

Document of
The World Bank

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Report No: **XX**

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT PAPER

ON A PROPOSED ADDITIONAL FINANCING

IDA CREDIT

IN THE AMOUNT OF **SDR XXX MILLION**

(US\$50 MILLION EQUIVALENT)

FROM THE

CRISIS RESPONSE WINDOW EARLY RESPONSE FINANCING (CRW-ERF)

AND

A US\$20 MILLION GRANT

FROM THE GLOBAL AGRICULTURE AND FOOD SECURITY PROGRAM

TO THE

REPUBLIC OF MADAGASCAR

FOR THE

FOOD SYSTEMS RESILIENCE PROGRAM PHASE 1 (P181398)

OF THE FOOD SYSTEMS RESILIENCE PROGRAM

UNDER THE MULTIPHASE PROGRAMMATIC APPROACH

APPROVED BY THE BOARD ON JUNE 21, 2022

{Agriculture And Food Global Practice}

{Eastern And Southern Africa Region}

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CURRENCY EQUIVALENTS

(Exchange Rate Effective {March 31, 2024})

Currency Unit = Malagasy Ariary
(MGA)

MGA 4,511.72 = US\$1

US\$ = SDR 1

FISCAL YEAR

January 1 - December 31

Regional Vice President: Victoria Kwakwa

Country Director: Boutheina Guermazi

Regional Director: Iain Shuker

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ABBREVIATIONS AND ACRONYMS

AF	Additional Financing
AM	Accountability Mechanism
CASEF	Madagascar Agriculture Rural Growth and Land Management Project (Projet de Croissance Agricole et Sécurisation Foncière)
CCA	Climate Change Adaptation
CCARDESA	Centre for Coordination of Agricultural Research and Development for Southern Africa
CCBs	Climate Co-Benefits
CCM	Climate Change Mitigation
CE	Citizen Engagement
CERC	Contingent Emergency Response Component
CFAMMA	Center of Agriculture Mechanization (<i>Centre de Fabrication et de Formation et d'Application du Machinisme et de la Mécanisation Agricole</i>)
CGIAR	Consultative Group on International Agricultural Research
COVID-19	Coronavirus Disease 2019
CPF	Country Partnership Framework
CRI	Core Result Indicator
CRW-ERF	Crisis Response Window Early Response Fund
CSA	Climate Smart Agriculture
DFIL	Disbursement and Financial Information Letter
DRAE	Regional Directorate of Agriculture and Livestock (<i>Direction Régionale de l'Agriculture et de l'Élevage</i>)
EAP	Emergency Action Plan
EFA	Economic and Financial Analysis
EN	Eligibility Note
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESRC	Environmental and Social Risk Rating
ESS	Environmental and Social Standards
FAO	Food and Agriculture Organization of the United Nations
FDA	Agriculture Development Fund
FFS	Farmer Field School
FIFAMANOR	Norwegian Center for Malagasy Rural Development, Agriculture, and Livestock (<i>Fiompiana Fambolena Malagasy Norvégiana</i>)
FM	Financial Management
FOFIFA	Center for Applied Research on Rural Development (<i>Foibe Fikarohana ampiarina Fampandrosoana ny eny Ambanivohitra</i>)
FSCPP	Food Security Crisis Preparedness Plan
FSRP	Food Systems Resilience Program
GAFSP	Global Agriculture and Food Security Program
GBV	Gender-Based Violence
GDP	Gross Domestic Product
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
HACCP	Hazard Analysis and Critical Control
HDDS	Households Dietary Diversity Score
HGSF	Home Grown School Feeding
GHG	Green House Gas

IA	Implementing Agency
IDA	International Development Association
IFC	International Finance Corporation
IFVM	Madagascar Locust Eradication Center (<i>Ivotoerana Famongorana ny Valala eto Madagasikara</i>)
IGAD	Intergovernmental Authority on Development
IPC	Integrated Food Security Phase Classification
IPF	Investment Project Financing
IPMP	Integrated Pest Management Plan
IR	Intermediate Results
ISM	Implementation Support Mission
LMP	Labor Management Procedures
LPMP	Locust Pest Management Plan
M&E	Monitoring and Evaluation
MEN	<i>Le Ministre de l'Éducation Nationale</i> (Ministry of National Education)
MinAE	Ministry of Agriculture and Livestock
MM	Millions
MPA	Multiphase Programmatic Approach
MS	Moderately Satisfactory
NAFSIP	National Agriculture and Food Security Investment Plan
NAIP	National Agriculture Investment Program
NCCAP	National Climate Change Action Plan
NDC	Nationally Determined Contribution
NGO	Non-Governmental Organization
NPV	Net Present Value
O&M	Operation & Maintenance
PADAP	Sustainable Land Management Project
PDO	Project Development Objectives
PforR	Performance for Results
PIM	Project Implementation Manual
PIU	Project Implementation Unit
PPP	Public-Private Partnership
PPSD	Project Procurement Strategy for Development
PSC	Project Steering Committee
R&D	Research and Development
RF	Results Framework
RIU	Regional Implementation Unit
RPF	Resettlement Policy Framework
SC	Sub-Component
SEA/SH	Sexual Exploitation and Abuse / Sexual Harassment
SEP	Stakeholder Engagement Plan
SOE	Statement of Expenditures
SSA	Sub-Saharan Africa
SSI	Small-Scale Irrigation
STEP	Systematic Tracking of Exchanges in Procurement
TEGFS	Technical Expert Group on Food Security
TF	Trust Fund
UN	United Nations
WB	World Bank
WBG	World Bank Group
WFP	World Food Programme

Eastern and Southern Africa

Additional Financing to Madagascar FSRP (P181398)

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**BASIC INFORMATION – PARENT (Food Systems Resilience Program for Eastern and Southern Africa - P178566)**

Country	Product Line	Team Leader(s)		
Eastern and Southern Africa	IBRD/IDA	Elliot Wamboka Mghenyi		
Project ID	Financing Instrument	Resp CC	Req CC	Practice Area (Lead)
P178566	Investment Project Financing	SAEA3 (9247)	AFERI (81808)	Agriculture and Food

Implementing Agency: Ministry of Agriculture and Livestock, Madagascar, Ministry of Agriculture, Ethiopia, IGAD Agriculture and Environmental Division, Center for Coordination of Agricultural Research and Development for Southern Africa (CCARDESA)

Is this a regionally tagged project?	Country (ies)
Yes	Ethiopia, Madagascar

Bank/IFC Collaboration

No

Approval Date	Closing Date	Expected Guarantee Expiration Date	Environmental and Social Risk Classification
21-Jun-2022	30-Jun-2029		High

Financing & Implementation Modalities

<input checked="" type="checkbox"/> Multiphase Programmatic Approach [MPA]	<input checked="" type="checkbox"/> Contingent Emergency Response Component (CERC)
<input type="checkbox"/> Series of Projects (SOP)	<input checked="" 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 checked="" 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)

MPA Program Development Objective (PrDO)

To increase the resilience of food systems and preparedness for food insecurity in the participating countries.

Project Development Objectives (Phase 003)

To increase the resilience of food systems and preparedness for food insecurity in Project areas

Ratings (from Parent ISR)

	Implementation		Latest ISR
	23-Sep-2022	31-Mar-2023	18-Oct-2023
Progress towards achievement of PDO	S	MS	MS
Overall Implementation Progress (IP)	S	MS	MS
Overall ESS Performance	S	S	MS
Overall Risk	S	S	S
Financial Management	MS	MS	MS
Project Management	S	MS	MS
Procurement	MS	MS	MS
Monitoring and Evaluation	S	MS	MS

BASIC INFORMATION – ADDITIONAL FINANCING (Additional Financing to Madagascar FSRP - Phase I - P181398)

Project ID	Project Name	Additional Financing Type	Urgent Need or Capacity Constraints
P181398	Additional Financing to Madagascar FSRP - Phase I	Restructuring	Yes
Financing instrument	Product line	Approval Date	
Investment Project Financing	IBRD/IDA	29-May-2024	



Projected Date of Full Disbursement 27-Mar-2028	Bank/IFC Collaboration Yes	Joint Level Historical Project/Activity implemented in sequence with an IFC activity(Loan/Credit/Guarantee/AAA)	
Is this a regionally tagged project? Yes		Country (ies) Ethiopia, Madagascar	

Financing & Implementation Modalities Multiphase Programmatic Approach [MPA] Series of Projects (SOP) Fragile State(s) Performance-Based Conditions (PBCs) Small State(s) Financial Intermediaries (FI) Fragile within a Non-fragile Country Project-Based Guarantee Conflict Responding to Natural or Man-made disaster Alternate Procurement Arrangements (APA) Hands-on, Enhanced Implementation Support (HEIS) Contingent Emergency Response Component (CERC)**Disbursement Summary (from Parent ISR)**

Source of Funds	Net Commitments	Total Disbursed	Remaining Balance	Disbursed	
IBRD				<div style="width: 0%; height: 10px; background-color: #ccc;"></div>	%
IDA	788.10	172.68	604.31	<div style="width: 22%; height: 10px; background-color: #008000;"></div>	22 %
Grants				<div style="width: 0%; height: 10px; background-color: #ccc;"></div>	%

MPA Financing Data (US\$, Millions)

MPA Program Financing Envelope	2,750.00
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MPA FINANCING DETAILS (US\$, Millions)

Board Approved MPA Financing Envelope:	2,750.00
MPA Program Financing Envelope:	2,750.00



of which Bank Financing (IBRD):	0.00
of which Bank Financing (IDA):	2,750.00
of which other financing sources:	0.00

PROJECT FINANCING DATA – ADDITIONAL FINANCING (Additional Financing to Madagascar FSRP - Phase I - P181398)

FINANCING DATA (US\$, Millions)

SUMMARY (Total Financing)

	Current Financing	Proposed Additional Financing	Total Proposed Financing
Total Project Cost	873.60	70.00	943.60
Total Financing	873.60	70.00	943.60
of which IBRD/IDA	788.10	50.00	838.10
Financing Gap	0.00	0.00	0.00

DETAILS - Additional Financing

World Bank Group Financing

International Development Association (IDA)	50.00
IDA Grant	50.00

Non-World Bank Group Financing

Trust Funds	20.00
Global Agriculture and Food Security Program	20.00

IDA Resources (in US\$, Millions)

	Credit Amount	Grant Amount	SML Amount	Guarantee Amount	Total Amount
Madagascar	0.00	50.00	0.00	0.00	50.00
Crisis Response Window (CRW)	0.00	50.00	0.00	0.00	50.00



Total	0.00	50.00	0.00	0.00	50.00
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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

Environmental and Social Standards Relevance Given its Context at the Time of Appraisal

E & S Standards	Relevance
Assessment and Management of Environmental and Social Risks and Impacts	Relevant
Stakeholder Engagement and Information Disclosure	Relevant
Labor and Working Conditions	Relevant
Resource Efficiency and Pollution Prevention and Management	Relevant
Community Health and Safety	Relevant
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Not Currently Relevant
Cultural Heritage	Relevant
Financial Intermediaries	Not Currently Relevant

NOTE: For further information regarding the World Bank’s due diligence assessment of the Project’s potential environmental and social risks and impacts, please refer to the Project’s Appraisal Environmental and Social Review Summary (ESRS).

INSTITUTIONAL DATA

Practice Area (Lead)

Agriculture and Food



Contributing Practice Areas

Environment, Natural Resources & the Blue Economy

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
Elliot Wamboka Mghenyi	Team Leader (ADM Responsible)		SAEA3
Stephen Paul D'Alessandro	Team Leader		SAEA2
Miarana Heriniana Aime Razaf	Procurement Specialist (ADM Responsible)		EAERU
Anjani Kumar	Procurement Specialist		EECRU
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Hawanty Page	Team Member		SAEA3
Ines Melissa Emma Attoua ETTY	Team Member		WFACS
Jean O Owino	Team Member		WFACS



Jeren Kabayeva	Team Member		SAEA3
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Mario I. Mendez	Team Member		SAEA3
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Mohammad Ilyas Butt	Procurement Team		EAERU
Nomenjanahary Rindra Aina Rakotoson	Team Member		AEMMG
Noro Hajalalaina Rasoloarimanana Andriamihajas	Procurement Team		AEMMG
Patricia Oonagh Van de Velde	Team Member		SAGGL
Paul-Jean Feno	Environmental Specialist		SAEE3
Pierre Olivier Colleye	Team Member		SAEA3
Shijie Yang	Team Member		SAGGL
Vaniah Emode Andrianjaka	Team Member		SAEE3
Extended Team			
Name	Title	Organization	Location



I. BACKGROUND AND RATIONALE FOR ADDITIONAL FINANCING

A. Introduction

1. This Project Paper seeks the approval of an Additional Financing (AF) in the amount of US\$70.0 million (MM) to the Multi-phase Programmatic Approach (MPA) of the Food System Resilience Program for Eastern and Southern Africa (FSRP Phase I, P178566) for the Republic of Madagascar. The proposed AF will leverage resources from the Crisis Response Window Early Response Financing (CRW-ERF; US\$50 MM), in addition to a grant from the Global Agriculture and Food Security Program (GAFSP; US\$20MM). The FSRP Madagascar (FRSP-MG) is financed by the International Development Association (IDA) with an initial budget of US\$158.1MM. The revised project budget will be US\$228.1MM.

2. The AF will: (a) partially replenish the financing gap created by activating the US\$50MM contingency emergency recovery component (CERC); (b) process the US\$20MM GAFSP grant to strengthen food and nutrition security; (c) respond to the Government of Madagascar's (GoM) request for support for emergency locust response and livelihood support (consistent with Pillar 1 of MPA; and (d) complement parent project activities by scaling up support to productive alliances to create jobs, improve preparedness and the efficiency of response systems, and enhance resilience to shocks. This project paper also restructures the project to integrate the CERC activity and makes necessary adjustments to the Results Framework (RF) at the intermediate results (IR) level.

3. The FSRP MPA Phase I was approved by the World Bank (WB) Board of Directors on June 21, 2022, for US\$2.3 billion equivalent of IDA. Phase I provides financing to Ethiopia, Madagascar, the Intergovernmental Authority on Development (IGAD), and the Centre for Coordination of Agricultural Research and Development for Southern Africa (CCARDERSA). The program development objective (PrDO) is *to increase the resilience of food systems and preparedness for food insecurity in the participating countries*. The project development objective (PDO) for FSRP-MG is *to increase the resilience of food systems and preparedness for food insecurity in Madagascar*.

4. On May 31, 2023, a total of US\$903MM of IDA was approved by the WB Board of Directors for phases two and three of the Eastern and Southern Africa FSRP MPA. Phase two provides US\$300MM to a Program for Results operation in Tanzania. Phase three provides US\$603MM to Kenya (US\$150MM), the Union of Comoros (US\$40MM), Somalia (US\$150MM), Malawi (US\$250MM) and the African Union Commission (US\$13MM). This brings the total MPA envelope to US\$2.75 billion. See tables 1 and 2 for more information.

B. Project Components

5. The original financing to Madagascar supports three components: (1) (Re)Building Resilient Agricultural Production Capacity to strengthen the productivity and resilience of food production to shocks and stressors (aligned to MPA Pillar 2); (2) Supporting the Sustainable Development of Natural Resources for Resilient Agricultural Landscapes, to promote participatory planning and more sustainable, community-led natural resources and irrigation infrastructure management and to reduce or reverse the adverse impact of climate change (aligned to MPA Pillar 3); and (3) Improving Market Connectivity and Access for Smallholders to elevate intra-regional food trade and increase value addition in target food crops. The parent project also supports Project Coordination, Knowledge Management and Dissemination (Component 4) and the CERC through Component 5.

C. Country Context

6. According to the Madagascar Country Partnership Framework, FY23-27 (Report No: 179576-MG), uneven investment in physical and human capital, decreasing productivity, and vulnerability to shocks are the most salient



constraints on Madagascar’s development and sustainable poverty gains. Between 2013 and 2019, the economy grew an average of 3.5 percent/year, enough to achieve modest per capita income. The COVID-19 crisis caused a 7.1 percent contraction in 2020, one of the worst in Sub-Saharan Africa; per capita income dropped to historic lows; and extreme poverty rose from an already-high 77.4 percent to 81 percent, reversing more than a decade of poverty reduction gains. Though GDP grew 5.7 percent in 2021 and 3.8 percent in 2022, Madagascar is one among only a handful of countries for which real income per capita is lower today than it was in 1960.

D. Sectoral and Institutional Context¹

7. Madagascar is one of the most vulnerable countries to climate change and one of the least prepared to absorb the shocks. The country is prone to natural hazards, including drought, floods, cyclones, and locust invasion. Below average seasonal rainfall, prolonged droughts, and cyclone-induced flooding have hampered crop and livestock production, particularly in the South, while moving millions of people into high levels of acute food insecurity and malnutrition. In the Grand Sud region, severe droughts debilitated food production between 2019 and 2021 when more than 2 million people faced acute food insecurity. Climate change-induced weather extremes are expected to exacerbate pest and disease threats to Madagascar’s food systems. In 2021, extreme weather fueled widespread locust and armyworm infestations that contributed to up to 60 percent crop losses in parts of the South. To address these vulnerabilities and mitigate climate impacts, Madagascar must facilitate recovery, safeguard and restore the productive assets of affected households and strengthen resilience against future shocks. It will also be important to enhance adaptation and resilience of livelihood systems while safeguarding food security of affected households by enhancing the purchasing power to meet food and other basic needs, such as through cash transfers.

8. Exacerbated by climate change, the latest upsurge of the Madagascar Migratory Locust (locust) continues to jeopardize food security. Budget shortfalls and mismanagement have severely eroded the country’s locust prevention and management capacity. Long regional droughts ending with soaking rains favor the development of destructive swarms—and global warming is intensifying both of those extremes. Scientists believe that suitable locust habitat could increase about five percent in a low-emission future with limited warming, compared to locust distribution between 1985 to 2000. In a high emission scenario with greater warming, locust habitat could increase by as much as 13 to 25 percent between 2065 and 2100.² The locust crisis emerged following severe droughts (2019–2021) that depleted livestock populations and upended livelihoods, especially in the country’s Grand Sud. Left unchecked, the crisis will continue to disrupt food production and cause substantial losses and damage to crops, livestock, and other assets. To mitigate such risks and strengthen resilience against future climate shocks, Madagascar must restore and safeguard the country’s locust prevention, preparedness and management capacity through a comprehensive restructuring and revitalization of Madagascar’s Locust Eradication Center (*Ivotoerana Famongorana ny Valala eto Madagasikara, IFVM*).

9. Malagasy women are especially vulnerable to climate shocks amid high levels of gender inequality. Climate change and natural disasters, including pandemics, have a disproportionate impact on women, especially in rural areas, where they rely heavily on agriculture for their income. As of 2021, 39.4 percent of employed women worked in agriculture, and 32 percent concentrated in subsistence farming in contrast to 23 percent of working men.³ Women farmers are less able than men to transition to off-farm work and access markets.⁴ Cultural norms and beliefs, prevailing gender roles and unequal gender power relations in Madagascar influence access to health, food and nutrition,

¹ Further details can be found in the original Project Appraisal Document of the FSRP MPA Phase I (P178566).

² Xinyue Liu et al. (2024). Unveiling the role of climate in spatially synchronized locust outbreak risks. *Science Advances*, Volume 10, Issue 7. February 14.

³ EPM 2021-22

⁴ Tojo-Mandaharisoa S. et al. (2023). Drivers of food and nutrition security during the lean period in southeastern Madagascar. *Journal of Agriculture and Food Research*, Volume 14.



education, property, infrastructure, basic services, and employment, often placing women at an economic and social disadvantage. Women also suffer from limited participation in decision-making related to issues affecting their well-being and that of their families, communities, and surrounding environment.

E. Relevance to Higher Level Objectives

10. Like the parent project, the AF fully aligns with the WB country engagement strategy. The AF aligns with the WB goals of reducing poverty and increasing inclusive growth on a livable planet. It aligns with the Madagascar CPF's High Level Objective 2: *Improved human capital outcomes*, with emphasis on Objective 2.3: *Improving food security systems and reduce stunting*; High Level Objective 3: *Enhanced resilience against shocks*. It also supports the WB Africa Eastern and Southern Regional priorities of strengthening climate resilience and food security. The Madagascar 2021 Systematic Country Diagnostics (Report #: 170225-MG) shows the importance of improving access to major corridors and markets to increase farmer incomes and encourage investments to raise productivity.

Summary of the project implementation status and achievements to date

11. The Madagascar parent project became effective on August 16, 2022. GoM submitted to the WB an emergency request on November 4, 2022, and the project's CERC for US\$50.0MM was approved on April 12, 2023. The CERC activated was subsequently suspended on September 26, 2023, amid renewed in-depth discussions at the technical level. On February 26, 2024, the WB authorized GoM to proceed with implementation of the CERC activity, which is expected to be completed by August 2024.

12. Challenges implementing the CERC, shifts to the project's coordination arrangements,⁵ and the November 2023 Presidential elections slowed early implementation of FSRP-MG, but progress has since been notable. As of March 15, 2024, FSRP-MG commitments were US\$91.2MM and the disbursement rate was 35.6 percent (US\$56.4 Mn). This includes US\$16MM disbursed during FY24. Among notable achievements, the Project signed in December 2023 a US\$40MM contract with the World Food Program (WFP) supporting the scale up of Home-Grown School Feeding (HGSF) Program across nine of Madagascar's most vulnerable and food insecure regions. Teams from the WB's Development Impact Evaluation (DIME) and WFP Office of Evaluation (OEV) are jointly developing a robust impact monitoring and evaluation framework and identification of the 800 schools is underway. For the CERC, a total of 650,000 households are expected to receive the first of six-monthly cash transfers by the end of March and April will see the official launch of the multi-year development, supported by the International Livestock Institute (ILRI), of the GoM's Master Plan for the Livestock Sector.

13. The project has fully complied with five legal covenants, and it is partially in compliance with the sixth one. The Ministry of Agriculture and Livestock (MinAE) and the Project Implementing Unit (PIU) have finalized the Project Implementation Manual (PIM) and hired key staff, including the national project coordinator, the deputy project coordinator, and regional coordinators, procurement manager, financial management, and E&S specialists at the central and regional levels. Pending staff, including experts on matching grants, on environment and natural resources management, and social development specialist are all expected to be onboard by April 2024.

14. Steps to improve project performance. The GoM confirmed its commitment to achieving the PDO and results and has agreed to a detailed action plan it will implement by the GoM to improve project implementation performance in latest implementation support mission. Key actions include: (1) recruiting the remaining technical consultants; (2) validating the matching grants manual; (3) launching technical studies for the irrigation and road rehabilitation works; and (4) finalizing the 6-month implementation plan for the HGSF program.

⁵ The 9-month extension of the Sustainable Landscape Management Project (P154698), which is implemented by the same PIU, severely compromised project coordination during the early stages of project implementation and necessitated a comprehensive overhaul of the project's coordination mechanisms and staffing.



Table 1. MPA Program Framework

Phase	Project ID	Sequential or Simultaneous	IPF or PforR	Estimated IDA Amount (\$ million)	Estimated Other Amount (\$ million)	Estimated Approval Date	Estimated Environmental & Social Risk Rating
Phase 1 (ongoing)	Ethiopia, Madagascar, IGAD and CCADERSA (P178566)	Sequential	IPF	788.1	65.5	June 21, 2022	High
Phase 2 (ongoing)	Tanzania (P179818)	Simultaneous	PforR	300.0	-	May 31, 2023	Substantial
Phase 3 (ongoing)	Comoros, Kenya, Malawi, Somalia and AU (P177816)	Simultaneous	IPF	603.0	18.0	May 31, 2023	Substantial
AF	P181398	Simultaneous	IPF	50.0	20.0	May 29 2024	Substantial
Phase 4	Mozambique (P181112)	Sequential	IPF	75.0	-	January 2025	Substantial
Board Approved Financing Envelope		US\$ 2,750 million					

Table 2. Updated List of Countries and Organizations Expected to Participate in the MPA

Expected Participating Country/Organization	Estimated Financing (up to US\$, millions)	Expected Participating Country/Organization	Estimated Financing (up to US\$, millions)
Comoros	80	Tanzania	300
Ethiopia	600	Zambia	100
Kenya	150	Zimbabwe	100
Madagascar	190	CCARDESA	5
Malawi	250	IGAD	25
Mozambique	150	AU	13
Somalia	150	Other Regional Organizations (future phases)	37
South Sudan	100		
Total IDA (US\$ million)		2,750	

II. DESCRIPTION OF ADDITIONAL FINANCING

F. Rationale for AF and Proposed Changes

15. The rationale for the proposed AF is to replenish in part the US\$50MM used for CERC activation and to add a new component to support emergency locust response and strengthen livelihoods recovery and resilience to future climate shocks. The AF will: (1) allocate US\$34.0MM of the US\$50MM of CRW-ERF resources to finance among new investments GoM’s locust crisis response, restore locust prevention capacity, and facilitate livelihoods recovery while strengthening resilience to future shocks; and (2) process the GAFSP TF (US\$20MM), which will help scale up school feeding based on local production. The AF will build on FSRP Phase 1 MPA by crowding in private sector investment through productive alliances. This is the first restructuring of FSRP Phase I. It includes changes to Intermediate Indicators and targets to account for the CERC and the additional CRW-ERF and GAFSP resources.



16. There are no changes to the PDO or closing date. The PDO of the AF remains the same: *to increase the resilience of food systems and preparedness for food insecurity in Madagascar* and the closing date remains June 30, 2029.

17. The AF will expand the geographical coverage of FSRP-MG to three new regions: Androy, Atsimo Atsinanana, and Melaky, for a total of 16 regions under the restructured project. A full map can be found in Annex 2.

18. Components and costs. The AF is proposed with a total of US\$70MM in IDA credit and GAFSP grant financing. As a result, the total project budget will increase from US\$158.1MM to US\$228.1MM (table 3). The AF covers components 1, 2, 3, and 4 of the parent project. Under Component 1, the AF will support the mobilization of the first General Agricultural Census in nearly 20 years.⁶ Under Component 3, the AF will support: (a) productive alliances to integrate smallholder production into commercial agro-food value chains with support from matching grants; and (b) scaling up school feeding programs through local sourcing arrangements, with support from the World Food Program (WFP). Component 4 will support the cost of involuntary resettlement to facilitate smooth implementation of the project. Under the new Component 6, the AF will support emergency and resilience-building measures—such as, locust surveillance and control, capacity building for preparedness and prevention, and training on climate-smart agriculture to facilitate livelihoods adaptation in dry lands and strengthen resilience against future climate and other shocks. Table 3 shows the proposed allocation of the AF and reallocations across components, following activation of the CERC and processing of the restructuring.

Table 3: Project Cost by Component

Component	Current Project (US\$ m)	AF (US\$ m)	Total with AF (US\$ m)
C1: (Re-)Building Resilient Agricultural Production Capacity	27.1	12.0 (CRW)	31.1
C2: Supporting the Sustainable Development of Natural Resources for Resilient Agricultural Landscapes	44.8	8.0 (CRW)	36.8
C3: Improving Market Connectivity and Access for Smallholders	64.2	20.0 (GAFSP) 4.0 (CRW)	62.2
C4: Project Coordination, Knowledge Management, and Dissemination	22.0	4.0 (CRW)	26.0
C5: Contingency Emergency Response Component (CERC)	0.0	0.0	50.0
C6: Supporting Locust Response and Climate-Smart Livestock Systems	0.0	22.0 (CRW)	22.0
TOTAL	158.1	70.0	228.1

19. GAFSP funding will enhance nutritional outcomes and smallholders’ access to markets. In partnership with WFP, the project will scale-up the HGSF program, with dedicated support to sourcing arrangements between school canteens and local and regional suppliers, facilitating links between components one and three of the project. It will also cover improved storage facilities and improved producer access to agro-meteorological data and information. Key objectives include improving food security and nutrition outcomes, mitigating absenteeism, and leveraging school canteens as institutional markets to stimulate local production of sorghum, legumes, fruits and vegetables, cassava, orange-fleshed sweet potatoes, and other nutritious foods. Over a three-year period, 800 schools, 240,000 children and 20,000 farmers will benefit from the program, which is more fully described in Annex 3.

20. Component 5: Contingency Emergency Response Component (CERC)—US\$50MM equivalent (original project US\$0MM, current US\$50MM). The CERC was triggered on 12 April 2023 and financed with US\$50MM reallocated from other components (see table 3). Under the CERC, 657,000 urban and rural households spread across 114 districts in all 23 regions are benefitting from unconditional cash transfers. These will cover some 2.8 million direct

The last General Agricultural Census in Madagascar was completed in 2005.



beneficiaries, among which, 65 percent are women. These targets have been introduced as new IR indicators under the RF. The aim to provide timely support to poor and vulnerable households to enable them to meet their daily basic needs, avoid a significant erosion of their food security, and facilitate livelihoods recovery.

21. To ensure proper implementation of CERC activities, MinAE prepared a CERC Manual that was approved by the Association in February 2023. The manual has detailed implementation arrangements for the CERC, including: specific activities that may be included; eligible emergency expenditures and other financial management arrangements; procurement methods and procedures; documentation required for withdrawals; management of environmental and social standards; and a template for an Emergency Action Plan.

22. Component 6: Support to Locust Response and Climate-Smart Livestock Systems - US\$34.0 Mn equivalent. To facilitate the recovery of communities affected by recent climate shocks, including the locust infestation, and to attenuate Madagascar's vulnerability to climate change shocks, this new component funds emergency response and resilience strengthening activities. It will finance: (a) emergency locust surveillance and control measures; (b) technical and physical infrastructure upgrades to restore IFVM's preparedness and prevention capacity; and (c) an animal restocking campaign to facilitate recovery of communities and livelihoods affected by crop and livestock losses and damages and to promote adaptation of animal-based livelihood systems for improved climate resilience.

23. Sub-Component 6.1: Strengthening Locust Management. Pest outbreaks that are increasing in number and severity due to climate change, so to minimize damages and losses to crops, livestock, and other assets, this subcomponent will finance locust surveillance, monitoring, ground and aerial control measures, and training and capacity building. All activities will be implemented in accordance with standard safeguard procedures, including the project's updated Integrated Pest Management Plan. This activity will prevent the spread of locusts, safeguard livelihoods threatened by the outbreak; and strengthen Madagascar's system for prevention and preparedness by rehabilitating infrastructure and strengthening the technical, human resource, and logistical capacity of IFVM.

24. Sub-Component 6.2: Support for Climate Resilient Livestock Systems. This subcomponent will finance the delivery and uptake of climate-smart technologies and practices to mitigate climate risks, reduce animal mortality, and facilitate the adaptation of livestock systems and associated livelihoods for improved productivity and climate resilience of dryland communities. Support will introduce new and improved breeding stock and genetic resources for cattle, small ruminants, and poultry that are more productive and resistant to dry conditions, drought, and heat waves. It will encourage community uptake of a more diversified range of animals while strengthening veterinary services to enhance animal health and reduce mortality under severe conditions. It will promote community-led rangeland restoration, climate-resilient grazing management, and sustainable feed supply systems. It will also equip the regional directorships of MinAE (*Direction Régionale de l'Agriculture et de l'Élevage*, or DRAE) to better monitor and control animal disease and pest outbreaks. Where feasible, it will help reduce GHG emissions by promoting use of animal manure to improve soil health and fertility.

25. Implementation arrangements. Implementation arrangements will follow the parent project, except for the CERC activities. The parent project's PIU in MinAE will coordinate and manage the AF resources, except for the CERC activity under component 5. All new activities build directly on relevant methods and structures in place under the parent project and other interventions and partnerships. Administration and implementation arrangements for the CERC are outlined in the approved CERC manual. CERC implementation is managed by FID (*Fonds d'Intervention pour le Développement*).

26. Changes in the RF only concern IR indicators. Some IR indicators will be revised to reflect scaled-up activities and to ensure concordance with GAFSP M&E requirements. Some targets (baseline and/or end results) will be updated. The AF will include additional IR indicators to adequately record project's progress, outputs, and outcomes and respond to corporate scorecard requirements.



Table 4: Changes to IR indicators

Indicator	Original Target	Revised Target	Comments
Component / IR Indicator			
C1: (Re-)Building Resilient Agricultural Production Capacity			
(NEW) - Number of farmers receiving inputs or service on climate resilient or sustainable agriculture practices (farmer)	0	120,000	GAFSP indicator
(NEW) - <i>of which female farmers receiving inputs or services on climate resilient or sustainable agriculture practices</i>	0	60,000	GAFSP indicator
Number of women integrating sustainable production technologies because of a women-targeted program	20,000	30,000	Indicator reformulated
(NEW) Number of smallholder producers/processors receiving productivity enhancement support (person)	0	20,000	GAFSP indicator
Consumption of animal products in targeted communities (per capita, per year)			End target values revised in collaboration with DGE, FIFAMANOR and other concerned entities.
Eggs (number)	15	26	
Milk (liters)	7	7	
Meat (kg)	5	11.5	
C2: Supporting the sustainable development of natural resources for resilient agricultural landscapes			
MPA level - Land area restored or reforested/afforested (hectares)	150,000	15,000	Considering cost per ha to implement activity, the initial end target value was unrealistic and consequently, revised downwards.
MPA level - Area provided with new or improved irrigation or drainage services (CRI indicator) (CRI, hectares) ⁷	25,000 (new) 5,000 (rehabilitated)	7,000	End target value reduced downwards. Allocated budget was insufficient in Parent Project design. Also, other priorities have arisen with CERC triggering and locust response needs. These events required strategic choices and budgetary decisions.
C3: Improving market connectivity and access for smallholders			
Roads constructed or rehabilitated (km)	273	230	End target value reduced downwards. Allocated budget was insufficient in Parent Project design. Also, other priorities have arisen with CERC triggering and locust response needs. These

⁷ This indicator will be reported under GAFSP tier 2.2 output indicator #2 - Land area receiving improved production support (hectare), Disaggregation: Area provided with new/improved irrigation or drainage services (hectare).



Indicator	Original Target	Revised Target	Comments
Component / IR Indicator			
			events required strategic choices and budgetary decisions.
(NEW) Number of processing, storage, and market facilities constructed and/or rehabilitated	0	50	GAFSP indicator
(NEW) - People receiving improved nutrition services and products (person)	0	300,000	GAFSP indicator/Sub-Indicator added to serve as scorecard indicator
(NEW) - of which female (number)	0	120,000	GAFSP indicator
C4: Project coordination, knowledge management and dissemination			
MPA level – Direct project beneficiaries ⁸ (number)	600,000	3,400,000	CERC beneficiaries included
<i>Of which female (number)</i>	120,000	1,920,000	-
C5: Contingency Emergency Response Component			
(NEW) Number of beneficiaries of social safety net programs (monetary transfers)	0	2,800,000	These two proposed indicators are added to record Project efforts and in line with scorecard indicator.
<i>(NEW) of which female recipients of monetary transfers (%)</i>	0	65	
C6: Supporting Locust Response and Climate-Smart Livestock Systems			
Number of hectares protected from locusts	0	350,000	
Number of people receiving genetically improved animals	0	55,000	

27. Table 5 below summarizes the key changes to the Project.

Table 5: Summary of key changes

Change in Implementing Agency	Yes [] No [X]
Change in Results Framework	Yes [X] No []
Change in Project's Development Objectives	Yes [] No [X]
Change in applicable Environmental and Social Standards (ESSs)	Yes [] No [X]
Change Environmental and Social Risk Rating (ESRC)	Yes [] No [X]
Change in Gender Based Violence Risk Rating	Yes [] No [X]
Changes to Legal Operational Policies	Yes [] No [X]
Change in Legal Covenants	Yes [X] No []
Change in Loan Closing Date(s)	Yes [] No [X]
Cancellations Proposed	Yes [] No [X]
Change in Disbursement Arrangements	Yes [X] No []
Reallocation between Disbursement Categories	Yes [X] No []
Change in Disbursement Estimates	Yes [X] No []

⁸ This indicator will be reported under GAFSP tier 2.2 output indicator #1 - Number of people receiving direct benefits (person) Disaggregation: Of which, number of females.



Change to Components and Cost	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Change in Institutional Arrangements	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Change in Financial Management	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Change in Procurement	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Change in Implementation Schedule	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Other Change(s)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

III. KEY RISKS

28. The overall AF risk is Substantial, in line with the parent project. Therefore, the design is made relatively simple to implement and the update of the rice strategy and the design studies for a part of the hydraulic infrastructure are to be carried out during preparation. Vested interests could hamper the implementation of service delivery investments, so the task team will include experienced governance and FM experts to design appropriate and transparent measures limiting the overall governance risk. Other risks relate to the technical nature of rehabilitating irrigation and rural road infrastructure, which will be mitigated using standardized, performance-based contracts with robust contract oversight, and collaboration with CG Centers (AfricaRice, ILRI, IITA, and UN technical and logistics agencies).

29. Politics and governance risk is Substantial. Between 2009 and 2014, Madagascar experienced several political crises that weakened its institutions for governance. The democratic transition of power in 2019 marked a turn to a more stable political environment conducive to continued development efforts, though governance remains a challenge, and it is expected that potential changes in government counterparts at both political and technical levels may induce some delays in project preparation and implementation in the very short-term.

30. Technical design and institutional capacity for implementation and sustainability risk is Substantial. The project is comprehensive and will implement a diverse set of activities that will require spatial coordination and careful sequencing. It will be anchored in MinAE, which has implemented several World Bank agriculture projects, including: Rural Development Support (P051922, P092848), Irrigation and Watershed Management (P074086, P123532), Irrigation and Watershed Management (P128831), Agriculture Rural Growth and Land Management (P151469), and Sustainable Landscape Management (P154698). MinAE will coordinate project implementation, working closely with local governments (regions and districts) and other project stakeholders. It is proposed that the oversight committee (*Comité de pilotage*) includes the Ministries in charge of trade and industry, the transport and meteorology, economy and finance, and of decentralization and land management, with MinAE acting as committee chair.

31. Fiduciary risk is Substantial. MinAE is responsible for project implementation, as it is for the ongoing CASEF (P151469) and PADAP (P154698/P157909) investments. CASEF has no overdue financial audits and the external auditor opinion is unqualified. IFRs have been acceptable and submitted on time. PADAP is compliant with auditing and reporting requirements. An external audit flagged the lack of control over regional activities resulting in loss of assets, and MinAE is taking corrective actions to address these weaknesses. The project FM performance is Moderately Satisfactory. The World Bank conducted an FM assessment of MinAE and rated it a substantial risk mainly due to the PFM weaknesses, particularly in budgeting and disbursement, the nature of activities, and the level of decentralization in the project.

32. ESRC risk is High. The parent program and this AF have a High overall E&S risk rating (Environment is Substantial and Social is High). The relevant standards of the parent program remain applicable. The parent project and this AF bring significant benefits to communities in the target regions. However, the AF activities could negatively impact community health and safety through unintended consequences of locust control measures—for example, people



consuming locust or food and water contaminated by pesticides, risk of fires/explosions due to improper storage of pesticides and fertilizers, traffic and road safety, and pesticide spillages. For the emergency response to locust crisis, the project has prepared a comprehensive standalone Locust Pest Management Plan (LPMP) to capture the short- and long-term impacts on the flora, fauna, and people associated with control activities and to avoid all sensitize zones—for example, protected areas such as rivers and lakes. The parent project’s ESF instruments (ESMF, RF, PMP, LMP, SEP) were approved by the Bank and disclosed in the country and on WB web site on May 24, 2022. As per ESF requirements for this AF, the Borrower has: (a) updated the Environmental and Social Commitment Plan (ESCP); (b) updated the Stakeholder Engagement Plan (SEP) including the Grievance Redress Mechanism (GRM); and (c) prepared the standalone PMP for the locust program that was approved by the Bank and disclosed on February 07, 2024

33. The parent project and this AF are expected to bring widespread community benefits through rural infrastructure investments, training, information delivery systems, livelihood restoration, financing mechanisms promotion, school feedings, locust control activities, livestock restocking and, cash transfer. However, proposed activities to improve agricultural infrastructure under Components 1 and 3 may include small- to medium-scale civil works that could induce some social risks and impacts that would be mostly temporary, predictable, and/or reversible. Labor influx and associated risk and impacts can be a point of concern, especially on (a) community health (e.g., risk of sexually transmitted diseases, COVID-19 spread, and pesticide poisoning), and (b) sexual abuse and exploitation (SEA) by workers against the community members. No irreversible social risks related to land access or cultural heritage are anticipated. Land acquisition leading to economic displacement from construction of some infrastructure (marketing, laboratory, etc.) is expected. The matching grant and loan programs could be carried out with inadequate eligibility criteria, which could lead to the exclusion of eligible persons. The proposed activities in Component 2 such as tree plantations and irrigation improvement could also lead to economic displacement. Targeting and beneficiary payment of cash transfers under component 5 may increase the risk of exclusion and insecurity. For all components, the existence of a hierarchy between male and female workers may increase the risk of sexual harassment (SH). In line with good practice recommendations, MinAE will apply specific measures during project implementation that will be detailed in an SEAH action plan including systematic inclusion of code of conduct clauses on workers’ conditions and management, child protection and reinforcement of the GRM to ensure that any incident related to SEAH will be addressed effectively with sufficient social sensitivity.

34. The project-level GRM will help mitigate risk and manage grievances from communities other stakeholders. The project's GRM is an avenue for communities to channel their concerns to the PIU and ultimately the World Bank. The client is being helped to establish an accessible, effective, and efficient GRM with the capacity to receive and respond to grievances in the local languages and on time. SEA/SH and other forms of GBV receive special attention and protocols to enable survivor-centered responses. The team will work with clients to ensure that communities are aware of the many ways they can submit grievances in case they think they are or could be adversely affected by the project.

IV. APPRAISAL SUMMARY

A. Economic and Financial Analysis

35. An Economic and Financial Analysis (EFA) shows an economic internal rate of return of 22 percent and an economic net present value of US\$149.29 million at the opportunity cost of capital of 6 percent, over a 20-year period. The EFA compares “with project” and “without project” scenarios and is based on investment models and additional economic analysis that represent the main project activities and the theory of change (ToC). The financial analysis demonstrates the financial viability of investment models supported by the project versus the without project scenario. The economic analysis integrates relevant co-benefits from the project intervention, with particular attention to climate co-benefits. All project components contribute to a positive impact for the society. Sensitivity analysis shows that the project is sufficiently robust to changes in expected costs and benefits (a full EFA can be found in the project



files). No transition risk was identified for this operation in line with the Paris Alignment requirement (full details on the Paris Alignment assessment are in project files).

B. Green House Gas (GHG) Analysis, Climate Co-Benefits (CCB) and Paris Alignment

36. FRSP-MG AF generates important climate co-benefits (CCB). The GHG accounting separates estimates for the parent project (based on the proposed restructuring) and the AF. FSRP-MG AF generates net GHG emissions reduction in the amount of 740,566 tCO₂e in 20 years, or 37,028 annually (see GHG Annex 1). The economic value of net GHG emissions generated by the project as a whole amount to a net reduction of 6.05 million tCO₂e in 20 years and are included in the economic analysis following the WB guidelines.

37. Following the Paris Alignment assessment, FSRP-MG AF activities align with risk assessment and risk management measures mainstreamed in applicable activities. Project activities respond to the country's priorities for climate action, expressed in the Second Nationally Determined Contribution (NDC2/DCN2)⁹ in the frame of the Paris Agreement, the National Climate Change Action Plan (NCCAP/PANLCC), and the National Climate Change Adaptation Plan (NAP / PNA).¹⁰ Regarding the climate change adaptation (CCA) analysis, the level of residual risk is acceptable and the project design considers the risk management measures for project assets, systems, and services in the face of major climate hazards identified in Madagascar's Third National Communication (TNC) to the United Nations Framework convention on Climate Change - UNFCCC.¹¹ Following the climate change mitigation (CCM) analysis within the Paris Alignment process, project activities are in the Universally Aligned list and comply with corresponding guidance. Considering the restrictions indicated for CSA applicable categories, project activities under component 3 were subject to further assessment of risks and definition of risk management measures. The risk identified is low and management measures have been set for Component 3 in relation to other actions supported by the FSRP-MG.

C. Gender

38. Despite the preponderance of women in Malagasy agricultural, women's productivity is low relative to men's because of their: (a) low access to resources and information due weak targeting for advice and extension activities; (b) large workload with family and community obligations that reduces their time to manage their parcels of land; and (c) limited access to markets. Climate change and extreme weather conditions, including natural disasters, further increase women vulnerabilities.¹² Interventions in components 1 and 3 will especially contribute to closing these gender gaps, by integrating considerations on women's time use (identified in a 2020 WEIA as a critical barrier) and limited access to tools and gender-and climate smart practices in all trainings, and directed to women producers and their cooperatives. Female lead farmers will be identified to spread information within women's social networks. Specifically supported crops will be based on women's preferences and needs, and a dedicated percentage of climate-smart technologies will be developed to reduce labor and time burdens on women on- and off-farm (captured in the indicator: "Technologies developed and transferred to extension services with project support (number), of which Gender-Sensitive)". Women will be prioritized under the grant program and will benefit from financing discounts, which will enable acquisition and adoption of appropriate tools (captured in the indicator "Number of women who have adopted new technologies to enhance production and environmental sustainability." Cash Transfers will focus on reaching

⁹ The country submitted its first Nationally Determined Contribution (NDC1, CDN1) in 2016. See <https://unfccc.int/NDCREG>. The Second Nationally Determined Contribution has been completed by the Government of Madagascar in September 2022. The document has been shared by Government officials.

¹⁰ Republic of Madagascar, 2021. National Climate Change Adaptation Plan. <https://unfccc.int/sites/default/files/resource/PNA-Madagascar.pdf>

¹¹ Republic of Madagascar, 2022. Third National Communication to the United Nations Framework Convention on Climate Change. <https://unfccc.int/reports>

¹² A thorough analysis of gender gaps in Madagascar was presented in the Parent PAD for the parent project: World Bank. 2022. Food Systems Resilience Program For Eastern And Southern Africa As Phase 1 Under the Multi-Phase Programmatic Approach (P178566). Project Appraisal Document. Report No. PAD4981.



women (65% target) acting on the financial access gap and specific measures will ensure that women are able to access and adopt dedicated technologies that meet their main productivity constraint of tools and time.

D. Citizen Engagement

39. The AF will apply the citizen engagement (CE) mechanisms developed for the parent project, which uses three CE approaches. The first approach involves consultation, with all beneficiaries during the program life cycle. Consultation activities will be based on the country’s specific objectives and will regularly feedback to beneficiaries how the. The second approach is the grievance redress mechanism (GRM), which has been updated to reflect AF activities and is ready for operationalization. The third approach involves collecting, recording, and reporting inputs received from beneficiaries through beneficiary satisfaction surveys. The project will also explore a “thick CE approach” that provides citizens and communities with resources and decision-making powers with respect to the O&M of water and other community infrastructure, equipment, or landscape restoration by involving water users’ associations (WUAs) and farmer-based organizations (FBOs). The beneficiary feedback indicators fare: “beneficiaries satisfied with the program’s interventions” and “percentage of GRM claims addressed among those received.” The SEP will elaborate in detail on the proposed CE approaches.

E. Financial Management

40. FM risk for the additional finance is Substantial, which is consistent with the parent project. The parent project’s PIU remains responsible for the FM aspects of the proposed AF. The FM arrangements of the AF will follow the same approach as the implementation arrangements in place for the ongoing parent project, in line with the FM framework described in the PIM. The existing Designated Account under the parent project shall also be used for the AF and for CERC activities under the parent project.

F. Procurement

41. The AF’s procurement risk is Substantial, in line with that of the parent project. Procurement under the proposed AF and the parent project will be carried out in accordance with the World Bank’s *Procurement Regulations for Investment Project Financing Borrowers* (dated November 2020), the *Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by International Bank for Reconstruction and Development (IBRD) Loans and IDA Credits and Grants* (dated July 1, 2016) beneficiary disclosure requirements, and other provisions stipulated in the project Legal Agreements. The project procurement strategy for development (PPSD) for the parent project has been updated to include the activities of this AF.

G. Legal Operational Policies

	Triggered?
Projects on International Waterways OP 7.50	Yes
Projects in Disputed Areas OP 7.60	No

H. Environmental and Social

42. For Madagascar, the environmental and social risk classification (ESRC) is rated as Substantial. The project and its AF will have significant positive environment and social impacts as activities to be financed under its components.

43. Activities to be financed under component 1 associated with strengthening agriculture research and providing grants) could lead to increased demand for agrochemicals and will require measures to manage waste that may be



generated by animal health care services. The project will also finance the rehabilitation and construction of SSI schemes (component 2) and the construction and rehabilitation of market infrastructure (component 3) investments for value addition, food safety, and reduced food loss and waste (storage, cold chain, processing, and marketing). These activities could result in various environment, health, and safety risks and impacts including (a) inappropriate use and disposal of agrochemicals and agricultural research laboratory chemicals; (b) health and safety risks and impacts during construction works; (c) inappropriate use of water resources and agrochemical contamination, affecting water quantity and quality in neighboring communities and downstream; (d) physical and chemical degradation of soils from unsuitable land management techniques; (e) adverse impacts on biodiversity and ecosystems through an introduction of invasive species; and (f) though site specific and small in scale in the context of this project, construction of small-scale infrastructure such as storage facilities and SSI schemes and associated adverse externalities (air pollution, construction waste pollution, noise pollution, and water pollution).

44. Broadly, FSRP-MG AF will generate a net reduction of GHG emissions compared to business as usual. There are activities, such as the fight against the locust invasion, that might generate emissions in the short term but not surpassing the Paris Alignment cap and not creating transition risks. Other activities, like animal restocking are also accompanied by mitigation measures (improved animal husbandry and management) which in the long run will lead to a balance and or even slight net reduction per activity (see GHG Balance Annex 1). The project will be implemented on existing agricultural land and hence will not lead to the conversion of natural habitat.

45. The project is expected to result in social benefits, but its social risk level is high. In particular, it is expected to increase rural employment opportunities (including for youth and women), improve income and livelihoods, enhance the resilience of farmers to shocks, improve access to finance, increase agricultural yields, and increase access to diverse and nutritious foods (especially to pupils), increase access to information system, restore land. However, the social risk of the project is considered Substantial because of the project's extensive scope and country cultural and political context. In addition, the project-supported activities could result in land acquisition—notably for the construction of agricultural infrastructure such as small-scale and household irrigation, market infrastructure, and rural feeder roads and laboratories and for trees plantations. The latter may trigger involuntary resettlement (physical and economic displacement), restrictions on access to land, and a loss of livelihoods within affected communities. In addition, although the exact location of the investments will be determined during the project implementation stage, project activities will be implemented in highland and lowland areas with complex socioeconomic and political contexts.

46. Other forms of social risk may exist. It may, for example, arise from (a) insufficient community and stakeholder engagement and elite capture; (b) the exclusion of vulnerable groups and individuals from project benefits due to poorly designed and/or disseminated or nontransparent beneficiary selection process or eligibility associated with grants, loans, and cash transfer; (c) social tensions and conflict induced by competition over agricultural resources including irrigation water resources and contextual security risks in conflict-affected areas; (d) labor influx and associated community health and safety risks, SEA/SH; (e) the failure to comply with labor standards, especially within activities financed by matching grant, and the potential use of forced and child labor; (f) operational concerns due to remoteness and insecurity, including challenges in monitoring social risks and handling grievance management; and (g) weak implementation capacity, especially at the grassroots level due to limited functional structures and trained manpower.

47. To identify and manage the potential ESHS risks, the national MinAE prepared the following required environmental and social instruments for parent project. They include (a) an ESMF with a screening tool for project activities and guide the development of site-specific instruments, including GRM, SEA/SH action plan and Security management plan (b) an IPMP to mitigate potential risks and impacts associated with the application of pesticides, (c) a Resettlement Policy Framework (RPF), (d) a SEP including GRM and (e) a LMP. An ESCP was also developed to outline



measures to be implemented including implementation arrangements and monitor and report on the implementation of environmental and social risk management tools and plans in line with the ESF. These ES instruments have been updated for AF project.

48. The project will take measures to mitigate and manage these risks. The ESCP, the SEP, including a GRM, the LMP including a workers' GRM, the ESMF including IPMP and SEA/SH action plan and the RPF were disclosed both on the World Bank website on April 24, 2022, and in country on April 25, 2022. These documents have been updated in consideration of AF activities and thus disclosed.

49. The project's M&E system will be responsible for monitoring environmental and social impacts and measures. As the project's IA, the PIU—with the guidance of its environmental and social specialists and the World Bank environmental and social team—will be responsible for the preparation of the relevant environmental and social instruments. Monitoring checklists will be prepared based on mitigation plans.

50. The project will take measures to ensure social inclusion, gender equity, and CE. In accordance with corporate directives on CE in IPF projects, the project will emphasize approaches that maximize outreach and participation of communities and broader public awareness of project activities. The project will have two CE indicators: one related to beneficiaries' feedback and the other linked to the project GRM. In accordance with ESS10 and the guidelines for citizen involvement in projects throughout the preparation and implementation processes, the project will further promote CE and the establishment of a process for processing community feedback. These aspects will be included in the SEP, which will also cover the establishment and operationalization of a project GRM. Grants under component 2 supporting infrastructure development and income diversification opportunities will be identified through demand-driven processes. Participatory assessment and planning approaches will ensure that all groups, including those that are historically marginalized such as women and youth, are engaged in planning and decision-making processes. Local authorities will present final plans and advise on the selection of grant proposals that will be financed under the project. Project staff and service providers will receive training on gender issues. Finally, the project's GRM will ensure that any feedback will generate a timely and comprehensive response and, where needed, an acceptable resolution by the project.

V. WORLD BANK GRIEVANCE REDRESS

51. 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 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 Bank's independent Accountability Mechanism (AM). The AM houses the Inspection Panel, which determines whether harm occurred, or could occur, as a result of 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 Bank Management and after Management has been given an opportunity to respond. For information on how to submit complaints to the Bank's Grievance Redress Service (GRS), please visit <http://www.worldbank.org/GRS>. For information on how to submit complaints to the Bank's Accountability Mechanism, please visit <https://accountability.worldbank.org>.



VI SUMMARY TABLE OF CHANGES

	Changed	Not Changed
Results Framework	✓	
Components and Cost	✓	
Disbursements Arrangements	✓	
Implementing Agency		✓
Project's Development Objectives		✓
Loan Closing Date(s)		✓
Cancellations Proposed		✓
Reallocation between Disbursement Categories		✓
Legal Covenants		✓
Institutional Arrangements		✓
Financial Management		✓
Procurement		✓
Implementation Schedule		✓
Other Change(s)		✓

VII DETAILED CHANGE(S)

MPA PROGRAM DEVELOPMENT OBJECTIVE

Current MPA Program Development Objective

Proposed New MPA Program Development Objective



EXPECTED MPA PROGRAM RESULTS

Current Expected MPA Results and their Indicators for the MPA Program

Proposed Expected MPA Results and their Indicators for the MPA Program

COMPONENTS

Current Component Name	Current Cost (US\$, millions)	Action	Proposed Component Name	Proposed Cost (US\$, millions)
(Re-)building Resilient Agriculture Production Capacity	277.07		(Re-)building Resilient Agriculture Production Capacity	277.07
Supporting the Sustainable Development of Natural Resources for Resilient Agricultural Landscapes	267.66		Supporting the Sustainable Development of Natural Resources for Resilient Agricultural Landscapes	267.66
Getting to Market	203.59		Getting to Market	203.59
Promoting a Greater Focus on Food Systems Resilience in National and Regional Policymaking	43.65		Promoting a Greater Focus on Food Systems Resilience in National and Regional Policymaking	43.65
Contingency Emergency Response Component (CERC)	0.00		Contingency Emergency Response Component (CERC)	0.00
Project Management	81.63		Project Management	81.63
TOTAL	873.60			873.60

DISBURSEMENT ARRANGEMENTS

Change in Disbursement Arrangements

Yes



Expected Disbursements (in US\$)

Fiscal Year	Annual	Cumulative
2022	0.00	0.00
2023	3,054,150.00	3,054,150.00
2024	7,042,150.00	10,096,300.00
2025	9,488,250.00	19,584,550.00
2026	10,268,850.00	29,853,400.00
2027	10,550,550.00	40,403,950.00
2028	8,475,150.00	48,879,100.00

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

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

LEGAL COVENANTS – Additional Financing to Madagascar FSRP - Phase I (P181398)

Sections and Description

No information available

Conditions





VIII. RESULTS FRAMEWORK AND MONITORING

Results Framework

COUNTRY: Eastern and Southern Africa

Additional Financing to Madagascar FSRP - Phase I

Project Development Objective(s)

To increase the resilience of food systems and preparedness for food insecurity in Project areas

Project Development Objective Indicators by Objectives/ Outcomes

Indicator Name	PBC	Baseline	Intermediate Targets						End Target
			1	2	3	4	5	6	
Increased preparedness for food insecurity in participating countries									
Reduction of food insecure people in program targeted areas (Percentage)		0.00	0.00	0.00	0.00	5.00	5.00	10.00	10.00
Increase the resilience of food systems in participating countries									
Farmers adopting resilient enhancing technologies and practices (Number)		0.00	233,901.00	536,797.00	808,799.00	1,083,302.00	1,358,097.00	1,637,600.00	1,637,600.00
Of which female farmers (Number)		0.00	35,460.00	97,523.00	179,136.00	272,076.00	380,967.00	491,280.00	491,280.00
Percentage of climate resilient technologies		0.00	0.00	20.00	25.00	30.00	35.00	40.00	40.00



Indicator Name	PBC	Baseline	Intermediate Targets						End Target
			1	2	3	4	5	6	
(Number)									
Land area under sustainable landscape management practices (CRI, Hectare(Ha))		0.00	25,000.00	50,000.00	100,000.00	150,000.00	200,000.00	250,000.00	250,000.00
Increase in volume of agricultural production sold on domestic and regional markets (Percentage)		0.00	0.00	5.00	10.00	15.00	20.00	25.00	25.00
Policy products adopted with program's support related to agriculture, natural resource management, and food system resilience (Number)		0.00	0.00	1.00	3.00	4.00	5.00	6.00	6.00

Intermediate Results Indicators by Components

Indicator Name	PBC	Baseline	Intermediate Targets						End Target
			1	2	3	4	5	6	
(Re-)Building Resilient Agricultural Production Capacity (Action: This Component has been Revised)									
Technologies developed and transferred to extension services with project support (Number)		0.00	85.00	195.00	305.00	361.00	417.00	441.00	441.00



Indicator Name	PBC	Baseline	Intermediate Targets						End Target
			1	2	3	4	5	6	
Of which gender sensitive technologies (Number)		0.00	17.00	39.00	61.00	72.00	85.00	90.00	90.00
Farmers accessing food system and hydromet information to manage shocks that affect food supply (Number)		0.00	0.00	5,000.00	10,000.00	20,000.00	30,000.00	40,000.00	40,000.00
Of which female farmers (Number)		0.00	0.00	2,000.00	4,000.00	10,000.00	15,000.00	20,000.00	20,000.00
Change in households dietary diversity score (HDDS) among targeted project beneficiary households (Percentage)		0.00	0.00	0.00	15.00	15.00	15.00	30.00	30.00
Number of women using modified access to inputs/service for agricultural production (Ethiopia) (Number)		0.00	2,625.00	6,000.00	9,000.00	12,000.00	15,200.00	18,000.00	18,000.00
Action: This indicator has been Revised									
Number of farmers receiving inputs or service on climate resilient or sustainable agriculture practices (farmer) (Number)		0.00							120,000.00
Action: This indicator is New									
Of which female farmers receiving		0.00							60,000.00



Indicator Name	PBC	Baseline	Intermediate Targets						End Target
			1	2	3	4	5	6	
inputs or services on climate resilient or sustainable agriculture practices (Number)									
Action: This indicator is New									
Number of women integrating sustainable production technologies because of a women-targeted program (Number)		0.00							30,000.00
Action: This indicator is New									
Number of smallholder producers/processors receiving productivity enhancement support (person) (Number)		0.00							20,000.00
Action: This indicator is New									
Supporting the Sustainable Development of Natural Resources for Resilient Agricultural Landscapes (Action: This Component has been Revised)									
Share of communities with multi-year development plans for resilient productive base implemented (Percentage)		0.00	10.00	15.00	30.00	40.00	50.00	50.00	50.00
Land areas restored or reforested/afforested (Madagascar)		0.00	0.00	2,000.00	6,000.00	10,000.00	12,000.00	15,000.00	15,000.00



Indicator Name	PBC	Baseline	Intermediate Targets						End Target
			1	2	3	4	5	6	
(Hectare(Ha))									
Action: This indicator has been Revised									
Water user associations/farmer-based organizations for the O&M of the infrastructure, equipment, and landscape restoration activities established or/and strengthened (Number)		0.00	53.00	109.00	168.00	230.00	292.00	360.00	410.00
Area provided with new/improved irrigation or drainage services (CRI, Hectare(Ha))		0.00	0.00	0.00	5,000.00	15,500.00	32,000.00	47,000.00	47,000.00
Action: This indicator has been Revised									
Area provided with new irrigation or drainage services (CRI, Hectare(Ha))		0.00	0.00	0.00	5,000.00	12,000.00	18,500.00	25,000.00	25,000.00
Action: This indicator has been Revised									
Area provided with improved irrigation or drainage services (CRI, Hectare(Ha))		0.00	0.00	0.00	5,000.00	10,500.00	16,000.00	22,000.00	22,000.00



Indicator Name	PBC	Baseline	Intermediate Targets						End Target
			1	2	3	4	5	6	
Action: This indicator has been Revised									
Getting to Market (Action: This Component has been Revised)									
SMEs supported by the Program and running their business sustainably (Number)		0.00	76.00	411.00	845.00	1,310.00	1,741.00	2,120.00	2,195.00
Roads constructed or rehabilitated (Madagascar) (Kilometers)		0.00							230.00
Action: This indicator has been Revised									
Number of processing, storage, and market facilities constructed and/or rehabilitated (Madagascar) (Number)		0.00							50.00
Action: This indicator is New									
People receiving improved nutrition services and products (person) (Number)		0.00							300,000.00
Action: This indicator is New									
of which female (number) (Number)		0.00							120,000.00



Indicator Name	PBC	Baseline	Intermediate Targets						End Target
			1	2	3	4	5	6	
<i>Action: This indicator is New</i>									
Promoting Food Systems Resilience in National and Regional Policymaking (Action: This Component has been Revised)									
Regionally harmonized policy frameworks and legislations facilitated by RECs through the program (Number)		0.00	0.00	1.00	2.00	2.00	2.00	3.00	3.00
Strengthening/establishing the Regional Centers of Leadership (RCoL) in participating countries (Number)		0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Technical areas for which a regional knowledge sharing mechanism is put in place (Number)		0.00	1.00	1.00	2.00	2.00	2.00	3.00	3.00
Countries with current NAIPs/NAFSIPs in place (Number)		0.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00
Program Management									
Program direct beneficiaries reached (Number)		0.00	279,188.00	659,978.00	1,034,809.00	1,439,640.00	1,844,786.00	2,309,617.00	2,309,617.00
Of which women (Number)		0.00	63,313.00	171,894.00	309,539.00	470,270.00	653,914.00	803,847.00	803,847.00
Beneficiaries satisfied with the Program's interventions (Percentage)		0.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00



Indicator Name	PBC	Baseline	Intermediate Targets						End Target
			1	2	3	4	5	6	
Percentage of GRM addressed from the total claims received (Percentage)		0.00	95.00	95.00	95.00	95.00	95.00	95.00	95.00
Contingency Emergency Recovery Component (Action: This Component is New)									
Beneficiaries of social safety net programs (CRI, Number)		0.00							2,800,000.00
Action: This indicator is New									
Beneficiaries of Safety Nets programs - Unconditional cash transfers (number) (CRI, Number)		0.00							2,800,000.00
Action: This indicator is New									
Female Beneficiaries of Safety Nets programs - Unconditional cash transfers (Percentage) (Percentage)		0.00							65.00
Action: This indicator is New									
Supporting Locust Response and Climate-Smart Livestock Systems (Action: This Component is New)									
Number of hectares protected from locusts (Madagascar) (Hectare(Ha))		0.00							300,000.00



Indicator Name	PBC	Baseline	Intermediate Targets						End Target
			1	2	3	4	5	6	
Action: This indicator is New									
Number of beneficiaries receiving genetically improved animals (Madagascar) (Number)		0.00							55,000.00
Action: This indicator is New									

Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Reduction of food insecure people in program targeted areas		Baseline, midterm, endline	HH Survey Report /Baseline, Midterm and End-line survey report	Rigorous sampling process to select the survey households and data collection follow the IPC methodology and survey design	Survey firms
Farmers adopting resilient enhancing technologies and practices		Bi-annual	Country Progress Reports	Sum of the total beneficiaries who have adopted CSA technologies/practices after receiving advisory services or/and trainings from the Project	M&E Teams



Of which female farmers					
Percentage of climate resilient technologies					
Land area under sustainable landscape management practices	The indicator measures, in hectares, the land area for which new and/or improved sustainable landscape management practices have been introduced. Land is the terrestrial biologically productive system comprising soil, vegetation, and the associated ecological and hydrological processes; Adoption refers to change of practice or change in the use of a technology promoted or introduced by the project; Sustainable landscape management (SLM) practices refers to a combination of at least two technologies and approaches to increase land quality and restore degraded lands for example, agronomic, vegetative, structural, and	Bi-annual	Country progress	Bi-annual assessment	National M&E teams



	management measures that, applied as a combination, increase the connectivity between protected areas, forest land, rangeland, and agriculture land.				
Increase in volume of agricultural production sold on domestic and regional markets		Annual	Country progress reports	National trade: Data obtained from the Project Implementation Units Intra-regional trade: Statistics from Customs and the Ministry of trade	M&E teams
Policy products adopted with program's support related to agriculture, natural resource management, and food system resilience		Annual	Country and regional organisations' progress reports	Data obtained from PIUs	M&E Teams

Monitoring & Evaluation Plan: Intermediate Results Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Technologies developed and transferred to extension services with project support		Bi-annual	Country progress reports	Sum of the total technologies transferred to extension from each country's report	M&E Teams, HH Survey /Firm level survey



Of which gender sensitive technologies					
Farmers accessing food system and hydromet information to manage shocks that affect food supply		Bi-annual	Country progress reports	Number of farmers receiving food system and hydromet information out of total farmers	M&E Teams
Of which female farmers					
Change in households dietary diversity score (HDDS) among targeted project beneficiary households		Baseline, Mid-term, End-line	HH Survey Report /Baseline, Midterm and End-line survey report	The HDDS indicator provides a glimpse of a household's ability to access food as well as its socioeconomic status based on the previous 24 hours. Each food group is assigned a score of 1 (if consumed) or 0 (if not consumed). The household score will range from 0 to 12 and is equal to the total number of food groups consumed by the household	M&E Teams
Number of women using modified access to inputs/service for agricultural production (Ethiopia)		BI-annual	Country progress report	Reports obtained from PIUs	M&E teams



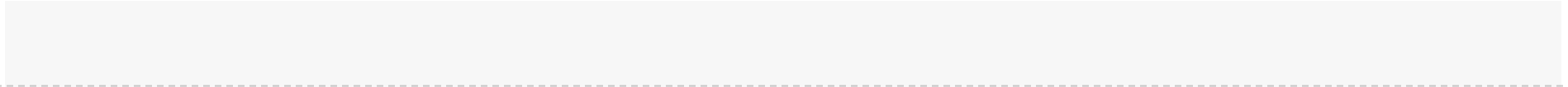
Number of farmers receiving inputs or service on climate resilient or sustainable agriculture practices (farmer)					
Of which female farmers receiving inputs or services on climate resilient or sustainable agriculture practices					
Number of women integrating sustainable production technologies because of a women-targeted program					
Number of smallholder producers/processors receiving productivity enhancement support (person)					
Share of communities with multi-year development plans for resilient productive base implemented		Bi-annual	Country progress reports	Reports obtained from the PIUs	M&E Teams
Land areas restored or reforested/afforested (Madagascar)		Bi-annual	Country progress reports	Data obtained from the PIUs	M&E Teams
Water user associations/farmer-based organizations for the O&M of the infrastructure, equipment, and landscape restoration activities established or/and strengthened		Bi-annual	Country progress reports	Data obtained from the PIUs	M&E Teams
Area provided with new/improved irrigation or drainage services		Bi-annual	Country progress reports	Data obtained from PIUs	M&E teams
Area provided with new irrigation or drainage services					



Area provided with improved irrigation or drainage services	Measures in hectares the total area of land provided with new or improved irrigation or drainage services in operations supported by the World Bank.				
SMEs supported by the Program and running their business sustainably		Bi-annual	Country progress reports	Data obtained from the PIUs	M&E Teams
Roads constructed or rehabilitated (Madagascar)		Bi-annual	Country progress reports	Data obtained from the PIUs	M& Teams
Number of processing, storage, and market facilities constructed and/or rehabilitated (Madagascar)					
People receiving improved nutrition services and products (person)					
of which female (number)					
Regionally harmonized policy frameworks and legislations facilitated by RECs through the program		Annual	RECs	Data obtained from RECs	RECs
Strengthening/establishing the Regional Centers of Leadership (RCoL) in participating countries		Annual	RECs	Data obtained from RECs	RECs
Technical areas for which a regional knowledge sharing mechanism is put in place		Annual	RECs	Data obtained from RECs	RECs



Countries with current NAIPs/NAFSIPs in place		Annual	Country progress reports	Data from PIUs	M&E teams
Program direct beneficiaries reached		Annual	Country progress reports	Data obtained from the PIUs	M&E Teams
Of which women					
Beneficiaries satisfied with the Program’s interventions		Mid term, and end of project	Country progress reports	Surveys	M&E Teams
Percentage of GRM addressed from the total claims received		Bi-annual	PIUs	GRM systems in the PIUs	PIUs
Beneficiaries of social safety net programs					
Beneficiaries of Safety Nets programs - Unconditional cash transfers (number)					
Female Beneficiaries of Safety Nets programs - Unconditional cash transfers (Percentage)					
Number of hectares protected from locusts (Madagascar)					
Number of beneficiaries receiving genetically improved animals (Madagascar)					





Annex 1: FSRP-MG AF Greenhouse Gas (GHG) Accounting

1. **Background and methodology.** Following its Environment Strategy, the World Bank adopted a corporate mandate to conduct greenhouse gas (GHG) emissions accounting for investment lending. The quantification of GHG emission is an important step in managing and ultimately reducing GHG emission. The World Bank adopted the Ex-Ante Carbon-balance Tool (EX-ACT), developed by the Food and Agriculture Organization of the United Nations (FAO), to assess the impact of agricultural and rural development investment lending on GHG emissions and carbon sequestration. EX-ACT allows the ex-ante assessment of a project's net carbon-balance, defined as the net balance of CO₂ equivalent GHG that would be emitted or sequestered as a result of project implementation, compared to a *without project scenario*. EX-ACT estimates the carbon stock changes (emissions or sinks), expressed in equivalent tons of CO₂ per hectare and year.

2. **Ex-ACT application for the GHG accounting of Madagascar Food Systems Resilience Project Additional Financing (FSRP-MG AF).** The Project Development Objective (PDO) remains unchanged for FSRP-MG AF. The aim is to “increase the resilience of food systems and preparedness for food insecurity in project areas.” The Project, including its AF, is implemented in a six-year timeframe, starting in FY 24, and has a capitalization period of fourteen years (in total, the assessment considers a 20-year period). Project interventions are organized into six Components: Component 1 ‘(Re-)Building Resilient Agricultural Production Capacity (US\$34.90 million, including US\$14 million from AF); Component 2 ‘Supporting the Sustainable Development of Natural Resources for Resilient Agricultural Landscapes (US\$29 million with no AF); Component 3 ‘Getting to Market (US\$60.20 million, US\$24M linked to AF – of which, US\$20 million from GAFSP)’; Component 4 ‘Project Coordination, Knowledge Management and Dissemination (US\$26 million, including 6M of AF)’; Component 5: Contingent Emergency Response Component (US\$50 million with no AF); and, Component 6, Emergency Response (US\$34 million from AF). The GHG accounting of FSRP-MG AF applies Ex-Act tool to assess the Greenhouse gas impacts of the Project implementation on activities corresponding to the AF only. The GHG Balance is in line with the Economic and Financial Analysis (EFA) of the Project.

3. **Investment models considered in the GHG accounting of FSRP-MG.** The assessment is based on the net GHG emissions likely generated by the investment models applied in the EFA. The EFA focuses on the quantitative assessment of investment models that represent the main Project activities and its anticipated results. This GHG balance assessment considers only those investment models to be implemented with Additional Financing. Based on the parameters and assumptions applied to the investment models (see EFA Annex Table 1 for further details), the influence of investment models in terms of GHG fluxes is assessed for a land area of 71,550 hectares out of the global Project target of 250,000 hectares under sustainable land management. *Table 1* of this GHG Balance Annex summarizes the main assumptions applicable to the GHG balance assessment per investment model corresponding to FSRP-MG AF. As part of the Project's AF, besides the investment models listed in table 1, the GHG accounting also integrates the effects of the emergency response to the ongoing locust invasion. The parameters and assumptions referring to the emergency response are described below in the applicable modules of Ex-Act tool.

GHG Balance Annex - Table 1. List of investment models/technological packages supported by FSRP-MG



AF¹³

Sub-component	Investment models	Land area (hectares)	Land use WOP	Land use WP
C1.1	Improved seed multiplication - maize	6,000	Annual cropland - conventional system	Annual cropland - improved system
C1.2	Farm equipment manufacturing	-	Annual cropland - conventional system	Annual cropland - improved system
C2.2	Agroforestry nursery	-	Degraded land	Multi-strata AF system
C2.2	Agroforestry systems	-	Degraded land	Multi-strata AF system
C2.2	Beekeeping	-	Degraded land	Multi-strata AF system
C2.3	CSA rice production	-	Annual cropland - conventional system	Annual cropland - improved system
C2.3	CSA onion production	-	Annual cropland - conventional system	Annual cropland - improved system
C3	Rice storage and processing	5,600	Annual cropland - conventional system	Annual cropland - improved system
C6.2	Improved livestock and pasture management	9,900	Grassland - conventional system	Grassland - improved system
C6.2	Improved goat rearing and grazing	50,050	Grassland - conventional system	Grassland - improved system
TOTAL		71,550		

4. **Data sources.** The assessments take into consideration various sources of data and information. For the delimitation of technical aspects in the with-Project and with-out Project scenarios, the main sources of data and information include ongoing investment operations (from World Bank and other partners) and technical documents prepared or led by the Project Implementation Unit.

5. **General parameters and assumptions.** The Project geographical area within Madagascar is vast, including 18 regions. For the GHG accounting, the most dominant climate, moisture regime and soil type have been selected. The climate is tropical with a moist regime and the soil type is Low activity clay (LAC). The timeframe of Project implementation is 6 years, and the capitalization phase is 14 years. Thus, the analysis period is set for a total of 20 years. Dynamics of evolution are assumed to be linear for most of the variables. The analysis applies default “Tier 1” coefficients from Exact Tool. The construction of ‘with-out project situation’ and ‘with project situation’ trajectories is based on average technical references. The GHG accounting considers the following two main trends supported by the Project, with implications on GHG fluxes. First, the transition from conventional to climate resilient and sustainable models. The approximate area (in hectares) and dynamics (initial, without project and with project) of diverse land uses is detailed in the following sections. Second, changes in inputs utilization, based on the changes in production intensity and efficiency gains and avoided losses, which are relevant benefits derived from the application of Climate Smart Agriculture (CSA) technologies and practices. The analysis also considers additional effects from emergency interventions in response to the ongoing locust invasion.

6. **Parameters and assumptions for land use and land use change.** In line with FSRP-MG, the Project would lead to the sustainable management of 250,000 hectares, corresponding to the area covered by the EFA investment models. With regards to the AF, the analysis covers 65,283 hectares out of the global target. Besides area covered by investment models, the GHG balance considers additional effects of implementing a triennial action Plan to control the locust invasion and avoid additional losses. In this case, to facilitate the assessment and keep it conservative, it is assumed that there are no significant changes in land use and management driven by the implementation of the Plan. Therefore, the potential area

¹³ This Tables lists all investment models integrated into the FSRP-MG EFA. Only those with indications of land area are assumed to be implemented with AF support.



under influence from the implementation of the triennial action plan is not accounted for in the land use and land use change matrix shown in Table 2 of this GHG Balance Annex.

Table 2. Land use and land-use change dynamics supported by FSRP-MG AF

WITHOUT PROJECT	Forest	Annual	Perennial	Flooded rice	Grassland	Degraded land	Other land	Total area (ha)
Forest	0	0	0	0	0	0	0	0
Annual cropland	0	5,333	0	0	0	0	0	5,333
Agroforestry	0	0	0	0	0	0	0	0
Flooded rice	0	0	0	0	0	0	0	0
Grassland	0	0	0	0	59,950	0	0	59,950
Degraded land	0	0	0	0	0	0	0	0
Other land	0	0	0	0	0	0	0	0
Total area without project (ha)	0	5,333	0	0	59,950	0	0	65,283

WITH PROJECT	Forest	Annual	Perennial	Flooded rice	Grassland	Degraded land	Other land	Total area (ha)
Forest	0	0	0	0	0	0	0	0
Annual cropland	0	5,333	0	0	0	0	0	5,333
Agroforestry	0	0	0	0	0	0	0	0
Flooded rice	0	0	0	0	0	0	0	0
Grassland	0	0	0	0	59,950	0	0	59,950
Degraded land	0	0	0	0	0	0	0	0
Other land	0	0	0	0	0	0	0	0
Total area with project (ha)	0	5,333	0	0	59,950	0	0	65,283

7. **Parameters and assumptions for annual crops.** FSRP-MG AF considers support to up-scale investment models linked to annual croplands. The technical guidelines proposed for annual crops incorporate improved agricultural technologies and practices that contribute to GHG mitigation, while supporting climate resilience enhancement. In the frame of Ex-ACT GHG accounting of annual crop systems remaining annual crop systems, the assessment considers that CSA practices, in comparison to the conventional systems, increase the organic material input (from low to medium¹⁴) and varies the management of residues (from exported to retained). The EFA and GHG accounting assumes that 6,000 hectares of annual crops will be subject to such improved agricultural technologies and practices.

8. **Parameters and assumptions for grassland and livestock management.** FSRP-MG integrates investments linked to livestock systems, being one of the key sub-sectors in the regions covered by the Project. In particular, the Project AF will support emergency response to the locust invasion with implications on grassland and livestock management. First by supporting animal restocking and improved livestock management. Then by avoiding further losses due to the timely action against the locust invasion.

9. **Parameters and assumptions for grassland and livestock management – emergency response to the locust invasion: animal restocking and improved management.** In the case of most critical areas affected by the locust invasion, the assessment assumes these are linked to more direct Project beneficiaries. In line with the EFA, these correspond to investment models listed in Table 1 as ‘improved livestock and pasture management’, as well as ‘improved goat rearing and grazing’ (C6.2). These

¹⁴ According to Ex-ACT, medium C input cropland systems are defined by one of the following conditions: (1) annual cropping with cereals where all crop residues are returned to the field; or (2) the crop residues of annual crops are removed or burnt but organic amendments (e.g. manure) are applied or (3) low residue crops are cultivated or frequent rotation with bare fallow but using practices that increase C input above low residue varieties such as using organic amendments, cover crops/green manures, and mixed crop/grass systems or (4) annual crops with no mineral fertilization or N-fixing crops but using practices that increase C input by enhancing residue production such as irrigation, cover crops/green manures, vegetated fallows, high residue yielding.



investment models cover 59,950 hectares out of the global Project target of 250,000. The implementation of Project activities would lead to the application of improved animal and grassland management. Without the Project intervention, the carrying capacity of the land would be reduced and lead to a decrease of livestock heads. Given the high vulnerability of the population affected by the locust invasion, who are currently suffering acute food insecurity, it is assumed that this lost of livestock will prove difficult to recover without Project support. At the baseline and with Project intervention, livestock herd for other cattle is 69,300 heads and without the Project intervention it would be 34,650 heads. At the baseline and with Project intervention, livestock herd for goats is 811,752 heads and without the Project intervention it would be 522,933 heads.

10. **Parameters and assumptions for grassland and livestock management – emergency response to the locust invasion: avoided additional losses due to the locust invasion.** Regarding the other line of action, under sub-component 6.1, the implementation of the action Plan against the locust invasion would avoid additional losses. The triennial action Plan against locust invasion is still under preparation. Therefore, very conservative assumptions have been made based on the implementation of the triennial action plan of 2013/14 – 2015/16. Without the implementation of the Plan, the locust invasion would expand and lead to temporary reductions in available biomass over an area of at least 1.4 million hectares. It is assumed that these additional losses would occur in grass lands (pasture and rangelands). The GHG analysis keeps a very conservative approach, accounting only for avoided losses of pasture within land areas covered in each campaign of the triennial action plan. The analysis assumes that 50% of the total area covered by the Plan is pasture and the biomass losses are expressed in terms of energy savings.¹⁵ It would be also ideal to add assumptions on likely changes in herd numbers. However, these changes would be temporary and hard to predict with the limited information available. Therefore, this factor is excluded from the GHG balance. Only the effects of the Plan in terms of emissions from the pesticides applied and the balance with temporary avoided losses of pastures (converted to energy savings) are considered in the analysis. Given that there will be no significant changes in land use and management practices over the long run, these 1.4 million hectares are not included in the land use and land use change dynamics shown in *Table 2* of this GHG Balance Annex.

11. **Parameters and assumptions on the use of inputs.** The main inputs considered in this GHG analysis are agricultural inputs, such as fertilizers and others. Regarding energy consumption, there are changes due to variations in the efficiency of key inputs. In the case of avoided losses (considering intermediate inputs along the value chain) these are expressed as energy savings by applying conservative assumptions.

12. **Agricultural inputs.** The available technical guidelines in crop production include the use of improved seeds and fertilizers (organic and inorganic). The incremental amounts (tons per year) of fertilizers are linked to the investment models applied to the EFA. Data is available per hectare for annual crops. The assessment also includes the chemicals applied to fight the current locust invasion and avoid expansion. The Project will provide technical support to make a safe and efficient use of inputs.

13. **Energy consumption.** The implementation of the triennial Action Plan to fight the locust invasion, including barrier measures, would limit the expansion of the locust invasion and avoid further biomass

¹⁵ The Ex-Act tool does not facilitate the analysis of temporary effects within the time-frame of the overall assessment. Therefore, the total estimate of energy savings is divided by 20 to express it along the whole period of analysis (assuming an immediate change).



losses. Based on the experience from the implementation of the last triennial Action Plan (2013/14-2015/16), the analysis applies assumptions on the area that would benefit from avoided biomass losses. Taking into consideration the major production systems in the area (mainly grassland and crop land), in line with the EFA, avoided losses are expressed in terms of energy savings. Other climate change mitigation benefits could arise from avoided biomass loss, but these are not included to keep a conservative estimate. There are no land use changes and no major changes in terms of the technologies and practices applied to the production systems. Therefore, this area is not accounted for in the land use / land-use change matrix.

14. Infrastructure. FSRP-MG AF supports the development or rehabilitation of agricultural buildings providing key services along the target value chains. The type of buildings supported by the Project AF are mainly used for post-harvest management and inputs/outputs certification laboratories.

15. Net carbon balance of FSRP-MG AF. A GHG accounting of the Project AF was carried out using the ex-ante carbon-balance tool (EX-ACT). The analysis quantifies the net carbon balance with regard to tCO₂e, resulting from GHGs emitted or sequestered during the project implementation and capitalization period (20 years) compared to the without-project scenario. The project leads to a net reduction of 0.6 tCO₂e emissions annually and per hectare, when compared to a business-as-usual baseline scenario. After 20 years, and for the whole FSRP-Mg AF intervention, GHG mitigation benefits would amount to a net reduction of 740,566 tCO₂e. The main results of this GHG analysis are summarized in Table 3 of this GHG Balance Annex.

16. Carbon sources and sinks. The main source of GHG emissions comes from livestock, followed by agricultural inputs. The sequestration benefits come principally from improved grassland management, followed by cropland.

GHG Balance Annex - Table 3. Results of the ex-ante GHG analysis in tCO₂-eq

Project name	FSRP-MG Additional Financing			Project duration (in years)	65,283		Global warming potential	
Continent	Eastern Africa			Implementation Phase	65,283		CO ₂	1
Country	Madagascar			Capitalization Phase	0		CH ₄	28
Climate	Tropical			Total Duration of Accounting	20		N ₂ O	265
Moisture	Moist							

GROSS FLUXES				SHARE PER GHG OF THE BALANCE					AVERAGE ANNUAL EMISSIONS		
In tCO ₂ -e over the whole period analysis				In tCO ₂ -e over the whole period analysis					In tCO ₂ -e/yr		
PROJECT COMPONENTS	WITHOUT	WITH	BALANCE	CO ₂ BIOMASS	CO ₂ SOIL	N ₂ O	CH ₄	ALL NON-AFOLU EMISSIONS*	WITHOUT	WITH	BALANCE
Land use changes											
Deforestation	0	0	0	0	0	0	0		0	0	0
Afforestation	0	0	0	0	0	0	0		0	0	0
Other land-use	0	0	0	0	0	0	0		0	0	0
Annual	28,309	-12,295	-40,604	0	-43,619	3,015	0		1,415	-615	-2,030
Perennial	0	0	0	0	0	0	0		0	0	0
Flooded rice	0	0	0	0	0	0	0		0	0	0
Grasslands & Livestock											
Grasslands	0	-2,693,367	-2,693,367	0	-2,830,801	63,708	73,725		0	-134,668	-134,668
Livestock	2,687,824	4,659,941	1,972,118			177,625	1,794,493		134,391	232,997	98,606
Forest mgmt.	0	0	0	0	0	0	0		0	0	0
Inland wetlands	0	0	0	0	0	0	0		0	0	0
Coastal wetlands	0	0	0	0	0	0	0		0	0	0
Fisheries and aquaculture	0	0	0	0	0	0	0	0	0	0	0
Inputs & Invest.	0	21,289	21,289	0	0	37,379		-16,090	0	1,064	1,064
Total emissions, tCO₂-e	2,716,133	1,975,568	-740,566	0	-2,874,420	281,726	1,868,219	-16,090	135,807	98,778	-37,028
Total emissions, tCO₂-e/ha	41.6	30.3	-11.3	0.0	-44.0	4.3	28.6	-0.2			
Total emissions, tCO₂-e/ha/yr	2.1	1.5	-0.6	0.0	-2.2	0.2	1.4	0.0			

Uncertainty level	tCO ₂ -e/yr	Percent
WITHOUT	135,807	33%
WITH	98,778	4%
BALANCE	-37,028	44%

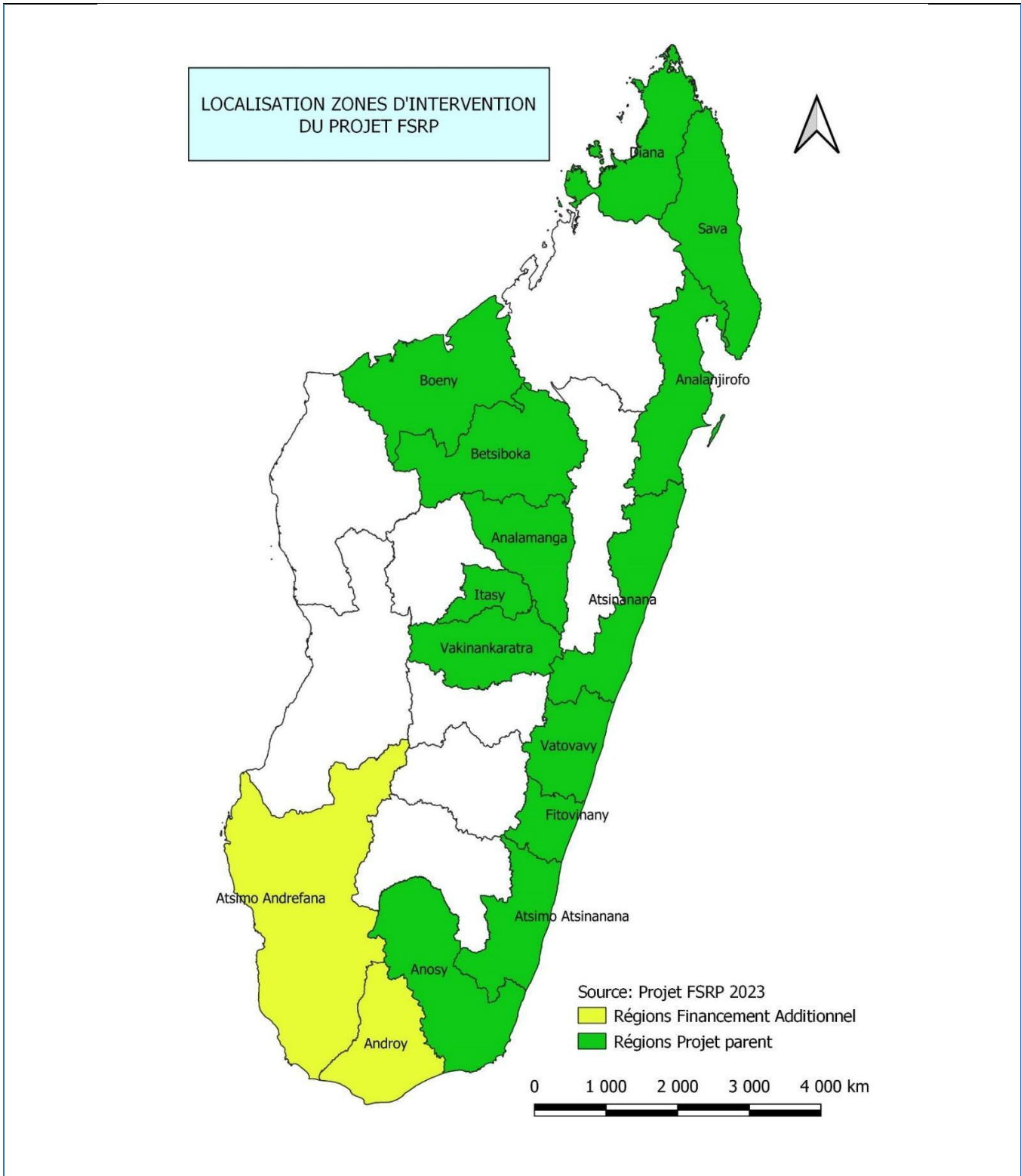
Results presented here include GHG fluxes on mineral and organic soils
See further down for detailed results on organic soils
* Includes fisheries, aquaculture and inputs & investments that are not included in the AFOLU definition.



17. Sensitivity analysis. The uncertainty, as calculated by Exact-Tool, is 43%. This analysis was run using mostly tier 1 coefficients, which in some cases may provide over or underestimated values. It is a relevant source of uncertainty in the estimation of GHG emission/sequestration scenarios.



Annex 2: Map of FSRP Regions





Annex 3: Home Grown School Feeding: products and work plan

Overview

1. This activity aims to strengthen the food and nutrition security of target populations in Madagascar and build institutional and community capacity for more sustainable and crisis-resilient food systems. It includes three pathways of implementation:

1) Contributing to increased access to education and improved nutrition among school-age children by

- extending coverage of the school feeding program based on purchases from local producers; and
- strengthening national capacity to deliver on the availability and consumption of fresh and varied nutritious foods in school canteens.

2) Sustainably developing natural resources for resilient food systems by

- increasing the supply of improved stoves to reduce firewood consumption; and
- raising awareness of environmental education and school and community gardens adopting sustainable agricultural practices such as crop rotation, agroforestry, use of environmentally friendly practices.

3) Supporting multi-sector collaboration and coordination among relevant stakeholders—such as government institutions, UN agencies, NGOs, or the private sector—by

- establishing a coordination and communication mechanisms among sectors involved in food security; and
- monitoring the implementation of the integrated food security policy and crisis response plan.

2. Home-grown school feeding will reduce the vulnerability and increase the resilience of beneficiaries and communities in project areas by prioritizing the purchase of locally-produced food for schools, and by building the capacity of officials responsible for managing school feeding programs to deliver using the innovative modality. Training and technical assistance provided to beneficiary producers will help them increase their productivity and resilience to climate shocks while securing an important new institutional market for their goods (income impact). School children will improve their food and nutritional security, which should contribute to improved academic performance. At the same time, authorities at the school, local and national levels will develop new capacity to manage the school feeding system and food security and crisis response policies.

3. The activities will be implemented by the World Food Programme (WFP), which will align itself with the government's development objectives and the orientations of the school nutrition and feeding



strategy based on local purchases to support and ensure the implementation of the school feeding program in around 800 schools, for 240,000 pupils per school year in the targeted intervention zones for three years. Students will benefit from a hot meal prepared with local products, reinforcing their food security and access to education for the school years 2023-2024, 2024- 2025, and 2025-2026. The project will initially support 15,000 producers who will receive training and TA and will supply agricultural products to participating schools in their vicinity. New producers will be added to the implementation of the project if the right conditions are present.

4. Through this school feeding model, the WFP will help ensure the development of the local economy by helping agricultural producer organizations meet the demand for local products in terms of quality and quantity. It will also facilitate the marketing of agricultural products to improve the flow between supply and demand. Finally, the WFP will work to strengthen institutional capacities by empowering actors at the local, regional, and national level in the coordination of school canteen activities to ensure the program's continuity over the long term.

5. The project aims to consolidate the full potential of school feeding as a driver of community development in the intervention area by strengthening the school, producer, and community network; and by disseminating innovative and intelligent agricultural technology solutions to climate change and adaptation, shocks and crises that contribute to strengthening sustainable and resilient food systems. Targeted communities will increase the resilience of their livelihoods as well as their capacity to engage in production, processing, and marketing systems towards more diversified and stable market opportunities. Project implementation will consider opportunities for synergy and complementarity with ongoing activities (such as the Mionjo¹⁶ Project), lessons learned from previous experiences, multiple stakeholder involvement at all levels, and diversification of partners by leveraging their comparative advantage and expertise.

6. To achieve these objectives, the WFP, in close collaboration and coordination with the government and partners, will implement five activities, grouped around three main products corresponding to each of the above-mentioned objectives.

Outputs and Activities

Output I: Stronger school feeding system based on local production

7. Through the activities detailed below, 240,000 pre-school and primary school pupils per year for the duration of the project in over 800 schools in the project's target intervention areas will receive a hot meal based on local purchases over three years (2023-24, 2024-25 and 2025-26)— 177 meal days per school year. This will contribute to strengthening student access to nutritious food and food security, while promoting access to education and the development of local communities.

8. The school meals will be made up primarily of local products, which will be purchased in the following ways: (1) FEFFI, the community-based organizations (parents, etc.) responsible for planning and carrying out purchases for schools, receives the cash transfer via cell phone, validates a supply plan with

¹⁶ The Project for Resilient Livelihoods in Southern Madagascar (Mionjo - P171056) is up and running, with additional funding in 2021 to strengthen access to basic infrastructure and income opportunities.



local structures (CLG and CISCO)¹⁷ and local producers, and makes the purchases to meet a nutritious and diversified menu; and (2) by WFP directly, prioritizing local purchases at local, regional and national level in accordance with its rules and procedures, in place of imported products, which was the classic approach.

9. The strategy for the three years of implementation will contribute to increasing the production capacity of rural producers and thus increase the proportion of local purchases around the school through several components:

- Strengthening the link between producers and schools by supporting structuring and financial inclusion.
- Strengthening processing and storage capacities
- Increasing, diversifying, and strengthening smallholder production by improving access to agricultural extension services, particularly for complementary sectors, and disseminating climate services and information.

10. Given the precarious storage conditions in the schools and the short shelf life of fresh produce, FEFFIs will make weekly purchases/deliveries of fresh produce. Local products will be purchased from local producers in the intervention areas, thus strengthening local economies. Dry goods purchased locally by WFP will be distributed on a quarterly basis, with the food basket consisting of rice, oil and pulses. Menus will follow the nutritional guidelines set out in regional catalogs drawn up by WFP nutritionists, considering the availability of products in the areas of intervention, the energy and nutritional value of foods, and local eating habits. Each school meal will represent at least 40% of pupils' daily energy requirements.

11. Interventions will target the regions and districts indicated below. The schools will be proposed by the WFP, in close collaboration with Le Ministre de l'Éducation Nationale (MEN), after which a list of intervention schools with the number of pupils and the number of producers will be drawn up. The intervention districts are:

REGIONS	DISTRICTS
Anosy	Amboasary et Fort-Dauphin
Androy	Ambovombe ; Tsihombe ; Beloha ; Bekily
Atsimo Andrefana	Ampanihy ; Betioky ; Benenitra ; Toliara II ; Toliara I et Morombe
Atsimo Atsinanana	Vaingandrano et Farafangana
Fitovignany	Manakara
Vatovavy	Mananjary
Analamanga	Antananarivo Avaradrano, Manjakandriana et Anjozorobe
Vakinankaratra	Antsirabe II
Itasy	Arivonimamo, Miarinarivo et Soavinandrina

¹⁷ CLG and CISCO are the decentralized structures at district level responsible for supporting the implementation of school canteens.



12. Activity 1.1: Strengthening and expanding the system/network between schools and producers.

Focused on strengthening school feeding based on local purchases given its potential to stimulate local production, this multi-sectoral intervention also relies on a review of the current school supply system to expand this network and its potential for providing nutritious meals to pupils and its local economic spin-offs.

13. **Study and analysis of value chains for each school will be carried out by** the project, which will map nearby (or district/regional, where appropriate) production units that could replace imports as a source of supply, through the study and analysis of targeted value chains, including their capacity to meet the schools' supply needs. The involvement of MINAE's decentralized structures (DRAE, CIRAE) will support the collection and analysis of data on value chains close to schools.

14. **Implementation of the school feeding program based on local purchasing.** This activity will also cover (1) cash transfers via cell phone by FEFFI, which will validate a supply plan with local structures (CLG and CISCO) and local producers and make purchases to meet a nutritious and diverse menu ensuring supplies to pupils on school days; and (2) canteen supplies through WFP purchases of local, regional and/or national products.

15. The project will explore the possibility of sourcing from neighboring regions with surplus production, particularly if production of nutrient-rich dry grains such as lentils, chickpeas, black beans and others is limited.

16. A 10 percent increase in income from sales to schools is expected for 35 percent of the 20,000 farmers targeted and supported, based on a baseline to be established on what producers sell during the first year (the assumption is that in the South, less than 35% of producers have the sale of agricultural products as their main source of income. (Source: CFSAM).

17. **Activity 1.2: Capacity-building for stakeholders involved in managing and implementing the school canteen program based on local purchasing by schools.** The project will support training in canteen management, which will be needed for schools to manage the process of purchasing, receiving, monitoring, reporting and quality control, as well as menu planning and food preparation through local management committees at each trained school. They will also receive support in raising awareness of education and good nutritional, health, and hygiene practices, maintaining school gardens to raise awareness of dietary diversity, and promoting essential family practices in nutrition, health, and hygiene to maximize benefits for pupils.

18. The school gardens will serve as educational tools and will be implemented and adapted to the conditions of each school. The production of school gardens can complement the school diet and support diversification, but their main purpose remains educational. Climate-sensitive agricultural activities will be introduced to pupils and, depending on the conditions available for school gardens in the schools, may be tested, including vertical garden suspended vegetable growing techniques and small livestock or fish farming initiatives in the vegetable growing component. These activities could contribute to food diversification, source of animal protein, production of organic fertilizer of animal origin and/or composting. The project will aim to expand the adoption of innovative technologies for school feeding, in particular the supply of improved stoves to reduce the consumption of firewood, and solar technologies depending on the feasibility of the context and needs.



19. **Dissemination of digital tools.** This intervention will be accompanied by the development and use of digital tools set up in collaboration between the WFP and MEN to facilitate the integration of populations into markets. The aim of these digital trading platforms is to make it easier for schools to calculate the quantities of foodstuffs required for the school menu, and to enable producers to bid on an offer (alone or in a group), and to validate and monitor each stage through to delivery. The training required to use this tool effectively will be provided to producers and schools. The producer card initiative currently being implemented by the government could feed into the process in the future.

Output II: Supporting the sustainable development of natural resources for resilient food systems

20. WFP, in close collaboration with the government, will strengthen the processing and storage capacities of 15,000 producers, 40 percent of whom will be women, in the intervention zones. By promoting diversification and value addition for better income, nutrition and health outcomes, this sub-component will provide agrifood technologies with the dissemination of sustainable energy sources that improve the availability and quality of healthy food products, climate-change adapted agricultural practices integrated with sustainable natural resource management, and associated income opportunities, thus contributing to household resilience to climate change. The provision of these agrifood and energy technologies will be accompanied by thematic training courses to share best practices and lessons learned.

21. **Activity 2.1: Diversification and strengthening of agricultural production, processing and storage to meet the needs of a nutritious, locally based, sustainable and resilient food system.** The project will support the producer training and extension needed to enable producers to join the school feeding program as suppliers under contractual arrangements. Training will therefore cover elements such as program management processes, quality standards to be followed, strengthening the organization of farmers' associations and the financial inclusion of its members to enable them to cover the needs of schools.

22. **Investments in agricultural extension services, dissemination, and communication** will improve access to agricultural services, in particular agro-ecological and agro-forestry practices and phytosanitary rules, for producers integrating the school feeding program, through the training and equipping of extension agents (an average of 10 agents supported per district, for a total of 230).

23. Wherever possible, the project will also promote the *Champ Ecole Paysan* (CEP) approach, with local managers being equipped to support these activities. The CEP is a group of 20 to 25 willing and available learners who meet once a week over the course of a winter season to learn how to cultivate a plot of land. The aim is to observe all the interactions around the plant, identify potentialities and constraints, and experiment with solutions to production problems, with a view to choosing the most promising technical itinerary and growing a healthy crop. In this way, the CEP facilitates the learning and reasoned integration of new agricultural production techniques, while considering both the capacities of producers and the accessible resources linked to the ecosystem.

24. In addition, this activity will also involve the dissemination and communication of research results capitalized on at national and international level and of climate-smart agricultural technologies, as well as technical support for their application. The adoption of resilient agricultural technologies aimed at



increasing the land under sustainable management will be targeted at 10,000 producers, considering an average of 0.5ha of cultivated land per farmer in the South.

25. **Investments in storage and loss/waste management** will focus on needs at producer level, with the provision of basic equipment, such as hermetic bags and/or other technologies, for the intermediate storage of commodities. In addition, training will cover the most appropriate methods and tools for limiting post-harvest losses and improving the quality of final products.

26. **Targeted producers will be supported in diversifying their production** through the provision of a starter kit of seeds, inputs, and small equipment for more resilient production and with practices better adapted to climatic hazards, to increase the reliability of supply systems for the school feeding system.

27. A value chain study is currently underway focuses on the agricultural commodities to be prioritized by intervention zone, in order to supplement school food requirements based on the nutritional recommendations of the school canteen menu and considerations of the agro-climatic context. Agricultural commodities could include groundnuts, cassava, sweet potatoes, cowpeas, sorghum and vegetables, as well as poultry (meat and eggs), cajanus cajan and brachiaria for cattle and goat feed (meat and dairy products). Options for replacing oil will also be explored. This list will have to be adjusted and fixed according to the other analyses in progress by the other components of the parent project.

28. Menu catalogs based on local and regional products have been drawn up, but they will not be standardized in every school. Although nutritional analyses are not necessarily part of this project, they may be made available through complementary activities, such as the Fill the Nutrient Gap (FNG) study. The catalogs consider nutrient-rich varieties that are adapted to local conditions and already grown by producers. These different crops will be developed as flagship value chains (these could be specific to each region) to gradually replace imported cereals and ensure sustainable availability and the project's exit strategy after 3 years.

29. Processing activities involve support for the construction and/or community rehabilitation of five processing units, as appropriate, including the supply of equipment and input kits for each unit, with technical support for farmers' organizations in the management and use of their processing units, small machinery and tools. These units will contribute to the processing of products selected based on the results of the value chain analysis currently underway, such as flours, oils or other products derived from the targeted commodity chains for school feeding. The project will exploit the incorporation of food (bio)fortification in line with feasibility and needs.

30. **Activity 2.2: Strengthening agrometeorological data and information management systems and services for small-scale farmers involved in school feeding.** This activity will support the development of digital data and information systems to help manage weather- and market-related risks, and better inform decision-making by stakeholders in the agricultural value chain. The project will **extend the coverage of climate services**, with investments in substation equipment for the analysis and collection of agrometeorological data (parameters of agricultural seasons, sowing dates, soil moisture, etc.), as well as links with complementary information, such as satellite images (in connection with the European Space Agency's GDA 2020-2025 project) to measure and forecast the impacts of real-time conditions on production, animal, plant and soil health, or prices and stock availability.



Output III: Technical support for food security policy and integrated crisis response

31. **Activity 3.1: Technical support for food security policy and integrated crisis response**
Implementation of food reserve and integrated crisis response systems. Supporting integrated coordination in the face of crises and climate change will support feasibility studies for the implementation of a food reserve system and the definition of its operational plan. This technical support is accompanied by investments in storage equipment for the food/cereal reserve systems selected in key districts such as Amboasary, Ambovombe, Tsihombe and Bekily.

32. The activity will focus on the food reserve system, the network of community storage facilities and targeted schools. It will contribute to the reduction of post-harvest losses and the integration of local production to ensure food availability in the event of future shocks, including its use in various response programs (school feeding, targeted distributions, etc.), taking into account climate change. The food reserve system will form the basis for the development of an action plan for early response to food crises.

Instruments for studying environmental and social issues

33. The government has prepared and is required to implement the Environmental and Social Engagement Plan (PEES) for the project, which includes a Stakeholder Engagement Plan (PEPP), in accordance with its obligations under the World Bank's Environmental and Social Framework. The PEES has been reviewed and approved by the Bank and forms part of the Financing Agreement. The PEPP defines the material measures and actions required to manage environmental and social risks and impacts, as well as the specific environmental and social assessment instruments ("PEES Instruments", including the PEPP) and the implementation schedule for the latter.

34. Under this Agreement, the WFP is responsible for the preparation and implementation of the environmental and social provisions of the project and for sending quarterly reports to the UNGP. The WFP contract includes budgets and specialists for the implementation of environmental and social aspects. WFP will play a particularly important role in the implementation of the following management instruments: the Environmental and Social Management Framework (CGES); the Resettlement Framework (CR); the Integrated Pest and Pesticide Management Plan (PIGPP); the Labor Management Plan (PGMO); the Stakeholder Mobilization Plan (PMPP); the Action Plan against Sexual Abuse and Exploitation and Sexual Harassment; and the MIONJO Project Complaints Management Mechanism. These instruments, which describe the mitigation measures proposed for the management of Project risks, including risks associated with the spread of the COVID-19 virus during the implementation of activities, as well as the Code of Conduct to be respected proscribing sexual harassment and sexual abuse and exploitation in the workplace, will be taken into account by WFP in accordance with its environmental and social policies and procedures. It is understood that WFP shall require its Consultants and Contractors, including Implementing Partners, to comply with the obligations set forth above, which are applicable and relevant.

Institutional governance framework

35. To ensure the catalytic success of the intervention as an engine for development, the project will follow an established institutional framework to guide the multi-sectoral approach. This framework will enable effective planning for the involvement of stakeholders from different sectors of government and



civil society. It is also planned to include representatives from other ministries such as Agriculture and Livestock, Education, Nutrition, Health, Environment and Water on the Project Steering Committee. Their participation will contribute to the orientation and monitoring of project implementation.

36. Coordination between implementing partners will be a key factor in carrying out the planned activities. This coordination will be ensured through the appropriate mechanisms within the state apparatus. Existing or to-be-developed protocols will be needed to clarify the responsibilities, roles and implementation modalities of each stakeholder. In addition, these mechanisms will mobilize existing structures such as the COPILANSS multi-sectoral committee (steering committee for school food, nutrition and health) set up under the 2019-2024 strategic plan for school food linked to local production. These existing structures will be supplemented where necessary to ensure effective coordination between all the players involved.

<u>Ministries</u>	<u>Collaboration on HGSF</u>
<u>MINAE</u>	Ministry takes the lead through the coordination unit to <ul style="list-style-type: none"> ▪ Monitors project implementation ▪ Ensures multi-sectoral coordination through the project coordination unit, by mobilizing the various sectors and organizing meetings at different stages. ▪ Provides human and material resources to monitor project implementation. ▪ Supports advocacy within the government for the implementation of the project's sustainability elements in the rural development component at the level of financing, institutionalization, legal and policy framework. ▪ Ensures that implementation follows Ministry guidelines, standards and regulations, specifically in support of producer capacity-building (organization, management, production, processing, storage, application of digital tools, resilience to climate change and shocks, support for financial inclusion, food reserve system).
<u>MEN</u>	<ul style="list-style-type: none"> ▪ Co-leads in project implementation and work closely with PAM and MINAE ▪ Coordinates the national school feeding program based on local purchasing ▪ Monitors project implementation ▪ Support advocacy within the government for the implementation of the project's sustainability elements in the canteen sustainability activity in terms of financing, institutionalization, legal and political frameworks. ▪ Places its technical structure at your disposal to support implementation by providing the necessary information and expertise, and specifically capacity-building for players involved in program management and implementation at all levels (FEFFI, DREN, CISCO).



Office National de la nutrition – ONN (attached to the Prime Minister's Office)	<ul style="list-style-type: none">▪ Ensures high-level advocacy for school nutrition, food and health investments.▪ Provides its technical structure to support the implementation of nutrition and health guidelines at school level, specifically in the areas of nutrition education, quality control and safety, conservation, menu planning and preparation, training (cooks, communities, behavior change).
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Project sustainability

37. To ensure the sustainability of project results beyond the implementation phase, the project will invest in institutional capacity-building for the management and sustainability of the National School Feeding Program at the local, regional and national levels on the institutional, financial and operational aspects of the program within the government with a multi-sectoral, multi-level approach that leverages the different expertise of the sectors involved in school feeding based on local purchasing.

38. Within the framework of financial sustainability, the project is based on commitments made by the Government and the community and its intention to increase the school canteen budget, technical support will be provided to develop tools enabling the Government to advocate and mobilize resources for the national school feeding program with a specific budget line and stable allocations.

39. To strengthen advocacy, WFP will provide information, knowledge and tools to enhance understanding of the long-term benefits and advantages of school feeding in different sectors and beyond education outcomes (e.g. health, agriculture, social protection), with a special focus on the impact on the country's economy, human capital development, and how this affects the child at school and later in life.

40. On the institutional side, the project will strengthen the legal and policy framework for the regulation of school feeding and help institutionalize capacity in the management and implementation of the national program based on local purchasing, involving government structures at all levels and the school community. On this basis, there is an ongoing commitment with the school meals coalition to perpetuate school food as a competing ministerial priority. To this end, efforts are underway to establish and publish a plan of priorities for the coordination of school meals, including advocacy for its funding. A national forum, with the involvement of the Presidency, is being prepared to support advocacy and efforts to make the program sustainable.

41. At the operational level, the project aims to empower producers by improving the quality of end products, which will enable production to be channeled towards endogenous market alternatives, adapted to local conditions in terms of price, diversity, and packaging. The project will also ensure greater involvement and commitment of local stakeholders in school feeding programs, including the training of school committees in canteen management, cash management, local food procurement, food preparation, and account performance. These training sessions will be decentralized and accompanied by round-table discussions on financing issues, while the creation of school gardens (with both pedagogical and integrated resilience objectives for schools) will raise awareness of local food production and agriculture among both children and the wider community.



Total financing ceiling

Cost Category	Period 1 (A1Q3-A2Q2)	Period 2 (A2Q3-A3Q4)	Total
Output I: Stronger school feeding system based on local production			
Food transfer	8,478,841	13,857,682	22,336,523
Cash transfer (CBT)	3,008,018	4,416,036	7,424,054
Capacity building on the national side (CS)	362,130	616,930	979,060
Total product			30,739,637
Output II: Supporting the sustainable development of natural resources for resilient food systems			
Transfer cost (NFI type)	2,023,466	2,736,276	4,759,742
Capacity building (CS)	1,353,835	1,218,000	2,571,835
Total product II			7,331,577
Output III: Technical support for an integrated food security policy and crisis response			
Capacity building (CS)	158,326	232,000	390,326
Sub-total	15,384,616	23,076,924	38,461,540
Indirect support costs (ISC)	615,384	923,076	1,538,460
Total	16 000 000	24 000 000	40 000 000

Notes:

- a) All lump sums and totals in this table are based on detailed estimates (including quantities and units of measure) discussed and agreed with the Government and the Bank prior to the signing of this Agreement.
- b) The 1% coordination fee levied by the United Nations does not apply to this Agreement.
- c) Under the terms of this Agreement, no transfers may be made to governmental organizations.
- d) Please indicate whether any part of this Agreement is delegated to another United Nations agency, or to a third party/implementing partner(s)/cooperating partner(s): No