

Mozambique Cyclone Idai

Post Disaster Needs Assessment



Conference Version
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FOREWORD

The negative impact of climate change is now a growing reality for Mozambique, a situation which must be considered now and into the future. The country is frequently ravaged by cyclones, floods or drought, and the cyclones and floods of 2019 were the most devastating in recent history in terms of its human and physical impact as well as its geographic extent. A total of 64 districts and 19 counties were directly affected, but almost the entire country suffered from its adverse socio-economic effects.

The disaster interrupted the delivery of basic services such as water and electricity, it damaged roads and bridges that are essential for commercial activity, and destroyed houses, shops and other buildings. Cyclones Idai and Kenneth, with gusty winds ranging from 180 to 220 km/h accompanied by heavy rainfall, also had a huge social impact, causing the death of more than 650 people and directly affecting about 2 million people in the provinces of Sofala, Manica, Tete, Zambézia, Inhambane, Cabo Delgado and Nampula.

Considering this serious situation, the Government of Mozambique declared a State of National Emergency and mobilized internal and external resources including specialized search and rescue forces for saving hundreds of thousands of people at risk and subsequently hosting them in temporary shelters with food and first aid. At the same time, the Government of Mozambique requested external partners to support with an assessment of the damage and loss caused by these extreme events, as well as an assessment of reconstruction and recovery needs for all the economic and social sectors in the affected areas.

The post-disaster assessment was conducted under the leadership of the Government, through the Post- Cyclone Idai Cabinet for Reconstruction, and supported by a global partnership that included the World Bank, the United Nations System and the European Union (EU), using the internationally recognized Post-Disaster Needs Assessment (PDNA) methodology. This assessment counted on the participation of more than one hundred government staff members from all affected regions, who participated in the training program on the use of this methodology.

This assessment estimates that Cyclone Idai caused about 1.4 billion US dollars in total damage, and 1.39 billion US dollars in losses. The total cost of recovery and reconstruction is estimated at 2.9 billion US dollars for the

4 provinces of Sofala, Manica, Tete and Zambezia. The additional needs in Inhambane which was also affected by Idai and in Cabo Delgado and Nampula which were affected by cyclone Kenneth, raise the total recovery needs to 3.2 billion USD.

The Government is aware that it cannot avoid the occurrence of these extreme weather events, but recognizes the need to improve the quality of construction to make them more resilient to future events, in all recovery projects and in all aspects of people's lives and livelihoods.

I would like to express my gratitude to the international and national organizations, namely the World Bank, the European Commission, the African Development Bank, the UN Resident Coordinator's office, UNDP, FAO, WFP, UNFPA, UNICEF, WHO, UN-Habitat, ILO, OIM, UN Women, UNAIDS, USAID, among other organizations that have directly and indirectly supported us. The feeling of gratitude is also extended to the ministries of the Central government, the provincial, district and municipal governments of the affected areas, private sector entities through CTA, and the business sector of Beira through the ACB, for their contribution in the realization of the PDNA.



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Post- Cyclone Idai Cabinet for Reconstruction

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ACRONYMS

CTGC	Technical Council for Disaster Management
CCGC	Coordination Council for Disaster Management
CENOE	National Emergency Operations Center
CLGRC	Local Disaster Risk Management Committees
CLTS	Community Led Total Sanitation
CRA/	The Water Services Regulatory Authority
AURA	
DDR	Demobilization, Disarmament and Reintegration
DFID	Department for International Development UK
DPGCAS	Provincial Directorate of Gender, Child and Social Action
DRR	Disaster Risk Reduction
EDM	Electricidade de Moçambique
EU	European Union
EWS	Early Warning System
FFH	Female-headed Households
FDI	Foreign Direct Investment
FUNAE	Energy Fund of Mozambique
GBV	Gender Based Violence
GDP	Gross Domestic Product
GoM	Government of Mozambique
HDI	Human Development Index
ICH	Intangible Cultural Heritage
IDP	Internally Displaced People
ILO	International Labour Organization
INAS	National Institute of Social Action)
INE	National Institute of Statistics
INGC	National Institute for Disaster Management
IPC	Integrated Phase Classification
MAEFP	The Ministry of State Administration and Public Function
MCTESTP	Ministry of Science and Technology, Higher Education and Vocational Training
MGCAS	Ministry of Gender, Child and Social Action
MINEDH	The Ministry of Education and Human Development
MITADER	Ministry of Environment, Land and Rural Development
MOPHRH	Ministry of Public Works, Housing and Water Resources
NGO	Non Government Organization
PASP	Public Works Programme
PDNA	Post-disaster Needs Assessment
PDPMCN	Master Plan for the Prevention and Mitigation of Natural Disasters
PHAST	Participatory Hygiene and Sanitation Transformation)

PNDT	National Territorial Development Plan
PREPOC	Post-Cyclone IDAI Recovery Program
PSSB	Basic Social Subsidy Program
SAPP	Southern Africa Power Pool
SASB	Beira Sanitation Autonomous Service
SETSAN	Mozambique Technical Secretariat for Food Security and Nutrition
UNAPROC	National Civil Protection Unity
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations
UNICEF	United Nations Children’s Fund
WHO	World Health Organization
WMO	World Meteorological Organization
WFP	World Food Programme
World Bank	The World Bank

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EXECUTIVE SUMMARY



EXECUTIVE SUMMARY

Following **Cyclone IDAI**, the Minister of Economy and Finance, on behalf of the Government of Mozambique (GoM), requested technical assistance from the World Bank (WB) on March 27 2019, through the Global Facility for Disaster Reduction and Recovery (GFDRR) to undertake a post-disaster needs assessment (PDNA) to support the country's recovery process. In accordance with the PDNA protocols, the request was extended to the other tripartite partners, the European Union (EU) and the United Nations (UN). The PDNA, led by the GoM, was conducted between April 16 and May 2nd 2019 by a team of experts from Government Ministries with support from the United Nations agencies, the World Bank, the European Union, the African Development Bank and other development partners. The present report incorporates the results of the PDNA exercise in Sofala, Manica, Zambezia and Tete. This report was submitted to the GoM on May 15 and will be shared with guests attending the pledging conference scheduled for May 31st and June 1st 2019.

Fig. 1: Path of Cyclone IDAI and KENNETH



Tropical Cyclone IDAI made landfall on the night of 14 to 15 March near Beira City, Sofala Province, in central Mozambique. The Cyclone brought strong winds (180 – 220 km per hour) and heavy rain (more than 200 mm in 24 hours) across the provinces of Sofala, Manica, Zambezia, Tete and Inhambane, causing rivers to overflow with flood waters reportedly rising above 10

meters. IDAI also brought a large storm surge in the coastal city of Beira and surrounding areas of Sofala province.

An estimated 3,000 sq. km of land and 715,378 hectares of cultivated land were flooded by IDAI. As of the end of April, 400,000 had been displaced, of which 160,927 were sheltering in 164 temporary accommodation centers across the four provinces. It is estimated that over 13.5 million people lived in the four provinces of Sofala, Manica, Zambezia and Tete, out of which **more than 1.5 million have been affected**, over 1600 injured and more than 600 people died. **An estimated 750,000 are in need of urgent assistance.** About 53% of those in urgent need are women, 47% are men, 254,000 are children under 18 years of age, and 63,000 are over 60 years of age.

On 25 April, Mozambique experienced a second Tropical Cyclone, Kenneth, which made landfall in between the districts of Macomia and Mocimboa da Praia in Cabo Delgado province. With wind gusts of up to 220km/h, Kenneth became the strongest cyclone to ever hit the African continent. Kenneth made landfall at the end of the rainy season, when river levels were already high, increasing the risk of river flooding. The latest reports estimate that about 18,029 people have been displaced. The GoM has requested a separate addendum for the provinces affected by Kenneth, Cabo Delgado and Nampula; and a fifth province affected by IDAI, Inhambane. See Annex 3.

DISASTER CONTEXT

Before Tropical Cyclone IDAI struck Mozambique, the country was already facing high levels of food insecurity. Agricultural productivity and production for the 2018-2019 main season was already expected to be quite low due to drought conditions in many southern and central areas of the country (coinciding with the same provinces most affected by cyclone IDAI). Between September and December 2018, 1.78 million people were severely food insecure in the country, according to the Integrated Phase Classification (IPC) and Mozambique's Technical Secretariat for Food Security and Nutrition (SETSAN).

Cyclone IDAI also arrived at a time when important events and processes were expected to unfold in Mozambique during the course of 2019, namely the general elections to be held in October 2019, the new decentralization package of agreements, a peace process between the Government and Renamo, and the process of Demobilization, Disarmament and Reintegration (DDR). The nature and national scope of these processes, as well as the time limits for achieving them, make them especially sensitive in the post-disaster context left by IDAI. Moreover, these are vital for the country's stability, and particularly for the consolidation of peace and democracy in Mozambique.

Furthermore, **Cyclone IDAI made landfall in the ninth country with the lowest human development index (HDI) in the world (0,437)**, ranking 180th among 189 countries.¹ Life expectancy is 59, the infant mortality rate is 67.3, maternal mortality stands at 452, and the illiteracy rate stands at 39% (males 27%; females 49%). Moreover, the country's poverty headcount is 46 percent in 2014/15, although it rises to 56% in rural areas.² In the four provinces most affected by cyclone IDAI the poverty rate is higher: 62% in Zambezia, 50% in Sofala, 42% in Tete, and 35% in Inhambane.³

The agricultural sector was severely affected in the Central Region, and the sector accounts for 25 percent of the GDP and employs 71 percent of the labor force. Almost 94 percent of the poor are primarily engaged in agriculture.⁴ The pre-existing socio-economic conditions in Mozambique show that Cyclone IDAI took place in a context of high vulnerability, conditions that are likely to exacerbate poverty among the affected population.

1 UNDP. Human Development Indices and Indicators 2018 Statistical Update. 2018

2 Ibid

3 WB, Mozambique Poverty Assessment, no date.

4 World Bank. Mozambique Poverty Assessment. 2018

THE IMMEDIATE RESPONSE

Following Cyclone IDAI, the Government of Mozambique immediately implemented a series of actions in response to the unfolding disaster.

- Declared a National State of Emergency on 19th March 2019
- Implemented immediate search and rescue operations, and provided humanitarian aid
- Made an appeal for international assistance
- Established a post-Cyclone IDAI Recovery Program (PREPOC) on 26 March;
- Approved the Terms of Reference of the PREPOC on April 2, 2019;
- Approved the creation of the Post-Cyclone Reconstruction Office on April 09, 2019;
- Extended the Scope Assessment for Cabo Delgado and Nampula Cyclone following Cyclone Kenneth, on April 30, 2019
- Trained staff of Ministries / sectors on the PDNA methodology and calculation of damage, loss and recovery needs. This training included the central, provincial, district and municipal levels.
- Conducted the PDNA; Approved by the Council of Ministers on May 7th;
- Developed the Final Report of the PDNA, to be presented for Approval by the Council of Ministers;
- Plans to hold a Pledging Conference to be held on May 31st -June 1st 2019.

In parallel the international community has mobilized to support the GoM and communities affected by Cyclone IDAI. The United Nations issued an international appeal for assistance in the amount of USD\$281.7 million, and revised the country's humanitarian response plan. The UN and NGO community also undertook a Multi-sector Initial Rapid Assessment (MIRA) to inform the humanitarian response. The WB, EU, UN agencies, INGOs and other partners are working with the GoM to provide humanitarian and early recovery support to Mozambique.

THE EFFECTS OF IDAI AT A GLANCE




Table 1 and Fig. 2 summarize the main effects of Cyclone IDAI, particularly the number of people affected by the Cyclone, as well as the damaged or destroyed houses, schools, health facilities, cultural centers, livestock, irrigation systems, businesses, water and sanitation facilities, energy and transport infrastructure.




Table 1: Total population by province, and number of affected people by province





	Population (2019)	Affected population (2019)	% of total
Zambezia	5 164 732,0	6 035,0	0,1
Tete	2 648 941,0	54 721,0	2,1
Manica	1 945 994,0	262 890,0	13,5
Sofala	2 259 248,0	1 190 596,0	52,7
Inhambane	1 488 676,0	422,0	0,0
Affected Provinces	13 507 591,0	1 514 662,0	11,2
Mozambique	27 909 798,0	0,1	5,4

Source: INE 2019; INGC database 2019

Fig. 2: Effects of Cyclone IDAI at a Glance

AGRICULTURE 	FISHERIES 	LIVELIHOODS 
433,056 affected households need seed assistance	116,476 M2 of fish tanks affected	Over USD\$ 39 million in income was lost due to unemployment
9,710 animal deaths	1,728,800 avelinos lost	
4.9 million animals need vaccines	2,044 fishing vessels destroyed	
4,309 ha of irrigated land needs rehabilitation		

WATER & SANITATION 	ENERGY 	TRANSPORT 
71,450 damaged latrines affected in rural areas	Destruction or damage to:	Damaged 3,490 km of national roads, 29% of total
118,600 damaged latrines in urban areas	2 generation plants 90 MW	20 bridges affected
	1345 Km of transmission lines	39% of the national rodoviária network damaged
	10216 Km of distribution lines and 30 substations	Significant damage to railroads, with effects on internal trade
	4000 transformers	

HOUSING 	EDUCATION 	HEALTH 	CULTURE 
240,000 houses were partially or totally destroyed	1372 schools affected	89 health facilities partially destroyed	10 cultural centers severely damaged
	4,219 classrooms Affected	3 health facilities completely destroyed	15 historic buildings severely damaged
		2 health training facilities were partially destroyed	

DAMAGE AND LOSS SUMMARY

Table 2 presents a summary of the damage and loss estimated by the PDNA for the four provinces affected by IDA1: Sofala, Manica, Tete and Zambezia. **The damage caused by IDA1 is estimated to be over USD\$ 1.4 billion in total**, which reflects the cost of replacing infrastructure and physical assets. The bulk of the damage fell heavily on the transport sector valued at USD\$442 million, followed closely by the housing sector estimated at USD\$411 million worth of damage. The third sector to suffer heavy damage is industry & commerce which saw USD\$140 million in damage, followed by the energy sector where damage is valued at USD\$133.5 million. Damage was relatively lower yet still significant in the environment sector at USD\$80 million, and for the agriculture sector with USD\$48 million.

Total losses equal USD\$1.39 billion, which reflect the changes in economic flows to full recovery including lost income in the production of goods and services and additional costs to re-establish production. The agriculture sector suffered the most losses with USD\$513 million, followed closely by industry & commerce which suffered USD\$470 million in losses. The transport and health sectors saw losses in the order of USD\$153 million and USD\$ 109 million respectively.

Table 2: total damage and loss by sector and sub-sector (USD millions)

Sectors	Damage			Loss		
	Public	Private	Total	Public	Private	Total
TOTAL	748,9	660,9	1409,8	180,0	1205,8	1385,8
Productive	14,2	190,4	204,6	0,0	986,6	986,6
Agriculture	14,2	33,6	47,8	0,0	512,6	512,6
Fishery	0,0	16,7	16,7	0,0	4,0	4,0
Ind. And Comm.	0,0	140,1	140,1	0,0	470,1	470,1
Social	97,8	411,9	509,7	121,9	61,8	183,7
Housing	0,0	410,5	410,5	7,6	61,7	69,3
Education	14,7	0,3	15,0	5,5	0,1	5,5
Health	80,4	1,1	81,5	108,9	0,0	108,9
Food Security	0,0	0,0	0,0	0,0	0,0	0,0
Culture and Sports	2,8	0,0	2,8	0,0	0,0	0,0
Infraestructure	534,2	56,0	590,2	56,0	150,2	206,3
Transport	391,7	50,0	441,8	5,3	147,5	152,8
Energy	133,5	0,0	133,5	47,9	0,0	47,9
Telecommunications	0,0	0,0	0,0	0,0	0,0	0,0
Agua/San	8,9	6,0	14,9	2,9	2,7	5,6
Cross-cutting	102,7	2,6	105,3	2,1	7,2	9,3
Gender	3,0	0,0	3,0	0,0	1,2	1,2
Environment	77,7	2,1	79,8	2,1	1,3	3,4
Governance	11,9	0,0	11,9	0,0	4,7	4,7
DRR	10,0	0,5	10,5	0,0	0,0	0,0
Livelihoods	0,1	0,0	0,1	0,0	0,0	0,0
Social Protection	0,0	0,0	0,0	0,0	0,0	0,0

THE HUMAN IMPACT

Multidimensional Poverty

Multidimensional poverty documents indicators of change in access to health, education, housing, and others to create an overall index of well-being. In Mozambique multidimensional poverty is currently at 46%,⁵ while inequality has been increasing.⁶ In the case of the affected provinces, the multidimensional poverty rates before IDAI were 63% in Zambézia, 55% in Tete, 39% in Manica, and 36% in Sofala. Multidimensional child poverty was also concentrated mainly in the Central region (51.2%) compared with 15% in the South, and in rural areas (58%) compared with urban areas (19%).⁷

The impact of IDAI will increase multidimensional poverty in Mozambique.






About 1.5 million people were affected by Cyclone IDAI, which represents approximately 11.2% of the total population in the four affected provinces. Table 3 summarizes the multiple deprivations now facing the population in the four provinces affected by Cyclone IDAI. The loss of housing will greatly affect multidimensional poverty since 4 out of 17 (25%) of the indicators relate to housing. Of equal concern is the simultaneous loss of all household goods and productive assets, which in terms of monetary value are proportionally higher than building costs. For families that have lost everything at once, finding the necessary financial and material resources to simultaneously rebuild housing, replace domestic items, and rebuild livelihoods, will be extremely challenging and will take time.






5 Forthcoming GoM-UNICEF-WIDER, 2019. Multidimensional Child Poverty in Mozambique.

6 MEF. 2016. Pobreza e Bem-Estar em Moçambique: Quarta Avaliação Nacional (2014/15).

7 Forthcoming GoM-UNICEF-WIDER, 2019.

Table 3: Summary of the human impact of Cyclone IDAI

SECTOR	HUMAN IMPACT
Farming Livelihoods 	433,056 farming families require seed starter kits, equivalent to 2.1 million people.
Employment 	Over USD 39 million in income was lost due to unemployment
Housing 	240,000 households had their homes totally or partially destroyed 237,789 families were displaced
Health 	6,627 cases of cholera reported thus far
	14,863 cases of malaria and rising
	75,000 pregnant women among the affected, and 45,000 live births are expected in the next 6 months
	83,000 affected women are lactating during the first year after birth
	There has been a 50% decrease in HIV consultations
	At least 7,000 women in reproductive age are at risk of suffering rape
Education 	The destruction of schools is impacting more than 382,717 students, and 9,616 teachers Only 40% of the rural schools have water and sanitation facilities

Water 	211,000 People have restricted water access
Sanitation 	The population reporting open defecation went up from 23% to 46% in the 14 hardest hit districts
Food security 	1,359,159 individuals require emergency food assistance
	Food consumption of staples has been reduced by over 50%
Nutrition 	130,000 pregnant and lactating women are at risk of moderate malnutrition
	100,000 Children 6-59 months are at risk of acute malnutrition
Poverty 	64% Poverty rate, may rise to 79% in affected areas

Vulnerable Groups

Although the impact of the cyclone is widespread in affected areas, there are particular social groups that demonstrate especially high levels of vulnerability. This section identifies these groups, and calls attention to necessary considerations for their recovery.

Women: Mozambique ranks 139th out of 159 countries in the UNDP Gender Inequality Index.⁸ Low levels of education, high maternal health risks, pressure to marry at a young age, high levels of teenage pregnancy,⁹ limited economic prospects, gender-based violence, and accepted cultural norms contribute to the precarious status of women and girls in the country. The impact of the cyclone



has a differential impact on women and girls. There is an elevated risk of Gender-Based Violence.¹⁰ At least 7,000 women in reproductive age are at risk of suffering rape in the next six months.¹¹ This is a direct result of greater exposure of women and girls to distant and unsafe locations, such as water collection points, sanitation facilities and health centers. With the destruction of health facilities, pregnant women have limited access to safe deliveries. It is estimated that over 75,000 cyclone-affected women are pregnant, with over 45,000 live births expected in the next six months, and 7,000 of those could experience life-threatening complications.¹²

The recovery burden is particularly difficult for female-headed households (FHHs), including widows, who are both the income provider and main caregiver. They face difficulty in being able to simultaneously rebuild homes, serve as the primary caregiver, and rebuild their livelihoods.¹³ Without possessions, livelihoods, poor access to services and marginalization **there is a significant possibility that the feminization of poverty will increase in Mozambique.**

8 UNDP Human Development Reports, 2015, <http://hdr.undp.org/en/composite/GII>.

9 https://www.unicef.org/mz/wp-content/uploads/2015/07/EN_Statistical_Analysis_Child_Marriage_Adolescent_Pregnancy_aw-Low-Res.pdf

10 INGC and others, Multi-Sectoral Rapid Assessment Post-Cyclone IDAI, Sofala and Manica Provinces 1-17 April 2019.

11 Estimates from UNFPA 2019.

12 UNFPA calls on world to protect women in cyclone-affected Mozambique. <https://reliefweb.int/report/mozambique/unfpa-calls-world-protect-women-cyclone-affected-mozambique>

13 CARE. 2019. Rapid Gender Analysis. Cyclone IDAI Response, Sofala Province, Mozambique. Photo Credit: Tina Kruger / Oxfam Novib

Children: in Mozambique children are among the most deprived children in the world. Children constitute more than half of the 28 million population.¹⁴ It is estimated that 6.1 million households are headed by children (12-14 years).¹⁵ There are about 2 million orphans and vulnerable children.

Older people: a Rapid Needs Assessment of Older People¹⁶ in Sofala found that, safety and security was the third priority of older people in temporary shelters. The assessment also found that 90% of the elderly respondents were food insecure in large part because they do not have any income, and a third of them have had to borrow money since the cyclone. Almost half depend on family or friends to meet their basic needs, while 81% care for an average of five dependents. There are estimates that over 75% of affected older people in Sofala and Manica provinces require urgent assistance.¹⁷

People with disabilities: between 2%¹⁸ and 6%¹⁹ of the total population and 14% of children aged 2-9 years²⁰ live with a disability, though this is likely an underestimate. 70% of children with disabilities live in rural areas.²¹ In humanitarian contexts, adults and children with disabilities are more likely to be left behind and be separated from their caregivers and family members and face higher risks of violence, exploitation and abuse. Women and girls with disabilities are more vulnerable to violence and exploitation. Light for the World estimates that 111,000 people with disabilities have been directly affected by the disaster.

People living with HIV: people living with HIV (PLHIV) are particularly vulnerable in crises due to breaks in their treatments, and damage to health facilities and medical supplies or the absence of health personnel. Almost 8,000 pregnant women affected by the cyclone are HIV+. Therefore, their babies are at risk of being born with HIV. Children living with HIV are more likely to experience abandonment and/or neglect and face separation from extended family and primary care givers. As a consequence of the loss of livelihoods, there may be an increase in sex work and survival sex, which greatly increases the chance of HIV transmission and abuse.

14 The 2017 Census

15 INE. 2017 Census results. <http://www.ine.gov.mz/iv-rgph-2017/mocambique>.

16 HelpAge International, Initial findings - Rapid needs assessment of older people Cyclone IDAI - Sofala province, Mozambique, April 2019.

17 INGC and others, Multi-Sectoral Rapid Assessment Post-Cyclone IDAI, Sofala and Manica Provinces 1-17 April 2019.

18 INE. 2017 Census results. <http://www.ine.gov.mz/iv-rgph-2017/mocambique>.

19 INE, FAMOD & SINTEF (2009). Living conditions among people with disabilities in Mozambique: a national representative study, National Institute of Statistics, Maputo, Forum of Associations of Disabled People in Mozambique, Maputo, & SINTEF Health Research, Oslo. Table 4, page 31.

20 National Institute of Statistics (INE). Multiple Indicator Cluster Survey. 2008. Table 11.7, page 113.

21 Child Protection Area of Responsibility, Child Protection Risks and Needs in Mozambique: Secondary Data Review, April 2019

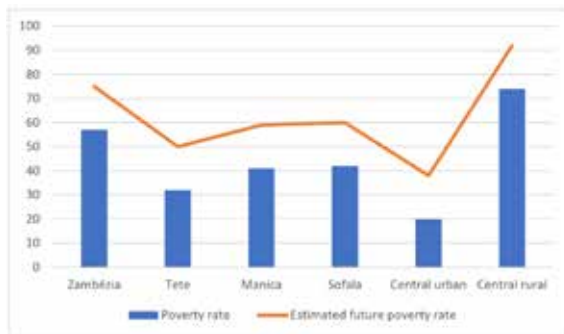
Internally displaced people: As of the end of April, 400,000 had been displaced, of which 160,927 were sheltering in 164 temporary accommodation centers across the four provinces. The resettlement and relocation of Internally Displaced People (IDP) influences the future drivers of inequality and the sustainability of recovery efforts. For example, the MRA reports that 49% of the assessed locations reported an increase in concerns about personal safety since the cyclone. This includes a reference to the lack of police, assault and theft.²² Relocated families are at risk of losing access to their land. This is particularly true for FHH, which are unable to send members back to their home areas to protect their belongings and land.

The Poverty Rate

The country's poverty headcount is 46 percent as of 2014/15, although poverty in rural areas is higher at 56 percent. The poverty rate in the four provinces most affected by cyclone IDAI is higher, at 62% in Zambezia, 50% in Sofala, 42% in Tete, and 35% in Inhambane.²³

Changes in income poverty will play out over the coming years. Disasters have the capacity not only to maintain people in a poverty trap, but also to push people into poverty. For example, Cyclone Jokwe, which hit Northern Mozambique in 2008 and was not as powerful as IDAI, increased the poverty headcount by 17.5%.²⁴ Fig. 3 projects potential future rates of poverty based on these past estimates. **It is estimated that the poverty rate may rise to 79% in affected areas, up from 64%.** The consequences of IDAI are liable to set back significantly development gains made over the last decade in Mozambique.

Fig. 3: The projected poverty rate resulting from Cyclone IDAI



22 INGC and others, Multi-Sectoral Rapid Assessment Post-Cyclone IDAI, Sofala and Manica Provinces 1-17 April 2019.

23 Ibid

24 WB, Extreme Weather and Poverty Risk Evidence from Multiple Shocks in Mozambique, 2018

THE MACROECONOMIC IMPACT

The Impact on Economic Growth 2019-2020

Cyclone IDAI has directly affected aggregate supply through the destruction of productive capacity, mainly in agriculture, trade, transport, manufacturing and services. The preliminary data available suggests that **there will be less pronounced growth in the following sectors:**

Agriculture: with the large-scale impact on agriculture, the growth of the agricultural sector is expected to fall to 2.0% in 2019, compared to 3.5% in 2018. This growth will come from production and productivity in other regions of the country, as well as from the expected positive effects of the second agricultural season of 2018/2019.

Industry:²⁵ The sector's economic growth rate is expected to be maintained at around 4.5% by 2019, driven largely by the boost of the extractive sector combined with the expected positive effect on the electric power sector and the reconstruction of infrastructure. The combination of these factors may mitigate the negative impact of cyclone IDAI on the country's manufacturing industry.

Services: The growth of the services sector is expected to slow to 1.7% in 2019, down from 2.4% in 2018, due to the destruction of infrastructure in the transport, communications, trade and tourism sectors. The port of Beira was paralyzed for a few days, and transportation and communications services were interrupted.

²⁵ Indústria inclui a manufatura, construção civil, extractivo e distribuição de energia, água e gás.

Table 4: Projected GDP Growth in 2019

Branch of activity	2016	2017	2018	2019		
	Real	Real	Estimated	Law	Act. March	Pre Pos Idai
1. Agriculture. Animal production. Hunting and forest	3,1	4,5	3,5	5,5	4,0	2,0
2. Fishing	4,5	2,6	3,5	6,0	4,5	4,5
3. Extractive industry	22,5	40,8	11,7	14,0	13,0	13,0
4. Manufacturing industry	8,5	0,3	2,5	3,1	3,0	3,0
5. Electricity water and gas	12,2	-7,8	0,0	2,0	1,0	1,0
6. Construction	12	-12,4	-1,2	3,5	0,5	1,0
7. Trade and services	4,4	1,5	2,5	2,6	3,0	1,0
8. Hotels. Accommodation. Restoration and similar	8,2	0,8	2,7	3,5	3,0	3,0
9. Transport and storage. Information and communication	7,6	4,3	3,0	2,8	2,0	2,0
10. Financial services and Insurance	5,9	1,1	1,8	2,0	2,0	2,0
11. Public administration. Defense and Social Security	14,8	2,9	5,1	4,5	5,5	5,5
12. Education	7,4	2,6	6,1	5,0	7,0	7,0
13. Human health and Social action	10,2	2,7	2,8	4,5	3,0	3,0
14. Other Services	5,4	1,9	0,3	3,0	1,0	1,0
GDP Growth rate	6,6	3,7	3,3	4,7	3,8	2,5

The preliminary forecast points to a slowdown in real GDP growth to **2.5% in 2019**, compared with a planned growth of up to 4.7% in 2019. This preliminary estimate considers that the central region of the country has a weight of 30% in the Mozambican GDP²⁶ and it is assumed that the supply shock due to Cyclone IDAI has caused a fall of more than 60% of the productive capacity in that region of the country.

26 Média dos últimos 5 anos calculado com base nos dados do INE.

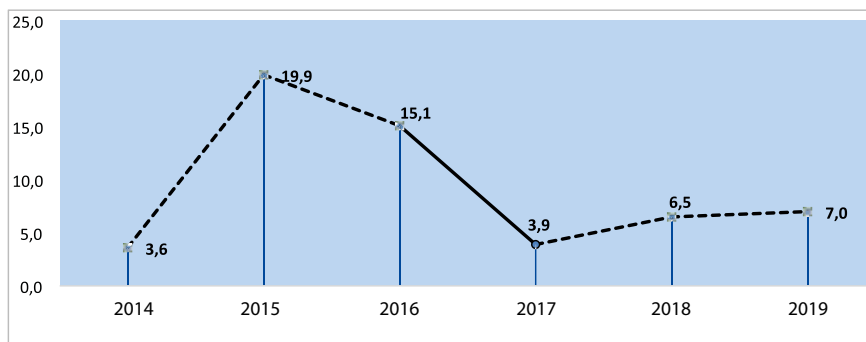
A recovery in economic activity is expected for 2020, with a forecast of 3.9% economic growth, reflecting the positive effects of the Reconstruction Plan in the central area of the country. The cost of recovery from cyclone IDAI has been estimated by the PDNA to be USD \$2.9 billion

The Impact on Inflation in 2019

The supply shock caused by IDAI will generate pressure on prices in the short term, which will tend to dissipate over the medium term.

Short-term effects: the destruction of crops will result in a decline in the supply of agricultural products and consequently to an increase in the price of food products in the central zone of the country. The destruction of part of the industrial park and service companies will interrupt business and the commercial network, stimulating an increase in the price of non-food products. It should be noted that food products have a weight of 33% in the Beira CPI basket and 30% in the Mozambican CPI.

Fig. 4: Mean values of projected inflation 2019-2020



Medium-term effects: As resources for rebuilding and social assistance are channeled to the affected provinces, it may create additional stimulus in aggregate demand, thus generating pressure on domestic prices. In addition, in order to meet the deficit in the supply of goods and services in the affected areas, the import of miscellaneous goods is expected to increase, which may result in a deterioration of the balance of trade. This situation could lead to a pressure on the demand for foreign currency and consequently to induce more pressure on the foreign exchange market, even if moderate, taking into account the prospects of foreign aid inflows to mitigate the effects of the disaster.

Given the combination of these effects, annual inflation for the band is expected to accelerate from 6.0% to 8.0% by the end of 2020, against the previous projection of 6% to 7%. Despite this slight upward revision, inflation is expected to remain in the single-digit. It should be noted that the city of Beira has a weight of 18.9% in the overall inflation of the country. The acceleration of prices in the city of Beira may be attenuated by the price stability that occurs in the cities of Nampula and Maputo which together have an aggregate weight of 81.1% in total inflation. Another consideration is the planned distribution of seeds that have short maturation to accelerate agricultural recovery.

The disaster will have a significant impact on the overall growth and inflation prospects of the country in the short and medium term and can condition the conduct of monetary policy, as shown in the table below.

Table 5: The projected evolution of key macroeconomic indicators

Macroeconomics indicators	2015	2016	2017	2018	2019		
	REAL			Est.	Law	Act. March	Pre Pos Idai
RIL (import coverage months)	5,91	4,19	6,81	6,28	6,0	5,4	5,3
Annual average exchange rate (MT/USD)	38,3	63,1	63,9	60,9	60,5	62,0	64,0
Exports (million USD)	3,413	3,328	4,725	5,196	5,160	5,591	5,479
Foreign direct investment (million USD)	4,034	3,093	2,293	2,692	5,769	2,796	3,177

In general, the effect of monetary policy measures on a temporary supply shock such as that caused by cyclone IDAI is limited. In other words, the monetary policy instruments are inefficient to mitigate the effects of this type of shock. This was a supply shock that affected a specific region of the country. In this context, the evolution of consumption, business confidence and expectations of economic actors beyond the short-term horizon will be the subject of continuous monitoring by the Central Bank, given the potential impact of these indicators on growth and inflation projections over the medium term.

RECOVERY NEEDS

Recovery needs estimated by the PDNA amount to USD 2.9 billion which reflect the necessary interventions to repair or rebuild infrastructure and physical assets with improved measures in line with the principles of building back better and disaster risk reduction to ensure future resilience. These needs also include the additional costs that need to be incurred to recover the production of goods and services and access to goods and services.

Table 6: Total Recovery Needs

Sectors	Needs
TOTAL	2,944.8
Productive	380.4
Agriculture	203.9
Fishery	15.5
Ind & Com	161.1
Social	1,373.1
Housing	687.6
Education	122.3
Health	202.4
Food Security	353.7
Culture & Sports	7.0
Infrastructure	939.7
Transport	598.2
Energy	201.4
Telecom	33.9
Agua/San	106.2
Cross-Cutting Issues	251.5
Gender	5.3
Environment	106.3
Governance	18.4
DRR	15.5
Livelihoods	57.8
Social Protection	48.3

Further, the identified needs include costs to maintain governance and decision-making processes as well as to reduce vulnerabilities and risk, which is incorporated within each sector. Therefore, sectors have included capacity building, technical studies required for recovery interventions, and costs to ensure social protection and security to the affected population.

The largest needs appear in the housing sector with a total amount of USD 688 million, followed by transport with USD 598 million and food security with USD 354 million. The productive sectors would require USD 380.4 million for full recovery from IDAI, and all the crosscutting issues require USD 252 million.

In a first attempt to prioritize and sequence recovery interventions, sector teams have provided also cost estimates for a timeframe of five years, considering interventions that should take place in the short, medium and long-term, including a budget for each phase, as indicated in Table 7.

Note that not all sectors have considered the full range of needs for the proposed prioritization. Also note that it is difficult for countries to undertake the full range of recovery needs identified through the PDNA. It would be highly recommended that the country undertakes a detailed planning exercise to formulate a concrete and realistic recovery program, particularly after the donor/pledging conference, where funds for recovery would be better identified.

Fig 5: Distribution of Recovery Needs by Individual Sector

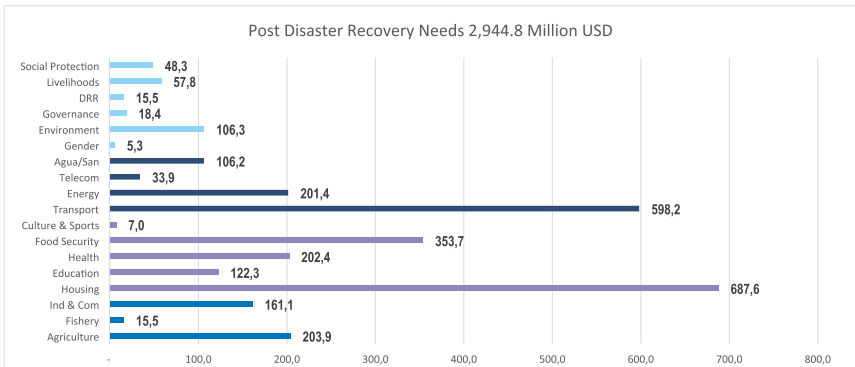


Table 7: Prioritized and Sequenced Recovery Needs by Sector

SECTOR	SHORT TERM	MEDIUM TERM	LONG TERM	TOTAL
Agriculture	116.7	64.1	23.1	203.9
Fisheries	10.1	5.4	-	15.5
Industry/ Commerce	161.1	-	-	161.1
Housing	663.2	4.5	20.3	687.9
Education	115.7	7.0	4.2	126.8
Health	117.0	51.2	34.2	202.4
Culture	3.7	0.2	0.0	3.9
Sports	4.7	-	-	4.7
Water and sanitation	19.0	5.2	82.0	106.2
Transport	8.0	73.0	466.9	547.9
Telecom.	33.9	-	-	33.9

Energy	62.5	29.1	6.3	97.9
Gender	4.1	0.7	-	4.8
Environment	88.4	7.6	10.3	106.3
DRR	7.6	7.6	-	15.2
Livelihoods	53.6	4.0	0.1	57.7
Food security	-	-	-	353.7
Governance	-	-	-	18.4
Social protection	-	-	-	48.3
TOTAL	1,469.3	259.6	647.2	2,796.6

Short-term recovery refers to the interventions required to address the current crisis and prevent a further deterioration of conditions, particularly for the population affected, over the course of 2019-2020. It includes the rehabilitation of crop and livestock production, water sources to improve water availability for people and livestock, health and nutrition centers, schools, and introducing income-generation activities to support people's self-recovery. During this first phase, planning will be necessary for the reconstruction works that will take place in the next phase, such as land-use planning, the design of houses that use resilient materials and techniques, etc.

Medium-term recovery refers to the subsequent 2 years of implementation, approximately lasting 2 to 4 years. During this phase, following the necessary planning and consultation processes, it will be possible to begin the physical reconstruction of infrastructure such as houses, schools and health centers, roads, bridges, government offices, telecommunication and other damaged infrastructure.

The long-term recovery process is the final phase of implementation lasting 5 years or longer. This includes measures to reduce the risk associated with cyclones and floods, for example through the better management of natural resources such as reforestation, the introduction of water harvesting techniques, of farming technologies and practices that are more sustainable (e.g. flood-resistant crop varieties), alternative livelihoods and income-generating activities, among other measures to reduce risk and vulnerability and support adaptation in the Central Region of Mozambique. The proposed risk reduction interventions are integrated within each of the sectors as part of the proposed sectoral long-term measures, and are reflected as such in Table 7.

As Table 7 indicates, almost half of the needs are considered short-term interventions, which need to be implemented as a matter of priority, considering the country's institutional capacity and without causing imbalances in the fiscal and external sector. Modalities of implementation will be consistent with the national planning and financial institutions and are expected to be agreed with donors, guaranteeing a clear focus on addressing the disaster recovery, with full transparency and accountability and a regular monitoring and evaluation procedure reported to the public, civil society and the international partners

Recovery from cyclone IDAI will stress the country's capacity to invest and the Governments absorptive capacity as total needs identified represent around 22% of the country's GDP. The short-term needs (i.e. until 2020) would require an increase of 30% in this yearly gross capital formation.

RECOVERY STRATEGY

On 10th May 2019, the Cabinet for the Reconstruction of Post Cyclone IDAI (Gabinete de Reconstrução Pós-Ciclone IDAI) presented the principles and approach of the recovery program, which was previously endorsed by the Council of Ministers. The recovery and reconstruction program will be developed and implemented following the principles, approach, strategy, financial management and other arrangements outlined herein.

The Principles of Recovery

The following are the principles for the recovery and reconstruction program.

1. Follow one single Post-disaster Reconstruction Program that includes sectoral and local actions;
2. Build on international experiences with post-disaster recovery processes.
3. Ensure that new recovery investments are resilient to future disasters of the same nature and magnitude or greater;
4. Give priority to the defense of life, the rapid restoration of economic and productive activity and the social protection of vulnerable people;
5. Recovery will be in accordance with territorial planning instruments and local plans for adaptation and resilience to natural threats in rural and urban areas;
6. Ensure respect for the zoning plans of the territory, interdict high-risk zones and promote new urban centralities;
7. Improve the living conditions of peripheral neighborhoods, promote adequate street opening, drainage and sanitation;
8. Include flood dampening infrastructures, shelter platforms;
9. Encourage community participation in the reconstruction process.

Approach to Recovery & Reconstruction

- The preparation of the Program should be based on the detailed PDNA assessment of damage and loss caused by the Cyclone IDAI.
- The Central Government should lead the process of preparing the Post-Disaster Reconstruction Program (PREPOC), mobilize the necessary resources and establish an operational structure to direct and coordinate the implementation, monitoring and evaluation of the Program.
- The Program should actively involve all stakeholders, including: central ministries and institutions, provincial and district governments, local government; Cooperation Partners; Multilateral development banks; United Nations agencies; Civil society; Private Sector; Socio-professional associations; Representatives of affected communities.
- The Central Government will work in coordination with the Ministries that oversee the Public Works and Finance areas, in order to achieve quick, visible and measurable results.
- The program should build on the resilient reconstruction of long-term productive, economic and social infrastructures, preceded by in-depth studies to ensure greater resistance to disasters.
- The post-disaster reconstruction program should be based on the resilient reconstruction of infrastructures and the economic and social recovery, in the medium and long term, corresponding to 2 and 5 years, respectively.
- The Program will be implemented by entities with legal and statutory responsibility already defined
- The Program will be implemented by the relevant sectors already established in the State Administration at the national, provincial and district level and also by the autarchic governance, through their integration in the Development Plans, or their extensions. These Sectors should be endowed with the human, material and financial authority, autonomy and capacity to prepare, plan, execute, evaluate and report on the progress and results of the Program.
- The Global Management of the Program, including Financial Management, monitoring and evaluation will be the responsibility of the Central Government. To this end, the Government created the Post-Cyclone Reconstruction IDAI Office established by CM Decree.
- The IDAI Post-Cyclone Reconstruction and Recovery Office should be

endowed with the authority, autonomy, and human, material and financial capacity to prepare the program, review and approve plans, monitor, evaluate, audit and report Program progress and results.

Financing and Financial Management

Based on the results of the PDNA, the Government shall indicate the strategy for financing the Recovery and Reconstruction Program. The cost and financing considerations for the GoM are as follows:

- 1) The contribution of the Central Government through:
 - a) The reorientation of the national budget;
 - b) The application of fiscal benefits to support reconstruction, including the granting of payment of Taxes and Fees by assessing the financial situation of each operator;
 - c) The contribution of local governments;
 - d) The contribution of the private sector;
 - e) The contribution of cooperation partners, including multilateral agencies;
 - f) The portion of the financing gap that donors can support.
- 2) On 31 May-01 June 2019, the Government is organizing a Conference with Development Partners for Post-disaster Reconstruction with the participation of Multilateral and Bilateral Cooperation or Development Partners, Civil Society and the Private Sector, in order to mobilize the necessary resources to cover the financing gap.
- 3) The Government, the IDAI Post-Cyclone Reconstruction Office and beneficiary entities (Municipalities, Private Sector) will hold bilateral meetings with Cooperation Partners, Private Sector and Multilateral Development Banks and influential individuals, in order to mobilize resources for the Reconstruction Program, based on the area of action and interest of each organization.
- 4) The Government and beneficiary entities may also negotiate with Partners and Multilateral Development Banks the allocation of part of the resources of projects currently underway or in the pipeline for the coming years for post-Cyclone recovery and reconstruction funding IDAI.

The implementation of the Program should be based on a transparent and rigorous management of the resources allocated to the Program. To this end, the Government shall ensure that:

- The contracting of works, goods and services by the Program obeys the rules of public contracting established by Decree No. 5/2016, of March 8 (which regulates the Contract of Public Works, Provision of Goods and Services to the State), or other international procedures, as appropriate;
- The use of Program resources is subject to independent annual audit.
- The Program Annual Reports and Accounts are public and should be shared with Partners and all stakeholders.

The Cabinet for the Reconstruction of Post-Cyclone IDAI

The Government of Mozambique created The Cabinet for the Reconstruction of Post Cyclone IDAI by Decree 26/2019 on April 11, 2019. With its headquarters in Beira City, the Cabinet is an entity of territorial scope and of temporary nature, but enjoys the autonomy and powers of authority and technical decision necessary for the effective and efficient performance of its functions. The Cabinet's structure is as follows:

- It is supervised by the Minister of Public Works, Housing and Water Resources.
- It is headed by a Director appointed by the Council of Ministers, under an articulated proposal of the Ministers who oversee the areas of public works and economics and finance.
- It's Governing Board is made up of the Director of the Cabinet and two members who coordinate the social area and infrastructures and productive areas, to be appointed by the Minister who oversees the area of public works, by proposal of the Director of the Cabinet;
- The Cabinet's complementary structure, organization and functioning, as well as the relationship model, will be proposed by the Office, in coordination with the Development Partners, after harmonization with the Minister of Public Works, Housing and Water Resources and Economy and Finance for subsequent approval.

THE PDNA METHODOLOGY

The PDNA undertaken in Mozambique follows the standard methodology developed by the UN System, World Bank and the European Union, which integrates a collection of analytical methods, tools and techniques developed for post-disaster assessments and recovery planning. The assessment builds on primary and secondary data provided by the GoM and development partners, and on interviews and field visits to affected areas.

The PDNA considered the context prior to the cyclone and floods in the four affected provinces, particularly the socio-economic, environmental, and political conditions and other factors that need to be considered to do a comparative analysis with post-disaster conditions. The effects of the cyclone on each sector were assessed in terms of damage and loss, as follows: **Damage** refers to the total or partial destruction of physical assets in the disaster-affected areas. Damages occur during and immediately after the disaster and are measured in physical units (i.e., number of damaged houses, roads, crops, land, etc.). Their monetary values are expressed as the replacement costs according to prices prevailing just before the event. **Loss** refers to changes in economic flows arising from the disaster. They occur until full economic recovery and reconstruction is achieved. Typical losses include the decline in output in productive sectors such as agriculture, industry and services.

Furthermore, the PDNA assessed the overall **human impact** of the cyclone, including the projected impact on multidimensional and income poverty levels in the country, as well as the potential **macroeconomic impact**, particularly inflation and economic growth.

Based on the analysis of both the effects of the cyclone (damage and loss) and the impact of the disaster, the PDNA estimated the country's recovery needs and cost. **Recovery needs** include interventions that are necessary to rebuild livelihoods and infrastructure on a sector-by-sector basis, and an estimate of the cost to achieve the proposed recovery. Recovery needs are estimated for the short, medium and long-term process. A preliminary strategy for recovery was discussed with the GoM which will form the basis of a subsequent recovery framework and action plan with prioritized interventions.



ANNEXES

Annex 1:

Beira Municipal Recovery and Resilience Plan:

A Roadmap to Building Beira Back Better -Executive Summary

The Beira Recovery and Resilience Plan has been prepared by the Municipality of Beira in the aftermath of cyclone Idai that hit Beira on 14 March 2019. It addresses the immediate recovery needs, applying principles of 'building back better' and 'disaster risk reduction', with a wide range of strategies and plans that aim to make Beira a resilient city.

It should be noted that this Plan has been brought in line, as much as possible, with the national Post Disaster Needs Assessment methodology. It seeks to address a fuller range of recovery and resilience interventions. The Plan focuses on those sectors that are under the responsibility of the Municipality of Beira.

From the table below it can be seen that by far the largest damages and losses have been sustained by people who have seen destruction of their houses, and to businesses. The Beira Municipality has very few resources that might be employed to address the enormous needs that result from this. It appeals to the national government and the international community to focus on the needs of people and of businesses, because they are vital for the recovery of the city.



The climate change and disaster resilience strategy of the Municipality focuses on key areas of infrastructure. The plans for these areas of infrastructure are summarized below.

Coastal protection is the most vital of all. Cyclone Idai hit Beira at neap tide. Had it reached Beira during spring tide, sea water levels would have been nearly two meters higher and the flooding of the city from the sea would have been extensive. The coastal protection of Beira has to be brought to a minimum acceptable level for the city to have a future. The existing system of breakwaters needs to be upgraded, sand nourishment to the beach is necessary in the short term, and the Praia Nova area requires urgent attention. The total cost of the minimum protection works amounts to 91 million USD.

Drainage is equally important. The reconstructed primary drainage system in part of the city worked well during the cyclone and other storms. The primary system in other parts of the city also requires rehabilitation. Only a completely rehabilitated drainage system will minimize the risk of inundation in the city. Expansion of the primary system and construction of a large retention basin in the Rio Maria area are part of the priority drainage project. Next to the need for the completion of the primary system, attention is needed for the secondary and tertiary system to evacuate water faster from the areas where people live. A total cost of 193 million USD for the first years has been calculated.

Sewage is a sector that requires urgent attention, both to rehabilitate the existing system and expand it into unserved areas of the city. No city can function properly and sustainably without a sewage system and combined with high water tables, many citizens of Beira experience unhygienic conditions in their houses and neighborhoods. The total cost for rehabilitation and expansion would come to 49 million USD.

Solid waste

The weaknesses of the solid waste management of Beira was exposed by the cyclone. Solid waste, in enormous quantities, was visible throughout the city. The weaknesses are in the whole chain, including, notably, a lack of equipment. The total need to structurally improve solid waste management would be 28 million USD, of which the largest part would be invested in a proper sanitary land fill.

Roads infrastructure

The damage to roads has been extensive by the cyclone, particularly along the coast where the road has been destroyed by seawaters, and by the heavy

equipment used to remove fallen trees and waste. In other areas there is an urgent need not only to restore cyclone damage but to build resilient roads that can stand heavy rainfall without deteriorating and that can be used as evacuation routes during future flooding. Strong roads will improve, for instance, the ability to reach the waste deposit site. The total needs amount to 37 million USD.

Housing and settlements

Beira's existing housing stock was badly affected by cyclone Idai with approximately 70% of houses destroyed partially (63.506 units) or totally (23.833 units). The biggest destruction occurred in the poorest neighborhoods, increasing an already critical social, economic and environmental vulnerability. On top of huge damages for most households, the cyclone caused major losses, making the self-recovery processes even more difficult for the poorer victims due to their lack of money. An estimated 275 million dollars is needed to develop an efficient and inclusive implementation strategy, to ensure an integrated approach to increase resilience, not only for better-built homes but also at settlement scale, through a strong partnership between communities, humanitarian and development partners, private sector, with the Municipality in a key coordination role.

Municipal buildings and services

176 buildings owned by the municipality are damaged or severely damaged by cyclone Idai, and most of them are critical municipal infrastructures. Due to rainfall, lots of equipment and municipal furniture suffered damage, and much had to be discarded. The municipal functionality needs to be restored as quickly as possible by repairing and reconstructing its critical infrastructure in a resilient way (BBB) and by replacing lost and damaged equipment and furniture. This will involve an amount of 12 million USD.

Urban extensions

The Beira Master plan 2035 which was approved by Beira Municipality in 2014 provides the framework for the resilient development of the city. The Maraza Residential Area and the Munhava Industrial and Commercial Park, in combination with the new Port Access Road. Are key developmental projects which can contribute to release pressure from existing areas, including those that were affected by the cyclone, and can create space for new developments.

For the implementation of the Maraza and Munhava urban developments the SDU Beira – urban development corporation has been created by the Beira

Municipality in November of 2018, in order to prepare and implement these area developments.



Annex 2: List of Contributors

Sector	GoM Lead	Lead Name	Lead Name	Other Team Members
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Annex 3

3.1 Assessment of Cyclone IDAI in Inhambane

Introduction

At the request of the Government of Mozambique, a rapid assessment was done for the province of Inhambane, which was also affected in some districts by the passage of Cyclone Idai, although it was limited to a small portion of the province's population. The sectors that were assessed in the province are housing, health and social protection, and fisheries based on preliminary data available at the time of the assessment. This annex presents the assessment findings for Inhambane.

The effects on Inhambane

Table 2 summarizes the total damage and loss identified for the province of Inhambane based on the information available. It is estimated that the total damage is USD\$893,505 and losses USD\$95,628.

Table 2: Total damage and loss in Inhambane by sector (Meticais)

Sector	Damage		Losses	
	public	private	public	private
Agriculture	ND	ND	ND	ND
Fisheries	-	5 434 975	-	5 870 000
Housing	ND	20 767 833	-	250 166
Education	ND	ND	ND	ND
Health	30 981 523	-	-	ND
Transport	ND	ND	ND	ND
Energy	ND	ND	ND	ND
Cross cutting	ND	ND	ND	ND
Other	ND	ND	ND	ND
TOTAL (MTZ)	30 981 523	26 202 808	-	6 120 166°
TOTAL USD	484 086	409 419	-	95 628

A breakdown of damage and loss for each sector assessed (housing, health and social protection, and fisheries) is presented in the following tables.

Table 7: Total recovery needs in Inhambane by sector

Sector	Needs	Short-term	Medium-term
Agriculture			
Fisheries	10 173 216	7 085 966	3 087 250
Housing	27 426 442	ND	ND
Education	ND	ND	ND
Health	40 275 979	ND	ND
Transport	ND	ND	ND
Energy	ND	ND	ND
Cross cutting	ND	ND	ND
Other	ND	ND	ND
TOTAL (MTZ)	77 875 637	7 085 966	3 087 250
TOTAL USD	788 269	110 718	48 238

3.2 Cyclone Kenneth Post Disaster Needs Assessment

Introduction



Six weeks following Cyclone IDAI, Mozambique was struck by a second cyclone, Kenneth, on the evening of 25 April 2019, causing widespread damage particularly in the provinces of Cabo Delgado and Nampula. At the request of the Government of Mozambique (GoM), a partial, preliminary estimate was made of the effects caused by Kenneth in the provinces of Cabo Delgado and Nampula, although limited to some sectors based only on partial

information. It must be indicated that the social sector (housing, education, health, and social protection), was not quantified nor included in this annex.²⁷

Tropical Cyclone Kenneth made landfall in Mozambique between the districts of Macomia and Mocimboa da Praia in the province of Cabo Delgado. The cyclone occurred in an area where no tropical cyclone had been observed since the satellite era. It made landfall as a Category 4 cyclone, with the eye of the storm hitting Ibo, Quissanga and Macomia districts. Ibo district is composed of three islands (Matemo, Ibo and Quirimba). Cyclone Kenneth came just six weeks following Cyclone IDAI. There is no record of two storms of such intensity striking Mozambique in the same season, according to the World Meteorological Organization.

More than 570 mm of rain has been recorded since 25 April in Pemba, in the province of Cabo Delgado. Up to 50mm of rain per day fell in many areas, while some localities received more than 100mm per day. As the cyclone came at the end of the rainy season, river levels were already high, and several rivers increased beyond the severe alert threshold after landfall, with peak flows causing flash flooding and landslides. The outer smaller islands were severely struck by Kenneth's force causing major destruction on their precarious infrastructure.

²⁷ This Annex is prepared at the request of the Government of Mozambique to accompany and supplement the PDNA undertaken for Cyclone Idai and reflects the partial information obtained from different sources available at the time of its preparation. A rapid consultation was held in Maputo with the Provincial authorities of Cabo Delgado and Nampula. Information on agriculture and fisheries was supplemented by consultations with the MASA, road information was based on data from the provinces, and other data on emergency needs come from the international humanitarian assessment of UN OCHA.

A significant number of crops (rice, beans, maize, cassava) were lost. While some people had managed to harvest some small amounts of food before the cyclone, most was damaged, destroyed or lost during the cyclone due to winds and rains. The majority of fishing boats and fishing equipment were lost or partially damaged as well. There was also damage to water, sanitation and health facilities in multiple locations. Some women were seen fishing – mainly with mosquito nets – to subsist after the cyclone.

In some of the Kenneth affected areas in Cabo Delgado and Nampula, food security outcomes are expected to worsen from what was previously anticipated. In Cabo Delgado, stressed (IPC Phase 2) outcomes were previously projected to continue in some coastal areas, prior to cyclone Kenneth. However, after Kenneth the projected food security outcomes are expected to be the same or worse than previously anticipated in affected areas.²⁸

The Effects of Cyclone Kenneth

The partial information that was possible to gather in the short time available, in order to present an initial appraisal to donors, is summarized in the following table.

Table 4: Total damage and loss

	MTZ		USD	
	Damage	Loss	Damage	Loss
TOTAL	6 282 894 373	6 516 950 792	98 170 225	101 827 356
Productive sector	1 574 393 454	3 888 511 990	24 599 898	60 758 000
Agriculture and food security	1 383 907 339	3 883 156 740	21 623 552	60 674 324
Fisheries	190 225 000	5 355 250	2 972 266	83 676
Industry and commerce	122 183		1 909	-
Tourism	138 932		2 171	-
Social sector	2 283 235 662	1 853 681 490	35 675 557	28 963 773
Housing	1 738 554 597	1 634 641 607	27 164 916	25 541 275
Education	181 049 280	48 819 600	2 828 895	762 806

28 FEWS NET, Mozambique Food Security Outlook Update April 2019.

	MTZ		USD	
	Damage	Loss	Damage	Loss
Health	363 516 992	170 220 283	5 679 953	2 659 692
Science and technology Ensino Tec. Prof. e Superior	17 895		280	-
Culture, youth and sports	96 898		1 514	-
Infrastructure	2 417 489 373	774 757 312	37 773 271	12 105 583
Transport/Roads	2 315 035 714	771 678 571	36 172 433	12 057 478
Telecommunication	101 872 215	3 078 741	1 591 753	48 105
Energy	54 044		844	-
Water and sanitation	527 400		8 241	-
Crosscutting sector	7 775 884	-	121 498	-
Gender	248 290		3 880	-
Environment / resettlement	6 213 284		97 083	-
Governance	250 000		3 906	-
Livelihoods	526 095		8 220	-
Social protection	538 216		8 410	-

Total damage and loss are estimated at MTZ 6 282 894 373 (98,2 USD millions) attributable to damaged infrastructure and assets. The limited assessment of losses is estimated at 6 516 950 792 MTZ (101,8 USD millions).

The preliminary estimate of recovery needs is 9 844 432 271 MTZ (224,4 USD millions).

Very preliminary estimates of damage in the provinces, subject to revision and more precise data, shows a large concentration of the effects in Cabo Delgado.

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