</b>



## I. BACKGROUND AND RATIONALE FOR ADDITIONAL FINANCING

**1. This Project Paper seeks approval of the Executive Directors to provide a second Additional Financing (AF) in the amount of US\$15 million equivalent to the Integrated Urban Development and Resilience Project for Greater Antananarivo (PRODUIR).** The US\$75 million parent project PRODUIR (P159756) (IDA Credit 6245-MG) was approved on May 17, 2018, and became effective on March 28, 2019. An AF (IDA Credit 6818-MG, P175085) in the amount of US\$50 million was approved on December 10, 2020 and became effective on June 30, 2021. The current closing date of the parent project and its first AF is January 31, 2025. The proposed second AF (AF2) will resolve a cost overrun that has emerged due to US\$-SDR exchange rate fluctuations and losses, and a financing gap that has emerged due to additional critical dike rehabilitation and urban upgrading work, and design change in the sludge disposal site of Iarinarivo.

**2. AF2 also includes a restructuring of the parent project with the following changes:** (1) reduce the activities aimed at improving urban drainage and services due to the financing gap, (2) update of the Results Framework (RF) to include the revisions of targets due to rescoping of project activities and new calculation methodology in line with the new retrofitting mechanism for some indicators as well as the integration of World Bank corporate Scorecard indicators, (3) revision of disbursement categories and conditions to consider the C3 canal rehabilitation works sequencing, (4) reallocation of financing disbursement categories, to update budgets impacted by cost overruns and to reflect AF2, and (5) an extension of the project closing date by five months from January 31, 2025, to June 30, 2025 to allow completion of rehabilitation works related to the C3 canal, which is the name of the third main drainage canal of the Antananarivo city.

**3. PRODUIR remains critical, aligning closely with the priorities of the Government of Madagascar and the strategic needs of the Capital City, Antananarivo.** Given that Antananarivo generates 75 percent of Madagascar's Gross Domestic Product, the city is highly susceptible to flooding.. This vulnerability is exacerbated by the dense population and valuable assets concentrated in flood prone areas. Recurrent flooding events, particularly during the cyclonic season, have profound adverse effects on capital accumulation and risk, entrenching the most vulnerable populations in persistent poverty. The geographical center of these climate shocks and vulnerabilities is the plain of Antananarivo, which is the city's core and where the project is focusing its intervention. PRODUIR is designed to mitigate these risks by fostering integrated and sustainable urban development while protecting people against river and drainage flooding risk and improving living conditions. Without the project, about half a million of people would risk being flooded and every year, many households had to temporary resettle due to rainwater flooding. The AF2 and the restructuring of the project are set to bolster efforts to meet the Project Development Objective (PDO) which remains unchanged under AF2.

### A. Project original objective and scope

**4. PRODUIR is focusing on flood risk management, urban upgrading and improving social resilience, through improving access to basic services and building institutions.** The PDO is to: “enhance urban living conditions and flood resilience in selected low-income neighborhoods of Greater Antananarivo (GA); and to improve the Recipient’s capacity to respond promptly and effectively to an Eligible Crisis or Emergency.”

**5. Approximately 650,000 people are expected to be direct beneficiaries of the PRODUIR and the two AFs.** Beneficiaries live mostly in low-income neighborhoods in the first and fourth districts of the Municipality of



Antananarivo (*Commune Urbaine d'Antananarivo*, CUA) and the peri-urban communes of Anosizato Andrefana and Bemasoandro Itaosy. They are expected to benefit from improved drainage, sanitation, and road infrastructure.

6. The project includes the following four components, which remain unchanged through this restructuring:

**7. Component 1: Improving urban drainage, services, and resilience in targeted areas (US\$61.32 million equivalent).** This component finances: (i) flood and drainage risk reduction, (ii) urban upgrading and integration of vulnerable neighborhoods into the urban fabric while ensuring active citizen engagement in diverse processes of design and implementation. Subcomponent 1.1 - Improvements of Canal, Drainage and Sanitation Infrastructure (US\$39.93 million) finances the reconstruction of a 12 km canal that provides stormwater drainage for the western portion of the urbanized floodplain (C3 canal); the rehabilitation of dikes along the Ikopa and Sisaony Rivers; the construction of a sludge disposal site for sediments dredged from the canal and the development of resettlement sites. Subcomponent 1.2 - Neighborhood upgrading (US\$20.1 million) finances critical urban infrastructure to improve (i) mobility and accessibility; (ii) access to essential sanitation services; and (iii) public and recreational spaces. Subcomponent 1.3 (US\$1.3 million) finances citizen engagement to contribute to the sustainability of the investments in the project's intervention areas.

**8. Component 2: Strengthening institutional capacity for resilient urban governance (US\$7.18 million equivalent).** This component builds central and local authorities' ability to improve governance, municipal finance, and resilient urban planning and management. Sub-component 2.1 (US\$2 million) finances training and capacity building program for managing urban growth and an integrated slum upgrading strategy and affordable housing strategy for GA. Sub-component 2.2 (US\$3 million) finances technical assistance (TA) to CUA to enhance revenue mobilization and human resources management. Sub-component 2.3 (US\$2.18 million) finances TA to the Antananarivo Flood Protection Agency (*Autorité pour la Protection contre les Inondations de la Plaine d'Antananarivo*, APIPA) to enhance storm water drainage and flood protection service delivery, and to Municipal Sanitation Company (*Société Municipale d'Assainissement*, SMA)<sup>1</sup> to provide a reliable solid waste management.

**9. Component 3: Project Management, coordination, monitoring and evaluation (US\$6.5 million equivalent).** This component finances the following activities: (i) incremental operating costs (including delegated contract management costs); (ii) fiduciary activities; (iii) audit, studies and assessments required under various project components; (iv) communication; and (v) monitoring (including of safeguards processes) and evaluation.

**10. Component 4: Contingent Emergency Response (CERC).** This is a zero-dollar component to provide immediate response to an Eligible Crisis or Emergency, as needed. This could include repairing damage to infrastructure, ensuring business continuity, and enabling early rehabilitation.

**11. PRODUIR has undergone one AF and two restructurings to date.** The first restructuring in November 2020 involved an AF of US\$50 million to replenish funding that the Government had used after triggering the CERC to finance the COVID-19 response. The restructuring updated the RF to introduce new results indicators and targets related to the COVID-19 activities and to include a reallocation between disbursement categories as well as changes in component costs. The second restructuring in February 2023 consisted of the extension of the project closing date to allow completion of works essential to achieving the PDO under Component 1, as well as completion of urgent repairs of

<sup>1</sup> The Antananarivo autonomous maintenance service (*Service Autonome de Maintenance de la Ville d'Antananarivo*, SAMVA) have been replaced by SMA in 2021.

critical dikes damaged during the 2021-2022 rainy seasons. The closing date of the project has been extended once by 23 months from February 28, 2023, to January 31, 2025.

## **B. Summary of project implementation and results to date**

**12. Under Component 1, ‘Improving urban drainage, services, and resilience in targeted areas’, the project has made progress in safeguarding and enhancing the lives of the residents of GA.** Notably, the project has completed the rehabilitation of 5 km of critical flood protection dikes of Ikopa and Sisaony, providing protection against river flooding for 265,000 people. An additional 1.6 km of dike rehabilitation is currently in progress, further reinforcing the resilience and adaptive capacity of the city. The project has contributed to improving urban infrastructure in low-income areas, with the construction and rehabilitation of 24 km of community pathways, 7 km of urban roads, and 5 km of small drainage systems. These works have enhanced urban living conditions of half a million people, contributing to the resilience and well-being of the community. In addition to large infrastructure works, the project has financed 15 local libraries and public spaces, as well as 21 public water taps, toilets, and laundries, which are contributing to both improving daily life and supporting ongoing community development. As part of the C3 canal rehabilitation works, PRODUIR started the construction of the sludge disposal site in Iarinarivo to manage polluted dredged materials. The construction of the sludge disposal site delayed the start of the C3 canal works because of community engagement and land acquisition discussion as part of implementation of Resettlement Action Plan (RAP) in Iarinarivo. Project affected people (PAPs) requested the project to reduce land acquisition for the construction of the site. The project had to redesign the disposal site while reducing the size of the land and identifying additional technical solutions to fit with the area available. All community dialogue has been completed and works started in February 2024. The project is conducting technical studies to continue strengthening the drainage system and protection infrastructure against river flooding in Antananarivo and to be used as future investments. All contracts financed by this component have been signed and are under implementation. Works’ activities will be completed by December 2024, except for activities on the C3 canal, which will be completed by June 2025. The canal rehabilitation works will be sequenced by sections and carried out first in areas without resettlement.

**13. Resettlement Action Plans (RAPs) at the Andavamamba resettlement site and the Iarinarivo sludge disposal site, both preconditions for the start of dredging and rehabilitation of the C3 canal are under implementation.** PAPs impacted by land acquisition in the sludge disposal site of Iarinarivo and Andavamamba have been identified and compensated. RAPs for these sites have been completed. A total of 1,317 PAPs of the C3 canal have been officially notified about their compensation. Payments of compensation will start by the end of May 2024 and as soon as the PAPs are able to provide complete documents for payment. At this stage, 40 percent of PAPs have been able to present the adequate documentation. At the Andavamamba resettlement site, housing construction for the most vulnerable PAPs living along the C3 canal has started and will be completed in August 2024. A total of 80 households will benefit from apartments less than 1 km from their previous houses. At the sludge disposal site, the project revised the original technical design of the site to respond to PAPs’ request for reducing land to be used and to be acquired for the site. Construction of the disposal site has started. Preliminary works at the C3 canal to reinforce embankment and prepare for the dredging are now underway and dredging will begin in August 2024. The RAPs implementation consultant is fully operational in the field supporting to capacitate the PAPs to access compensations and relocate, and implementing livelihood restoration programs under the supervision of the Project Management Unit (PMU). The implementation of RAPs has been complex and created delays of about 1.5 years to the project implementation schedule. Inexistent land records to identify PAPs’ landowners, and PAPs’ consultation and dialogue happening during COVID-19 period created additional delays and added to the project implementation challenges. Learning from the RAPs’ experience and considering land issues such as no land records, the Government developed innovative approaches to land acquisition



and resettlement, which the project pioneered. A streamlined process for formalization of land tenure was developed, which facilitated land acquisition and provided adequate compensation to landowners, consistent with World Bank safeguards policies. This approach was formalized under a National Decree,<sup>2</sup> which unlocked land acquisition processes that delayed implementation of the RAPs. The process is groundbreaking for Madagascar, and it is now available for replication under other urban development projects that require land acquisition. PRODUIR will implement this approach to implement the C3 canal RAPs and land acquisition. Moreover, the project will continue the close dialogue and engagement with PAPs and communities affected and that will benefit from the project.

**14. A key aspect of the progress under Component 1 has been active citizen engagement fostered through the establishment of local consultation structures in the municipalities of Bemasoandro, Andranonahoatra, and Anosizato Andrefana.** These structures have empowered residents to participate in the selection, investment, and maintenance of the newly constructed or rehabilitated infrastructure, ensuring that works are both community-driven and sustainable. Furthermore, the project has developed a comprehensive urban plan that addresses the needs of the most at-risk and vulnerable areas of Antananarivo. This strategic plan not only supports the current development and management efforts but also identifies opportunities for structural urban upgrading investments. These investments are poised to scale up the ongoing interventions, aiming for a more profound and lasting impact on the urban living conditions of the most vulnerable populations targeted by the project.

**15. Under Component 2, Strengthening institutional capacity for resilient urban governance,** PRODUIR has achieved milestones related to modernizing and improving urban development in Antananarivo. An important innovation has been the development of the Ministry of Regional Planning's Building Permit (MATAAC) system. This tool has streamlined the review and approval of building construction permits, integrating urban regulations from the drainage and urban plan, and aligning them with the slum upgrading and affordable housing strategy developed in 2023. PRODUIR has supported the Antananarivo municipality to devise and execute a revenue enhancement strategy and action plan. Within this context a property census was finalized, which successfully identified 60 percent additional taxable properties across the city limits, thereby boosting the municipality's revenue potential from property taxes. Under PRODUIR, local water and sanitation community groups (RF2) have received training and equipment for infrastructure maintenance. The development of a maintenance plan for the Antananarivo drainage system, as well as a solid waste management study for GA are ongoing. These comprehensive efforts, component 2 is laying the groundwork for a more resilient and well-managed Antananarivo urban environment, with tangible benefits for all residents and particularly the most vulnerable population. All consultant contracts financed by this component have been signed and activities are under implementation. All activities will be completed by December 2024. Multiple ongoing studies and technical recommendation and design developed under the project will be proposed as future investments.

**16. Key outcomes achieved to date.** As of April 2024, the project has reached 80 percent of its PDO indicators' targets, including: (i) 518,341 people benefiting from improved, resilient living conditions; (ii) 265,000 people being protected by restored or improved flood protection infrastructure; and (iii) 79.60 percent of direct project beneficiaries expressing satisfaction with the project interventions according to a beneficiary survey. Seven intermediate objectives

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<sup>2</sup> Decree 2022-1090 of July 27, 2022 supplementing certain provisions of decree 1963-030 of January 16, 1963, as amended and supplemented by decrees 1964-399 of September 24, 1964 and 2021-689 of June 30, 2021, laying down the terms and conditions for implementing order no. 62-023 of September 19, 1962 on expropriation for public use, as part of the Integrated Urban Development and Resilience Project (PRODUIR) and similar projects, on the amicable acquisition of land by the State or secondary public authorities, and on capital gains on real estate.

have been met, with six exceeding their target values, which include: (i) 246,253 people provided with access to improved sanitation services; (ii) 126,000 women provided with access to improved sanitation services; (iii) 7.2 km of roads constructed or rehabilitated; (iv) 23.4 km of pedestrian paths constructed or rehabilitated; (v) 60 percent increase of properties for which owners have been identified for tax purposes over the previous year; (vi) 125,000 person-days of temporary employment created through labor-intensive works; and (vii) the revenue enhancement strategy and action plan for CUA is finalized. The remaining indicators and their targets are related to the C3 canal rehabilitation works.

**17. The project has been rated Satisfactory for progress towards achievement of the PDO in the last 12 months, and over the same period. Overall Implementation Progress (IP) has been rated Satisfactory.** As of April 2024, the project has disbursed US\$77.28 million (64.73 percent). As per the latest Implementation Status and Results (ISR) Report of May 2024, Component 1 and overall safeguards performance was rated Moderately Satisfactory due to implementation delays of the RAPs which also directly affecting activity implementation. The Component 2 were rated Satisfactory. Financial Management (FM) and Procurement were rated Moderately Satisfactory. These rating are due to limited capacity in FM and procurement planning, monitoring, and management. All financial auditing requirements and legal covenants have been met. To date all contracts have been signed, all works have started, and all available financing resources have been committed.

**18. Steps towards improving project performance.** The project developed a sequencing work plan to adapt to the RAPs implementation and compensation that will start in end May 2024. The work management, and implementation strategies have been updated to remain flexible and adaptable, enabling quick adjustments in response to changes in external or internal factors. The project will continue developing strong coordination between works and safeguards activities within a detailed plan to mitigate risks of additional delays. Regular weekly meetings and on-site field visits are conducted with World Bank team assistance to ensure close monitoring of progress. Moreover, to keep on track for the most critical works, the project is considering developing contract-based performance to ensures works quality and speed. Procurement performance will be enhanced with systematic application of the project implementation manual provisions, involvement of qualified technical experts during bid preparation and evaluation process, and effective contract management to keep records and planning on track. FM performance will be enhanced with World Bank close support to the FM staff of the PMU.

### **C. Rationale for the Second Additional Financing**

**19. PRODUIR remains a priority for the Government of Madagascar.** Antananarivo's high exposure to flooding presents a significant threat due to the high concentration of people and assets in the capital city producing 75 percent of Madagascar's GDP. Competition for space makes households locate in areas that are at risk of floods but close to urban labor markets. Up to 50 percent of the built environment is directly located in flood-prone areas (20-year return flooding)<sup>3</sup>. For households affected by floods, 30 percent are within the lowest per capita consumption quintile<sup>4</sup>. Recurring flood events have significant negative impacts on capital accumulation in these lower quintiles and may contribute to lasting poverty traps. Climate shocks and vulnerability primarily affect the city's core, in the plain of Antananarivo. PRODUIR aims to address these challenges by promoting integrated and sustainable urban development.

**20. This AF2 will address a cost overrun and a financing gap that has occurred during implementation due to**

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<sup>3</sup> World Bank, 2016. Spatial analysis of built-up areas in Greater Antananarivo from 2003 to 2013 using SPOT5 imagery.

<sup>4</sup> World Bank, 2017. Greater Antananarivo: Urban Poverty and Resilience Study.



**circumstances beyond the control of the project or the government.** The gap amounts to a total of US\$25 million, resulting from various factors such as losses of US\$9 million due to fluctuations in the USD-XDR exchange rate, delays in the implementation of the RAPs and the commencement of works, exacerbated by the COVID-19 pandemic and the external challenges. These factors have led to contract amendments for works at the Iarinarivo and Andavamamba sites, as well as at the C3 canal, resulting in price escalations of roughly US\$6 million. Additionally, the 2022 cyclone season caused significant damage to the dikes that protect Antananarivo from flooding, requiring the project to proceed with rehabilitation works urgently. This additional dike rehabilitation was carried out to prevent the collapse of damaged dikes and flooding during the rainy season of 2022 and 2023. Urban upgrading work that was not originally budgeted under the project was also implemented to respond to multiple municipality and community demands, considering the impact of the first phase. Furthermore, technical design changes were made at the Iarinarivo sludge disposal site to use additional processes such as dewatering and accommodating the land available agreed upon with PAPs during RAPs implementation. These additional activities add about US\$10 million to the cost of the works under subcomponent 1.1.

**21. As part of the proposed restructuring, some interventions initially proposed under the project but not directly impacting the achievement of the project objective will be reduced to mitigate the financing gap. The activities include:** (i) structural urban infrastructure works identified in the detailed urban plan such as pathways, public or community space, retention pond, health, and education centers; and (ii) drainage works such as capacity strengthening of the pumping station that were identified during the project's design phase were not completed due to various reasons, including important environmental and resettlement impacts, technical complexity, and sustainability issues. After a comprehensive review and consultation with the Government during the project implementation, it was agreed that due to the complexity of the activities, they could not be completed within the project timeframe but could be reduced and financed by the AF2. This change will not compromise the achievement of the project objective as the PRODUIR will primarily focus its interventions in the C3 canal and urban upgrading infrastructure works as the first step in improving the quality of, and access to, basic urban services. The AF2 will continue the implementation of the urban and drainage works to the maximum positive impact extent possible with reduced costs and scope and cover cost overrun funding to ongoing project activities such as the construction of sludge pre-treatment site considering design change, construction or rehabilitation works as part of RAP implementation. The AF2 will finance drainage works which consist of rehabilitating the existing pumping station to maintain the operation and maintenance of the C3 canal and urban infrastructure construction and rehabilitation such as community pathways and urban roads in the project intervention area.

**22. This AF2 will help ensure that the PDO can be fully achieved, that selected project activities can be completed by the extension of closing date, and that systems are put in place to ensure long-term sustainability of the interventions.** AF2 will ensure that the infrastructure and systems financed are not only built to last, but also maintained effectively over time. This includes supporting ongoing training for local maintenance teams and establishing long-term infrastructure management plans as part of the infrastructure built under the parent project. Moreover, AF2 will continue to deepen the project's engagement with local communities, especially with project beneficiaries and affected communities as part of RAPs' implementation. This will involve existing participatory monitoring and feedback mechanisms that empower community members to take an active role in the project's implementation and success.

#### **D. Relevance to Higher Level Objectives**

**23. AF2 is aligned with the Madagascar's 2023-2027 Country Partnership Framework (CPF 2023-2027, Report No.**



179576-MG) discussed by the Board on April 25, 2023, specifically with the objectives to improve access to basic infrastructure (objective 1.3) and to strengthen disaster risk management (DRM) (objective 3.2). It is also aligned with the World Bank's Evolution priorities and its mission to end extreme poverty and boost shared prosperity on a livable planet.

**24. AF2 is consistent with the Madagascar General State Policy** adopted in January 2024 as part of the Axis 2: Industrialization and economic transformation and Madagascar modernization and focusing on planning and equipping the country's major cities including Antananarivo. The project is also aligned with the National Urban Development Policy approved in 2019, highlighting the need for resilient, inclusive, and sustainable cities. This policy highlights the need to accompany a rapid urban transition through the development of new infrastructure and by improving the living environment of city dwellers. PRODUIR and its AF2 are also part of the implementation of the urban and drainage master plans for Greater Antananarivo adopted by the Government in 2019.

## II. DESCRIPTION OF ADDITIONAL FINANCING

### A. Description of the Second Additional Financing

**25. This AF2 of US\$15 million for PRODUIR will ensure the completion of ongoing and selected activities under the parent project.** Resources will be used to finance activities that were originally included under the parent project and which were sufficiently advanced (in terms of design and/or construction works) that they can be easily implemented. It will also finance ongoing project activities covering cost overrun due to design changes and RAP implementation. This includes:

- 1) *Activities that contribute to enhancing flood resilience (US\$10 million) under Subcomponent 1.1 Improvement of Canal, Drainage and Sanitation Infrastructure* will include the following:
  - Construction of sludge pre-treatment site (US\$2 million) - the 2023 redesign of the sludge disposal site requires dewatering at a pre-treatment site at the edge of the C3 canal before transport to Iarinarivo. The dewatering site has been designed and is included in the safeguards instruments;
  - Completion of complementary community investments included under the Iarinarivo RAP (US\$2 million) of the sludge disposal site. This includes extending access to electricity to neighboring municipality and rehabilitation of an additional road segment. The two investments were agreed with the Iarinarivo community during RAP consultations. Road designs have been finalized and works will be covered under existing contracts;
  - Completion of RAP implementation at the Andavamamba resettlement site (US\$1 million) including the construction of access paths such as pathways and footbridges (designed to be adapted to climate change as urban infrastructure) to the new site as envisaged in the original site design. Construction will be done by contractors currently working at the site;
  - Completion of drainage activities already designed and identified to improve inflows of tributaries draining into the C3 canal (US\$3 million); and
  - Rehabilitation of critical pumping stations (US\$2 million) – including equipment and minor rehabilitation works to ensure operation and maintenance of the drainage pumping system considering an effective C3 canal. Equipment specifications have been finalized and designs for minor works have been completed.
- 2) *Activities that contribute to enhancing urban living conditions (US\$4 million) under Subcomponent 1.2 Neighborhood upgrading* will include the construction and rehabilitation of urban infrastructure such as pedestrian



pathways and footbridges, urban roads, and simple drains in the project intervention area. The design phase for these works has been completed, and the planned works will be executed by the contractors already engaged in the project. Additionally, to improve urban conditions, these activities will also strengthen resilience since these infrastructures such as urban road and pedestrian pathways and footbridges will be built back better to be climate resilient as designed to withstand and adapt to flood events and could be used by communities as evacuation route in case of flooding.

**26.** This AF2 of US\$15 million for PRODUIR will allocate US\$1 million to the Component 3: Project Management, coordination, monitoring and evaluation to continue implementation and management of project activities until the requested project closing date.

**27. The activities planned under the AF are crucial for enhancing the resilience of urban areas in GA.** The AF2 and its activities are necessary to complete the rehabilitation of the C3 canal, ensure the safe management of polluted sediment, continue community engagement, and strengthen the impact of resilient infrastructure on urban living conditions. This approach is in accordance with the detailed master plan, which will ensure the effective operation of the C3 canal, along with its rehabilitated tributaries and pumping station, in the event of flooding. If the AF2 and its activities are not carried out, the project will not be able to achieve its objective of rehabilitating the C3 canal and bringing about positive development impacts for the city and its vulnerable inhabitants. This situation would also increase the risk of the government's inability to satisfactorily complete the RAPs for PAPs and communities.

#### **B. Proposed changes under this Additional Financing and Project Restructuring**

**28. The proposed changes under this AF include:** (i) updating the RF to consider the progress made by the project to date, including the revisions of targets of selected activities; (ii) reallocating financing across disbursement categories to reflect the AF; (iii) updating disbursement categories and conditions to adapt to the C3 canal works sequencing; and (iv) an extension of the project closing date by five months from January 31, 2025, to June 30, 2025. There are no changes to the PDO and to the components of the parent project under AF2..

**29. Results Framework.** The RF will be revised to (i) to reflect indicators in line with the new World Bank Scorecard such as integrating the number people with enhanced resilience to climate risks benefitting directly and indirectly from improved climate risk management and increased climate resilience; (ii) revise the targets related to the PDO indicators (number of people protected by restored or improved flood protection infrastructure) and intermediate indicators (number of people provided with access to improved sanitation services; the volume of sludge dredged from the C3 canal and safely disposed; the kilometers of canals, dikes, roads and pedestrian pathways constructed or rehabilitated; and the number of person-days of temporary jobs created). The increase in the number of beneficiaries is mainly due to the extension of considered impacted area and consequently the number of direct and indirect beneficiaries. Due to the updated indicator definition and measurement methods, the value of reduced activities is less than the actual and updated indicator and are not visible in the RF. However, the project has revised the design of the sludge disposal site and will use dewatering techniques, reducing the sludge volume by 40 percent. This means that the amount of sludge dredged from the C3 and safely disposed of will be reduced. Revisions made to the RF are explained in the RF (section VIII).

**30. Allocating financing across components.** The AF2 will be integrated to the Component 1. Improving urban drainage, services, and resilience in targeted areas and to Component 3 to manage project implementation during project extension. Change of component costs are indicated in Table 1.

**Table 1: Components cost after the AF2 (total US\$ million equivalent)**

Project Components	Current project cost	Proposed AF	Parent project and 1 <sup>st</sup> and 2 <sup>nd</sup> AF
<b>C1. Improving urban drainage, services, and resilience in targeted areas</b>	61.32	14.00	75.32
<b>C2. Strengthening institutional capacity for resilient urban governance</b>	7.18	0.00	7.18
<b>C3. Project Management, Coordination, Monitoring and Evaluation</b>	6.50	1.00	7.50
<b>C4. CERC</b>	50.00	0.00	50.00
<b>Total</b>	<b>125.00</b>	<b>15.00</b>	<b>140.00</b>

**31. Revision of disbursement categories and conditions.** The project restructuring involves revising the disbursement categories and conditions, specifically updating category 2 related to C3 canal rehabilitation to distinguish works related to the dredging operations from works not associated with the dredging operation as both part of the C3 canal rehabilitation. Dredging operations refer to the removal of sediments and debris from the bottom of the C3 canal. Works not associated with the dredging operation include rehabilitation and construction of embankments and retention walls, tree planting, urban infrastructure along the canal, access ways to facilitate maintenance and neighborhood accessibility, footbridges crossing the canal, tributaries, and hydraulic structures. The sludge disposal site, under construction, will be required, as a disbursement condition, to be operational before dredging commences. This will ensure the safe management of the polluted dredge materials. The restructuring will update the disbursement condition requesting the operationalization of the resettlement site into a legal covenant in the financing agreement. The actual sequence of C3 canal works which will commence in sections involving PAPs limited to temporary displacement. The sectional works will not require the Andavamamba resettlement site to be operational to start and displacement to the site will be completed in parallel. The project will ensure, that, prior to the start of works in section of the C3 canal involving PAP's permanent resettlement, the resettlement site is operational in compliance with the terms of the Safeguards Documents and acceptable to the World Bank.

**32. Reallocation between disbursement categories.** The project restructuring reallocates funds between disbursement categories of the current IDA, reducing the need for cash compensation funds for activities that will not be implemented, and providing funds to the disbursement category 1 . Table 2 presents the proposed reallocation of funds between disbursement categories.

**Table 2: Reallocation between disbursement categories (total US\$ million equivalent)**

Disbursement Category	Current IDA (Parent + 1AF)	2 <sup>nd</sup> AF	Project reallocation	Total Financing (Parent+1AF+2AF)
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1) Goods, works, non-consulting services and consulting services for the Project, except for Canal C3 rehabilitation works under Part 1.1(i), and Cash Compensation under Parts 1.1(iv) and 1.2(iv)		52.07	15.00	+15.23	82.30
Previous category: 2) Works related to Canal C3 rehabilitation under Part 1.1(i) of the Project	Proposed category: 2.a) Works related to dredging of the C3 canal under Part 1.1(i)a of the Project	15.00	0	- 12.30	2.70
3) Cash Compensation for Resettlement under:					
a. Canal C3 works under Part 1.1(i) of the Project		3.76	0	- 0.76	3.00
b. Pumping station works under Part 1.1(i) of the Project		1.41	0	- 1.41	0
c. Urban infrastructure investments Part 1.2(i) of the Project		0.76	0	- 0.76	0
4) Refund of Preparation Advance		2.00	0	-	2.00
5) Emergency Expenditures under Part 4 of the Project		50.00	0	-	50.00
<b>Total amount</b>		<b>125.00</b>	<b>15.00</b>	<b>-</b>	<b>140.00</b>

**33. Project closing date extension.** The parent project restructuring includes an extension of the project closing by 5 months from January 31, 2025, to June 30, 2025, based on the detailed project work schedule considering C3 canal RAP implementation and risk mitigation measure to the future rainy season of end 2024 as the project has previously experimented performance slow down during rainy season. This extension will allow the PRODUIR to finalize the implementation of the C3 canal rehabilitation works. Consequently, the project credit closing date and implementation schedule will be extended. This will be the second extension of the project's closing date, which would extend the original closing by 28 months.

### C. Implementation Arrangements

**34. The project's institutional and implementation arrangements remain unchanged.** The project will continue to be implemented in the Ministry in charge of Territorial Planning. The Project Steering Committee (PSC) established on August 18, 2017, will continue to provide strategic oversight of the project. The PSC will meet at least twice a year and will be responsible for approving the annual work plans and budgets, project progress reports and providing policy direction to the PMU. The PMU will be based within the Ministry in charge of Territorial Planning and will be responsible for the day-to-day management of the project. The Executing Agency for Public Interest Works (*Agence d'Exécution des Travaux d'Intérêt Public et d'Aménagement*, AGETIPA) will remain the delegated contract manager for the execution of components 1.1 and 1.2 of the Project. AGETIPA will continue to be responsible for: (i) selecting and recruiting consultants in charge of technical studies, detailed design, and preparation of bidding documents; (ii) supervising the quality of studies and bidding documents; (iii) managing the bidding process and awarding contracts for consultants, works and goods; (iv) managing contracts and approving invoices; (v) receiving works; and (vi) ensuring

the proper implementation of safeguards requirements.

#### **D. Cross Cutting Priorities**

**35. Climate change co-benefits.** The AF2 will allocate US\$15 million to Sub-component 1.1 for rehabilitating stormwater drainage systems and fortifying flood protection infrastructure, alongside Sub-component 1.2 for resilient neighborhood upgrading interventions, as part of Component 1 aimed at enhancing urban drainage, services, and resilience in targeted areas. These adaptation measures ensure that the climate risk is reduced to an acceptable level and the operation is aligned with the goals of the Paris Agreement on adaptation. The AF2 investments are aligned on mitigation, as the activities are all universally aligned.

**36. The AF2, under Sub-Component 1.1 (US\$10 million), include constructing a sludge pre-treatment site for dewatering dredge spoil from dredging of the C3 canal,** without which the project will be unable to undertake dredging activities of the C3 canal, enhancing its effectiveness in managing increased discharge during extreme and heavy rainfall events. Additionally, the sub-component will undertake improvement works to tributaries/confluences of the C3 ensuring that runoff is effectively channeled away from populated areas, thereby minimizing the risk of flooding during heavy precipitation events. The rehabilitation of critical flood pumping stations is critical to managing high volumes of stormwater on the C3 canal during peak discharge periods. The AF2 under Component 1.2 (US\$5Million) will finance the upgrade of neighborhood infrastructure, which includes primarily (i) the construction of new concrete pedestrian pathways with finished elevation above critical flood levels; and (ii) the elevation and conversion of existing wooden pathways to concrete pathways. By utilizing concrete for construction and elevating pathways and footbridges above critical flood levels<sup>5</sup> the neighborhood infrastructure is more resilient and less susceptible to damage during flood events; and facilitates uninterrupted pedestrian access and safety during flood events, reducing the vulnerability of beneficiary communities to climate change-induced floods. Through the provision of resilient and functional pedestrian pathways and footbridges the project also supports non-motorized transport, encouraging walking as a viable and preferred mode of transportation, thus promoting lower-carbon alternatives to traditional motorized transport<sup>6</sup>.

**37. Paris Alignment.** The AF2 is consistent with Madagascar's Nationally Determined Contributions (NDC) to the Paris Climate Agreement. In the latest NDC, Madagascar commits to reducing GHG emissions economy-wide by 28 percent by 2030 primarily through the land use management, forestry, energy, waste, industry sectors. PRODUIR contributes to the NDC mitigation commitments by investing in integrated solid waste, drainage, and urban development. Madagascar's NDC priorities for adaptation are agriculture, biodiversity, health, coastal management, regional planning and resilient urban development and DRM. The project contributes directly to adaptation efforts, as it aims to help Antananarivo adapt to climate change, specifically flooding. The project will also provide local governments and local communities (including women) with knowledge and tools to support DRM and emergency response.

**38. Citizen engagement.** Under Sub-component 1.3, AF2 will continue to finance good practice activities to enhance

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<sup>5</sup> Critical flood levels for urban infrastructure, such as pedestrian pathways, are defined as the water elevations that, when exceeded, can disrupt accessibility and damage infrastructure. With climate change increasing rainfall intensity and frequency, infrastructure design must be designed and adapted to accommodate more frequent and intense runoff. Adaptation strategies include elevating pathways above projected flood levels, using materials resistant to flooding, and implementing green infrastructure such as bioswales and permeable pavements to improve drainage and reduce surface runoff.

<sup>6</sup> This activity is aligned with ***MDB activity 8.2: Non-motorized transport (NMT) or electric personal mobility*** which includes dedicated NMT infrastructure including infrastructure for pedestrian mobility.



citizen engagement. These will consist of (i) TA to support the operationalization of Local Consultation Structures for promoting inclusive participation of all local stakeholders, including authorities, citizens, communities, and the private sector in the identification and selection of small infrastructures and their maintenance; and (ii) the implementation of a Stakeholder Engagement Plan (SEP) to ensure the participation and commitment of all stakeholders; (iii) the implementation of the GRM of the project; and (iv) to conduct bi-annual beneficiary feedback survey and public dissemination activities of the project. During the implementation of the project, the GRM was used to effectively channel PAPs grievances but also required the project to conduct public consultations and meetings as well as individual meeting with PAPs and beneficiaries. The indicator measures the effectiveness and efficiency of the grievance mechanism, to be established by the project, in terms of the percentage of project-related grievances received from intended beneficiaries that are promptly reviewed and effectively addressed.

**39. Gender inclusion.** In the PRODUIR intervention area the number of women is slightly higher than men, both in the Analamanga region and nationwide, and one-third of households are headed by women. However, women are particularly affected by a lack of access to basic services and are typically most impacted by poor public service provisions, such as the lack of household water and sanitation. Improving access to improved sanitation services will benefit women by enhancing sanitary and urban living conditions and improving productivity. To reduce the gap, gender-sensitive actions to be taken under the AF2 focus on, using gender-sensitive approaches and methods for access to improved sanitation services, To monitor the implementation of project activities on gender, the following indicator was adopted: People provided with access to improved sanitation services (female) as part of the parent project which is also gender tagged. (b) ensuring women’s participation in all aspects of the project,. The AF2 will continue financing the integrated gender lens applied to the project with female participation in project and infrastructure design and implementation as well as access to project benefits as prioritized in all project components. Specific measures include separate consultations to ensure that activities respond to women’s needs and priorities, inclusion of gender targets in the recruitment of construction workers, specific measures to protect vulnerable women and girls, and sex-disaggregated reporting of beneficiary feedback surveys.

### III. KEY RISKS

**40. The overall project risk for the proposed operation remains the same as the parent project as Substantial.**

**41. The rating of Environmental and Social Risks remains High** due to the nature of the works, which will impact significant vulnerable groups (population living and/or having commercial activities on the existing right-of-way of the C3 canal), with a complex resettlement implementation that also needs adequate mitigation environmental measures. The project is mitigating these risks by developing and implementing relevant and adapted Environmental and social safeguard frameworks and plans, by working with experienced international Environmental and social experts to support the PMU in the implementation of Environment and Social (E&S) measures and by ensuring close monitoring of the project implementation. No additional safeguards instruments are required beyond those developed for the parent project, given that the AF is solely contributing to covering a cost overrun and a financing gap, it will not introduce any new activities.

**42. The rating of Fiduciary Risk remains Substantial.** While the FM risk for the AF is rated as Moderate, the procurement residual risk is rated as Substantial. The PMU and AGETIPA gained with experience as part of implementing PRODUIR in management of World Bank financed project. However, this experience is limited to basic contract management especially when the project needs to keep track on contractor performance, to implement agile

contract management, and to manage contract closing. Even with close follow-up and regular reporting on the progress and implementation of procurement activities, capacity building, and World Bank implementation support as mitigation measures, the procurement residual risk would still be rated as Substantial.

#### IV. APPRAISAL SUMMARY

##### A. Economic and Financial Analysis

**43. The Economic and Financial Analysis (EFA) detailed in the parent project demonstrate positive incremental net benefits and confirm the financial viability of the proposed investment for households.** The net present value of the impact of the project is estimated at US\$24.8 million, i.e., a benefit cost ratio of 1.38 at a discount rate of 5 percent. At this discount rate, the direct benefits of flood risk reduction amount to 16 percent of the total impact when assuming the new infrastructure would withstand a 20-year return period flood. The overall success of the project, however, lies in its ability to contribute to a healthier, safer environment that is more conducive to growth. The potential impact on benefits to the livelihoods of households living in poverty amounts to US\$32.4 million at a 5 percent discount rate. The Projects' economic rate of return with those benefits is estimated at 9.8 percent.

**44. The assumptions of the EFA remain valid, and the anticipated project interventions is expected to significantly reduce the exposure of a total** area of 15.9 square km, including at least 14,745 buildings<sup>9</sup>, to ten-year and probably 20-year return period flooding, lowering property damages and the health-risks associated to stagnant and contaminated water, particularly for the poor. Three quarters of the health gains from improved sanitation, equivalent to about US\$13.6 million, come from averted diseases by poor children aged 0 to 5 years living today in front of non-functioning drains.

##### B. Technical

**45. The project's approach and design are upheld as technically robust and sustainable.** It is premised on the belief that investing in flood risk management infrastructure, alongside urban upgrading, strategic urban planning, enhancements in solid waste management systems, and bolstering the financial viability of the CUA and adjacent municipalities, form the integral pillars for fostering long-term resilience in GA. Drawing from successful methodologies and insights gleaned from diverse assessments, the project design incorporates various technical options essential for cultivating enduring resilience in GA. The PRODUIR and its AF2 focuses on targeted physical investments aimed at: (i) enhancing urban hydraulics (including drainage, dikes, canals, etc.) to mitigate flood risks in specific GA zones; and (ii) ameliorating living conditions in complementary designated areas of GA. TA will supplement these efforts, contributing to a comprehensive resilience strategy in GA, which not only enriches the government's knowledge repository but also lays the groundwork for designing future planned programmatic operations.

##### C. Financial Management<sup>7</sup>

**46. The overall FM arrangements of the parent project, that will apply to AF2, are assessed to be adequate**

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<sup>7</sup> The assessment was carried out in accordance with the Directives and Policy for Investments project financing issued on September 30, 2018, and the World Bank Directive FM in World Bank-financed operations and other operational matters dated September 7, 2021.



**provided consideration of the mitigating measures recommended.** The FM assessment of the current PMU within the Ministry in charge of Land Use Planning and Public Works was carried out in March 2024. The PRODUIR currently implemented by the PMU, is broadly in compliance with FM requirements since its effectiveness. The FM performance is assessed as moderately satisfactory due to (i) persisting weak capacity in planning, budgeting and in treasury management, (ii) weaknesses in monitoring the Delegated Contract Management agreement (*Convention de Maîtrise d’Ouvrage Déléguée, CMOD*), and (iii) lack of adherence to procedures regarding the documentation of expenses and (iv) delay in accounting. Corrective actions are under way, and the World Bank provided close support to the FM staff of the PMU as part of the remedial action plan.

**47. The FM risk rating for the AF2 is Moderate considering the mitigation measures already being implemented under the parent project.** To further improve the project FM arrangements, the PMU will consider: (i) capacity building of the PMU staff in terms of planning and budgeting, and (ii) enhanced funds flow and auditing arrangements governing the CMOD. Besides, the project implementation manual will be updated to consider changes that the AF2 will bring as well as the recommendations from supervisions and audits. These mitigation measures will strengthen the internal control environment and maintain the timeliness and the reliability of information produced by the PMU.

**48. In addition, the following arrangements will be considered for this additional financing.** The PMU will rely on qualified FM staff throughout the life cycle of the project. The PMU will open a separate Designated Account denominated in US\$, at an acceptable commercial bank to receive funds of the AF2 from the World Bank. The AF2 funds will be disbursed on transactions basis. The following disbursement may be used under the financing: reimbursement, advances, direct payments, and special commitments. The PMU will use the existing accounting software to record and report on the project’s transactions. The PMU will prepare quarterly unaudited interim financial reports (UIFRs) and provide such reports to the World Bank within 45 days of the end of each calendar quarter. The UIFR will be used as supporting documentation for disbursement. The project financial statements will be audited annually by a private auditor recruited with an agreed term of reference. The audit report will be submitted to the World Bank no later than six months after the end of each FY. The project will be supervised at least twice a year, in addition to routine desk-based reviews and regular FM meetings.

#### **D. Procurement**

**49. The project implementation arrangements remain the same as the parent project.** The PMU is responsible for implementing procurement activities for Component 1.3 and Component 2. AGETIPA, the delegated contract manager, will carry out procurement activities under Components 1.1 and 1.2. The procurement assessment of the PMU and AGETIPA has been completed and the risk rating remains Substantial due to the same implementation conditions and the need to apply the Procurement Regulations for IPF Borrowers Applying for Investment Project Financing and dated in July 2016, revised in September 2023 (The Procurement Regulations).

**50.** The risk remains substantial and will be mitigated by regular reporting on the progress and implementation of fiduciary activities, World Bank implementation support and further capacity building.

**51.** The project will continue to use the World Bank’s online procurement planning and tracking tools to carry out all procurement transactions. The Systematic Tracking of Exchanges in Procurement (STEP) will be used for submission, clearance, and update of the Procurement Plan. All goods and non-consulting services will be procured in accordance with the requirements set forth or referred to in Section VI of the procurement regulations. Consulting services will be



procured in accordance with the requirements set forth or referred to in Section VII of the procurement guidelines.

#### **E. Social (including Safeguards)**

**52. No new type of activities will be implemented under the AF. Further, the location of project implementation will also remain unchanged.** Social risks and impact remain the same, such as complex resettlement (physical displacement, permanent land acquisition, temporary or permanent losses of income and assets), mainly linked to subcomponent 1.1 “Improvements of Canal, Drainage and Sanitation Infrastructure” and 1.2 “Neighborhood Upgrading”, workers labor influx issue in a sensitive location, number of vulnerable groups. There are thus no additional risks. The AF project will continue to be rated as a Category A project because of its cumulative and complex environmental and social impact. Nevertheless, all social impacts of the individual project activities are expected to be site-specific. Social impacts are assessed, and mitigation measures have been identified and developed into the parent project Environmental and Social Management Framework (ESMF), and into specific Environmental and Social Impact Assessment/Environmental and Social Management Plan (ESIA/ESMP) for works related to the C3 canal, sludge disposal site, relocation site in accordance with the World Bank Operational Policies (OP) 4.01 Environmental Assessment.

**53. Like the parent project, the AF triggers Operational Policy (OP) 4.12 on Involuntary Resettlement.** Because the nature and the type of the expected activities of the AF remain the same (mainly under subcomponent 1.1 “Improvements of Canal, Drainage and Sanitation Infrastructure” and 1.2 “Neighborhood Upgrading”), the Resettlement Policy Framework and Resettlement action plans (RAPs for C3 canal and dike, RAP for sludge disposal site, and RAP for relocation site) developed for the parent project and disclosed both in-country and on the World Bank’s external website remain valid for both the parent and the additional financing. The implementation of RAPs for dike and relocation site have been finalized. The implementation of the RAP for the C3 canal is ongoing. In total, 3211 PAPs will be affected by the project, 613 have been identified to be physically displaced, and 2 598 facing loss income because of temporary displacement. RAP have been completed in the sludge disposal site, in the resettlement site and are ongoing in the C3 canal. PAPs have been officially notified about their compensation. A RAP implementation consultant is supporting to capacitate the PAPs to relocate, access training for income enhancement, access compensations and its utilization under the supervision of the PMU. The PMU is conducting internal and external audits to ensure proper flow, use, and management of project funds. An escrow account has been opened for the overall compensation to be individually disbursed and transferred to PAPs bank account.

**54. Working conditions, safety, and gender violence prevention.** The project involves two major civil works components that entail significant social, Gender Based Violence /Sexual Exploitation and Abuse and Sexual harassment (GBV/SEAH) risks for the population living in its area of influence; project was rated substantial according to GBV classification tool. Even if no case has been registered to date for the parent project, the project will continue to pay attention to GBV/SEAH. Measures to be taken or to be continued will include, but are not limited to (a) a sensitization related to GBV/SEAH, and the project values; (b) a requirement that the project includes clauses on workers’ conditions and management, child protection, and GBV/SEAH prevention in all contracts; (c) provision of assistance and training to the project and awareness-raising on GBV/SEAH among all contractors, workers, and local residents; (d) the reinforcement of the grievance redress mechanism (GRM) to ensure that any incident related to GBV/SEAH will be addressed based on a survivor’s based approach, including the respect of the confidentiality of the survivor; and (e) collaboration with a specialized agency to support GBV/SEAH survivors such as the Center anti-GBV of Mahamasina.

**55. Social inclusion of vulnerable groups.** Key vulnerable groups include the population living and/or having



commercial activities on the existing right-of-way of the C3 canal, children, people with disabilities, women head of households, elderly, waste-pickers, youth affected by crime and violence and girls and women at risk of sexual exploitation. A more in-depth social assessment of these groups was conducted as part of the study to the design of the urban upgrading component and include an investigation of the social context in the project's implementation areas, including identification of ways to include the most vulnerable and marginalized groups in the decision-making and implementation process, identification of negative behaviors that could hinder the project's outcomes and sustainability.

#### **F. Environment (including Safeguards)**

**56. No new type of activities will be implemented under the AF.** Further, the location of project implementation will also remain unchanged. There are thus no additional risks. The current E&S risk rated as High still applies to the AF2. Therefore, the project remains classified as category A in the World Bank's Environmental Assessment classification. Four environmental and social Safeguard Policies remain triggered: OP 4.01 (Environmental Assessment), OP 4.04 (Natural Habitat), OP 4.11 (Physical Cultural Resources), OP 4.12 (Involuntary Resettlement).

**57. Frameworks documents.** An ESMF that includes an ESMP, and a Resettlement Framework Plan was prepared by the Government and approved by the World Bank and disclosed in-country on April 5, 2018, and on the same date at the Infoshop in compliance with the World Bank safeguards and national policies and the World Bank Access to Information Policy. These documents are well exploited by the PMU to ensure integration of environmental and social dimensions of all identified activities during implementation.

**58. 57. Specific Environmental and Social documents.** For the activities identified during the parent project preparation, mainly the dredging sludge disposal site, the C3 canal and dikes rehabilitation works, three Environmental and Social Impacts Assessments (ESIAs) and two others Environmental and Social Management Plans (ESMPs) have been prepared and adopted and includes relevant and adequate mitigation measures to address the risks and adverse environmental and social impacts. Since effectiveness, the appropriation of the ESIA/ESMP has been reflected in the preparation of strong and coherent documents such as E&S clauses of the bidding documents and E&S Terms of Reference for the works identified. During the project implementation phase, each contract requires the approval of respectively a Contractor-ESMP by the World Bank, prior starting the civil works and implemented in acceptable manner.

**59. Disclosure of safeguard documents.** All prepared safeguards' instruments have been approved by the World Bank and disclosed in-country on April 5, 2018, and on the same date at the Infoshop in compliance with the World Bank safeguards and national policies and the World Bank Access to Information Policy. All other safeguards instruments such as ESIA and RAP have been reviewed and approved by the World Bank and disclosed in-country <https://www.produir-madagascar.mg/les-publications/> and on the same date at the Infoshop in compliance with the World Bank safeguards and national policies and the World Bank Access to Information Policy. ESIA and RAP for the C3 canal and dikes were disclosed on March 27, 2019. ESIA for the sludge disposal site were disclosed on August 09, 2019, and its RAP on August 7, 2019. RAP for the Andavamamba relocation site were disclosed on July 23, 2021, and updated and disclosed on January 2022.

**60. Institutional arrangement.** The PMU has a satisfactory E&S risk management capacity with two full-time environmental and social specialists, and a SEAH Specialist with a good understanding of the principles and provisions required in the E&S implementation and monitoring of environmental and social safeguards instruments and risks.

They ensure day-to-day safeguard works and assess project activities for their compliance with the prepared safeguard documents.

## V. WORLD BANK GRIEVANCE REDRESS

**61. *Grievance Redress.*** Communities and individuals who believe that they are adversely affected by a project supported by the World Bank may submit complaints to existing project-level grievance mechanisms or the World Bank's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the World Bank's independent Accountability Mechanism (AM). The AM houses the Inspection Panel, which determines whether harm occurred, or could occur, as a result of World Bank non-compliance with its policies and procedures, and the Dispute Resolution Service, which provides communities and borrowers with the opportunity to address complaints through dispute resolution. Complaints may be submitted to the AM at any time after concerns have been brought directly to the attention of World Bank Management and after Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's Grievance Redress Service (GRS), please visit <http://www.worldbank.org/GRS>. For information on how to submit complaints to the World Bank's Accountability Mechanism, please visit <https://accountability.worldbank.org>.

## VI. SUMMARY TABLE OF CHANGES

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

## VII. DETAILED CHANGE(S)

### COMPONENTS

Current Component Name	Current Cost (US\$, millions)	Action	Proposed Component Name	Proposed Cost (US\$, millions)
Improving urban drainage, services and resilience in targeted areas	61.32	Revised	Improving urban drainage, services and resilience in targeted areas	75.32
Strengthening institutional capacity for resilient urban	7.18	No Change	Strengthening institutional capacity for	7.18



governance			resilient urban governance	
Project Management, Coordination, Monitoring and Evaluation	6.50	Revised	Project Management, Coordination, Monitoring and Evaluation	7.50
Contingent Emergency Response Component (CERC)	0.00	Revised	Contingent Emergency Response Component (CERC)	50.00
Unallocated	0.00	Marked for Deletion	Unallocated	0.00
<b>TOTAL</b>	<b>75.00</b>			<b>140.00</b>

**LOAN CLOSING DATE(S)**

Ln/Cr/Tf	Status	Original Closing	Current Closing(s)	Proposed Closing	Proposed Deadline for Withdrawal Applications
IDA-62450	Effective	28-Feb-2023	31-Jan-2025	30-Jun-2025	30-Oct-2025
IDA-68180	Effective	28-Feb-2023	31-Jan-2025	30-Jun-2025	30-Oct-2025

**REALLOCATION BETWEEN DISBURSEMENT CATEGORIES**

Current Allocation	Actuals + Committed	Proposed Allocation	Financing % (Type Total)	
			Current	Proposed

IDA-68180-001 | Currency: XDR

iLap Category Sequence No: 1	Current Expenditure Category: G,W,NC,C,EXC CANAL C3REHAB W PT1.1i			
21,349,700.00	1,927,474.98	31,453,000.00	100.00	100.00
iLap Category Sequence No: 2	Current Expenditure Category: WKS RELATED TO CANAL C3 DREDGING PT 1.1. (i) A			
10,650,000.00	0.00	1,917,000.00	100.00	100.00
iLap Category Sequence No: 3A	Current Expenditure Category: CASH RESETTLMNT CANALC3 WK PT1.1(j)			
1,959,600.00	0.00	2,130,000.00	100.00	100.00



iLap Category Sequence No: 3B		Current Expenditure Category: CASH RES. PUMP STATION WK PT1.1(i)			
500,550.00	0.00	0.00	100.00	100.00	
iLap Category Sequence No: 3C		Current Expenditure Category: CASH RES.URBAN INFRA INV PT 1.2(i)			
1,040,150.00	0.00	0.00	100.00	100.00	
iLap Category Sequence No: 5		Current Expenditure Category: EMERGENCY EXPENDITURES PT 4			
0.00	0.00	0.00	100.00	100.00	
iLap Category Sequence No: 6		Current Expenditure Category: UNALLOCATED			
0.00	0.00	0.00			
<b>Total</b>	<b>35,500,000.00</b>	<b>2,636,828.39</b>	<b>35,500,000.00</b>		

**Expected Disbursements (in US\$)**

Fiscal Year	Annual	Cumulative
2018	0.00	0.00
2019	4,713,820.38	4,713,820.38
2020	766,689.75	5,480,510.13
2021	40,586,193.02	46,066,703.15
2022	17,242,304.61	63,309,007.76
2023	4,608,644.40	67,917,652.16
2024	9,361,567.67	77,279,219.83
2025	37,461,364.25	114,740,584.08
2026	25,259,415.92	140,000,000.00



**SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)**

Risk Category	Latest ISR Rating	Current Rating
Political and Governance	● Moderate	● Moderate
Macroeconomic	● Moderate	● Moderate
Sector Strategies and Policies	● Moderate	● Moderate
Technical Design of Project or Program	● Moderate	● Moderate
Institutional Capacity for Implementation and Sustainability	● Moderate	● Moderate
Fiduciary	● Substantial	● Substantial
Environment and Social	● High	● High
Stakeholders	● Moderate	● Moderate
Other		● Moderate
Overall	● Substantial	● Substantial

**LEGAL COVENANTS – Second Additional Financing to the Integrated Urban Development and Resilience Project for Greater Antananarivo (P181650)**

Sections and Description
Schedule 2, Section I, B.1. The Recipient shall carry out the Project in accordance with an updated Project Implementation Manual (“PIM”), which shall be updated no later than one (1) month after the Effective Date, in form and substance acceptable to the Association.
Schedule 2, Section I, D.1. The Recipient shall, for the purposes of carrying out of Parts 1.1 and 1.2 of the Project, maintain throughout Project implementation, and update no later than one (1) month after the Effective Date to reflect this Financing, the Delegated Contract Management Agreement (“Management Agreement”) with the Service Provider, signed on March 26, 2019, whose form and substance is satisfactory to the Association; (b) ensure that all Project activities to be undertaken by the Service Provider under the Management Agreement shall be carried out with due diligence and efficiency and in accordance with sound technical, financial, procurement and managerial standards and practices acceptable to the Association; and (c) exercise its rights and carry out its obligations under the Management Agreement in such a manner as to protect the interests of the Recipient and the Association and to accomplish the purposes of the Financing.
Schedule 2, Section I, E.6. The Recipient shall ensure, and cause the Service Provider to ensure, that no works for construction or rehabilitation under Part 1.1 shall commence until all measures required to be taken under the Safeguards Documents have been taken in accordance with the terms of said documents, and in a manner acceptable to the Association. For that purpose, and without limitation to the foregoing, the Recipient shall ensure that, prior to the start of works in Targeted Areas under Part 1.1, the resettlement sites are operational in compliance with the terms of the Safeguards Documents and acceptable to the Association



**Conditions**

Type	Financing source	Description
Disbursement	IBRD/IDA	Schedule 2, Section 3.B.1(b). For payments under Category 2 unless and until the sludge disposal site is operational, in accordance with the requirements of the Safeguards Documents, and acceptable to the Association;





**VIII. RESULTS FRAMEWORK AND MONITORING**

**Results Framework**

COUNTRY: Madagascar

Second Additional Financing to the Integrated Urban Development and Resilience Project for Greater Antananarivo

**Project Development Objective(s)**

The Project Development Objective is to enhance urban living conditions and flood resilience in selected low-income neighborhoods of Greater Antananarivo; and to improve the Recipient’s capacity to respond promptly and effectively to an Eligible Crisis or Emergency.

**Project Development Objective Indicators by Objectives/ Outcomes**

Indicator Name	PBC	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
<b>Urban living conditions and flood resilience enhanced in selected low-income neighborhoods of GA</b>								
People provided with improved urban living conditions (CRI, Number)		0.00	0.00	50,000.00	200,000.00	300,000.00	450,000.00	650,000.00
<b>Action: This indicator has been Revised</b>								
People provided with improved urban living conditions - Female (RMS requirement) (CRI, Number)		0.00	0.00	25,000.00	100,000.00	150,000.00	100,000.00	325,000.00



Indicator Name	PBC	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
<b>Action: This indicator has been Revised</b>								
People protected by restored or improved flood protection infrastructure (Number)	0.00	0.00	10,000.00	15,000.00	15,000.00	100,000.00	300,000.00	
<b>Action: This indicator has been Revised</b>	<b>Rationale:</b> <i>Revised to integrate new definition of the indicator and calculation methodology</i>							
Share of direct project beneficiaries that are satisfied with the project interventions (Percentage)	0.00	0.00	25.00	50.00	60.00	70.00	70.00	
<b>Action: This indicator has been Revised</b>								
People with enhanced resilience to climate risks (Number (Thousand))	0.00						1,000,000.00	
<b>Action: This indicator is New</b>	<b>Rationale:</b> <i>To measure direct and indirect people benefiting from project activities such as structural investments, non-structural or capacity development elements, and improvements to the enabling environments and institutional framework and supported to enhance climate risks (World Bank New Scorecard, 2024)</i>							



**Intermediate Results Indicators by Components**

Indicator Name	PBC	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
<b>Improving urban drainage, services and resilience in targeted areas</b>								
People provided with access to improved sanitation services (CRI, Number)		0.00	0.00	10,000.00	20,000.00	80,000.00	150,000.00	300,000.00
<b>Action: This indicator has been Revised</b>	<b>Rationale: Revised to integrate calculation of the number of people in the neighborhood who could benefit (directly or indirectly) from and use the improved sanitation facility.</b>							
People provided with access to improved sanitation services - Female (RMS requirement) (CRI, Number)		0.00	0.00	5,000.00	25,000.00	40,000.00	100,000.00	153,000.00
<b>Action: This indicator has been Revised</b>	<b>Rationale: Revised to integrate calculation of the number of female people in the neighborhood who could benefit (directly or indirectly) from and use the improved sanitation facility.</b>							
Length of canals and embankments rehabilitated (Kilometers)		0.00	5.00	10.00	17.00	25.00	35.00	43.00
<b>Action: This indicator has been Revised</b>	<b>Rationale: Revised to integrate ongoing works on the canal C3 (13km) and to integrate AF activities (13km)</b>							
Amount of sludge dredged from the C3 and safely		0.00	0.00	0.00	0.00	15,000.00	30,000.00	60,000.00



Indicator Name	PBC	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
disposed (Cubic Meter(m3))								
<b>Action: This indicator has been Revised</b>	<b>Rationale: Revised considering new design of the sludge disposal site and dewatering techniques to reduce the volume of sludge</b>							
Roads constructed or rehabilitated (Kilometers)	0.00	1.00	2.00	3.00	10.00	15.00	19.00	
<b>Action: This indicator has been Revised</b>	<b>Rationale: Revised to integrate ongoing works on the canal C3 (5km) and to integrate AF reduced activities (8km)</b>							
Pedestrian paths constructed or rehabilitated (Kilometers)	0.00	0.00	3.00	5.00	20.00	40.00	50.00	
<b>Action: This indicator has been Revised</b>	<b>Rationale: Revised to integrate ongoing works on the canal C3 (14km) and to integrate AF activities (13km)</b>							
Neighborhoods (Fokontany) which have prepared and tested a contingency plans and evacuation strategy (Number)	0.00	0.00	0.00	0.00	10.00	10.00	20.00	
<b>Action: This indicator has been Revised</b>								
Person-days of temporary jobs created (Number)	0.00	0.00	10,000.00	30,000.00	100,000.00	150,000.00	200,000.00	
<b>Action: This indicator has been Revised</b>	<b>Rationale: Revised to integrate ongoing works on the canal C3 and AF activities</b>							



Indicator Name	PBC	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
Increase of water and sanitation community groups (RF2) operational within the project area (Percentage)		10.00	0.00	10.00	20.00	20.00	30.00	50.00
<b>Action: This indicator has been Revised</b>								
Percentage of complaints regarding project activities addressed per the grievance redressal system established by the project (Percentage)		0.00	80.00	100.00	100.00	100.00	100.00	100.00
<b>Action: This indicator has been Revised</b>								
<b>Strengthening institutional capacity for resilient urban governance</b>								
Detailed Urban Plan completed in a 2-year timeframe (Yes/No)		No	No	No	Yes	Yes	Yes	Yes
<b>Action: This indicator has been Revised</b>								
Revenue Enhancement strategy and action plan for CUA (Yes/No)		No	Yes	Yes	Yes	Yes	Yes	Yes
<b>Action: This indicator has been Revised</b>								
Annual increase of properties for which owners have been identified for tax purposes over previous year		0.00	10.00	10.00	10.00	10.00	10.00	10.00



Indicator Name	PBC	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
(Percentage)								
<b>Action: This indicator has been Revised</b>								
Solid Waste Management Strategy approved (Yes/No)	No	No	No	No	No	Yes	Yes	Yes
<b>Action: This indicator has been Revised</b>								

Monitoring & Evaluation Plan: PDO Indicators					
Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
People provided with improved urban living conditions		Annual	Project Progress Report		MATP/AGETIPA
People provided with improved urban living conditions - Female (RMS requirement)		Annual	Project Progress Report		PMU/MATP
People protected by restored or improved flood protection infrastructure	The indicator measures the population that benefits from the flood protection investment undertaken under the project, which includes the river dikes, dredging, and	Annual	Results of the neighborhood population directly and indirectly impacted by activities whic	Revised to integrate new definition of the indicator and calculation methodology: neighborhood population impacted by activities which include	AGETIPA/PMU



	rehabilitation of C3 Canal		h include the river dikes, dredging, and rehabilitation of C3 Canal	the river dikes, dredging, and rehabilitation of C3 Canal	
Share of direct project beneficiaries that are satisfied with the project interventions		Semi-annual	Beneficiaries satisfaction survey		PMU/M2PATE
People with enhanced resilience to climate risks	This indicator measures direct and indirect people benefiting from project activities such as structural investments, non-structural or capacity development elements, and improvements to the enabling environments and institutional framework and supported to enhance climate risks.	At the project closing date	Project implementation Report	This indicator will be calculated based on direct and indirect people living in the direct and indirect project and activity intervention area and benefiting from project resilient activities such as structural investments, non-structural or capacity development elements, and improvements to the enabling environments and institutional framework. Local governments and beneficiaries (representatively selected) of	PMU



				project/activity areas will be surveyed to confirm and evaluate resilience climate impacts and benefits.	
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**Monitoring & Evaluation Plan: Intermediate Results Indicators**

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
People provided with access to improved sanitation services	The indicator measures the cumulative number of people who benefited from improved sanitation facilities that have been constructed through operations supported by the World Bank.	Annual	Project Progress Report.	Number of people provided with access will be estimated by capturing the number of people in the neighborhood who could - directly or indirectly - benefit from and use the improved sanitation facility.	AGETIPA
People provided with access to improved sanitation services - Female (RMS requirement)	The indicator measures the cumulative number of people who benefited from improved sanitation facilities that have been constructed through operations supported by the World Bank.	Annual	Project Progress Report.	Number of people provided with access will be calculated by capturing the number of female people in the neighborhood who could - directly or indirectly - benefit from and use the improved	AGETIPA





				sanitation facility.	
Length of canals and embankments rehabilitated	The indicator measures the total length of canals and dikes upgraded under sub-component 1.1	Annual	Supervision Consultant. Project Progress Report. Measurement of implemented infrastructure		AGETIPA
Amount of sludge dredged from the C3 and safely disposed	The indicator measures the quantity of sludge collected from the works on the C3 canal which are adequately treated and disposed at the selected site(s), as per the procedures detailed in the Environmental-Social Management Plan (ESMP).	Semi-annual	Supervisory Engineer and Project Progress Report	Amount of sludge entering in the sludge disposal site	AGETIPA/PMU
Roads constructed or rehabilitated	The indicator measures the number of kilometers of all roads constructed, reopened to motorized traffic, rehabilitated, or upgraded under the project and contributing to improvement on urban accessibility.	Annual	Supervision Consultant. Project Progress Report.		AGETIPA
Pedestrian paths constructed or rehabilitated	The indicator measures the number of kilometers of all	Annual	Supervision Consultant.	Direct measurement of pedestrian paths	AGETIPA



	pedestrian paths constructed, rehabilitated or upgraded under the project and contributing to improvement on urban accessibility.		Project Progress Report.	constructed or rehabilitated	
Neighborhoods (Fokontany) which have prepared and tested a contingency plans and evacuation strategy	The indicator measures the successful preparation of contingency plans and the testing of those plans during simulation exercises.	Semi-annual	Project Progress Report and BNGRC reporting	Counting developed contingency plans and evacuation strategy and local test completed	PMU
Person-days of temporary jobs created	The indicator measures the number of temporary jobs that are created during the implementation of the works, which include construction and community workers.	Semi-annual	Progress reports by firms contracted for activities under sub-components 1.1 and 1.2.		AGETIPA
Increase of water and sanitation community groups (RF2) operational within the project area		Semi-annual	Project Progress Report		AGETIPA/M2PATE
Percentage of complaints regarding project activities addressed per the grievance redressal system established by the project		Semi-annual	Inventory of complaints and grievance redress measures		PMU/M2PATE



Detailed Urban Plan completed in a 2-year timeframe	The indicator measures the development of a detailed urban plan developed for the target area within a 2-year timeframe.	Year 2	Project Progress Report		AGETIPA/M2PATE
Revenue Enhancement strategy and action plan for CUA	The indicators measure the development and approval of a Revenue Enhancement strategy and action plan for CUA.	Annual	Project Progress Report		CUA
Annual increase of properties for which owners have been identified for tax purposes over previous year	The indicator measures improvement in the registration of residential and commercial properties to support tax collection by the local government.	Annual	CUA Information System		CUA
Solid Waste Management Strategy approved	The indicator measures the development and approval by government of a Solid Waste Management Strategy for Greater Antananarivo.	Once by year 4	Project Progress Report		PMU/M2PATE

