Document of
The World Bank

FOR OFFICIAL USE ONLY

Report No: PAD1553

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED CREDIT

IN THE AMOUNT OF SDR 28.7 MILLION
(US$40 MILLION EQUIVALENT)

TO THE

REPUBLIC OF MOZAMBIQUE

FOR THE

EMERGENCY RESILIENT RECOVERY PROJECT FOR THE NORTHERN AND CENTRAL REGIONS

September 16, 2015

Social, Urban, Rural and Resilience Global Practice
Africa Region

CURRENCY EQUIVALENTS
(Exchange Rate Effective July 31, 2015)

Currency Unit	=	Meticais (MMT)
MZN 000	=	US$1
US$ 1	=	SDR 0.71700007
SDR 1	=	US$ 1.39470000

FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

AIAS	Water and Sanitation Infrastructure Administration
ANE	National Road Administration
ARA	Regional Water Authority
CCCP	Cities and Climate Change Project
CERC	Contingency Emergency Response Component
CPS	Country Partnership Strategy
CPAR	Country Procurement Assessment Review
CQS	Consultants' Qualifications
CRA	Water Regulatory Council
CTGC	Technical Committee for Disaster Management
CUT	Single Treasury Account
DAF	Department of Administration and Finance
DNA	National Directorate of Water
DNO	National Directorate of Budget
DNT	National Directorate of Treasury
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESPP	Education Sector Support Program
GDP	Gross Domestic Product
GFDRR	Global Facility for Disaster Reduction and Recovery
GoM	Government of Mozambique
ICB	International Competitive Bidding
IFMIS	Integrated Financial Management Information System
IFR	Interim Financial Report
INAM	Mozambique National Meteorology Institute
INGC	National Institute for Disaster Management
INIR	National Institute for Irrigation
IPMP	Integrated Pest Management Plan
IRM	Immediate Response Mechanism
IRR	Internal Rate Of Return
ISP	Implementation Support Plan

MASA	Ministry of Agriculture and Food Security
MINEDH	Ministry of Education and Human Development
MEF	Ministry of Economy and Finance
MICOA	Ministry of Coordination of Environmental Affairs
MOPHRH	Ministry of Public Works, Housing and Water Resources
NCB	National Competitive Bidding
NPV	Net Present Value
PFS	Project Financial Statements
PROIRRI	Sustainable Irrigation Development Project
PSC	Project Steering Committee
QCBS	Quality and Cost-Based Selection
RAP	Resettlement Action Plan
ROR	Rates of Return
RPF	Resettlement Policy Framework
SOE	Statement of Expenditures
SSS	Single Source Selection
TA	Administrative Tribunal
UNDP	United Nations Development Programme
WASIS	Water Services and Institutional Support Project
WRD	Water Resources Development Project

Regional Vice President:	Makhtar Diop
Country Director:	Mark R. Lundell
Senior Global Practice Director:	Ede Ijjasz-Vasquez
Practice Manager:	Sameh Wahba
Task Team Leaders:	Michel Matera / Jean-Baptiste Migraine

REPUBLIC OF MOZAMBIQUE

Emergency Resilient Recovery Project for the Northern and Central Regions (P156559)

TABLE OF CONTENTS

Page

PAD DATA SHEET

Mozambique

MZ - Emergency Resilient Recovery Project for the Northern and Central Regions (P156559)

PROJECT APPRAISAL DOCUMENT

AFRICA

Report No.: PAD1553

Basic Information		
Project ID P156559	EA Category B - Partial Assessment	Team Leader(s) Michel Matera, Jean Baptiste Migraine
Lending Instrument Investment Project Financing	Fragile and/or Capacity Constraints [X] - Natural or man made disaster	
	Financial Intermediaries [ ]	
	Series of Projects [ ]	
Project Implementation Start Date 29-Sep-2015	Project Implementation End Date 30-May-2019	
Expected Effectiveness Date 02-Nov-2015	Expected Closing Date 30-Jun-2019	
Joint IFC No		

Practice Manager	Senior Global Practice Director	Country Director	Regional Vice President
Sameh Naguib Wahba	Ede Jorge Ijjasz-Vasquez	Mark R. Lundell	Makhtar Diop

Borrower: Ministry of Economy and Finance (MEF)			
Responsible Agency: Ministry of Public Works, Housing and Water Resources (MOPHRH)			
Contact:	Suzana Saranga Laforte	Title:	National Director of Waters
Telephone No.:	258823115430	Email:	ssaranga@dnaguas.gov.mz
Responsible Agency: Ministry of Education and Human Development (MINEDH)			
Contact:	Eugenio Maposse	Title:	National Director of Edifications
Telephone No.:	258824548050	Email:	eugenio.maposse@mined.gov.mz
Responsible Agency: Water and Sanitation Infrastructure Administration (AIAS)			
Contact:	Olinda de Sousa	Title:	Executive Director

Telephone No.:	258823137450	Email:	occsousa@hotmail.com
Responsible Agency: National Institute for Irrigation (INIR)			
Contact:	Paiva Munguambe	Title:	General Director
Telephone No.:	258824332750	Email:	kensydoge@yahoo.com

Safeguards Deferral (from Decision Review Decision Note)

Will the review of Safeguards be deferred? [X] Yes [ ] No

Project Financing Data(in USD Million)

[ ]	Loan	[ ]	IDA Grant	[ ]	Guarantee
[X]	Credit	[ ]	Grant	[ ]	Other

Total Project Cost:	40.00	Total Bank Financing:	40.00
Financing Gap:	0.00		

Financing Source	Amount
BORROWER/RECIPIENT	0.00
International Development Association (IDA)	40.00
Total	40.00

Expected Disbursements (in USD Million)

Fiscal Year	2016	2017	2018	2019
Annual	9.00	11.00	13.00	7.00
Cumulative	9.00	20.00	33.00	40.00

Institutional Data

Practice Area (Lead)

Social, Urban, Rural and Resilience Global Practice

Contributing Practice Areas

Agriculture, Education, Water

Cross Cutting Topics

[X] Climate Change
[ ] Fragile, Conflict & Violence
[ ] Gender
[ ] Jobs
[ ] Public Private Partnership

Sectors / Climate Change

Sector (Maximum 5 and total % must equal 100)

Major Sector	Sector	%	Adaptation Co-benefits %	Mitigation Co-benefits %

Education	Primary education	30	100	
Water, sanitation and flood protection	Water supply	20	100	
Agriculture, fishing, and forestry	Irrigation and drainage	20	100	
Water, sanitation and flood protection	Flood protection	30	100	
Total		100		

☐ I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.

Themes

Theme (Maximum 5 and total % must equal 100)

Major theme	Theme	%
Social protection and risk management	Natural disaster management	40
Environment and natural resources management	Water resource management	20
Human development	Education for all	15
Rural development	Rural services and infrastructure	15
Environment and natural resources management	Climate change	10
Total		100

Proposed Development Objective(s)

The Project Development Objective is to restore the functionality of critical infrastructure in a resilient manner in the disaster-affected provinces, and to improve the Government of Mozambique's capacity to respond promptly and effectively to an eligible crisis or emergency.

Components

Component Name	**Cost (USD Millions)**
Component A. Resilient Infrastructure Rehabilitation	31.00
Component B. Technical Assistance for Resilient Recovery and Vulnerability Reduction	6.00
Component C. Project Implementation, Monitoring and Evaluation	3.00
Component D. Contingency Emergency Response (CERC)	0.00

Systematic Operations Risk- Rating Tool (SORT)

Risk Category	**Rating**
1. Political and Governance	Substantial
2. Macroeconomic	Moderate

3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Moderate
5. Institutional Capacity for Implementation and Sustainability	Moderate
6. Fiduciary	Moderate
7. Environment and Social	Moderate
8. Stakeholders	Substantial
9. Other	
OVERALL	Moderate

Compliance

Policy

Does the project depart from the CAS in content or in other significant respects?	Yes [ ] No [X]
Does the project require any waivers of Bank policies?	Yes [ ] No [X]
Have these been approved by Bank management?	Yes [ ] No [ ]
Is approval for any policy waiver sought from the Board?	Yes [ ] No [X]
Does the project meet the Regional criteria for readiness for implementation?	Yes [X] No [ ]

Safeguard Policies Triggered by the Project	**Yes**	**No**
Environmental Assessment OP/BP 4.01	**X**	
Natural Habitats OP/BP 4.04	**X**	
Forests OP/BP 4.36		**X**
Pest Management OP 4.09	**X**	
Physical Cultural Resources OP/BP 4.11	**X**	
Indigenous Peoples OP/BP 4.10		**X**
Involuntary Resettlement OP/BP 4.12	**X**	
Safety of Dams OP/BP 4.37		**X**
Projects on International Waterways OP/BP 7.50		**X**
Projects in Disputed Areas OP/BP 7.60		**X**

Legal Covenants

Name	**Recurrent**	**Due Date**	**Frequency**
Safeguard Instruments		01-Feb-2016	

Description of Covenant

The Recipient shall, not later than three (3) months after the Effective Date, prepare, adopt and disclose the ESMF, RPF, and IPMP.

Name	Recurrent	Due Date	Frequency
Safeguard Specialists		01-Feb-2016	

Description of Covenant

The Recipient shall, not later than three (3) months after the Effective Date, recruit a social and environmental specialist each for INIR and MOPHRH-DNA.

Conditions

Source Of Fund	Name	Type
IDA	Subsidiary Agreement	Effectiveness

Description of Condition

The Subsidiary Agreement has been executed on behalf of the Recipient and AIAS.

Source Of Fund	Name	Type
IDA	Project Implementation Manual	Effectiveness

Description of Condition

The Recipient has adopted a Project Implementation Manual acceptable to the Association.

Source Of Fund	Name	Type
IDA	Retroactive Financing	Disbursement

Description of Condition

No withdrawal shall be made for payments made prior to the date of the Financing Agreement, except that withdrawals up to an aggregate amount not to exceed SDR 5,020,000 may be made for payments made prior to this date but on or after September 1, 2015, for Eligible Expenditures under Category 1.

Source Of Fund	Name	Type
IDA	Safeguards	Disbursement

Description of Condition

No withdrawal shall be made for eligible works under Category 1 unless (a) prior to the commencement of works an ESIA and/or ESMP and, if necessary, a RAP was prepared, adopted, disclosed and implemented by the Recipient, and approved by the Association; or (b) to the extent that such works have already commenced, an Environmental and Social Audit of such works was completed and implemented.

Source Of Fund	Name	Type
IDA	Immediate Response Mechanism	Disbursement

Description of Condition

No withdrawal shall be made under Category 8, for Emergency Expenditures under Part D of the Project, unless and until the Association is satisfied, and notified the Recipient of its satisfaction, that all the conditions specified in the Financing Agreement have been met.

Team Composition

Bank Staff

Name	Role	Title	Specialization	Unit

Michel Matera	Team Leader (ADM Responsible)	Sr Urban Spec.		GSURR
Jean Baptiste Migraine	Team Leader	Disaster Risk Management Specialist		GSURR
Antonio L. Chamuco	Procurement Specialist	Senior Procurement Specialist		GGODR
Elvis Teodoro Bernado Langa	Financial Management Specialist	Financial Management Specialist		GGODR
Adrianus Verweij	Team Member	Consultant		GSU10
Alfredo Ricardo Zunguze	Team Member	Consultant		GPSQP
Andre L. Carletto	Team Member	Consultant		GSU13
Aniceto Timoteo Bila	Team Member	Senior Rural Development Specialist		GFADR
Arlete Quiteria Comissario Nkamate	Team Member	Program Assistant		AFCS2
Chalida Chararnsuk	Team Member	Program Assistant		GSURR
Cheikh A. T. Sagna	Safeguards Specialist	Senior Social Development Specialist		GSURR
Christoph Pusch	Team Member	Lead Disaster Risk Management Specialist		GSURR
Daniel Baloi	Team Member	Consultant		GEDDR
David Malcolm Lord	Team Member	Senior Water Supply and Sanitation Specialist		GWADR
Eden Gabriel Vieira Dava	Safeguards Specialist	Consultant		GSU01
Enrique Blanco Armas	Team Member	Lead Country Economist		GMFDR
Fadila Caillaud	Team Member	Senior Economist		GEDDR
Fernando Ramirez Cortes	Peer Reviewer	Senior Disaster Risk Management Specialist		GSURR
Gerard Joseph Mataban Jumamil	Counsel	E T Consultant		LEGAM

Johanna van Tilburg	Safeguards Advisor	Senior Social Development Specialist		OPSOR
Laurence Elodie Esther Fanny Chalude	Team Member	Consultant		GSU13
Luis M. Schwarz	Team Member	Senior Finance Officer		WFALA
Luis Macario	Team Member	Water & Sanitation Specialist		GWASA
Luiz Claudio Martins Tavares	Team Member	Lead Water and Sanitation Specialist		GWADR
Luz Meza-Bartrina	Counsel	Senior Counsel		LEGAM
Maiada Mahmoud Abdel Fattah Kassem	Team Member	Finance Officer		WFALA
Mark A. Austin	Team Member	Program Leader		AFCS2
Paulo Jorge Temba Sithoe	Safeguards Specialist	Environmental Specialist		GENDR
Pieter Waalewijn	Peer Reviewer	Sr Water Resources Mgmt. Spec.		GWADR
Saurabh Suresh Dani	Peer Reviewer	Senior Disaster Risk Management Specialist		GSURR
Shelley Mcmillan	Team Member	Sr Water Resources Spec.		GWADR

Extended Team

Name	Title	Office Phone	Location
Roberto White	Disaster Risk Management Consultant		

Locations

Country	First Administrative Division	Location	Planned	Actual	Comments
Mozambique	Zambezia	Provincia de Zambezia	**X**		
Mozambique	Niassa	Niassa Province	**X**		
Mozambique	Nampula	Nampula	**X**		

Consultants (Will be disclosed in the Monthly Operational Summary)

Consultants Required ? Consultants will be required

I. STRATEGIC CONTEXT

A. Country Context

1. Mozambique is located on the east coast of Africa, bordering six countries. With an area of 800,000 square kilometers, the country is richly endowed with natural resources, including arable land, forests, fisheries, water and mineral resources. Mozambique's economy has grown rapidly since the end of the civil war in 1992. Annual Gross Domestic Product (GDP) growth averaged 7.4 percent over the past two decades. Robust growth was made possible by sound macroeconomic management, a number of large-scale foreign-investment projects, political stability and significant donor support. In recent years, strong growth has more specifically been supported by foreign direct investment inflows in extractive industries. Major discoveries of coal and gas have the potential to transform Mozambique into a significant player in global markets.

2. Despite this wealth and rapid development, Mozambique remains one of the poorest countries in the world, with approximately 70 percent of its 22.9 million people living and working in extreme poverty (less than US$2 a day). In 2007, 38 percent of the population was undernourished and only 42 percent had access to an improved water source. The country ranks 178 out of 187 in United Nations Development Programme's (UNDP) Human Development Index (2013), the lowest in southern Africa. Over 70 percent of the population live in rural areas and are still dependent on subsistence agriculture. The geographical distribution of poverty also remains largely unchanged since the last 2009 poverty assessment, with poverty concentrated in rural areas and in the Central and Northern regions. The Southern region experienced moderate reduction in poverty in the mid- and late-2000s, reflecting spillover effects from the rapid growth of urban centers in the region.

3. Mozambique experiences some of southern Africa's most variable hydrological and meteorological conditions. Tropical to sub-tropical climates prevail in the Northern and Central regions, whereas the South is predominantly arid. The oscillations of the Inter-Tropical Convergence Zone (referred to as El Niño/La Niña phenomena) influence the timing and magnitude of rainy (October to March) and dry seasons (April to September). The country is particularly exposed to tropical cyclones and is also the third country most at risk from water and weather-related hazards in Africa[1]. About 58 percent of the population and more than 37 percent of GDP are exposed to two or more natural hazards, which translates into 1.1 percent annual average loss in GDP. Floods in particular cause annual average losses in the order of US$17.5 million in damage to household housing, US$0.7 million in damage to roads and bridges, and US$42.5 million of loss in maize.

B. Situations of Urgent Need of Assistance or Capacity Constraints

4. From January to March 2015, Mozambique was hard-hit by heavy rains, winds and flooding in the Central and Northern regions of the country, more specifically in the Zambezi, Licungo and Shire River basins. This disaster has had severe economic and social impacts in the affected areas, resulting in an increase in the poorest people's vulnerability, and severely damaging the social and production infrastructure. About 326,000 people were affected and 140 killed, while

[1] GFDRR Mozambique Country Profile (2009).

30,000 houses, 2,362 classrooms and 17 health units were either partially or totally destroyed. More than 104,430 hectares of crops were lost during the event, impacting 102,000 farmer households.

5. The flooding situation overwhelmed national response capacities. As a result, on January 12, 2015 the Government of Mozambique (GoM) declared a red alert, triggering major emergency response interventions. The GoM also requested the Bank to assist in addressing the urgent rehabilitation, reconstruction, and preservation of the damaged infrastructure. In March 2015, the Bank thus participated in a joint needs assessment mission with the United Nations and the European Union. According to the GoM-World Bank-UN-EU Joint Damage Assessment that ensued[2], the cost of damages is estimated to be around US$384 million, or 2.4 percent of GDP. The damage negatively impacted the population's livelihood, housing, social infrastructure and overall agriculture production in addition to public infrastructure, including key national roads, drainage and irrigation infrastructure, and energy transmission grids (see details in Table 1). The total recovery and reconstruction priorities are estimated at US$485 million, which is equivalent to 3.1 percent of the national GDP. It includes US$67 million for drinking water supply; US$46 million for agriculture, food security and fisheries; US$12.6 million for dikes; US$10 million for sustainable land and water management; and US$10 million for non-structural Disaster Risk Management (DRM). The impact of heavy rains and flooding is estimated to negatively affect GDP growth in 2015 by 0.2 to 0.5 percent.

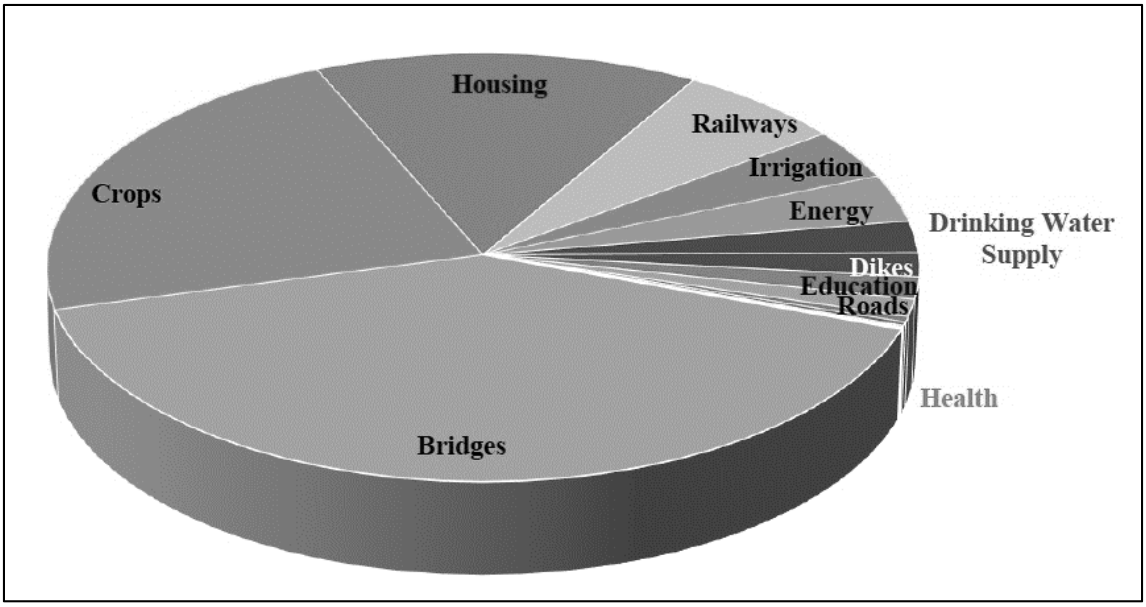
Table 1: Estimate of Disaster Effects

Sector/Subsector	Total Disaster Effects (Damages) (US$M)	Total Recovery and Reconstruction Needs (US$M)
Roads and Bridges	155	281
Drinking Water Supply	8.8	67
Agriculture, Food Security and Fisheries	97	46
Railways	24	24.2
Housing	56	6
Irrigation Infrastructure	14.2	n/a
Energy	13.3	14.5
Drainage and dikes	7	12.8
Education	6.2	11.3
Health	1.5	1.5
Market and Commerce Infrastructure	0.96	0.96
Telecommunications	0.38	0.38
Hydro-Meteorological Equipment	0.10	10
Sustainable Land and Water Management	n/a	10
Total	**384**	**485**

Source: Mozambique 2015: Damage Assessment and Early Recovery / Sustainable Reconstruction Priorities.

[2] Mozambique 2015: Damage Assessment and Early Recovery / Sustainable Reconstruction Priorities, *Joint Rapid Assessment following the January-February 2015 Hydro-Meteorological Events in the Central and Northern Regions;* GoM-World Bank-UN-EU, June 2015.

Figure 1: Estimate of Disaster Effects



Source: Mozambique 2015: Damage Assessment and Early Recovery / Sustainable Reconstruction Priorities

6. The provinces of Nampula, Niassa and Zambezia were particularly affected, exacerbating an already precarious situation. With about 11.5 million total inhabitants, these three provinces account for 44 percent of the country's population and are jointly responsible for about 27 percent of the national GDP.[3] They also host the poorest populations in the country, with high incidences of poverty estimated at 70.5 percent in Zambezia, 54.7 percent in Nampula, 31.9 percent in Niassa in 2009. The three provinces have been exposed to flooding, strong winds, erosion, or a combination of these hazards, which have created significant damages accounting for about 9 percent relative to the provinces' share of GDP. Damages and losses together could represent about 20 percent.

7. With up to 590 mm of rain over the month of January 2015 recorded in the city of Mocuba in Zambezia, the heavy rainfall was an event of about 30-year return period (i.e. an event with a 1/30 probability of occurrence every year). On January 12, the Licungo River – one of Mozambique's riskiest waters – reached its highest levels since 1971, and the associated runoff resulted in erosion of the Licungo banks on both sides of the Mocuba Bridge. Such events led to the quarrying of material from the riverbed, which ultimately caused about 90 percent of the damage and resulted in most of the casualties. Most of the damage occurred in or around the city of Mocuba, with a total population of about 170,000 inhabitants. The proximity of a tropical storm – which later converted into tropical cyclone Chedza – also generated very high winds, which contributed to significant damage to buildings across the three provinces, particularly schools.

8. Owing to the large-scale damage and losses, and the likely increase in poverty and vulnerability levels in the affected provinces, the GoM requested the Bank's assistance to help

[3] INE - projections for 2015. Nampula and Zambezia are the most populated provinces of Mozambique, with a total population of 5 million and 4.8 million respectively according to INE projections for 2015. Niassa has a population of about 1.65 million inhabitants.

finance key recovery interventions on April 24, 2015. The Bank supported the GoM in addressing the most urgent needs through the restructuring of two on-going projects within the IDA portfolio: US$7.63 million (SDR 5.476 million) from the Spatial Development Planning Technical Assistance Project (P121398), and US$10 million (on-going restructuring) from the PROIRRI Sustainable Irrigation Development Project (P107598).

9. In parallel, trust fund resources from the Global Facility for Disaster Reduction and Recovery (GFDRR) have been allocated to support the GoM in two specific areas: a US$1 million grant to strengthen the National Institute for Disaster Management (INGC)'s capacity for DRM; and, a US$1.5 million grant for a Safer Schools Project. These grants will provide technical assistance as well as analytical and planning support to reconstruction and long-term resilience building. In particular, the Safer Schools Project focuses on: (a) enhancing the training and regulatory environment; (b) increasing the understanding of disaster and climate risks relevant to school construction, as well as improving access and use of hazard information; and (c) improving the implementation of resilient school construction at the local level – targeting both government and community construction – by looking at site location and physical planning, quality and adaptation of design, procurement, construction and inspection. These grants will play a key complimentary role in the recovery and reconstruction phase.

10. Other development partners have also started to develop interventions. The European Union focuses mostly on roads and bridges. It has mobilized €10 million from the European Development Fund to carry out, through the National Road Administration (ANE), urgent rehabilitation works on the main road EN1, bridges and some feeder roads in the Northern and Central regions. The World Food Programme has supported a number of "Food for Asset" initiatives including rehabilitation of school, agricultural, transportation and housing infrastructures. UNDP is also considering supporting INGC with institutional support in relation to a recovery framework. The African Development Bank is mostly assisting with the rehabilitation of water supply in rural areas. The Government of the Netherlands has supported the emergency rehabilitation of the Mocuba drinking water supply (US$500,000), and is considering supporting the expansion of the Munda-Munda irrigated scheme from its current 400 to 3,000 hectares. Finally, UNICEF's priority will be on developing non-structural disaster risk reduction (DRR) capacities, such as DRR curricula and school preparedness plans.

11. Nonetheless, the scale of destruction and reconstruction needs far outweighs the resources that are currently available. This emergency project is critically needed in order to restore basic productive capacities, rehabilitate public services and strengthen capacity for the medium and long-term response. The proposed Emergency Resilient Recovery Project for the Northern and Central Regions ("The Project") is thus designed to provide a comprehensive response across those priority areas. Project interventions were selected based on a prioritization of emergency needs in sectors that were hardest hit as described in the GoM-World Bank-UN-EU Joint Damage Assessment. They also represent areas of intervention that other development partners have either not yet addressed or do not plan to address, as reflected by their existing and planned commitments communicated to the Bank team.

C. Sectoral and Institutional Context

12. **Dikes & Flood Protection**: The Ministry of Public Works, Housing and Water Resources (MOPHRH) through the National Directorate of Water (DNA) is responsible for the strategic management of water resources in Mozambique. DNA combines the responsibility for policy making, implementation, planning and management of water resources, as well as provision of water supply and sanitation services in rural areas. The strategic activities undertaken by DNA are operationalized by the five Regional Water Authorities (ARAs). In Mozambique, dikes protecting irrigation schemes and urban areas are institutionally under the responsibility of ARAs, while dikes lying within irrigated schemes are under the responsibility of the Ministry of Agriculture and Food Security (MASA).

13. Flood protection infrastructures are not abundant in the affected area. Affected dikes are located in the left bank of the lower Licungo River (Nante) and in the left bank of the lower Zambezi River (Luabo). These are very flat, productive and densely populated areas where thousands of people live and work under the protection of the dikes. These dikes are old infrastructures built in the 1960s to 1980s. They have been subject to recurrent flooding every one or two years and subsequent erosion with lack of maintenance. They have at times suffered important breaches, which went several years with no repair, aggravating exponentially the vulnerability of areas, as was the case with the Nante dike that was dramatically damaged in the January and February 2015 flooding. Their top surfaces are used as local roads, and thus lowered when considered obstacles to crossing, especially with cattle. In addition, water pumping from the river towards the irrigated fields leads to excavation of the embankments. Aggravations of flood intensities over the last years indicate that design features are in critical need of review.

14. **Agriculture & Irrigation:** Agriculture is a significant potential contributor to rural poverty reduction. Agricultural improvements offer scope to narrow persistent income disparities between rural and urban areas and to reduce poverty in regions that benefitted little from the economic gains of recent years. However, with increased unpredictability and severity, floods and droughts frequently disrupt agricultural production and livelihoods in Mozambique. With regards to the latest flooding event, more than 104,430 hectares of crops were lost between January and February 2015, impacting 102,000 farmer households. Moreover, the irrigation infrastructure in Mozambique is less developed than in other average Sub-Saharan African countries. As of 2007, 2.7 percent of the country's cultivated area was equipped for irrigation, below the region's average of 3.5 percent. The equipped irrigation area contributes merely 4.8 percent to the total agriculture output. Mozambique thus stands as the country with the largest potential area increase for small-scale projects. To this end, and with the adoption of the National Strategy for Irrigation in December 2010, the National Institute for Irrigation (INIR) was recently established under the Ministry of Agriculture and Food Security (MASA) to adequately cover policy, strategic and operational issues related to irrigation. It is being equipped with the tools and capacity to facilitate a revival of the Mozambican irrigation. The GoM also adopted regulations governing water user rights, implemented through a network of regional water resource management centers that issue water user rights and collect water user fees from producers.

15. The GoM has identified several priorities to improve the performance of the irrigation subsector and transform it into an engine of growth for agriculture: (a) enhance the management

of irrigation assets, focusing particularly on cost recovery to finance operation and maintenance; (b) improve the legal and regulatory framework on water for agriculture and the efficiency of enforcing the Land Law to clarify land use rights and enhance land use security to enhance access to irrigation as well as private investment in the subsector; and (c) establish linkages and working relationships between public entities responsible for irrigation (at the central and provincial levels) and beneficiaries (such as smallholder farmer associations, irrigation associations, individual farmers, and private enterprises) through Public-Private Partnerships for irrigation development.

16. **Drinking Water Supply:** The Water and Sanitation Infrastructure Administration (AIAS) is responsible for water, sanitation and waste water treatment in all secondary towns in Mozambique. In 2012, about 47 percent of the Mozambican population had access to an improved water source, and only 17 percent to adequate sanitation.[4] Estimated access to an improved source of water supply was at 77 percent in urban areas and 29 percent in rural areas as of 2010. The coverage of drinking water supply in the three affected provinces is relatively lower when compared to country averages. In addition to their limited availability, drinking water systems are also highly vulnerable. The main factors contributing to their vulnerability are: (a) lack of compliance with the protection areas in the surroundings of capture sites; (b) flood protection infrastructure below standards; and (c) the proximity of infrastructures to areas prone to high runoff or landslides. The water supply systems in urban areas in the affected provinces are particularly vulnerable to the direct impact of floodwaters as they are usually lying in or near the riverbeds. For example, the intakes of Mocuba, Molocue and Ile and conduits in Cuamba and Nacala were specifically affected by energy outages.

17. **Education**: It is estimated that 72 percent of schools in Mozambique are located in high-risk areas of one or more hazard[5] (cyclone, floods, etc.). Due to inadequate design, poor construction quality, as well as inappropriate location and orientation, school buildings are highly vulnerable to the combined effects of flooding and wind hazards. In addition, more than 40 percent of classrooms are built directly by the communities, using substandard construction techniques and local materials (such as straw-bale, haystack, timber poles, and raw mud as wall finishing). Half of these "non-conventional" schools are located in the provinces of Nampula and Zambezia. This combination of high exposure and vulnerability to natural hazards results in frequent damage and destruction of schools. In recent years, the number of classrooms destroyed in a single disaster event has surpassed the number of classrooms built annually by the Ministry of Education and Human Development (MINEDH). As an example, the 2013 and 2015 floods destroyed or damaged respectively 695 and 433 conventional classrooms while during those same years the MINEDH built on average 800 classrooms annually. Under this scenario, the GoM will hardly manage to cover the deficit of classrooms estimated to be around 38,000.

18. **Disaster Risk Management**: In light of the recurring disasters affecting the country, the GoM is currently updating its legal and institutional DRM framework. The new Disaster Management Law 15/2014 was passed on June 20, 2014 by the Parliament but its full implementation requires additional regulations by the GoM. In the meantime, the Master Plan for

[4] WHO/UNICEF Joint Monitoring Program for Water Supply and Sanitation.
[5] Executive Summary; Diagnostic and Recommendations; Developing Guidelines in School Safety and Resilient School Building Codes in Mozambique; UN-Habitat; 2015.

Natural Disaster Prevention and Mitigation (2006-2016) remains the main operational reference document. It clearly links disaster prevention, mitigation and recovery with poverty and vulnerability reduction in an agriculture-based economy. While critical progress has been made in the past decade in building the disaster preparedness and response capacity of the INGC, supported by a large decentralized network of DRM committees, the 2015 floods highlighted the need to improve the dissemination of early warnings to vulnerable communities (last-mile connectivity), to systematize the mainstreaming of DRM in the recovery phase and to strengthen the coordination, monitoring and evaluation of recovery and reconstruction interventions.

19. In an effort to support the GoM's efforts in DRM and climate change, the following Bank initiatives are also being implemented: (a) the Climate Change Technical Assistance Project (P131195) that strengthens the institutional and technical capacity of the GoM to mainstream climate resilience into key economic sectors; (b) the Maputo Peri-urban Sanitation Project (P132551) that pilots improvements of the sanitation conditions and practices; (c) the Cities and Climate Change Project (P123201) that strengthens municipal capacity for sustainable, climate-resilient urban infrastructure and environmental management; (d) the Transforming Hydro-Meteorological Services Project (P131049), which reinforces hydrological and meteorological information services to deliver reliable and timely climate information to local communities; and (e) the Enhancing Spatial Data for Flood Risk Management Project (P149629) that supports flood risk assessment in the Limpopo and Zambezi basins.

D. Higher Level Objectives to which the Project Contributes

20. Mozambique's FY12-15 Country Partnership Strategy (CPS) dated February 8, 2012 is based on two pillars, the second of which is decreasing vulnerability and increasing resilience. Specifically, the second of Pillar II's three objectives is to improve resilience to natural disasters and the impacts of climate change. The CPS acknowledges Mozambique's extreme exposure to weather-related hazards, highlights the significant destructive impact of floods, cyclones, and droughts, and identifies climate change mitigation and adaptation activities as a new and important business line. The CPS is aligned with Mozambique's own poverty reduction strategy, the *Plano de Acção de Redução de Pobreza*, which calls for broad-based and inclusive growth through reduction of vulnerability to natural disasters and the threat of climate change.

21. The proposed operation is fully aligned with the Bank's CPS FY12-15 for Mozambique. The current CPS identifies the need to improve competitiveness by establishing an enabling environment for inclusive growth and poverty reduction, and to enhance the country's resilience by consolidating social stability as a key focus area. Within this context, the Bank is targeting interventions aimed at supporting the recovery and reconstruction phase in priority sectors, particularly in the agriculture, water and sanitation, education, and DRM sectors in order to restore basic productive capacities and public services. The proposed Project also aligns with the Bank's twin goals of reducing extreme poverty and promoting shared prosperity by rehabilitating productive infrastructure and restoring as well as protecting livelihoods in one of the poorest provinces of the country.

II. PROJECT DEVELOPMENT OBJECTIVES

A. PDO

22. The Project Development Objective is to restore the functionality of critical infrastructure in a resilient manner in the disaster-affected provinces, and to improve the Government of Mozambique's capacity to respond promptly and effectively to an eligible crisis or emergency.

B. Project Beneficiaries

23. The direct Project beneficiaries amount to about one million. This would include the population of Nampula, Niassa and Zambezia who will benefit from rehabilitated infrastructure under this operation, particularly inhabitants of the affected areas in Mocuba. This varies across components and sub-components, ranging from 5,600 people with access to improved irrigation infrastructure to 500,000 people supported by early warning and response systems. Indirectly, the Project would benefit the country's overall economy by restoring vital agriculture production infrastructure, drinking water supply services, school networks, and increasing the country's resilience to natural hazards.

C. PDO Level Results Indicators

24. The PDO's achievements will be monitored by the following indicators:

(a) Direct Project beneficiaries, percent of which female beneficiaries;
(b) Number of people protected by rehabilitated dike infrastructure;
(c) Number of people with access to improved irrigation infrastructure;
(d) Number of people in urban areas provided with access to improved water sources under the Project;
(e) Number of children with access to improved education infrastructure; and
(f) Number of people supported by early warning and response systems.

III. PROJECT DESCRIPTION

25. The Project addresses a combination of short, medium and long-term reconstruction needs based on priority sectors as identified in the GoM-World Bank-UN-EU Joint Damage Assessment report conducted in March 2015. The rehabilitation activities focus on specific high-risk zones to ensure that the mobilized resources target the rehabilitation of areas with the greatest potential rewards for the affected populations in a resilient manner. It will thus focus on: (a) the urgent rehabilitation of dikes in the short-term ahead of the upcoming rainy season in November; (b) the rehabilitation of drinking water, education and rural and irrigation infrastructure in the medium-term to restore services and preserve previous investments that are currently endangered; and (c) technical assistance and analytical support in the areas of safer schools, early warning systems, recovery framework, and watershed management to build longer-term resilience.

26. The Project will primarily focus on areas around the Licungo River Basin, which is one of the riskiest areas in Mozambique. The rehabilitation of schools will focus on the Northern and

Central regions across the Zambezia, Niassa and Nampula provinces as it will seek to build back better by piloting improved "mixed" construction techniques. These Project activities will overall significantly help increase the resilience and reduce the vulnerabilities of the provinces to recurrent flooding.

27. In order to facilitate this emergency operation, Project activities were selected based on existing Bank projects that work with well-functioning implementing arrangements. Those are: (a) MOPHRH through DNA for dike rehabilitation under the Water Resources Development Project (WRD); (b) INIR for irrigation under the Sustainable Irrigation Development Project (PROIRRI); (c) AIAS for drinking water supply under the Cities and Climate Change Project (CCCP); and (d) MINEDH for safer schools under the Education Sector Support Program (ESSP). Further details are provided in the implementation arrangements section and Annex 3. Moreover, the proposed activities align with current efforts undertaken by other development partners in order to provide complimentary interventions and avoid any overlap or duplication. The Project also complements a series of ongoing DRM and flood risk reduction activities within the Bank's portfolio.

A. Project Components

28. The proposed Project will have the following four main components, which are described in detail in Annex 2.

Component A – Resilient Infrastructure Rehabilitation (US$31.00 million equivalent)

29. The activities to be financed under this component are the resilient rehabilitation or reconstruction of key: (a) dikes/weirs; (b) irrigation; (c) drinking water supply infrastructure in Mozambique's Licungo River; and (d) education infrastructure, as recommended in the GoM-World Bank-UN-EU Joint Damage Assessment. All water-related rehabilitation works, including dikes, irrigated schemes, and drinking water supply, will be conducted in the Licungo Watershed. This is part of the Licungo River, which originates in Mozambique[6]. The rehabilitation and reconstruction of classrooms, however, will focus on the Northern and Central regions across the Zambezia, Niassa and Nampula provinces.

Sub-component A.1 – Rehabilitation of Damaged Dikes and Weirs (US$9.50 million)

30. The works to be financed under this sub-component would focus on rehabilitating and strengthening dikes and weirs, including the Nante dike, Nicoadala dike and Eribacela weir, which serve as important flood protection infrastructure.

31. The works on the Nante dike will need to be urgently completed to ensure a minimum flood protection before the start of the next rainy season in November. This dike lies on 30 kilometers between Nante and Intabo, with the second half of the dike bordering the Licungo River. It thus serves as a river dike that either protects habitat, roads, agricultural land (approximately 10,000 hectares), or all of the above for about 54,000 people. In addition to

[6] The Licungo River originates in Mozambique and is not a tributary of an international waterway.

rehabilitation works, a study will be included under Component B to plan for a follow-up basin-wide intervention to address flood risk management at the watershed level.

32. This sub-component will also include the partial rehabilitation of the Nicoadala dike. This will help protect investments in the Mziva irrigation schemes under the PROIRRI Project. Finally, the rehabilitation of the Eribacela weir will complement the works being done for the Munda-Munda scheme that will be rehabilitated under this Project. Given the urgency of this sub-component, retroactive financing will be used to ensure swift action on the rehabilitation of damaged dikes and related infrastructure.

Sub-component A.2 – Rehabilitation of Rural Infrastructure in the Magandja Da Costa District (US$5.50 million)

33. The works to be financed under this sub-component would focus on rehabilitating irrigation infrastructure in the Magandja Da Costa District, including irrigation schemes, rural access roads and bridges, and electricity supply line. Out of a total of 1,850 damaged hectares, two schemes across the Magandja Da Costa District are considered a priority. Those are Munda-Munda (400 hectares) and Intabo (300 hectares). The existing PROIRRI Project will help prepare the feasibility studies and design for rehabilitation works under existing contracts with design and supervision firms.

34. Works around the irrigated schemes will be complemented by the rehabilitation of: (a) an electricity supply line of 18 kilometers from Nante to the schemes; and (b) the Niquidua-Malei Earth Road (including the Niquidua-Malei Bridge and structures) to recover road access to the schemes. These works will be conducted in collaboration with the *Electricidade de Mocambique* and the ANE respectively. Comprehensive investments around irrigation schemes under this sub-component combined with dike infrastructure in sub-component A.1 will directly contribute to mitigate flooding and drought risks.

Sub-component A.3 – Rehabilitation of Drinking Water Supply in Mocuba (US$7.00 million)

35. The sub-component will focus on rehabilitating and restoring the design capacity of the intake of the Mocuba drinking water supply system, and conducting a study on the long-term and sustainable upgrade or replacement of the intake pumping station and related infrastructure.

36. With about 1,700 m3 of treated water available prior to January 15, approximately 15,000 people or 9 percent of the local population had access to safe water through the system. Today, the intake only allows for about half of those 15,000 people to continue to have access to drinking water supply, resulting in most people relying on shallow wells and unsafe water sources. The raw water for the system is supplied by the Lugela River, which is highly vulnerable to shocks during both the rainy and dry seasons. The water intake and other structures of Mocuba's water supply system are particularly vulnerable to the direct impact of floodwaters and were severely damaged by the 2015 flooding, to the extent that they were out of service for a month. AIAS carried out emergency repairs in order to re-start the supply of water to the city and avoid ongoing water shortages. This effort included the provision of power from the generator to the electrical equipment in the system. However, given the extreme fragility of the intake and the challenging

conditions of the river, only minimal investments will be made under this Project as temporary, emergency repairs while a detailed study will be conducted to determine a longer-term and resilient, more sustainable upgrading or replacement of the system.

Sub-component A.4 – Rehabilitation and Reconstruction of Resilient Schools (US$9.00 million)

37. This sub-component will focus on rehabilitating and constructing resilient schools, including: (a) rehabilitating conventional classrooms; and (b) constructing mixed-material classrooms.

38. Out of about nearly 32,000 classrooms located in the provinces of Nampula, Niassa and Zambezia, 2,362 classrooms were partially or totally destroyed. Due to their high exposure and vulnerability to storms/winds and floods, it is essential to restore infrastructure using a multi-hazard approach with designs and quality able to withstand flooding, wind and earthquake risks.

39. The works to be financed under this sub-component will consist of: (a) the rehabilitation of 433 damaged conventional classrooms, and (b) the building of 1,038 improved "mixed" classrooms to replace those non-conventional classrooms destroyed during the event. "Mixed materials" classrooms would be built with community participation from non-conventional materials. The Project will pilot new construction techniques in order to develop resilient structures in alignment with recommendations proposed in the context of the first phase of the Safer Schools Project. The implementation would involve civil society organizations in order to ensure adequate community engagement. A technical assistance component, supported in part by the Safer Schools Project financed in parallel by GFDRR, will provide the necessary support for: (a) the identification of best resilient construction techniques and local materials; (b) the selection of appropriate design and orientation of classrooms with regards to hazard zoning; and (c) on-the job training for contractors and communities as well as quality control. Hazard maps already produced under the first phase of the Safer Schools Project will guide the process of evaluating schools in flood-prone areas and relocating facilities deemed in an "at risk" location. This pilot approach could later on be scaled up across other disaster-prone areas of the country.

Component B – Technical Assistance for Resilient Recovery and Vulnerability Reduction (US$6.00 million equivalent)

40. This component would focus on enhancing the capacity to manage risks associated with natural hazards, and will be complemented by resources from GFDRR in support of Safer Schools, DRM Legal Framework, Recovery Framework, amongst others. Community engagement and outreach will also play a significant role under this component, with regards to the rehabilitation of schools and early warning systems.

Sub-component B.1 – Improving the Implementation of Resilient School Construction (US$1.00 million)

41. This sub-component will provide technical assistance for the rehabilitation and construction of safer schools, including for: (a) identification of resilient construction techniques; (b) selection of sites and orientation of classrooms; and (c) quality control.

42. The Safer Schools Project financed by GFDRR will complement this work. In a first phase, school exposure as well hazard maps have been produced along with a catalogue of measures to improve school construction. The second phase, supported by a US$1.5 million GFDRR grant, would start in parallel with this Project and would support: (a) the definition of building standards relevant to hazard zoning; (b) the management of hazard, exposure and vulnerability information; and (c) on-the-job training for resilient school construction. This technical assistance is conducted in collaboration with ECHO, UNICEF, UN-Habitat, the University of Eduardo Mondlane, INGC, MOPHRH and MINEDH. The ongoing second phase of the Safer Schools Project will support implementation of these measures on a pilot basis in two selected provinces.

Sub-component B.2 – Capacity Strengthening for DRM and Recovery Framework (US$3.00 million)

43. To prevent the recurrence of similar major impacts in relation with flooding events in the Project area, it is essential to strengthen the capacity and means of the GoM and communities to manage and respond to disaster risks.

44. This sub-component will support a program of activities to strengthen the capacity of relevant government institutions and communities to manage and respond to disaster risks, including: (a) developing a proposal for rehabilitating meteorological and hydrological measurement stations and enhancing access to data in the Licungo basin; (b) rehabilitating the damaged hydro-meteorological network; (c) installing meteorological and hydrological measurement stations; (d) evaluating early warning systems and proposals for reinforcing community preparedness; (e) building the capacity of relevant national and local government institutions on early warning systems; (f) building the capacity of local disaster risk management committees to prepare emergency plans; and (g) developing a framework to enhance capacity in recovery and reconstruction.

45. By strengthening the optimal use of monitoring and forecast information, the sub-component will help ensure improved access to hydro-meteorological and impact prediction information from the Mozambique National Meteorology Institute (INAM) and DNA by INGC and by the local communities. The latter will be particularly significant in reinforcing "the last mile" connectivity of the early warning system, as it will teach local communities how to best utilize their enhanced access to warnings and thus enhance their preparedness and response capabilities in the event of flooding. The activities will be procured and managed by MOPHRH through DNA, in close coordination with the existing Transforming Hydro-Meteorological Services Project.

Sub-component B.3 – Study on Licungo Watershed Management (US$2.00 million)

46. This sub-component will be carrying out a study on watershed management in the Licungo River to reduce the vulnerability of dikes and other hydraulic works in order to develop long-term recommendations based upon a detailed understanding of the hydrology and flood return periods in the watershed. It will develop a risk model and address the question of how such damages can be minimized if a flood of this scale were to strike again in the future. It will complement the Licungo Basin Water Resources Development Plan currently under formulation by DNA, which will guide the development of the agriculture and processing industry in the basin as well as the most promising investment locations. The terms of reference of the watershed management study should be drafted after the submission of the Inception Report of the Licungo Basin Water Resources Development Plan.

Component C – Project Implementation, Monitoring and Evaluation (US$3.00 million equivalent)

47. This component will finance Project implementation, monitoring and evaluation costs for MOPHRH (for DNA), MINEDH, INIR, and AIAS.

Sub-component C.1 – Project Implementation, Monitoring and Evaluation by MOPHRH (US$1.20 million)

48. This sub-component will cover: (a) strengthening the capacity of the Project Steering Committee for overall Project coordination; and (b) strengthening the capacity of MOPHRH (DNA) for Project management, coordination, monitoring and evaluation, including: (i) fiduciary (i.e. financial and procurement management); (ii) environmental and social assessments; (iii) preparation of Project reports; and (iv) monitoring and evaluation.

Sub-component C.2 – Project Implementation, Monitoring and Evaluation by MINEDH (US$800,000)

49. This sub-component will cover: strengthening the capacity of MINEDH for Project management, coordination, monitoring and evaluation, including: (a) fiduciary (i.e. financial and procurement management); (b) environmental and social assessments; (c) preparation of Project reports; and (d) monitoring and evaluation.

Sub-component C.3 – Project Implementation, Monitoring and Evaluation by INIR (US$500,000)

50. This sub-component will cover: strengthening the capacity of INIR for Project management, coordination, monitoring and evaluation, including: (a) fiduciary (i.e. financial and procurement management); (b) environmental and social assessments; (c) preparation of Project reports; and (d) monitoring and evaluation.

Sub-component C.4 – Project Implementation, Monitoring and Evaluation by AIAS (US$500,000)

51. This sub-component will cover: strengthening the capacity of AIAS for Project management, coordination, monitoring and evaluation, including: (a) fiduciary (i.e. financial and procurement management); (b) environmental and social assessments; (c) preparation of Project reports; and (d) monitoring and evaluation.

Component D – Contingency Emergency Response (CERC) (US$0.00 million equivalent)

52. This component will be providing immediate response to an Eligible Crisis or Emergency, as needed. This would finance emergency works in case of another disaster event by including a "zero-dollar" Contingency Emergency Response Component (CERC). This would help reduce damage to infrastructure, ensure business continuity, and enable early rehabilitation. In parallel, following an adverse event that causes a major disaster, the GoM may request the Bank to channel resources from this component into an Immediate Response Mechanism (IRM). The IRM would enable the use of a portion of uncommitted funds from the overall IDA portfolio to respond to emergencies. Should this IRM be triggered, the MOPHRH through DNA will be the "Coordinating Authority" responsible for coordinating and implementing the IRM. Specific details around this component (including activation criteria, eligible expenditures, specific implementation arrangements as well as required staffing for the Coordinating Authority) will be defined in greater detail in the IRM Operations Manual, which will go through a consultation and clearance process.

B. Project Financing

53. The proposed Project will be financed by an IDA Credit in the amount of US$40 million. The Project cost and financing from the Bank would be as follows:

Table 2: Project Cost and Financing

Project Components	Project cost (US$M)	% Financing
A. Resilient Infrastructure Rehabilitation	31.00	100
B. Technical Assistance for Resilient Recovery and Vulnerability Reduction	6.00	100
C. Project Implementation, Monitoring and Evaluation	3.00	100
D. Contingency Emergency Response (CERC)	0.00	100
Total Costs		
Total Project Costs	40.00	100
Total Financing Required	40.00	

C. Lessons Learned and Reflected in the Project Design

54. ***Streamlined institutional arrangements and experienced implementation structures are key in preparing and implementing emergency projects.*** In an emergency project, which is time sensitive, not only is the preparation process to be carried out as fast as possible, but also its implementation should demonstrate rapid results on the ground to provide crucial assistance to the affected populations. Therefore, where available, experienced implementation structures should be involved in order to facilitate the smooth running of operations.

55. ***Long-term recovery needs should be more explicitly labeled as such when defining government development priorities and socio-economic plans in Mozambique.*** Budgets for long-term recovery are usually folded into the rolling national development plan and macro-economic framework, as articulated in the Medium-Term Fiscal Scenario (CFMP). In this way, reconstruction needs are incorporated into the regular budget cycle and managed as medium to long-term development projects through existing mechanisms. They are not labeled as post-disaster recovery projects *per se* and there is consequently no clear distinction between investments in damaged or lost assets and investments in development. Thus, often during the budgeting, they fall behind new identified priorities.

56. ***Enhancing the flood monitoring and warning system in critical basins should be a key priority***. The latest disaster revealed deep technical and institutional gaps in the early warning systems for floods in critical basins in Mozambique, like the Licungo basin. The meteorological and hydrological information systems were unable to provide accurate information about the upcoming floods due to technical fragilities of services. Warning of affected communities also failed to transmit information about the magnitude of the event and possible impacts, and was largely ignored, resulting in many fatalities. The proposed Project will provide an opportunity to design and implement a new early warning system that addresses those fundamental weaknesses.

57. ***Additional financing is not always the best instrument to finance an emergency recovery project.*** Previous emergency situations in Mozambique have shown that some projects that simply received additional financing following a disaster failed to prioritize on addressing recovery and reconstruction needs in a timely manner to restore livelihoods and rehabilitate critical public infrastructure. Designing a comprehensive, standalone DRM program in the aftermath of a disaster ensures fast execution of the operation and provides the mechanism for a stronger coordination across sectors during the recovery and reconstruction phase.

58. ***This Project learnt from and drew heavily on the Comprehensive School Safety Framework (2012) for the rehabilitation of safer schools.*** This framework provides a comprehensive approach to reducing risks from all hazards to the education sector to guide and align efforts on the ground. The framework calls for global leadership and sets priorities in the areas of (a) safe learning facilities, (b) school disaster management, and (c) risk reduction and resilience education. The Project incorporates elements relevant to development of safe learning facilities.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

59. **Use of Existing Institutional Structures**: Implementation arrangements for the proposed Project will be based on well-tested, existing institutional structures. The Project will be implemented by the following in line with their respective mandates: (a) MOPHRH through DNA for dikes and weirs rehabilitation and flood risk management; (b) INIR for irrigation; (c) AIAS for drinking water supply; and (d) MINEDH for safer schools. All these institutions are currently implementing other Bank-financed projects and specific implementation arrangements will be derived from those in place under the following projects: (i) WRD Water Resources Development Project (MOPHRH); (ii) Transforming Hydrological and Meteorological Services Project (MOPHRH); (iii) PROIRRI Sustainable Irrigation Development Project (INIR); (iv) CCCP Cities and Climate Change Project (AIAS); and (v) ESSP Education Sector Support Program (MINEDH). Project teams in place would be strengthened with the recruitment of additional technical, safeguards, financial management and procurement consultants, as appropriate. A graph representing the Project's institutional arrangements is presented in Annex 3.

60. **Project Steering Committee (PSC)**: A Project Steering Committee will be established under the leadership of the Ministry of Economy and Finance (MEF) and INGC, with INGC acting as the PSC Secretariat. It will report to the Technical Committee for Disaster Management (CTGC) to ensure overall coordination, monitor recovery efforts and provide Project implementation oversight. The PSC will also oversee the consolidation of implementation progress reports from DNA, INIR, AIAS, and MINEDH every three months. A Project Coordinator will be specifically recruited for this Project under the PSC in order to manage coordination and the consolidation of reports amongst DNA, INIR, AIAS, and MINEDH.

61. **Implementing Arrangements:**

62. **MOPHRH (through DNA)**: Implementation of the Project will be embedded within the existing MOPHRH structures through DNA at the departmental level and a Project Coordinator will be appointed to oversee and implement the day-to-day activities. Activities will be executed with the collaboration and supervision of the respective ARAs, which are themselves under the direct responsibility of MOPHRH. DNA and the relevant ARAs will identify Activity Coordinators who will assist in the preparation of Terms of Reference for procurement, contract supervision, monitoring and evaluation and other related activities. A separate capacity assessment is not required.

63. **INIR**: INIR has representation at the provincial level and oversees policy, strategic, and operational issues related to irrigation. PROIRRI has set up a semi-integrated project coordination team hosted by INIR, with core positions held by externally recruited consultants. The consultants work with technical specialists from the administration at the central and provincial level, and provide on-the-job training to the technical specialists from the administration, thereby helping to build the capacity of the agencies. To mitigate the capacity risk, the institutional arrangements for Project implementation will rely upon the long-term irrigation service providers and strategic partners setup by the PROIRRI Project for the day-to-day execution of Project activities, taking

into account the need for a strong technical expertise on the ground for the planning, coordination, execution and monitoring of Project activities.

64. **AIAS**: The Project will also use existing implementation arrangements and share resources from other projects using AIAS. A specialized autonomous agency under the supervision of the MOPHRH, AIAS is responsible for the provision of urban water infrastructure in all but the largest cities of the country and all urban sanitation infrastructure, including drainage, in all cities and towns. A separate Project Agreement will be required for AIAS, as this is an independent agency with financial and procurement autonomy.

65. **MINEDH**: The Project will use existing implementation arrangements in place for the ESSP. MINEDH is currently resourced with a pool of experienced procurement officers, supported by an experienced internationally recruited procurement specialist, and the procurement performance of the ESSP has been satisfactory. MINEDH has acquired considerable experience with Bank projects and is familiar with implementation and supervision procedures recommended under safeguards policies triggered by this Project. Positions under the Directorate of Administration and Finance of MINEDH are currently supported by the Additional Financing of the ESSP and will also support the school rehabilitation and reconstruction activities under this Project. A separate capacity assessment is not required.

B. Results Monitoring and Evaluation

66. Annex 1 provides the results framework with the list of outcome indicators as well as the intermediate results indicators for each of the Project components. Specific sub-components' activities implementation, monitoring and evaluation will fall under the responsibility of the designated responsible ministry or entity. The Project will make extensive use of monitoring and evaluation arrangements already in place within MOPHRH through DNA, INIR, AIAS, and MINEDH in relation with ongoing Bank projects.

67. DNA, INIR, AIAS, and MINEDH will carry out community-level surveys on a periodic basis to record baseline data in line with indicators found within the results monitoring framework. This will include compiling and updating baseline, present and target indicator values for all sub-components and results reporting to the PSC and the Bank on a routine basis. To this effect, the capabilities of the present central monitoring and evaluation system of the DNA, INIR, AIAS, and MINEDH shall be enhanced and/or improved.

68. Bi-annual supervision missions as well as reports will also be undertaken. Those will generally entail routine quality checks at various stages of implementation, such as the construction of irrigation schemes or drinking water supply infrastructure. Periodic monitoring will include process reviews/audits, reporting of outputs and maintaining updated records. Broad thematic areas that will be supervised and monitored include the following: (a) Social and Environmental Monitoring; (b) Regular Quality Supervision & Certification; (c) Periodic Physical Progress Monitoring; and (d) Results Monitoring and Evaluation.

C. Sustainability

69. The Project will seek to implement building-back-better standards. It will do so by piloting the use of more climate-resilient, "mixed" construction techniques in the rehabilitation of classrooms to improve the long-term sustainability of critical public infrastructure to future flooding. The construction of more resilient structures will be done in alignment with specifications developed in the context of the Safer Schools Project and will be further supported by a technical assistance component.

70. Moreover, to prevent the recurrence of similar major impacts following flooding events in the area, the Project will strengthen the capacity of the GoM and communities to manage disaster risks by: (a) ensuring the optimal use of monitoring and forecast information and equipment; and (b) enhancing the preparedness and response capabilities of the communities in the event of flooding by providing essential training and targeted warning services.

71. Finally, the Project will also rebuild the Nante dike back to its original standards. Prior to the latest flooding events, the dike was already seriously damaged and was thus unable to withstand the additional shock. By building the dike back to its initial standards, the community will be able to benefit from strengthened and more resilient infrastructure that plays a fundamental role in protecting habitats, roads, and agricultural land.

V. KEY RISKS AND MITIGATION MEASURES

A. Risk Ratings Summary Table

Systematic Operations Risk- Rating Tool (SORT)	
Risk Category	**Rating**
1. Political and Governance	Substantial
2. Macroeconomic	Moderate
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Moderate
5. Institutional Capacity for Implementation and Sustainability	Moderate
6. Fiduciary	Moderate
7. Environment and Social	Moderate
8. Stakeholders	Substantial
9. Others	
OVERALL	**Moderate**

B. Overall Risk Rating Explanation

72. The overall Project risk for the proposed operation is rated as "Moderate".

73. The ratings for risks associated with Political and Governance as well as Stakeholders are both Substantial. With regard to Political risks, the rehabilitation of the Mocuba drinking water system, using best case scenarios and assumptions, will ultimately only assist about 5 percent of the city's overall population, which, as seen in the past, may cause discontent among the unserved populations. This risk is related to raw water availability within the Lugela River for the rehabilitated water scheme in Mocuba, since the original water intake in Mocuba is not known, and has apparently suffered some reduction due to soil erosion on the margins upstream. The Political risk will be mitigated with the development of an in-depth study about Mocuba drinking water supply which will specify the population's requirements and guide further investments. Risks associated with Stakeholders are also rated as Substantial, with regard to the need to operate with four different entities. This involves substantial coordination requirements. The Stakeholders' risk will be mitigated with the hiring of a Project Coordinator under the Project Steering Committee to manage coordination and consolidation of reports.

74. Risks related to Macroeconomic, Sector Strategies and Policies, Technical Design of Project or Program, Institutional Capacity for Implementation and Sustainability are all assessed as Moderate given the Bank analysis on Mozambique's performance, the sound basis for the formulation of the Project, its ownership by existing and well-functioning implementing structures, as well as its complete alignment with the respective sectors and country strategies.

75. Fiduciary risk is also rated as Moderate considering that MOPHRH (through DNA), INIR, AIAS, and MINEDH are all currently implementing Bank-financed operations and have satisfactory fiduciary arrangements that will not be altered. Environment and Social risks are Moderate. DNA, INIR, AIAS, and MINEDH have had many years of experience with Bank projects and are familiar with Bank safeguards policies, as well as implementation and supervision processes for emergency projects.

VI. APPRAISAL SUMMARY

A. Economic Analysis

76. The 2015 floods were an event of a 30-year return period that generated damages amounting to US$384 million leading to rehabilitation needs close to US$500 million. Given the scale of the damages and losses, the proposed investment will safeguard lives, economic production, livelihoods, and provide additional benefits associated with improved water supply, as well as protect infrastructure from disruptive events with a similar return period. Investments in dike rehabilitation will directly enhance the resilience of agricultural production and ensure the connectivity within the area protected. The Project is also expected to contribute to the country's development, supporting the ongoing GoM efforts, benefiting from the Bank's experience and support. Further details are provided in Annex 6.

B. Technical Design

77. In order to ensure efficient technical support for the Project, a PSC will be established as a sub-group of the CTGC to provide guidance at strategic, technical and operational levels. The PSC will also serve as the primary mechanism for ensuring the implementation of the inter-ministerial and inter-departmental coordination modalities, and for managing the respective roles and responsibilities set out for MOPHRH (through DNA), INIR, AIAS, and MINEDH and departments responsible for the implementation of Project, as will be further specified in the Project Implementation Manual.

78. Project-funded rehabilitation and reconstruction of public assets and infrastructure will be based on the building-back-better principle, which includes: improved designs, sizing, siting and orientation, with due recognition of affordability and technical viability constraints. In the design and rehabilitation or reconstruction of Project-funded infrastructure, particular care will be put into improving resilience of infrastructure to future flooding, storms and seismic risk. Rehabilitation will be based upon structural assessments and catalogue of improved technical measures. Modifications to current designs and structures will be proposed to improve safety of population and equipment during future occurrence of natural hazards.

79. All flood mitigation and dike rehabilitation works will be carefully designed by DNA on the basis of an assessment by the Government of the Netherlands. Technical assistance for DRM investments under the Project will be specified jointly by DNA and INGC, to ensure optimal support to entities engaged in risk assessment, risk reduction, preparedness, risk financing and early recovery. Activities related to flood risk management and DRM will be guided by the development of the Flood Management Plan for the Licungo Basin.

80. Designs for the rehabilitation of irrigation schemes will prioritize long-term investments in order to ensure the largest agricultural potential at the lowest cost. The Project will prioritize labor-intensive scheme designs and other creative approaches within the framework of the procurement procedures of the Bank to keep the investment costs within a reasonable range without compromising the quality of the works. The technology is relatively simple and robust and experience from the PROIRRI Project provides operational practice to keep costs relatively low. In the selected schemes, water abstraction is handled by electric pumps, water distribution occurs through a system of canals and fields are flooded through gravitation. Some investments in flood protection dikes and main drainage structures will also contribute to enhance the resilience of the schemes.

81. Water supply rehabilitation will be based on the experience of the WASIS Project, which provides for investments in the extension of the networks in Beira, Nampula, Quelimane and Pemba. The level of service will be similar to its pre-January 2015 level. The design will be based upon a thorough engineering assessment of the vulnerability and assessment of the evolving needs of the population of Mocuba under a changing climate. Design and supervision will be through third-party engineers with close backstopping from government engineers, while Project works will be contracted to qualified firms.

82. For the rehabilitation and reconstruction of resilient schools, structural assessments will be carried out to determine the full extent of reconstruction needs. The Project will leverage the Bank's experience in Haiti and Nepal to conduct structural assessments on a smaller scale that will be both time and cost effective. Modifications to current layouts and structures will be proposed based on the UN-Habitat Mixed Material School Design and on the catalogues of technical measures recommended by the Safer Schools Project to ensure the safety of pupils and assets. As for land use, should a facility be built in a flood-prone zone, the location will then be evaluated, and if deemed an "at risk" location, will be sited elsewhere.

C. Financial Management

83. A financial management assessment was conducted in accordance with the Financial Management Manual issued by the Bank's Financial Management Sector Board in March 2010. Its objective was to determine whether MOPHRH through DNA, INIR, AIAS, and MINEDH have acceptable and adequate financial management arrangements to ensure reliability of financial reporting, effectiveness and efficiency of Project operations and compliance with applicable laws, guidelines and procedures. The financial management responsibilities will be under DNA, INIR, AIAS, and MINEDH. AIAS will have independent financial management and separate accounts indicated in the Project Agreement.

84. The proposed financial management arrangements were reviewed with the following conclusions: the overall financial management risk rating of the Project is Substantial given its emergency nature. This risk will be mitigated with more intensive supervision support. The overall financial management arrangements, as designed, are acceptable to the Bank given the requirements under the OP/BP 10.00. The assessment was favorably impacted by the fact that DNA, INIR, AIAS, and MINEDH are currently implementing Bank-financed operations and have satisfactory financial management implementation arrangements. In addition, there will not be alterations to the financial management of DNA, INIR, AIAS, and MINEDH. Detailed financial management arrangements are summarized in Annex 3. The overall risk rating for Fiduciary, however, is Moderate.

D. Procurement

85. Procurement for the proposed Project will be carried in accordance with the World Bank's "Guidelines: Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers" dated January 2011, revised July 2014 and "Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by World Bank Borrowers" dated January 2011, revised July 2014; and the provisions stipulated in the Legal Agreement. Anti-corruption guidelines which apply to this Project are: "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants, dated October 15, 2006 and revised in January 2011".

86. Aiming at ensuring streamlined implementation of the urgent activities under the emergency operations, the Project will make use of existing and satisfactorily performing implementation units in the Bank portfolio in Mozambique, in the areas of intervention, under MOPHRH through DNA, INIR, AIAS, and MINEDH. The arrangements and capacity within

DNA, INIR, AIAS, and MINEDH for the implementation of the on-going projects were assessed and found to be satisfactory for the proposed Project. However, the incremental activities under the emergency operation under DNA, INIR, AIAS, and MINEDH may require strengthening their existing capacity.

87. Based on the capacity assessment of DNA, INIR, AIAS, and MINEDH, the procurement risk associated with the implementation of the Project is rated as Moderate. More details can be found in the Procurement Risk Assessment Management System (PRAMS) assessment.

E. Social (including Safeguards)

88. Application of Bank Safeguards Policies: The key sets of activities proposed to be financed are under Component A: Resilient Infrastructure Rehabilitation and Component B: Technical Assistance for Resilient Recovery and Vulnerability Reduction. The rehabilitation and strengthening of the affected flood infrastructure and public services are to be carried out within the existing alignments and will not involve any construction in new sites. However, a rapid/current assessment of Project activities shows they may involve temporary or permanent displacement and Involuntary Resettlement (OP 4.12) is therefore triggered.

89. The Involuntary Resettlement policy is triggered due to foreseen low to medium civil works activities (i.e. rehabilitation of dikes, resilient schools, and irrigation schemes, amongst others) may require land for temporary or permanent usage. The land acquired for this purpose may lead to loss of assets, sources of income or means of livelihood for some poor households, especially in rural communities whether or not Project affected people must move to another location.

90. To ensure proper mitigation measures are set forth, MOPHRH through DNA, INIR, AIAS, and MINEDH will prepare a Resettlement Policy Framework (RPF) to guide the preparation of site specific Resettlement Action Plans (RAPs) once such details are known. The RPF will be fully consulted upon, reviewed and cleared by the Bank, and publicly disclosed both in-country and in the Bank's Infoshop prior to project implementation.

F. Environment (including Safeguards)

91. The Project will be implemented in areas that were hit hardest by floods of Northern and Central regions, in Zambezia, Niassa and Nampula provinces. Given the magnitude of damage caused by flooding, the Project is designed to provide rehabilitation and recovery support to affected areas in which public infrastructure and services delivery were impacted severely. It is expected that it will yield benefits and livelihood opportunities through provision of high priority rehabilitation of public infrastructures in the worst affected areas of the three provinces in addition to enhancing the Government's capacity to deal with future disasters.

92. Based on a rapid/current assessment, the proposed Project is classified as an "Environmental and Social Category B" operation under World Bank's OP/BP 4.01, and Operational Policies Environmental Assessment (OP 4.01), Natural Habitats (OP 4.04), Pest Management (OP 4.09), and Physical Cultural Resources (OP 4.11) have been triggered. The

component under the Project that triggers OP 4.01 is Resilient Infrastructure Rehabilitation, which involves the rehabilitation and strengthening of dikes and weirs; the rehabilitation of damaged conventional classrooms and building of "mixed" classrooms to replace those non-conventional classrooms destroyed during the event; the rehabilitation of irrigation infrastructure; and fixing the intake of the Mocuba drinking water supply system.

93. An Environment and Social Management Framework (ESMF) will provide the criteria and procedures for screening Project activities and guide the preparation of site-specific environmental and social assessments and/or management plans. The rehabilitating of irrigation infrastructures and drinking water supply in Mocuba, especially activities related to fixing the intake of the water supply system, which is currently located in the Lugela River, may affect some already degraded and sensitive habitats along the riverbanks. The ESMF will include provisions for screening (and eventually mitigating) any possible impacts on natural habitats. Furthermore, the rehabilitation of irrigation schemes involves investments in the agriculture sector that will restore production and will likely lead to resuming the use of pesticides in areas where food production was on hold. However, the Project will not finance the procurement of pesticides. In cases where pesticides are used within existing production systems, the Project will promote the use of integrated pest management and the safe use, storage, and disposal of agro-chemicals in accordance with an Integrated Pest Management Plan (IPMP).

94. Moreover, OP 4.11 is triggered due to the civil works that are expected to be supported, and whilst the Project is not expected to affect known cultural resources, Chance Finds approaches will be included in the ESMF to provide guidance during project implementation. Finally, for possible retroactive financing for sub-component A.1, an Environmental and Social Audit (for completed works) or Environmental and Social Impact Assessment and/or Management Plan and RAP as needed (for works still to be undertaken) will be required.

95. **Environmental and Social Safeguards Action Plan**: This Project is being processed under paragraph 12 of OP 10.00 - Projects in Situations of Urgent Need of Assistance or Capacity Constraints and preparation of safeguard instruments is deferred to project implementation. The flooding situation has clearly overwhelmed national response capacities in Mozambique. The damages have impacted significantly agricultural productivity, water, sanitation and flood protection infrastructures, as well as public buildings including schools and hospitals. Specific short-term rehabilitation works are needed, such as the rehabilitation and strengthening of the Nante dike, which will need to be urgently completed to ensure a minimum flood protection before the start of the next flood season in November. This dike lies on 30 kilometers and serves as a river dike that either protects habitat, roads, agricultural land, or all of the above for about 54,000 people. Similarly, the rehabilitation of irrigation infrastructure is of high priority in a country where over 70 percent of the population live in rural areas and are still dependent on subsistence agriculture. There is therefore a need to allow the earliest possible commencement of Bank-supported efforts for well-coordinated and resilient reconstruction.

96. Accordingly, an Environmental and Social Safeguards Action Plan has been prepared (see Annex 5) setting forth the steps and the sequential planning and coordination for Project activities and the preparation of the relevant safeguards instruments during the implementation phase.

97. In line with Bank policy requirements, the ESMF will clearly identify the following: (a) policy triggers for the Project; (b) the screening criteria to be used for project activity identification and selection; (c) a comprehensive list of a range of likely environmental and social impacts for the various types of works/activities envisaged under the Project; (d) applicable national/local policy and regulatory requirements; (e) the measures to mitigate the identified environmental risks/issues; (f) assessment of the institutional capacity of MOPHRH (through DNA), INIR, AIAS, and MINEDH and measures for filling capacity gaps; and (g) an estimate of the budget needed for the implementation of the ESMF and related instruments. The ESMF will provide a list of activities that cannot be financed, and screen out activities that correspond to Category A projects, or that may trigger additional safeguards policies.

Table 3: Safeguard Policies Triggered by the Proposed Project

Safeguard Policies Triggered	**Yes**	**No**
Environmental Assessment (OP/BP 4.01)	X	
Natural Habitats (OP/BP 4.04)	X	
Forests (OP/BP 4.36)		X
Pest Management (OP 4.09)	X	
Physical Cultural Resources (OP/BP 4.11)	X	
Indigenous Peoples (OP/BP 4.10)		X
Involuntary Resettlement (OP/BP 4.12)	X	
Safety of Dams (OP/BP 4.37)		X
Projects on International Waterways (OP/BP 7.50)		X
Projects in Disputed Areas (OP/BP 7.60)		X

G. World Bank Grievance Redress

98. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB'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 WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit www.worldbank.org/grs. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

Annex 1: Results Framework and Monitoring

Mozambique

Emergency Recovery Project for the Northern and Central Regions (P156559)

Results Framework

Project Development Objectives

PDO Statement

The Project Development Objective is to restore the functionality of critical infrastructure in a resilient manner in the disaster-affected provinces, and to improve the Government of Mozambique's capacity to respond promptly and effectively to an eligible crisis or emergency.

These results are at	Project Level

Project Development Objective Indicators

Indicator Name	Baseline	Cumulative Target Values				
		YR1	YR2	YR3	YR4	End Target
Direct project beneficiaries (Number) - (Core)	0	200,000	400,000	750,000	1,000,000	1,000,000
Female beneficiaries (Percentage - Sub-Type: Supplemental) - (Core)	0	50	50	50	50	50
Number of people protected by rehabilitated dike infrastructure (Number)	0	22,000	90,000	111,700	111,700	111,700
Number of people with access to improved irrigation infrastructure (Number)	0	0	3,100	5,600	5,600	5,600

Number of people in urban areas provided with access to Improved Water Sources under the project (Number) - (Core)	7,760	7,760	8,400	17,800	24,300	24,300
Number of children with access to improved education infrastructure (Number)	0	179,600	403,600	541,200	588,400	588,400
Number of people supported by Early Warning and Response Systems (Number)	0	0	0	250,000	500,000	500,000

Intermediate Results Indicators

		Cumulative Target Values				
Indicator Name	Baseline	YR1	YR2	YR3	YR4	End Target
Dike Infrastructure Rehabilitated (Kilometers)	2.80	7.00	30.00	35.00	35.00	35.00
Cropped land protected by rehabilitated dikes (Hectare (Ha))	0	6,000	24,000	30,000	30,000	30,000
Area provided with irrigation and drainage services (ha) (Hectare (Ha))	0	0	400	700	700	700
Area provided with irrigation and drainage services - Improved (ha) (Hectare (Ha) - Sub-Type: Breakdown)	0	0	400	700	700	700

Piped household water connections that are benefiting from rehabilitation works undertaken by the project (Number) - (Core)	407	446	446	1,100	1,200	1,200
Improved community water points constructed or rehabilitated under the project (Number) - (Core)	18	18	20	40	60	60
Conventional classrooms rehabilitated (Number)	0	217	433	433	433	433
Non-conventional ("mixed") classrooms built (Number)	0	232	576	920	1038	1038
Communities supported with technical assistance from civil society organizations for mixed school construction (Number)	0	34	69	103	137	137
Communities/villages covered by a new or updated emergency response plan linked to improved early warning capacity (Number)	0	0	50	100	150	150
Licungo watershed management study completed (Percentage)	0	0	50	100	100	100

Immediate Response Mechanism (IRM) established and ready to provide access to financial resources in case of an eligible crisis or emergency (Yes/No)	No	No	Yes	Yes	Yes	Yes

Indicator Description

Project Development Objective Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Direct project beneficiaries	Direct beneficiaries are people or groups who directly derive benefits from an intervention (i.e., children who benefit from an immunization program; families that have a new piped water connection). Please note that this indicator requires supplemental information. Supplemental Value: Female beneficiaries (percentage). Based on the assessment and definition of direct project beneficiaries, specify what proportion of the direct project beneficiaries are female. This indicator is calculated as a percentage.	Annual	Progress Reports	Project Steering Committee
Female beneficiaries	Based on the assessment and definition of direct project beneficiaries, specify what percentage of the beneficiaries are female.	Annual	Progress Reports	Project Steering Committee
Number of people protected by rehabilitated dike infrastructure	Number of people protected by rehabilitated dike infrastructure	Annual	Estimate from Technical Report and Spatial Analysis	MOPHRH

Number of people with access to improved irrigation infrastructure	Number of people benefiting from improved irrigation scheme	Annual	Estimate from Technical Report and Spatial Analysis	INIR
Number of people in urban areas provided with access to Improved Water Sources under the project	This indicator measures the actual number of people in urban areas who benefited from improved water supply services that have been constructed under the project. Guidance on "improved water sources": Improved water sources include piped household connections (house or yard connections), public standpipe, boreholes, protected dug well, protected spring and rainwater collection. Hence, "Improved Water Sources" do not include, inter alia, water provided through tanker truck, or vendor, unprotected well, unprotected spring, surface water (river, pond, dam, lake, stream, irrigation channel), or bottled water. The definition of what is considered an 'improved water source' follows the UNICEF-WHO Joint Monitoring Program definition. Note that "Improved Water Sources" does not refer to the question of new versus rehabilitated water sources, but is the standard definition used to track progress on the Millennium Development Goals. Guidance on people with access: The data on the number of people provided with access can be estimated by TTLs by multiplying i) the actual number of piped connections with an estimate of the number of people per household connection; and/or ii) the actual number of community water points with an estimate of the number of people per community water point. The assumptions made	Annual	Estimate from technical reports and spatial analysis	CRA/AIAS

	regarding number of people per connection made should be carefully documented in the ‘comments' section of the indicator when data is entered in the ISR. Guidance on urban classification: The classification should follow the official definition used in the country.			
Number of children with access to improved education infrastructure	Number of children benefiting from rehabilitated conventional classrooms or reconstructed non-conventional classrooms	Annual	Progress Reports	MINEDH
Number of people supported by Early Warning and Response Systems	Number of people benefiting from access to enhanced warning and response services	Annual	Estimate from technical reports and spatial analysis	MOPHRH/INGC

Intermediate Results Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Dike Infrastructure Rehabilitated	Number of kilometers of dike infrastructure rehabilitated	Bi-annual	Progress Reports	MOPHRH
Cropped land protected by rehabilitated dikes	Area of cropped land protected by the rehabilitated dikes under this project	Annual	Progress Reports	INIR
Piped household water connections that are benefiting from rehabilitation works undertaken by the project	Number of piped household water connections benefiting from rehabilitation works. This indicator is measured as the number of piped household water connections benefiting from rehabilitation works. Rehabilitation works are undertaken so that existing customers see the quantity and/or quality of their water supply services enhanced.	Annual	Annual Operation Report	CRA/AIAS

Improved community water points constructed or rehabilitated under the project	Number of improved community water points constructed or rehabilitated under the project in rural and urban areas. A community water point is defined as a public outlet for the provision of water supply to a number of households. Improved community water points refer to standpipes, protected dug well, borehole, or protected spring. Hence, improved community water points do not include, inter alia, unprotected wells or unprotected springs.	Annual	Annual Operation Report	CRA/AIAS
Area provided with irrigation and drainage services (ha)	This indicator measures the total area of land provided with irrigation and drainage services under the project, including in (i) the area provided with new irrigation and drainage services.	Annual	Progress Reports	INIR
Area provided with irrigation and drainage services - Improved (ha)	This indicator measures the total area of land provided with irrigation and drainage services under the project, including in (ii) the area provided with improved irrigation and drainage services, expressed in hectare (ha).	Annual	Progress Reports	INIR
Conventional classrooms rehabilitated	Number of conventional classrooms rehabilitated to resilient standards	Bi-annual	Progress Reports	MINEDH
Non-conventional ("mixed") classrooms built	Number of non-conventional classrooms reconstructed based on improved mixed-construction techniques	Bi-annual	Progress Reports	MINEDH
Communities supported with technical assistance from civil society organizations for mixed school construction	Number of communities benefitting from technical assistance for the construction of school using mixed construction techniques.	Annual	Progress Reports	MINEDH

Communities/villages covered by a new or updated emergency response plan linked to improved early warning capacity	Number of communities or villages benefiting from improved early warning and emergency response services	Annual	Progress Reports	MOPHRH/INGC
Licungo watershed management study completed	Study of the Licungo Watershed completed	Annual	Progress Reports	MOPHRH
Immediate Response Mechanism (IRM) established and ready to provide access to financial resources in case of an eligible crisis or emergency	IRM established with detailed Operations Manual to facilitate the use of the CERC under the overall IDA operations	Annual	Progress Reports	INGC

Annex 2: Detailed Project Description

Emergency Resilient Recovery Project for the Northern and Central Regions

1. The proposed Project's design is streamlined, and draws heavily on the preparation and implementation experience of: (a) other emergency projects in the region to ensure rapid response to urgent needs; and (b) on-going projects in water and sanitation, education, agriculture and flood management sectors, so that the synergies among those projects can facilitate the implementation of this operation and build long-term resilience. The proposed Project will have the following four components:

Component A – Resilient Infrastructure Rehabilitation (US$31.00 million equivalent)

2. The activities to be financed under this component are the rehabilitation or reconstruction of key: (a) dikes and weirs; (b) irrigation; (c) drinking water supply infrastructure in Mozambique's Licungo River; and (d) education infrastructure, as recommended in the GoM-World Bank-UN-EU Joint Damage Assessment. All water-related rehabilitation works, including dikes, irrigated schemes, and drinking water supply, will be conducted in the Licungo Watershed. This is part of the Licungo River, which originates in Mozambique. The rehabilitation and reconstruction of classrooms, however, will focus on the Northern and Central regions across the Zambezia, Niassa and Nampula provinces.

Sub-component A.1 – Rehabilitation of Damaged Dikes and Weirs (US$9.50 million)

3. The works to be financed under this sub-component would focus on rehabilitating and strengthening dikes and weirs, including the Nante dike, Nicoadala dike and Eribacela weir, which serve as important flood protection infrastructure.

4. The Nante dike will need to be urgently completed to ensure a minimum flood protection before the start of the next rainy season in November. This dike lies on 30 kilometers between Nante and Intabo, with the second half of the dike bordering the Licungo River. It thus serves as a river dike that either protects habitat, roads, agricultural land, or all of the above for about 54,000 people. In addition to rehabilitation works, a study will be included under Component B to plan for a follow-up basin-wide intervention to address flood risk management at the watershed level.

5. This intervention has been recommended and described by a joint Netherland-World Bank mission in April 2015. It will complement ongoing work supported by the GoM's budget, in the amount of US$0.7 million, which is currently rehabilitating critical points on 2.8 kilometers along the dike.

6. This sub-component will also include the partial rehabilitation of the Nicoadala dike. This will help protect investments in the Mziva irrigation schemes under the PROIRRI Project. Finally, the rehabilitation of the Eribacela weir will complement the works being done for the Munda-Munda scheme that will be rehabilitated under this Project. Given the urgency of this sub-component, retroactive financing will be used to ensure swift action on the rehabilitation of damaged dikes and related infrastructure.

7. The table below presents a summary of the activities to be financed under sub-component A.1.

Table 2.1: Brief Description of the Works to be Undertaken

No.	Description of the Works	Estimated Costs (US$)
1	Rehabilitation of the Nante dike (30 kilometers)	7,000,000
2	Rehabilitation of the Nicoadala dike (5 kilometers)	2,000,000
3	Rehabilitation of the Eribacela weir for the Munda-Munda Scheme	500,000
	TOTAL	**9,500,000**

Sub-component A.2 – Rehabilitation of Rural Infrastructure in the Magandja Da Costa District (US$5.50 million)

8. The works to be financed under this sub-component would focus on rehabilitating irrigation infrastructure in the Magandja Da Costa District, including irrigation schemes, rural access roads and bridges, and electricity supply line. Out of a total of 1,850 damaged hectares, two schemes across the Magandja Da Costa District are considered a priority. Those are Munda-Munda (400 hectares) and Intabo (300 hectares). The existing PROIRRI project will help prepare the feasibility studies and design for rehabilitation works under existing contracts with design and supervision firms.

9. Following the rehabilitation of the Nante dike, the rehabilitation of the irrigated schemes will include: drafting topographic survey design and structures; and rehabilitating pumping house and gravity intake, main canal and secondary canal and drainage channels, water division and regulator structures in the main and secondary canal and drainage, manual soil removal (cleaning) of canal and drainage with involvement of farmers, and land leveling.

10. Works around the irrigated schemes will be complemented by the rehabilitation of: (a) an electricity supply line of 18 kilometers from Nante to the schemes; and (b) the Niquidua-Malei Earth Road (including the Niquidua-Malei Bridge and structures) to recover road access to the schemes. These works will be conducted in collaboration with the *Electricidade de Mocambique* and the ANE respectively. Comprehensive investments around irrigation schemes under this sub-component combined with dike infrastructure in sub-component A.1 will directly contribute to mitigate flooding and drought risks.

Figure 2.1: Map of the Munda-Munda and Intabo Schemes

11. The table below presents a summary of the activities to be financed under sub-component A.2.

Table 2.2: Brief Description of the Works to be Undertaken

No.	Description of the Works	Unit Cost (US$)	Estimated Costs (US$)
1	Rehabilitation of Munda-Munda scheme (400 hectares)	6,000	2,400,000
2	Rehabilitation of Intabo scheme (300 hectares)	6,000	1,800,000
3	Rehabilitation of the Niquidua-Malei Earth Road (include the bridge) (25 kilometers)	14,000	350,000
4	Rehabilitation of the electricity supply line (18 kilometers)	n/a	500,000
5	Feasibility, Design Study and Supervision for Irrigation Works	n/a	450,000
	TOTAL		**5,500,000**

Sub-component A.3 – Rehabilitation of Drinking Water Supply in Mocuba (US$7.00 million)

12. The sub-component will focus on rehabilitating and restoring the design capacity of the intake of the Mocuba drinking water supply system, and conducting a study on the long-term and sustainable upgrade or replacement of the intake pumping station and related infrastructure.

13. With about 1,700 m3 of treated water available prior to January 15, approximately 15,000 people or 9 percent of the local population had access to safe water. Today, the intake only allows

for about half of those 15,000 people to continue to have access to drinking water supply, resulting in most people relying on shallow wells and unsafe water sources. The raw water for the system is supplied by the Lugela River, which is highly vulnerable to shocks during both the rainy and dry seasons. The water intake and other structures of Mocuba's water supply system are particularly vulnerable to the direct impact of floodwaters and was severely damaged by the 2015 flooding, to the extent that it was out of service for a month. AIAS carried out emergency repairs in order to re-start the supply of water to the city and avoid ongoing water shortages. This effort included the provision of power from the generator to the electrical equipment in the system.

14. These emergency repairs would require the rehabilitation and installation of equipment at the intake pumping station and other structures. The weir and the well with submersible pumps would also need to be refurbished in temporary bases. A mobile intake and pump station will be installed to cope with the riverbed change and climate changes.

15. Furthermore, civil works are foreseen at the intake area to repair the well, weir, buildings of the pumping station as well as the works to protect the site against soil erosion. Further repairs are needed around the access road, while electrical switchboards and transformers need to be revised and properly fixed. All electrical pumps at the distribution center will need to be rechecked and repaired. The network has also been damaged and requires replacement of pipes that are leaking. It is expected that these works will allow the water supply system to produce 1,700 m3/day. It must also be highlighted, however, that the raw water availability for the Mocuba water supply system may not be able to produce previously available levels prior to the January 2015 flooding during the dry season as the river has changed its course, flow, and speed. This poses a risk to the Project.

16. However, given the extreme fragility of the intake and the challenging conditions of the river, only minimal investments will be made under this Project as temporary, emergency repairs while a detailed study will be conducted to determine a longer-term, resilient and more sustainable upgrading or replacement of the system. As referred to in the feasibility study carried out in 2011 in the scope of the Millennium Challenge Corporation (MCC) program, considering that the current intake at Lugela cannot cover future water demand, a new intake will likely be built upstream at the confluence of the Lugela and Licungo Rivers. Further research will be done to confirm the most resilient option for the raw water intake bearing in mind the region's climate change parameters. This technology should be compared with a well field close to the confluence of the rivers to strengthen the resilience of the system to extreme variation in river flow. This new system should also be comprised of a new intake pumping station or new well field, a raw water transmission main, a water treatment plant, an elevated water tower, new storage reservoirs, and the rehabilitation and extension of the distribution network. This new system should attempt to meet the water needs of a much larger share of the 170,000 people living within the area.

17. With this in mind, the proposed Project will pay special attention to the elements of the system that will need to be connected to a long-term upgrading of the water intake, such as the tower, reservoirs and some parts of the existing network. A Consultant will be recruited to review the existing structure and technical designs and supervise civil works, taking this long-term perspective into consideration. The Consultant should not only look at the hydraulics and supply

needs but also at how the new system can be made more resilient to the extreme variation of the river flow and quality.

Figure 2.2: Damages to the Main Drinking Water System Intake in Mocuba

18. The type of works and estimated costs are summarized in the following table:

Table 2.3: Brief Description of the Works to be Undertaken

No.	Description of the Works	Estimated Costs (US$)
1	Consultancy Services for Detailed Design, Bidding Documents, and Supervision of Emergency Works	700,000
2	Civil Works (Intake, Water Main, Pump Station, Reservoir, Water Tower, Treatment Plant and Network)	5,000,000
3	Study to Revise Existing Detailed Design, Including New Sources of Climate-Resilient Raw Water and EIA	1,000,000
4	Operational Costs	300,000
	TOTAL	**7,000,000**

Sub-component A.4 – Rehabilitation and Reconstruction of Resilient Schools (US$9.00 million)

19. This sub-component will focus on rehabilitating and constructing resilient schools, including: (a) rehabilitating conventional classrooms; and (b) constructing mixed-material classrooms.

20. Out of about nearly 32,000 classrooms located in the provinces of Nampula, Niassa and Zambezia, 2,362 classrooms were partially or totally destroyed. Due to their high exposure and vulnerability to winds and floods, it is essential to restore infrastructure using a multi-hazard approach with designs and quality able to withstand flooding, wind and earthquake risks.

21. The works to be financed under this sub-component will consist of: (a) the rehabilitation of 433 damaged conventional classrooms; and (b) the building of 1,038 "mixed" classrooms to replace those non-conventional classrooms destroyed during the event. "Mixed materials" classrooms would be built with community participation from non-conventional materials. The Project will pilot new construction techniques in order to develop resilient structures in alignment with recommendations proposed in the context of the first phase of the Safer Schools Project. The implementation would involve civil society organizations in order to ensure adequate community engagement. A technical assistance component, supported in part by the Safer Schools Project financed by GFDRR in parallel to this Project, will provide the necessary support for: (a) the identification of the best resilient construction techniques and local materials; (b) the selection of appropriate design and orientation of classrooms with regards to hazard zoning; and (c) on-the job training for contractors and communities as well as quality control. Hazard maps already produced under the first phase of the Safer Schools Project will guide the process of evaluating schools in flood-prone areas and relocating facilities deemed in a "at risk" location. This pilot approach could later on be scaled up across other disaster-prone areas of the country.

22. This new typology, recently developed through a partnership between UN-Habitat, MINEDH and MOPHRH, is based upon the use of a combination of community-based and conventional materials. It combines storm-resistant concrete and steel structures and roofing with traditional materials with community participation in order to finalize the walls. The figure below illustrates the proposed structure that brings high cost savings, with a price of construction of about US$6,000 compared to US$20,000 for a conventional classroom. The participation of the community during the construction also has proven to generate ownership and allows better participation in maintenance and risk management. The suitable choice of locations for new units is also imperative to mitigate the impacts of natural hazards.

Figure 2.3: UN-Habitat Mixed School Design

23. The table below presents a summary of the activities to be financed under sub-component A.4.

Table 2.4: Brief Description of the Works to be Undertaken

No.	Description of the Works	Unit Cost (US$)	Estimated Costs (US$)
1	Rehabilitation and retrofitting of conventional schools (433 classrooms)	5,868	2,541,000
2	Construction of "mixed" classrooms, with technical support of civil society organizations (1,038 classrooms)	6,000	6,228,000
3	Supervision of works for conventional schools	n/a	231,000
	TOTAL		**9,000,000**

Component B – Technical Assistance for Resilient Recovery and Vulnerability Reduction (US$6.00 million equivalent)

24. This component would focus on enhancing the capacity to manage risks associated with natural hazards, and will be complemented by resources from GFDRR in support of Safer Schools, DRM Legal Framework, Recovery Framework, amongst others. Community engagement and outreach will also play a significant role under this component, with regards to the rehabilitation of schools and early warning systems.

Sub-component B.1 – Improving the Implementation of Resilient School Construction (US$1.00 million)

25. This sub-component will provide technical assistance for the rehabilitation and construction of safer schools, including for: (a) identification of resilient construction techniques; (b) selection of sites and orientation of classrooms; and (c) quality control.

26. The Safer Schools Project financed by GFDRR will complement this work. In a first phase, school exposure as well hazard maps have been produced along with a catalogue of measures to improve school construction. The second phase, supported by a US$1.5 million GFDRR grant, would start in parallel with this Project and would support: (a) the definition of building standards relevant to hazard zoning; (b) the management of hazard, exposure and vulnerability information and; (c) on-the-job training for resilient school construction. This technical assistance is conducted in collaboration with ECHO, UNICEF, UN-Habitat, the University of Eduardo Mondlane, INGC, MOPHRH and MINEDH. The ongoing second phase of the Safer Schools Project will support implementation of these measures on a pilot basis in two selected provinces.

27. This recipient-executed technical assistance will include:

- Joint training in the use of the catalogue of technical measures to adjust the technical specifications in the procurement process;
- On-the-job training for conventional construction, with implementation of improved construction practices;
- On-the-job training for non-conventional schools, with testing of materials and implementation of improved construction practices;
- Training and travel support to improve the management of construction projects; and
- Train engineers and technicians to interpret hazard maps and decide on adaption measures (location, orientation, materials, and design).

Sub-component B.2 – Capacity Strengthening for DRM and Recovery Framework (US$3.00 million)

28. To prevent the recurrence of similar major impacts in relation with flooding events in the Project area, it is essential to strengthen the capacity and means of the GoM and communities to manage and respond to disaster risks.

29. This sub-component will support a program of activities to strengthen the capacity of relevant government institutions and communities to manage and respond to disaster risks, including: (a) developing a proposal for rehabilitating meteorological and hydrological measurement stations and enhancing access to data in the Licungo basin; (b) rehabilitating the damaged hydro-meteorological network; (c) installing meteorological and hydrological measurement stations; (d) evaluating early warning systems and proposals for reinforcing community preparedness; (e) building the capacity of relevant national and local government institutions on early warning systems; (f) building the capacity of local disaster risk management committees to prepare emergency plans; and (g) developing a framework to enhance capacity in recovery and reconstruction.

30. By strengthening the optimal use of monitoring and forecast information, the sub-component will help ensure improved access to hydro-meteorological and impact prediction information from the Mozambique National Meteorology Institute (INAM) and DNA by INGC and by the local communities. The latter will be particularly significant in reinforcing "the last mile" connectivity of the early warning system, as it will teach local communities how to best utilize their enhanced access to warnings and thus enhance their preparedness and response capabilities in the event of flooding. The activities will be procured and managed by MOPHRH through DNA, in close coordination with the existing Transforming Hydro-Meteorological Services Project.

31. More specifically, this sub-component will consist of:

(a) **Studies**: (i) a Licungo basin-wide proposal for the rehabilitation and enhanced access to meteorological and hydrological measurement stations, including automatic ones; (ii) an assessment of existing early warning systems; and (iii) proposals for reinforcing community preparedness with identification of water level thresholds affecting specific communities, training on emergency response measures for most exposed households, and the design of a technical platform for data sharing between INGC, INAM/ARA and the communities at risk.

(b) **Equipment**: the supply and installation of meteorological and hydrological measurement stations.

(c) **Training**: (i) Joint on-the-job training of technical staff of INGC, INAM, DNA and local governments on early warning systems; and (ii) training of local DRM committees, which will lead to the preparation of emergency plans.

32. Secondly, the Project will work with the GoM to develop a Recovery Framework to enhance capacity development in recovery and reconstruction. This would entail the need to: (a) re-examine the national disaster management system to clarify competencies and authority of different government entities for recovery; (b) establish a coordinating mechanism specifically to monitor recovery activities. This mechanism should benefit from trained personnel from key sectors familiar with damages and losses assessment techniques and with planning and budgeting procedures and reporting to the MEF; (c) clarify the responsibilities of INGC and MEF/ Planning and Budgeting Directorate regarding recovery; (d) train national and local authorities to improve readiness for recovery. This should be combined with the development of a consolidated multi-sectoral report on recovery priorities and implementation framework that harmonizes the preliminary needs assessment coordinated by the National Operational Centre for Emergency (CENOE) with the MEF/ Planning and Budgeting Directorate post-disaster damage assessment, as well as assessments used by key partners and NGOs; and (e) facilitate monitoring of recovery activities, labeling funding for recovery in its own category in the Financial Management System of the Government (e-Sistafe1) (regardless of the source of funding) so that the implementation could be monitored against the reconstruction budget, prepared by the GoM, as a result of post-disaster assessments.

33. This work will be done in close collaboration with GFDRR. After the 2015 floods, GFDRR awarded a US$1 million grant to strengthen INGC’s capacity for DRM. The grant supports the assessment of capacities and development of investment plans for institutions involved in DRM, with specific focus on emergency management, hazard forecasting, disaster risk information and

early warning systems, as well as sector-based vulnerability analysis. GFDRR will also provide extensive expertise in the development of a Recovery Framework.

Sub-component B.3 – Study on Licungo Watershed Management (US$2.00 million)

34. This sub-component will be carrying out a study on watershed management in the Licungo river to reduce the vulnerability of dikes and other hydraulic works in order to develop long-term recommendations based upon a detailed understanding of the hydrology and flood return periods in the watershed. It will develop a risk model and address the question of how such damages can be minimized if a flood of this scale were to strike again in the future.

35. Damages to the Nante dike resulted from the overflow of the embankments, leading to substantial erosion of the dike body at its downstream side. Given the urgent need to rehabilitate the Nante dike, the current dike dimensions will be maintained under sub-component A.1 of this Project. However, following reconstruction, this study will seek to define the best new dike dimensions for the future based upon agreed feasible return periods of allowed dike overtopping and an extensive study of the hydraulic characteristics of the river.

36. Moreover, DNA is currently commissioning the study "Elaboração do Plano Estratégico de Desenvolvimento e Gestão de Recursos Hídricos da Bacia Hidrográfica do Rio Licungo" (the Licungo Basin Water Resources Development Plan). This plan will guide the development of the agriculture and processing industry in the basin as well as the most promising investment locations. The watershed management study will serve to complement DNA's plan by providing recommendations on feasible flood protection levels for the areas to be developed. The terms of reference of the watershed management study should be drafted after the submission of the Inception Report of the Licungo Basin Water Resources Development Plan.

Component C – Project Implementation, Monitoring and Evaluation (US$3.00 million equivalent)

37. This component will finance Project implementation, monitoring and evaluation costs of MOPHRH (for DNA), MINEDH, INIR, and AIAS.

Sub-component C.1 – Project Implementation, Monitoring and Evaluation by MOPHRH (US$1.20 million)

38. This sub-component will cover: (a) strengthening the capacity of the Project Steering Committee for overall Project coordination; and (b) strengthening the capacity of MOPHRH (DNA) for Project management, coordination, monitoring and evaluation, including: (i) fiduciary (i.e. financial and procurement management); (ii) environmental and social assessments; (iii) preparation of Project reports; and (iv) monitoring and evaluation.

Sub-component C.2 – Project Implementation, Monitoring and Evaluation by MINEDH (US$800,000)

39. This sub-component will cover: strengthening the capacity of MINEDH for Project management, coordination, monitoring and evaluation, including: (a) fiduciary (i.e. financial and procurement management); (b) environmental and social assessments; (c) preparation of Project reports; and (d) monitoring and evaluation.

Sub-component C.3 – Project Implementation, Monitoring and Evaluation by INIR (US$500,000)

40. This sub-component will cover: strengthening the capacity of INIR for Project management, coordination, monitoring and evaluation, including: (a) fiduciary (i.e. financial and procurement management); (b) environmental and social assessments; (c) preparation of Project reports; and (d) monitoring and evaluation.

Sub-component C.4 – Project Implementation, Monitoring and Evaluation by AIAS (US$500,000)

This sub-component will cover: strengthening the capacity of AIAS for Project management, coordination, monitoring and evaluation, including: (a) fiduciary (i.e. financial and procurement management); (b) environmental and social assessments; (c) preparation of Project reports; and (d) monitoring and evaluation.

Component D – Contingency Emergency Response (CERC) (US$0.00 million equivalent)

41. This component will be providing immediate response to an Eligible Crisis or Emergency, as needed. This would finance emergency works in case of another disaster event by including a "zero-dollar" Contingency Emergency Response Component (CERC). This would help reduce damage to infrastructure by providing resources for emergency rehabilitation, ensure business continuity, and enable early rehabilitation. Resources from this component would be managed according to the Operations Manual of the Immediate Response Mechanism (IRM), which would enable the use of a portion of uncommitted funds from the overall IDA portfolio (in addition to resources from this Project) to respond to emergencies. Should this IRM be triggered, MOPHRH through DNA will be the "Coordinating Authority" responsible for coordinating and implementing the IRM. Specific details around this component (including activation criteria, eligible expenditures, and specific implementation arrangements as well as required staffing for the Coordinating Authority) will be defined in greater detail in the IRM Operations Manual, which will go through a consultation and clearance process.

42. The overall Project cost breakdown is as follows:

Table 2.5: Project Overall Cost Breakdown

Components and Sub-components	Implementing Structures	Estimated Costs (US$ million)
Component A. Resilient Infrastructure Rehabilitation		**31.0**
A.1 Rehabilitation of Damaged Dikes and Weirs	MOPHRH (DNA)	9.5
A.2 Rehabilitation of Rural Infrastructure in the Magandja Da Costa District	INIR	5.5
A.3 Rehabilitation of Drinking Water Supply in Mocuba	AIAS	7.0
A.4 Rehabilitation and Reconstruction of Resilient Schools	MINEDH	9.0
Component B. Technical Assistance for Resilient Recovery and Vulnerability Reduction		**6.0**
B.1 Improving the Implementation of Resilient School Construction	MINEDH	1.0
B.2 Capacity Strengthening for DRM and Recovery Framework	MOPHRH (DNA)	3.0
B.3 Study on Licungo Watershed Management	MOPHRH (DNA)	2.0
Component C. Project Implementation, Monitoring and Evaluation		**3.0**
C.1 Project Implementation, Monitoring and Evaluation by MOPHRH	MOPHRH (DNA)	1.2
C.2 Project Implementation, Monitoring and Evaluation by MINEDH	MINEDH	0.8
C.3 Project Implementation, Monitoring and Evaluation by INIR	INIR	0.5
C.4 Project Implementation, Monitoring and Evaluation by AIAS	AIAS	0.5
Component D. Contingency Emergency Response (CERC)	MOPHRH (DNA)	**0.0**
Total Cost		**40.0**

Annex 3: Implementation Arrangements

Emergency Resilient Recovery Project for the Northern and Central Regions

A. Institutional and Implementation Arrangements

1. **Use of Existing Institutional Structures**: Implementation arrangements for the proposed Project will be based on well-tested, existing institutional structures. The Project will be implemented by the following entities in line with their respective mandates: (a) MOPHRH through DNA for dikes rehabilitation and flood risk management; (b) INIR for irrigation; (c) AIAS for drinking water supply; and (d) MINEDH for safer schools All these institutions are currently implementing other Bank-financed projects and specific implementation arrangements will be derived from those in place under the following projects: (a) WRD Water Resources Development (MOPHRH); (b) Transforming Hydrological and Meteorological Services (MOPHRH); (c) PROIRRI Sustainable Irrigation Development Project (INIR); (d) CCCP Cities and Climate Change Project (AIAS); and (e) ESSP Education Sector Support Program (MINEDH). Project teams in place would be strengthened with the recruitment of additional technical, safeguards, financial management and procurement consultants, as appropriate. A graph representing the Project's institutional arrangements is presented in Figure 3.1.

2. **Project Steering Committee (PSC)**: A Project Steering Committee will be established under the leadership of the MEF and INGC, with INGC acting as the PSC Secretariat. It will report to the Technical Committee for Disaster Management (CTGC) to ensure overall coordination, monitor recovery efforts and provide project implementation oversight. The PSC will also oversee the consolidation of implementation progress reports from DNA, INIR, AIAS, and MINEDH every three months. A Project Coordinator will be specifically hired for this Project under the PSC in order to manage coordination and the consolidation of reports amongst DNA, INIR, AIAS, and MINEDH.

3. **Implementing Arrangements:**

4. **MOPHRH (through DNA)**: Implementation of the Project will be embedded within the existing MOPHRH structures through DNA at the departmental level and a Project Coordinator will be appointed to oversee and implement the day-to-day activities. Activities will be executed with the collaboration and supervision of the respective ARAs, which are themselves under the direct responsibility of MOPHRH. DNA and the relevant ARAs will identify Activity Coordinators who will assist in the preparation of Terms of Reference for procurement, contract supervision, monitoring and evaluation and other related activities.

5. **INIR**: INIR has representation at the provincial level and oversees policy, strategic, and operational issues related to irrigation. PROIRRI has set up a semi-integrated project coordination team hosted by INIR, with core positions held by externally recruited consultants. The consultants work with technical specialists from the administration at the central and provincial level, and provide on-the-job training to the technical specialists from the administration, thereby helping to build the capacity of the agencies. To mitigate the capacity risk, the institutional arrangements for the Project implementation will rely upon the long-term irrigation service providers and strategic partners setup by the PROIRRI Project for the day-to-day execution of Project activities, taking

into account the need for a strong technical expertise on the ground for the planning, coordination, execution and monitoring of the Project activities.

6. **AIAS**: The Project will also use existing implementation arrangements and share resources from other projects using AIAS. A specialized autonomous agency under the supervision of the MOPHRH, AIAS is responsible for the provision of urban water infrastructure in all but the largest cities of the country and urban sanitation infrastructure, including drainage, in all cities and towns. A separate Project Agreement will be required for AIAS, as this is an independent agency with financial and procurement autonomy.

7. **MINEDH**: The Project will use existing implementation arrangements in place for the ESSP. MINEDH is currently resourced with a pool of experienced procurement officers, supported by an experienced internationally recruited procurement specialist, and the procurement performance of the ESSP has been satisfactory. MINEDH has acquired considerable experience with Bank projects and is familiar with implementation and supervision procedures recommended under safeguards policies triggered by this Project. Positions under the Directorate of Administration and Finance of MINEDH are currently supported by the Additional Financing of the ESSP and will also support the school rehabilitation and reconstruction activities under this Project. A separate capacity assessment is not required.

Figure 3.1: Implementation Arrangements

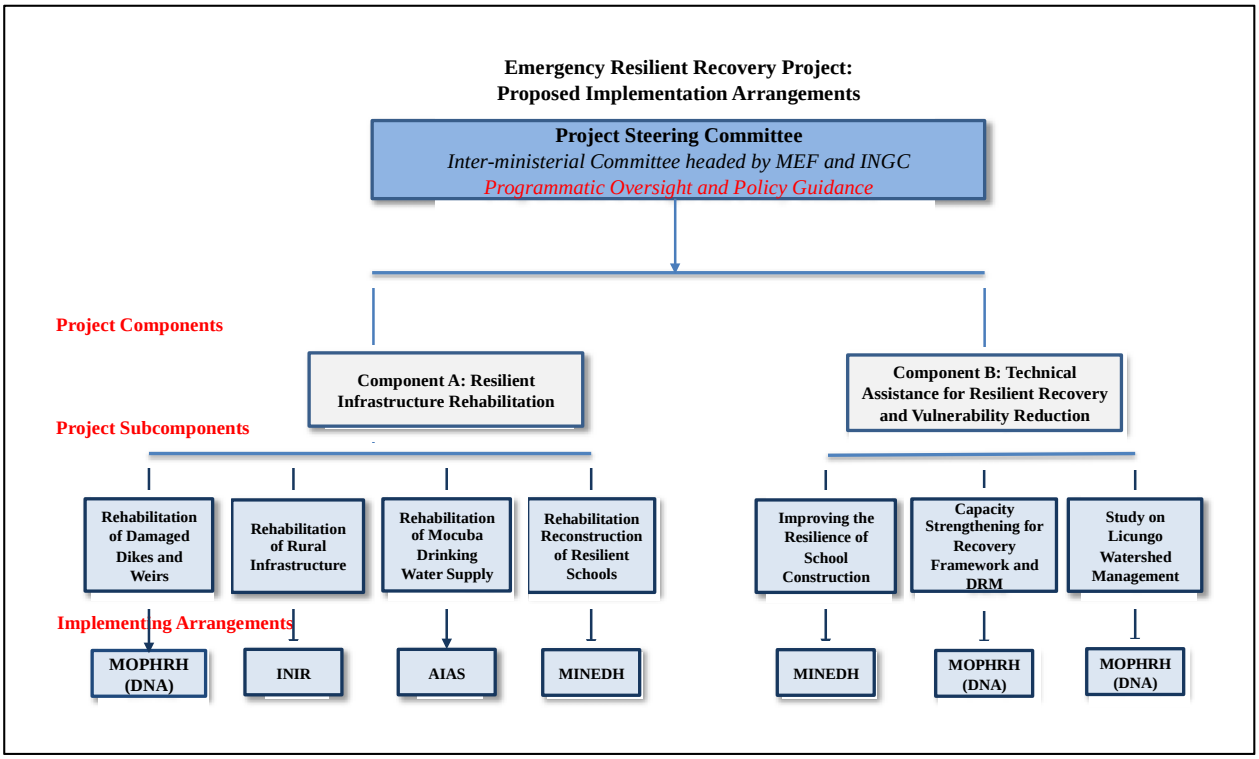


Table 3.1: Implementing Arrangements per Sub-Component

Category as per Financial Agreement	Corresponding Subcomponent	Amount (US$)	Implementing Structure
(1) Goods, works, non-consulting services, and consultants' services under Part A.1 of the Project	A.1	9,500,000	MOPHRH (DNA)
(2) Non-consulting services, consultants' services and operating costs under Part C.1 of the Project	C.1	1,200,000	MOPHRH (DNA)
(3) Goods, works, non-consulting services, consultants' services and operating costs under Parts A.2 and C.3 of the Project	A.2, C.3	6,000,000	INIR
(4) Goods, works, non-consulting services, consultants' services and operating costs under Parts A.3 and C.4 of the Project	A.3, C.4	7,500,000	AIAS
(5) Goods, works, non-consulting services, consultants' services and operating costs under Parts A.4 and C.2 of the Project	A.4, C.2	9,800,000	MINEDH
(6) Non-consulting services, consultants' services, and training under Part B.1 of the Project	B.1	1,000,000	MINEDH
(7) Goods, non-consulting services, consultants' services, and training under Parts B.2 and B.3 of the Project	B.2, B.3	5,000,000	MOPHRH (DNA)
(8) Emergency Expenditures under Part D of the Project	D	0	MOPHRH (DNA)
TOTAL AMOUNT		**40,000,000**	

B. Financial Management, Disbursements and Procurement

Financial Management

8. MOPHRH through DNA, INIR, AIAS, and MINEDH will be responsible for the financial management aspects of their own activities under the overall coordination of the PSC. AIAS will also have independent financial management indicated in the Project Agreement. The experience of DNA, INIR, AIAS, and MINEDH gathered over the past years in the implementation of Bank-financed operation will play a key role in ensuring financial management related aspects are run smoothly. There is an appropriate mix of skills and experience within each of the units to handle the financial management aspects of the Project, but there may be a need to recruit additional accounting assistants. DNA, INIR, AIAS, and MINEDH will follow their established procedures implemented through ongoing IDA projects. This arrangement also brings less complexity to the operation and allows different components to move ahead without necessarily compromising the progress of other components. The assessment of DNA, INIR, AIAS, and MINEDH was also favorably impacted by the fact that these institutions already have satisfactory financial management arrangements (budgeting, accounting, funds flow, internal controls, financial reporting, and external auditing).

9. DNA, INIR, AIAS, and MINEDH's experience will play a key role in helping the Project launch activities without any major delays that are normally encountered during the earlier stages of Project implementation. They already have experienced personnel, an approved financial management manual, adequate coordination with the Departments of Administration and Finance (DAFs), which plays a critical role in the use of the country's financial management systems, particularly related to the Integrated Financial Management Information System (IFMIS), the GoM's accounting system e-SISTAFE and the Single Treasury Account (CUT), if the need arises.

10. **Budgeting**: The budgeting, budgetary control, and budget revisions will follow national procedures requiring that the Project budget is inserted as part of DNA, INIR, AIAS, and MINEDH's budget and approved by parliament. Approved activities on the budget will be captured in annual work plans, which for IDA purposes will be the documents driving implementation. The Project budget will need to be registered with the National Directorate of Budget (DNO) and National Directorate of Treasury (DNT) prior to effectiveness to be able to make use of the country's financial management systems including the GoM's accounting system e-SISTAFE and CUT. In addition, the DNO will provide a separate budget code to be used under the Project to ensure that only DNA, INIR, AIAS, and MINEDH have access to Project funds as well as for budget execution monitoring purposes. Budget preparation should take into account the time periods required for the Project to receive the 'Visto' from the *Tribunal Administrativo*.

11. **Internal Control and Accounting Procedures**: As the Project will be making use of the country's financial management systems, the internal controls and accounting will similarly be based on the procedures used in the institutions' day-to-day operations, including Bank-financed operations. DNA, INIR, AIAS, and MINEDH will be responsible for ensuring that the internal controls of the Project are effective and functioning. However, the *Inspecão Geral das Finanças* (IGF) will be responsible for conducting independent, objective internal audit/inspections, which usually take place at least on a yearly basis and are based on risk profiles of the institutions. In

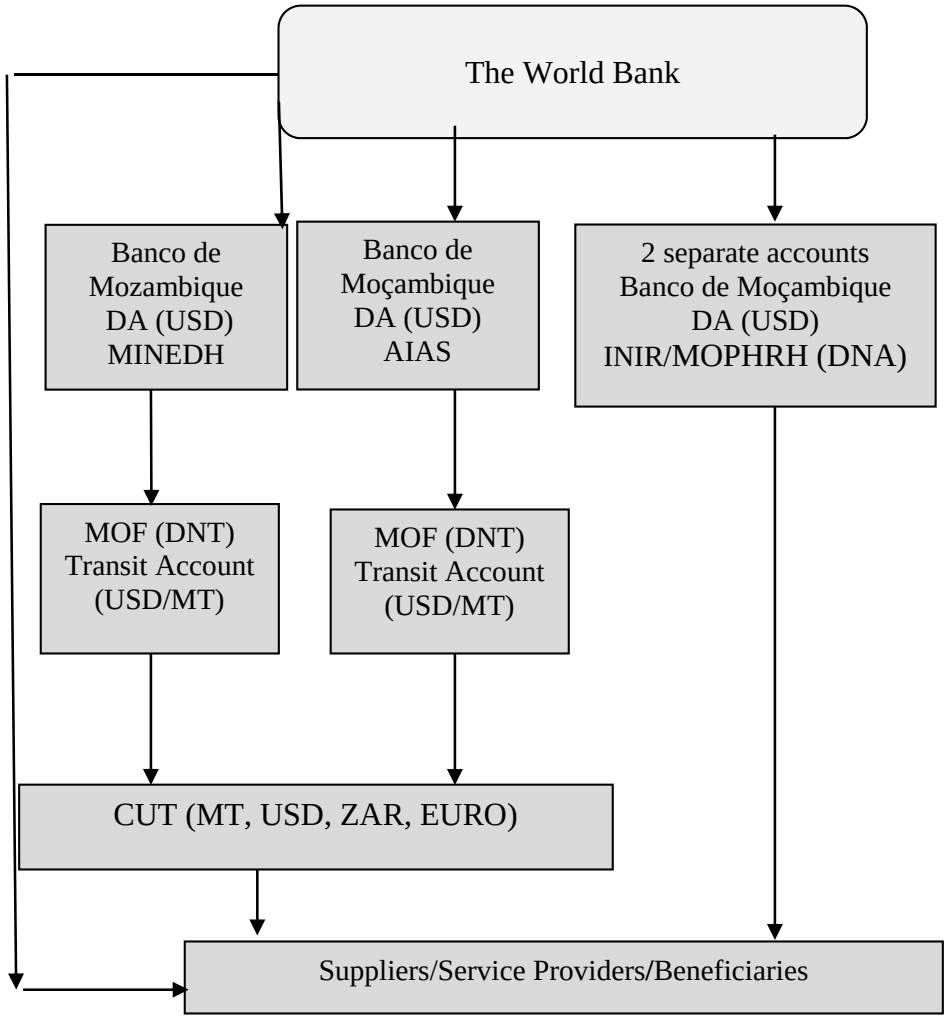
addition, each of the IE's internal control units will also play a role in ensuring project funds are used for the intended purposes.

12. **Staffing:** DNA, INIR, AIAS, and MINEDH has an adequate mix of skilled and experienced finance personnel to be able to handle the financial management responsibilities of the Project. However, there may be a need to recruit additional accounting assistants to handle the basic accounting responsibilities. The new accounting staff will benefit from training in Bank Disbursements and Financial Management.

13. **Accounting System:** DNA, INIR, AIAS, and MINEDH will be responsible for handling their own accounting responsibilities. INIR, through PROIRRI, uses an accounting software package that will be customized in order to add the proposed Project, while MINEDH will make use of Primavera and e- SISTAFE, and AIAS and MOPHRH will continue to use spreadsheets. The above arrangements have worked adequately in the on-going Bank-financed operations. The preparation of the accounting information will be on a *cash basis* in accordance with GoM requirements, which are also in alignment with the International Public Sector Accounting Standards.

14. **Funds Flow:** The Project will operate four Designated Accounts at the *Banco de Moçambique* in USD to be managed by DNA, INIR, AIAS, and MINEDH as presented below in Figure 3.2. These arrangements will allow DNA, INIR, AIAS, and MINEDH to be able to concentrate on its activities without depending on any other institution.

Figure 3.2: Designated Accounts Management



15. **Reporting:** A single consolidated quarterly financial report will be submitted to IDA, for which DNA will have the responsibility of consolidation. DNA, INIR, AIAS, and MINEDH will separately provide their quarterly reports to DNA within 30 days of the end of each quarter to allow DNA sufficient time to consolidate the reports and submit to the IDA within 45 (forty-five) days of the end of the quarter. The formats of these quarterly reports were formally agreed during Negotiations. The quarterly reports will include:

- Sources and Uses of Funds;
- Detailed Use of Funds Schedule by Project Component / Disbursement Categories, comparison with budgets; and short-term forecasts of expenditure;
- A narrative summary of implementation highlights for the quarter helps the readers understand the financial statements better.
- Summary payments on Contracts subject to the Bank's prior review and;
- Summary on payments not subject to Bank's prior review.

16. **External Auditing:** The *Tribunal Administrativo* (TA) is constitutionally mandated to audit all government funds and will initially be responsible for auditing the consolidated financial

statement of the Project. In coordination with INIR, AIAS, and MINEDH, DNA will be responsible for consolidating the entire Project's financial statements so that a single audit report is prepared for the Project. Given the additional work this could impose on the TA, the audits may be subcontracted to a firm of private auditors, with/or without the participation by TA staff in the actual audit. The audits of DNA, INIR, AIAS, and MINEDH have not raised significant financial management issues. Therefore, a single consolidated financial statement, along with the auditor's report and management letter (incorporating management's comments) covering identified internal control and accounting system weaknesses, will be submitted to IDA within six months of the end of each fiscal year. This will mean one audit report for each IE. Any private sector auditors will have to meet IDA's requirements in terms of independence, qualifications and experience, which are designed to provide to assurance on whether the annual financial statements fairly present the financial transactions and balances associated with the Project. The audit reports will contain at least:

- A Statement of Sources and Uses of Funds showing funds from IDA and how they were applied;
- A summary of expenditures by component and category;
- Supporting notes with respect to significant accounting policies and accounting standards adopted;
- Designated Account activity for the year showing deposits and replenishments received.

Table 3.2: Table of Audit Compliance Requirements

Action	Submission Date	By Whom
Submit annual consolidated audited financial statements together with the management letter	Annually by June 30	MOPHRH (DNA)

Table 3.3: Financial Management Plan

Action	Indicative Date	By Whom
Agree on formats of Interim Financial Reports (IFRs)	Agreed during Negotiations	MOPHRH (DNA)/INIR/AIAS /MINEDH Bank

17. **Disbursements Arrangements:** The Project will use transactions-based disbursements based upon Statements of Expenditures (SOEs), mainly through the use of the advance disbursement method, whereby a reasonable ceiling for each Designated Account will be determined and inscribed on the "Disbursement Letter". The Project may also make use of other disbursement methods/procedures such as: (a) Reimbursement disbursement method, whereby the Bank reimburses the Borrower for eligible expenditures that the Borrower has pre-financed from its own resources; (b) Direct Payment method, by which at the Borrower's request, the Bank makes direct payments to suppliers and contractors from the Credit account; and (c) the Special Commitment method, whereby the Bank will issue special commitment to commercial banks for payment of eligible expenditures. The Bank will issue the Disbursement Letter, which will specify the

additional instructions for DNA, INIR, AIAS, and MINEDH for withdrawal of the proceeds of the credit.

Procurement

18. MOPHRH through DNA, INIR, AIAS, and MINEDH will be responsible for the procurement management aspects of their own activities under the overall coordination of the PSC. Procurement of goods, works and services under the proposed MFERP will be carried out in accordance with the Bank's "Guidelines: Procurement of Goods, Works and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by the World Bank Borrower" dated January 2011, Revised July 2014 (Procurement Guidelines); and "Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by the World Bank Borrowers" dated January 2011, Revised July 2014 (Consultants Guidelines) and the provision stipulated in the Financing/Legal Agreement. Anti-corruption guidelines which apply to this Project are: "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants, dated October 15, 2006 and revised in January 2011".

19. The proposed Project has been triggered by an emergency situation (OP 10.00) and therefore, paragraph 20 of (OP 11.00) procurement under emergency situation using simplified procurement procedure shall apply. The general description of various procurement methods under different expenditure category is described below.

20. **Selection of Consultants**: Consultants services for the supervision of the emergency interventions will be selected under the Selection Based on the Consultants' Qualifications (CQS) or under Single Source Selection (SSS) in the event that a qualified and reputable consultant may have been selected competitively, under procedures acceptable to the Bank, to provide similar services in the area of the Project. Generally, the threshold for the use of CQS will be US$500,000. All other selection of consultants will be recruited under Quality and Cost-Based Selection (QCBS) or any other method provided for in the Procurement Plan.

21. **Direct Contracting**: Direct contracting for the procurement of civil works and goods (paragraph 3.7 of the Procurement Guidelines) may be used to extend an existing contract or award a new contract. For such contracting to be justified, the Bank should be satisfied that the price is reasonable and that no advantage could be obtained by further competition. The direct contracting may be from the private sector, United Nations agencies/programs (for goods), or contractors and NGOs that are already mobilized and working in the emergency areas.

22. **Shopping**: Emergency works to be carried out are to be procured mainly through shopping and thus the threshold for the use of the Shopping procedure has been increased to a limit of US$2,500,000. Goods, when required, will also be procured under Shopping procedures with a threshold of US$200,000. In the use of the Shopping procedure, at least six reputable and experienced contractors or suppliers should be invited and the procedure will require prior review by the Bank.

23. **International Competitive Bidding (ICB)**: ICB is the preferred method for procurement of goods, works and non-consulting services. However, it is unlikely that there will be any ICB as almost all the packages fall below the ICB threshold value.

24. **National Competitive Bidding (NCB)**: Any contract exceeding the shopping threshold will be subject to NCB. The following NCB exceptions shall apply:

(a) General: The procedures to be followed for NCB shall be those set forth in the Regulations, with the modifications described in the following paragraphs.

(b) Eligibility: No restriction based on nationality of bidders and/or origin of goods shall apply. Foreign bidders shall be allowed to participate in NCB without restriction and shall not be subject to any unjustified requirement which will affect their ability to participate in the bidding process such as, but not limited to, the proof that they are not under bankruptcy proceedings in the Recipient's territory; have a local representative; have an attorney resident and domiciled in the Recipient's territory; form a joint venture with a local firm. In cases of joint ventures, they shall confirm joint and several liability.

Prior registration, obtaining a license or agreement shall not be a requirement for any bidder to participate in the bidding process.

Recipient's government-owned enterprises or institutions shall be eligible to participate in the bidding process only if they can establish that they are legally and financially autonomous, operate under commercial law, and are not dependent agencies of the Recipient.

(c) Bidding Documents: Standard bidding documents acceptable to the Association shall be used for any procurement process under NCB.

(d) Preferences: No domestic preference shall be given for domestic bidders and/or for domestically manufactured goods.

(e) Applicable Procurement Method under the Regulation: Subject to these NCB exceptions, procurement under NCB shall be carried out in accordance with the Regulation's public competition (*Concurso Público*) method.

(f) Bid Preparation Time: Bidders shall be given at least twenty-eight (28) days from the date of the invitation to bid or the date of availability of bidding documents, whichever is later, to prepare and submit bids.

(g) Bid Opening: Bids shall be opened in public, immediately after the deadline for their submission in accordance with the procedures stated in the bidding documents.

(h) Bid Evaluation:

(i) Qualification criteria shall be clearly specified in the bidding documents, and all criteria so specified, and only such criteria so specified shall be used to determine whether a bidder is qualified; the evaluation of the bidder's qualifications should

be conducted separately from the technical and commercial evaluation of the bid. Qualification criteria shall be applied on a pass or fail basis.

(ii) Evaluation of bids shall be made in strict adherence to the criteria declared in the bidding documents; criteria other than price shall be quantified in monetary terms.

(iii) A contract shall be awarded to the qualified bidder offering the lowest-evaluated and substantially responsive bid.

(iv) Bidders shall not be eliminated on the basis of minor, non-substantial deviations.

(i) Rejection of All Bids and Re-bidding: All bids shall not be rejected and new bids solicited without the Association's prior concurrence.

(j) Complaints by Bidders and Handling of Complaints: The Recipient shall establish an effective and independent complaint mechanism allowing bidders to complain and to have their complaint handled in a timely manner.

(k) Right to Inspect/Audit: In accordance with paragraph 1.16(e) of the Procurement Guidelines, each bidding document and contract financed from the proceeds of the Financing shall provide that: (i) the bidders, suppliers, and contractors and their subcontractors, agents, personnel, consultants, service providers or suppliers, shall permit the Association, at its request, to inspect their accounts, records and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Association; and (ii) the deliberate and material violation by the bidder, supplier, contractor or subcontractor of such provision may amount to obstructive practice as defined in paragraph 1.16(a)(v) of the Procurement Guidelines.

(l) Fraud and Corruption: Each bidding document and contract financed from the proceeds of the Financing shall include provisions on matters pertaining to fraud and corruption as defined in paragraph 1.16(a) of the Procurement Guidelines. The Association may sanction a firm or individual, at any time, in accordance with prevailing Association sanctions procedures, including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded an Association-financed contract; and (ii) to be a nominated sub-contractor, consultant, supplier or service provider of an otherwise eligible firm being awarded an Association-financed contract.

(m) Debarment under National System: The Association may recognize, if requested by the Recipient, exclusion from participation as a result of debarment under the national system, provided that the debarment is for offenses involving fraud, corruption or similar misconduct, and further provided that the Association confirms that the particular debarment procedure afforded due process and the debarment decision is final.

25. **Force Account**: When contractors/suppliers are unlikely to bid at reasonable prices because of the location and risk associated with the Project, or a certain government agency has a sole right in a certain type of works/supply, borrowers may use their own government departments' personnel and equipment or government-owned construction unit, provided that the government agency has sufficient managerial capacity and possesses the required technical and financial controls to report to the Bank on expenditure as per paragraph 3.9 of the Procurement Guidelines.

26. **Retroactive Financing**: Given the urgency of this sub-component, retroactive financing will be used to ensure swift action on the rehabilitation of damaged dikes and related infrastructure. However, the procurement process will follow agreed Bank procedures as spelled out above and consistent with on-going operations by the relevant implementing structure (DNA/INIR/AIAS/MINEDH). Moreover, Bank review and no-objections, when required, shall be requested by the Government/DNA/INIR/AIAS/MINEDH.

C. Environmental and Social (including safeguards)

27. Safeguards risks include impacts resulting from activities related to: (a) rehabilitation or reconstruction activities of dikes, schools, irrigation schemes, and drinking water supply infrastructure; (b) loss of trees due to an increase in migrant workers using fuel wood, leading to potential growth in soil erosion; and (c) increase in water logging and salinization around rehabilitated irrigation schemes.

28. Due to the envisaged potential negative impacts related to construction and/or rehabilitation works, an Environmental and Social Management Framework (ESMF), Integrated Pest Management Plan (IPMP) and Resettlement Policy Framework (RPF) will be prepared, consulted upon and disclosed both in-country and in the Bank's Infoshop. The ESMF, IPMP and the RPF will provide a framework for management of all potential negative environmental and social impacts, but also streamlining the positive impacts during as well as mainstreaming any potential resettlement considerations during the implementation of the Project.

29. To ensure compliance with both national legislations and policy requirements from the Bank safeguards policies, the GoM will make use of the well-tested existing environmental and social specialist teams under the following projects: (a) WRD Water Resources Development (MOPHRH); (b) PROIRRI Sustainable Irrigation Development Project (INIR); (c) WASIS Water Services and Institutional Support Project (AIAS); and (d) ESSP Education Sector Support Program (MINEDH). Given the longstanding technical ability of DNA to handle projects with very complex Bank Safeguards requirements, DNA will take a leading role and coordinate the preparation of the ESMF, including the consolidation of the progress reports. DNA will therefore need to strengthen its technical staff to ensure adequate coordination towards the consolidation of the safeguards instruments. Moreover, the Bank Safeguards team will provide day-to-day guidance to the implementers along with tailored and concise social and environmental safeguards training workshops to strengthen their technical capacity. The safeguards specialists will work in tandem with the social and environmental safeguards focal points within MOPHRH through DNA, INIR, AIAS, and MINEDH and closely monitor the implementation of safeguards measures agreed upon in the ESMF, IPMP and RPF.

30. With regards to retroactive financing, depending on the status of the activity to be financed retroactively, the Borrower will prepare an Audit (for completed works) or an Environmental and Social Impact Assessment (ESIA) and/or Management Plan (and RAP as needed) before works begin.

D. Project Monitoring and Evaluation

31. Annex 1 provides the results framework with the list of outcome indicators as well as the intermediate results indicators for each of the Project components. Specific sub-components' activities implementation, monitoring and evaluation will fall under the responsibility of the designated responsible ministry or entity. The Project will make extensive use of monitoring and evaluation arrangements already in place within MOPHRH through DNA, INIR, AIAS, and MINEDH in relation with ongoing Bank projects.

32. DNA, INIR, AIAS, and MINEDH will carry out community-level surveys on a periodic basis to record baseline data in line with indicators found within the results monitoring framework. This will include compiling and updating baseline, present and target indicator values for all sub-components and results reporting to the PSC and the Bank on a routine basis. To this effect, the capabilities of the present central monitoring and evaluation system of DNA, INIR, AIAS, and MINEDH shall be enhanced and/or improved.

33. Bi-annual supervision missions and reports will also be undertaken. Those will generally entail routine quality checks at various stages of implementation, be it the construction of irrigation schemes or drinking water supply infrastructure. Periodic monitoring will include process reviews/audits, reporting of outputs and maintaining updated records. Broad thematic areas that will be supervised and monitored include the following: (a) Social and Environmental Monitoring, (b) Regular Quality Supervision & Certification, (c) Periodic Physical Progress Monitoring, and (d) Results Monitoring and Evaluation.

Annex 4: Implementation Support Plan

Emergency Resilient Recovery Project for the Northern and Central Regions

A. Strategy and Approach for the Implementation Support

1. The Implementation Support Plan (ISP) for the Project has been developed based on (a) the specific and multi-sectoral nature of the Project, (b) the planned implementation schedule, (c) lessons learned from similar emergency operations, and (d) the use of rapid emergency procedures undertaken during appraisal. The Bank team will monitor implementation progress through: (a) reporting against the key performance indicators as outlined in the Results Framework; (b) MOPHRH through DNA, INIR, AIAS, and MINEDH's individual project reports consolidated into joint reports by DNA; (c) independent verification of Project activities through field visits; (d) fiduciary management of all activities carried out by DNA, INIR, AIAS, and MINEDH; (e) reconciliation of payments with contracts; (f) supervision of large numbers of procurement activities, and (g) monitoring of key legal covenants. The ISP will be reviewed at least once a year and revised as required to ensure that it continues to meet the implementation support needs of the Project.

2. Project implementation will be supported by the task team based out of the Maputo office. This will help maximize the use of national staff and consultants and help facilitate ongoing dialogue with and support to the GoM. Selected international staff and consultants will provide additional support out of Washington, D.C. on a needs basis. The ISP envisages frequent implementation support missions by multi-sectoral teams. Formal missions will be conducted at least three times during the first year of implementation and semi-annually thereafter.

B. Implementation Support Plan

3. In addition to formal semi-annual implementation support missions and field visits to the Project components target areas across the provinces of Nampula, Niassa and Zambezia, continuous support will be provided to DNA, INIR, AIAS, and MINEDH. The semi-annual Implementation Status Reports will be produced to provide Bank management and the public with progress updates, tracking risk development and efficacy of mitigation measures. As required, frequent sector-specific missions will also be made to provide targeted support to address emerging issues.

4. The Bank's Procurement, Financial Management, and Environmental and Social Safeguards Specialists are field based and will provide regular, timely implementation support and technical assistance to the counterpart teams during project implementation. These team members will also identify capacity building needs to strengthen procurement, financial management, and safeguard capacity of DNA, INIR, AIAS, and MINEDH.

- **Procurement:** In addition to carrying out an annual ex-post review of procurement that falls below the prior review thresholds, the Procurement Specialist will provide focused procurement support including: (a) reviewing procurement documents and providing timely feedback to the counterparts; (b) providing detailed advice and guidance on the application of

the Bank's Procurement Guidelines; and, (c) monitoring procurement progress against the Procurement Plan. The Financial Management Specialist will review all financial management reports and audits and take necessary follow-up actions as per the Bank procedures.

- **Financial Management**. The Bank will conduct risk-based financial management supervisions, at appropriate intervals, in the following ways: (a) review the Project's quarterly financial reports (provided by DNA, INIR, AIAS, and MINEDH and consolidated into a single quarterly financial report by DNA), the Project's annual audited financial statements, the auditor's management letter and remedial actions, if any; and (b) during the Bank's on-site supervision missions, review the following key areas (i) Project accounting and internal control systems; (ii) budgeting and financial planning arrangements; (iii) disbursement management and financial flows, including counterpart funds, as applicable; and (iv) any incidences of corrupt practices involving Project resources. As required, a Bank-accredited Financial Management Specialist will assist in the supervision process.
- **Environment and Social Safeguards:** Semi-annual inputs from the Environmental and Social Specialists will be required throughout the Project to ensure compliance with Project safeguard requirements. The Safeguards Specialists will closely monitor that the implementation of the ESMF is implemented in accordance with the Bank safeguard policies, both through support missions and routine field visits, and will advise on corrective measures as needed.

5. The table below indicates the level of inputs that will be needed from the Bank to provide implementation support for the proposed Project.

Table 4.1: Implementation Support Plan

Time Year	Focus	Primary Skills Needed	Number of Trips	Estimated Budget (US$)
Year 1	• Project launch • Initialization of Project components • FM systems functioning effectively • Procurement practices following Bank norms • ESMF in place	• Team lead • Co-Team Lead & DRM Specialist • FM, Procurement • Environmental Specialist • Social Safeguards Specialist • Water Resources, WASH, and Irrigation Specialists	• 2	• 150,000
Year 2	• Monitor implementation of Project activities • FM, Procurement, Safeguards • Mid-Term Review	• Team lead • Co-Team Lead & DRM Specialist • FM, Procurement • Environmental Specialist • Social Safeguards Specialist • Water Resources, WASH, and Irrigation Specialists	• 2	• 130,000
Year 3	• Monitor implementation of Project activities • FM, Procurement, Safeguards	• Team lead • Co-Team Lead & DRM Specialist • FM, Procurement • Environmental Specialist • Social Safeguards Specialist • Water Resources, WASH, and Irrigation Specialists	• 2	• 130,000

Time Year	Focus	Primary Skills Needed	Number of Trips	Estimated Budget (US$)
Year 4	• Project withdrawal and closure • Implementation Completion Review	• Team lead • Co-Team Lead & DRM Specialist • FM, Procurement • Environmental Specialist • Social Safeguards Specialist Water Resources, WASH, and Irrigation Specialists	• 2	• 175,000

Table 4.2: Skills Mix Required

Skills Needed	Number of Staff Weeks per Year	Number of Trips	Comments
Task Team Leader	25	8	Country Office-based
Co-Task Team Leader & DRM Specialist	25	8	HQ-based
Financial Management Specialist	6	2	Country Office-based
Procurement Specialist	6	2	Country Office-based
Environmental Specialist	8	8	Country Office-based
Social Safeguard Specialist	8	8	Country Office-based
Water Resources Specialist	12	8	Country Office-based
WASH Specialist	12	8	Country Office-based
Irrigation Specialist	12	8	Country Office-based

Table 4.3: Partners

Institution/Country	Role
GFDRR	Safer Schools and flood risk management
Government of the Netherlands	Nante dike and irrigated schemes
UNICEF	Non-structural disaster risk reduction capacities for schools
European Union	Roads and bridges
African Development Bank	Water supply in rural areas

Annex 5: Environmental and Social Safeguards Action Plan

Emergency Resilient Recovery Project for the Northern and Central Regions

1. The arrangements made under the existing Bank-financed projects (WRD, PROIRRI, WASIS, and ESSP) under implementation by MOPHRH through DNA, INIR, AIAS and MEPH can be used for the Project, and the Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF) will also be used as reference for the elaboration of safeguards instruments related to this Project. The GoM has used harmonized safeguards instruments and trained district-level environmental staff on screening. The GoM has already established an effective safeguard implementation within DNA, INIR, AIAS, and MINEDH under the ongoing Bank-financed projects, which will be used to spearhead environmental and social safeguards within the Project activities. The environmental and social safeguard specialist from DNA, INIR, AIAS, and MINEDH will be responsible for screening the proposed asset for land and resettlement issues and conduct environmental screening in line with procedures to be established under the ESMF and RPF. Activities to be screened may include the rehabilitation or reconstruction of dikes, schools, irrigation schemes, and drinking water supply infrastructure. Project components that require land acquisition, compensation and resettlement of displaced persons will be reviewed under the framework for land acquisition and compensation, but should in principle be avoided.

2. The components under the Project that would trigger environmental safeguard polices are Component A – Resilient Infrastructure Rehabilitation, and Component D – Contingency Emergency Response Component (CERC). The environmental safeguard policies that would be triggered are: (OP 4.01) (Environmental and Social Assessment), (OP 4.04) (Natural Habitats), (OP 4.09) (Pest Management), (OP 4.11) (Physical Cultural Resources) and (OP 4.12) (Involuntary Resettlement). Based on initial evaluation of the scope of activities and potential scale of impacts from construction and rehabilitation activities, the Project was assigned the environmental Category B as the activities will result in moderate impacts that will be localized and easily mitigated. This category requires a partial assessment of impacts and, in line with safeguard requirements, an ESMF will be prepared and consulted upon. An Integrated Pest Management Plan (IPMP), containing a guide on the procurement, distribution, and storage of pesticides near irrigation schemes under rehabilitation, is already being applied under the PROIRRI Project and will be reutilized for this Project. The IPMP was previously reviewed by the Bank Safeguards Specialist, consulted upon and disclosed.

3. Project activities that would trigger environmental impacts include rehabilitation and construction works of dike, education (schools), irrigation, and drinking water supply infrastructure. Construction related to negative environmental impacts would include clearance of trees, noise nuisance, soil erosion, dust emissions, solid and liquid wastes and pollution of surface and ground water resources among others. The policy on Natural Habitats is triggered due to the sensitivity of riverbanks and the fact that floods strongly eroded riverbanks, given high speed and water flow rates, causing loss of vegetation and soil erosion. The forest gallery that grows along streams was severely affected, is very fragmented and is also increasingly anthropic.

4. The rehabilitating of irrigation infrastructures and drinking water supply in Mocuba, especially activities related to fixing the intake of the water supply system, which is currently located in the Lugela River, may affect some already degraded and sensitive habitats along the riverbanks. The ESMF will include provisions for mitigating any possible impacts on natural habitats. Physical cultural resources could be affected by the civil works but there are no known physical cultural resources in the Project area. It is also important to recognize the implementation of an HIV/AIDS prevention program to help ensure a healthy migrant labor force of contractors for civil works during construction periods.

5. Although the Project does not include supporting the operation of irrigation schemes, negative environmental impacts from operations of irrigation schemes and other facilities may include the following: increase in water logging and salinization of land, increase in pests and diseases, conflict in use of water resources with upstream or downstream users and poor sanitation. In general the extent and significance of the negative impacts will be localized and could be managed with appropriate interventions during project implementation.

6. In line with the Bank's policy on Environmental Assessment (OP 4.01), the Government will prepare an ESMF to guide the mainstreaming of environmental planning for the Project. The ESMF will provide screening procedures for typical anticipated environmental and social impacts for all Project activities and the preparation of an Environmental and Social Management Plan (ESMP). The screening process will be prepared as part of the requirements of the (OP 4.01) Environmental Assessment, and will complement the National Environmental Policy and Guidelines for the Environmental Impact Assessment (EIA) in Mozambique (Decree 45/2004) which requires environmental and social screening for developments projects.

7. The Borrower will, drawing on the existing RPFs from the WRD Water Resources Development (MOPHRH), PROIRRI Sustainable Irrigation Development Project (INIR), WASIS Water Services and Institutional Support Project (AIAS), and ESSP Education Sector Support Program (MINEDH), prepare an RPF to guide the preparation of site specific Resettlement Action Plans (RAPs) once such details are known. The RPF will be consulted upon and publicly disclosed both in-country and on InfoShop.

8. The environmental and social screening process consists of four steps: (a) review of environmental and social impacts checklist for projects; (b) screening of impacts from the project activities and sites; (c) assignment of environmental categories; and (d) preparation, review and approval of an Environmental Action Plan. The screening process will be carried out using a screening form to be attached in the ESMF. The already established safeguards specialist team in DNA, INIR, AIAS, and MINEDH of the other Bank-financed projects mentioned above will carry out the environmental and social screening.

9. The Project may affect natural habitats and physical cultural resources. The ESMF will include guidance on mitigating any possible impacts on natural habitats as well as introduce a procedure for managing chance finds.

10. The existing IPMP for the PROIRRI Project that will be adjusted and applied to the proposed Project promotes the use of biological or environmentally friendly control of pests on irrigation

schemes and reduced reliance on synthetic chemical pesticides. The IPMP also promotes integrated approaches that ensure that the health and environmental hazards associated with the use of pesticides are minimized. The plan also includes safer guidelines for the use of recommended and environmentally friendly pesticides on Bank-funded rehabilitated irrigation schemes.

11. The Borrower will prepare four separate versions of each safeguards instrument – namely the ESMF, RPF, and IPMP – and DNA will be in charge of consolidating the four versions into one document for review, consultation and public disclosure.

12. Environmental monitoring, evaluation and reporting on environmental and social management will be part of the Project implementation process and local authority reporting system. During construction, contractors will keep records of all activities carried out on the Project site, which will be submitted to DNA, INIR, AIAS, and MINEDH, which have already established implementation arrangements in other Bank-funded projects. The District Officials will be responsible for monitoring at the local level on a quarterly basis. Compliance to environmental and social screening will be generated from annual reports, evaluation reports and feedback meetings and implementation support missions.

13. Awareness on Environmental Mitigation Measures: The ESMF will also outline provisions for the awareness/orientation sessions for environmental and social training aimed at contractors of civil works. Appropriate training will cover areas such as: screening of projects, policy and legal framework on environment and construction, disposal of solid and liquid waste from premises, and measures to prevent the spread and contraction of HIV/AIDS. Environmental and social rules for contractors will be incorporated within construction bids and contracts to enhance obligations on contractors.

14. Moreover, in light of possible retroactive financing required for sub-component A.1, an Audit will be required for any works already completed and an/or an Environmental and Social Impact Assessment (ESIA) and Management Plan (and Resettlement Action Plan if needed) for works yet to begin, to identify and assess the potential environmental and social impacts of this proposed activity, evaluating alternatives, and designing appropriate mitigation, management, and monitoring measures.

Table 5.1: Action Plan for Safeguards

	Actions	Responsibility	Due date
1.	The Financing Agreement to include clauses in relation to the responsibility of the client to develop, implement, monitor and assess the ESMF, RPF, IPMP and ESIA/EMPs and RAPs	MEF	Done (agreed during negotiations)
2.	In case of retroactive financing for sub-component A.1 prepare an audit (if works have started) and/or ESIA/EMP for works still to be done	MOPHRH (DNA), INIR, AIAS, and MINEDH /safeguard consultant	Before construction activities commence for sub-component A.1
3.	Hire two (2) Social and Environmental Specialists for INIR and MOPHRH for the rehabilitation of irrigation schemes and dikes	INIR and MOPHRH (DNA)	Within 3 months of effectiveness
4.	Prepare, adopt and disclose the ESMF, IPMP and RPF	MOPHRH (DNA), INIR, AIAS, and MINEDH /safeguard consultant	Within 3 months of effectiveness
5.	Client to adopt and implement the ESIAs/ESMPs, IPMPs and RAPs prior to any works to monitor the social and environmental aspects of the ESMF	MOPHRH (DNA), INIR, AIAS, and MINEDH /safeguard consultant	Before construction activities commence
6.	Budget to be included in the annual planning as counterpart finance	MOPHRH (DNA), INIR, AIAS, and MINEDH /MEF	After effectiveness

Table 5.2: Triggered Safeguards

Safeguard Policies	Triggered?	Explanation
Environmental Assessment OP/BP 4.01	Yes	The Emergency Resilient Recovery Project will trigger this policy due to the involvement of civil works (rehabilitation, construction works) of public infrastructure in flood-affected areas. Civil works will possibly generate negative externalities such as: soil erosion and siltation, loss of trees, pollution to surface and ground water resources, soil erosion, dust emissions, solid and wastes.

		Components under the Project that would trigger this safeguard policy are Resilient Infrastructure Rehabilitation, which involve the rehabilitation and strengthening of dikes; the rehabilitation of damaged conventional classrooms and building of "mixed" classrooms to replace those non-conventional classrooms destroyed during the event; the rehabilitation of irrigation infrastructure; and fixing the intake of the Mocuba drinking water supply system. The scope of specific Project activities will need to be more detailed. An ESMF will be prepared which will provide the criteria and procedures for screening project activity investments and guide the preparation of site-specific environmental and social management plans. The ESMF will also assess the institutional capacity of DNA, INIR, AIAS, and MINEDH, including the already created implementation arrangements, and provide measures for capacity building along with an estimate of the budget needed for the implementation of the ESMF. The ESMF will also provide a list of activities that could be financed by the Project and screen out activities that correspond to Category A projects. The justification for classification of category B is that most of the Project will focus on medium size rehabilitation and re-construction projects for dikes, irrigation schemes, and fixing an intake drinking water supply system. The anticipated scale of potential adverse environmental or social impacts on human populations is site-specific, few if any of them are irreversible and in most cases, mitigation measures could be designed to address the impacts. An ESMP and abbreviated RAP for project activities can be used to address the impacts.
Natural Habitats OP/BP 4.04	Yes	The Project will trigger this policy due to the sensitivity of riverbanks and the fact that floods strongly eroded riverbanks, given high speed and water flow rates, causing loss of vegetation and dragged eroded soil. The forest gallery that grows along streams was severely affected, is very fragmented and is also increasingly anthropic. The rehabilitating of irrigation infrastructures and drinking water supply in Mocuba, especially activities related to fixing the intake of the water supply system, which is currently located in the Lugela River, may affect some already degraded and sensitive habitats along the riverbanks. The ESMF will include provisions for mitigating any possible impacts on natural habitats.
Forests OP/BP 4.36	No	The Project will not interfere with natural forest.
Pest Management OP 4.09	Yes	The Project will support the rehabilitation of irrigation schemes. This involves investments in the agriculture sector

		that will restore production and will likely resume the use of pesticides. However, the Project will not finance the procurement of pesticides. In cases where pesticides are used within existing production systems, the Project will promote the use of integrated pest management and the safe use, storage, and disposal of agro-chemicals. INIR is already applying an IPMP under PROIRRI Project that could be reutilized for this Project. The IPMP was duly prepared, consulted upon and disclosed to provide guidance on the use of proper use of pesticides.
Physical Cultural Resources OP/BP 4.11	Yes	The policy is triggered due to civil works that are expected to be supported by the Project. There are no known physical resources expected to be affected by the Project. Nevertheless to ensure due diligence, Chance Finds approaches will be included in the ESMF to provide the useful guidance during project implementation.
Indigenous Peoples OP/BP 4.10	No	There are no Indigenous Peoples in the Project area.
Involuntary Resettlement OP/BP 4.12	Yes	The nature of Project activities may involve temporary displacement and therefore OP 4.12 is triggered. Such activities involve small to medium civil works (i.e. rehabilitation of dikes, resilient schools, and irrigation schemes, etc.) that may require land for temporary or permanent usage. The land acquired for this purpose may lead to loss of assets, sources of income or means of livelihoods for some poor households. To ensure proper mitigation measures are set forth, the Borrower will prepare a Resettlement Policy Framework (RPF) to guide the preparation of site specific Resettlement Action Plans (RAPs) once such details are known. The RPF will provide a framework for management of all potential negative social impacts, but also streamlining the positive impacts, as well as mainstreaming any potential resettlement considerations during the project implementation.
Safety of Dams OP/BP 4.37	No	The Project does not involve dams.
Projects on International Waterways OP/BP 7.50	No	The Project does not involve International Waterways. All water-related rehabilitation is located in the Licungo River Basin, which originates in Mozambique.
Projects in Disputed Areas OP/BP 7.60	No	The Project is not being implemented in disputed areas.

Safeguards Monitoring

15. Specific to resettlement screening, the District Executive Committee, under the supervision of the District Commissioner, will carry out the screening. Monitoring, evaluation and reporting on resettlement issues will be part of a Project implementation process and local authority reporting system. Compliance with resettlement screening will be monitored through monthly reports, evaluation reports and feedback meetings and implementation support missions.

16. The GoM has already used harmonized safeguards instruments and trained district-level environmental staff on screening as part of the existing Bank-funded projects. This set-up will be used for the Emergency Resilient Recovery Project, and the existing safeguards instruments will be used as reference for the preparation of the ESMF and RPF for this Project. The already established safeguards specialist team in DNA, INIR, AIAS, and MINEDH under other Bank-financed projects will be responsible for screening the proposed asset for land and resettlement issues and conduct environmental monitoring in line with the established procedures under the ESMF.

Annex 6: Economic Analysis

1. The 2015 floods were an event of a 30-year return period that generated damages amounting to US$384 million leading to rehabilitation needs close to US$500 million. Given the scale of the damages and losses, the proposed investment will safeguard lives, economic production, livelihoods, and provide additional benefits associated with improved water supply, as well as protect infrastructure from disruptive events with a similar return period. Investments in dike rehabilitation will directly enhance the resilience of agricultural production and ensure the connectivity within the area protected.

2. In particular, the Project is expected to contribute to improve the economic conditions of people living in the Project's regions of intervention and generate economic benefits by: (a) investing in resilient infrastructure rehabilitation and reconstruction of dikes, schools, irrigation schemes, and drinking water supply; and (b) providing technical assistance for safer schools, early warning systems, recovery framework and watershed management. The Project is expected to contribute to the country's development, supporting the ongoing GoM efforts, benefiting from the Bank's experience and support.

3. Due to the emergency nature of the operation and limited data available, the Project Appraisal did not conduct a full economic analysis. However, to ensure the efficiency of the proposed investment, a least cost approach will be carried out for each investment. When possible, proper estimations of Net Present Values (NPVs) and internal revenue rates will be generated. This analysis will follow a phased approach to allow for urgent rehabilitation to take place in the next few months while an economic and financial analysis for other sub-components will be carried out during project implementation.

4. Furthermore, the proposed operation will ensure a strong community involvement and participation that will in-turn generate employment of unskilled labor with additional income benefits to affected communities.

Flood Protection and Damaged Dikes

5. There is not enough flood protection infrastructure in the affected area. One of the most important protection works is the dike of Nante, built in 1982 and rehabilitated in 2001, 2002 and 2005, on the left bank of the lower Licungo River, it protects a very flat, productive and densely populated area of 64,088 habitants, according the 2007 census and irrigated schemes of 700 hectares. The Project seeks to finance the emergency rehabilitation of the damaged Nante dike, which will need to be initiated before the rainy season in November to prevent further damage. This dike runs over 30 kilometers between Nante and Intabo and serves as a river dike that protects habitats, roads, and agricultural land. In addition, the dike/road of Nicoadala, which runs for 5 kilometers, providing protection to the irrigation scheme and the village of Mziva, will be rehabilitated.

6. World Bank value-added and rationale for public investment: Dike construction and maintenance are a public service managed by MOPHRH through DNA, which is the institution responsible for water policy development and management, strategies and investment mobilization

for the water supply and sanitation in rural and urban areas, water works planning, and management of water resources in transboundary basins. The Bank will leverage its technical expertise and experience in dike rehabilitation from the WRD Project and its Additional Credit intended to finance emergency rehabilitation civil works in the Limpopo River basin and longer-term interventions informed by integrated flood management and mitigation studies. In particular, the Project supports a number of emergency rehabilitation works on dikes and levees.

7. As previously mentioned, a comprehensive economic assessment for the proposed Project could not be carried out due to the emergency nature of the operation and the limited availability of data needed to prepare a formal cost-benefit analysis. Costs and impacts of the proposed Project will be monitored throughout implementation to allow a comprehensive ex-post evaluation, and all stakeholders will ensure that investments are cost-effective.

Irrigation schemes

8. The Project seeks to rehabilitate damaged irrigation infrastructures serving 700 hectares, thereby enhancing the resilience of irrigated schemes, including the electricity supply line of 18 kilometers from Nante to the schemes and the rehabilitation of the Niquidua-Malei Earth Road. Investments in irrigation infrastructure will directly contribute to mitigate flooding and drought risk and complement the development of a climate-smart agriculture. The economic analysis to evaluate the Project's feasibility will be based on the value of the incremental areas in hectares that effectively are returned to irrigation as a result of rehabilitation works. For that, further information on amount and value of affected crop by type is needed to perform calculations. Nevertheless, from a qualitative analysis, rehabilitating irrigation schemes will directly benefit the restoration of livelihood and food security of affected communities.

9. World Bank value-added and rationale for public investment: Irrigated schemes in the Licungo watershed are publicly managed by INIR, which is the agency in charge of the planning, development and utilization of water resources management in agriculture. The Bank will leverage its technical expertise and experience with the PROIRRI Project aimed at increasing agricultural production and raising farm level productivity in new or improved irrigation schemes in the Provinces of Sofala, Manica and Zambezia (with a projected 16.8 percent of Internal Rate Of Return (IRR) generating a NPV of US$12.3 million based on an opportunity cost of capital of 12 percent).

Drinking Water Supply

10. The Project aims to restore safe water production capacity in Mocuba, which would benefit an estimated 23,000 citizens. Drinking water supply in Mocuba is a public service managed by AIAS. Since 2007 the Bank has been engaged in Mozambique with the WASIS Project supporting the increase in water service coverage in the cities of Beira, Dondo, Nampula, Quelimane, Ilha de Mocambique, Mocimboa da Praia, Pemba, Tete, Chimoio, Gondola, Angoche, Moatize, and Nacala under the delegated management framework, as well as the establishment of institutional and regulatory frameworks for water supply in smaller cities and towns.

11. World Bank value-added and rationale for public investment: The Bank will leverage its technical expertise and experience in drinking water supply from its direct experience in the country and the region.

Education

12. Mozambique's Five Year Government Plan, and the major documents that underpin the country's development strategy, place education at the center of development. In particular, basic education is a priority area for government involvement because of its large externalities. Furthermore, there are broad benefits to society as a whole from widespread functional literacy and numeracy. Private and social Rates of Return (ROR) to education in Mozambique are high, where according to Simione (2009)[7] an additional year of schooling increases wage by 16.2 percent on average. Both the social and private ROR to education in Mozambique show that investing in education is an urgent necessity in order to yield benefits in health, productivity and consumption. Studies in Mozambique show a positive correlation between the level of education of the household head and both income and expenditure, and a negative correlation with poverty. Among household heads, education is strongly correlated with higher per adult equivalent consumption. Due to the region's agriculture vocation, with a mostly non-educated workforce (80 percent), investments in education can induce participation in higher value added and more productive economic activities, which in turn are expected to positively impact earnings and growth within and outside the economic activity. With a proposed investment of US$6,000 per classroom (for a total US$9 million), close to 1,500 classrooms will be rehabilitated or constructed benefiting up to 150,000 children, the future basis for the region's social and economic development.

13. World Bank value-added and rationale for public investment: The Project would target the rehabilitation of public schools, already staffed and supported by the GoM, as part of the public schools network service managed by the MINEDH. The Bank will leverage its technical expertise and experience in school construction from its engagement in the country through the Safer Schools Project, promoting better planning, designing and building of schools taking into account disaster and climate risks in the location and improving the safety of pupils and sustainability of infrastructures.

[7] Simione, Felix (2009). "Returns to Education in Mozambique: Learning from a Quasi-Experiment". *Dialogo Nacional sobre o Emprego em Moçambique*. Retrieved in 14.Jul.15 at http://dialogoemprego.org/document/39

Annex 7: Map of Project Intervention Areas