MOZAMBIQUE
Flooding in Maputo province and city

acaps | Briefing note
23 February 2023

CRISIS IMPACT OVERVIEW

Heavy rains between 7–11 February 2023 resulted in large-scale flooding across the southern region of Mozambique, particularly Maputo province and city. As at 18 February, more than 43,426 people were affected, including over 16,500 displaced people and ten recorded deaths (OCHA 18/02/2023).

As at 18 February, the flood had damaged 8,648 houses across the affected areas. The National Institute for Disaster Management and Risk Reduction (INGD) has set up 16 accommodation centres and has been coordinating government efforts to provide food and NFIs to the affected people (OCHA 18/02/2023).

Mozambique has an INFORM Climate Change Risk score of 7.2/10, with a hazard and exposure to flooding score of 6.6/10 (INFORM accessed 20/02/2023). Combined with a 6.3/10 score for a lack of coping capacity, the country is scored at 7.6/10 for overall vulnerability to climate change, meaning it is more likely to be affected and less likely to respond and cope to the effects of climate change.

ANTICIPATED SCOPE AND SCALE

As at 22 February, tropical cyclone Freddy was expected to enter the Mozambican channel for a second landfall on 24 February, as it continued moving after its first landfall in Madagascar as an overland depression (Weather 22/02/2023; News24 22/02/2023). Mozambique has been warned to be potentially affected by further rainfall and flooding as a result (OCHA 18/02/2023; Africanews 20/02/2023). There is a possibility that the cyclone could gather more speed and force on its way to Mozambique, over the channel from Madagascar, becoming a severe tropical storm (Reuters 21/02/2023; News24 22/02/2023).

As at 21 February, heavy rainfall of over 75mm was expected over Gaza, Inhambane, Manica, Maputo, and Sofala provinces until 28 February (WFP 21/02/2023). As at 18 February, the forecast of rainfall in Gaza, Inhambane, Manica, and Sofala provinces was expected to affect 53,000 additional people (OCHA 18/02/2023).

The National Institute of Meteorology of Mozambique forecasts further heavy rainfall until 25 February, which can lead to the dams being full past alert levels and contribute to further flooding (U.S. Embassy in Mozambique 15/02/2023).

HUMANITARIAN CONSTRAINTS

As at 12 February, several disctricts, including Magude, Matutuíne, and Moamba in Maputo province, were isolated after roads were flooded (FloodList 16/02/2023).

The EN1 highway, the main highway in Mozambique that connects Maputo city to the rest of the country, is at increased risk of flooding, which will disrupt movement to central and northern Mozambique. The impact of flooding on the EN1 will also likely lead to travel disruptions between Boane, Matola, Moamba, and Namaacha districts and Goba town (U.S. Embassy in Mozambique 15/02/2023).

As at 18 February, 580km of roads had been damaged, and 300km was impassable. Two bridges had also been washed away in floodwater (OCHA 18/02/2023).

KEY PRIORITIES

43,000
AFFECTED PEOPLE

16,500
DAMAGED OR DESTROYED HOUSES

7.2
INFORM CLIMATE CHANGE RISK

INCREASED RISK OF
Cholera

FUNDING AND RESPONSE CAPACITY

The National Institute for Disaster Management and Risk Reduction (INGD)
Mozambican Government
Mozambican Red Cross
UN organisations (UNFPA, etc)

CRISIS IMPACTS

WASH and health

Officials in Maputo city have warned the residents in the city of a potential reduction in water supply (U.S. Embassy in Mozambique 15/02/2023). Water sources are likely to have been contaminated in the flooding. During emergencies such as flooding and tropical cyclones, poor sanitary conditions and limited access to basic WASH facilities can lead to outbreaks of communicable diseases, including diarrhoea and cholera.

In January, over 37,000 cases of diarrhoea were reported in Maputo province as a result of the ingestion of contaminated food and water during the rainy season (Club of Mozambique 26/01/2023). An increase in cases of diarrhoea, given the context of precarious sanitation conditions, can result in a cholera outbreak (Club of Mozambique 20/01/2023).

In January, the Ministry of Health reported cases of cholera in Niassa province, with a risk of it spreading to Gaza, Sofala, Tete, and Zambezia provinces (IFRC 24/01/2023). Water scarcity, combined with the forecast of further heavy rainfall and flooding in Gaza, Maputo, and Sofola provinces, may aggravate the cholera situation in those areas.

Furthermore, displacement of population and overcrowding in temporary shelters without adequate facilitlies increases the risk of infectious outbreaks, as preventing transmission of diseases becomes challenging.

As at 18 February, the authorities had reported damage to 35 health units in Maputo province, which may constrain the response to the negative health impact of flooding in those areas (OCHA 18/02/2023).

Food security and livelihoods

As at 18 February, more than 40,630 hectares of agricultural land had been affected, which may signficanly affect the availability of food and household access to food in the region, as the main harvest season is currently occurring and is expected to last till April (OCHA 18/02/2023). This can also severely affect people's livelihoods, as 70% of the population in Mozambique are employed in agriculture (WB 05/04/2022; WFP 07/07/2021).

Because of damage to the bridge that serves as a commercial link between Maputo city and Boane district, agricultural products from the district cannot be transported to markets in the city (Afrik 21 15/02/2023).

Education

As at 18 February, roughly 684 schools across Maputo province had been damaged (OCHA 18/02/2023).

As at 16 February, the floods had led to the closure of 90 schools in Boane, Magude, Manhiça, Matola, and Namaacha districts in Maputo province, affecting 64,498 pupils, 1,871 teachers, and 267 other employees (AllAfrica 17/02/2023).

Impact on critical infrastructure

As at 18 February, 29 energy poles had been damaged by the flooding, leaving around 18,000 people without electricity. Floodwater had damaged two bridges and 500km of roads. It had also led to 300km of roads being impassable (OCHA 18/02/2023). Power outages and gridlocked roads are likely challenging the access of the affected people to assistance.

There are concerns that cyclone Freddy and associated heavy rainfall and potential increase in flooding may further destroy infrastructure (News24 22/02/2023). As at 22 February, Cahora Bassa Damn, the largest dam and hydroelectric power plant in Mozambique has stopped its hydroelectric discharge in anticipation of the cyclone.

The impact of the flooding will likely be most significant in areas with comparatively poorer and unstable infrastructure. In Mozambique, infrastructure is severely underdeveloped, with only 18% of highways being paved and the conditions of the rest being precarious and occasionally inaccessible during certain weather conditions, such as flooding (The Borgen Project 21/01/2018).

Besides the EN1 highway, the rest of the country is significanly disconnected. The rail lines are only in the south of the country, with a big portion already in a state of disrepair pre-flooding. Landlocked countries like Malawi and Zimbabwe depend on the railway connections to and in Mozambique for their imports and exports (The Borgen Project 21/01/2018).

COMPOUNDING/AGGRAVATING FACTORS

Climate crisis

Climate change is a leading factor contributing to economical challenges, increasing food insecurity, and driving internal migration and displacement across Mozambique (CFR 29/08/2022). Mozambique was assessed to be the most vulnerable African country to climate change according to the 2021 Global Climate Index, but it was reported to be among the 13 least prepared countries globally with the least capacity to cope (Quartz 27/01/2021; WFP 01/05/2021).

Five cyclones and two tropical storms have hit the country in the last decade, affecting 3.8 million people, although these have mainly affected the northern parts of Mozambique. In 2022, more than one million people were affected by natural disasters (OCHA 13/01/2023). A study published in 2022 shows that climate change increased the rainfall associated with tropical cyclones hitting the country (World Weather Attribution 11/04/2022).

Socio-economic challenges

Communities affected by recurrent emergencies such as flooding and cyclones often do not have sufficient time or resources to socio-economically recover, and those that face pre-existing socio-economic vulnerabilities may need assistance to cope with the shocks.

In 2014, roughly 64.5% of the population lived under the international poverty line and 46% lived under the national poverty line (WB 10/2022). Over 73% of the population faced multidimenstional poverty. Poverty rates post-2014 are unavailable.

Lack of water supply

Rising temperatures, particularly in the Greater Maputo region, have led to persistent drought since 2015, resulting in water scarcity in the capital (AFD accessed 20/02/2023; M&G 22/08/2022). Drought conditions have lowered the water level in Umbeluzi Reservoir, the main source of water supply for the capital Maputo. Nationwide in Mozambique, over 41% of the population did not have access to basic drinking water in 2014 (WB 10/2022).

HUMANITARIAN RESPONSE

Funding and response capacity

The INGD has set up 16 temporary shelter centres to host displaced people and has been providing food and NFI assistance to affected people (OCHA 18/02/2023).

The National Institute of Meteorology of Mozambique have issued a red alert over cyclone Freddy, as at 21 February (News24 22/02/2023). The Mozambican Government have mobilised rescue and evacuation teams in anticipation.

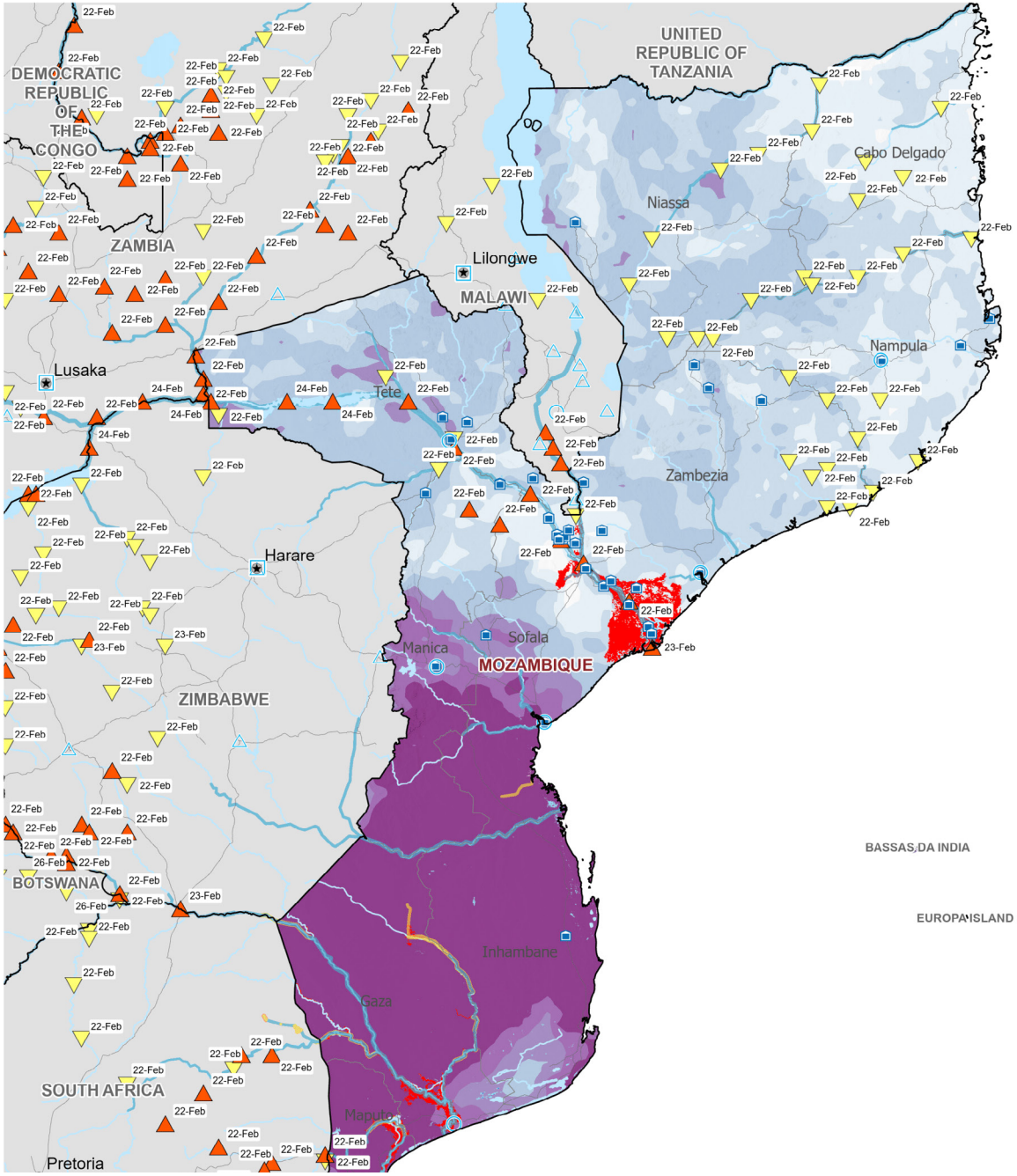
As at 22 February, UNFPA had prepared medical supplies for pregnant women and temporary health clinics, as well as roughly 11,000 dignity kits. Further information on humanitarian activities regarding cyclone Freddy is currently unavailable.

RAINFALL AND RIVER FLOOD FORECAST FROM 21–28 FEBRUARY 2023

FLOOD Forecast

Mozambique

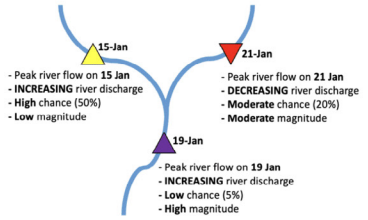
Rainfall & river flood forecast from 21 Feb - 28 Feb

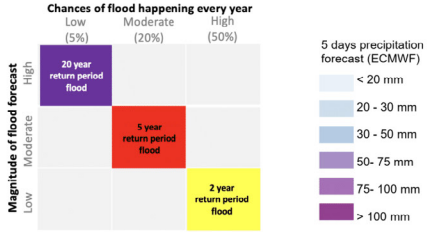


ADAM

Advanced Disaster Analysis and Mapping

Flood forecast information (example)





Country Office
Field Office
Sub Office
Flood Inundation forecast (GLOFAS)
This layer is only available for only for large river basin (>10,000 sqkm)
Road
River
First-level administrative boundaries
Special boundary line; Armistice, undetermined or administrative line; Autonomous region boundary; Other; Sovereign base limit
Surface waterbodies

Populated places of concern

locality	Alert	Peak flow	River
Changara	2	22 Feb	Unnamed River
Fudeze	2	22 Feb	Unnamed River
Tete	2	22 Feb	Unnamed River
Nampula	1	22 Feb	Meluli
Jone	1	22 Feb	Meluli
Muecate	1	22 Feb	Meluli
Emacue	1	22 Feb	Unnamed River
Lobamba	1	22 Feb	Umbeluzi
Madlangampisi	1	22 Feb	Umbeluzi
Ezulwini	1	22 Feb	Umbeluzi
Manzini	1	22 Feb	Umbeluzi
Maputo	2	22 Feb	Maputo
Matola	2	22 Feb	Maputo
Siphofaneni	2	22 Feb	Maputo
Bela Vista	2	22 Feb	Maputo
Mpaka	2	22 Feb	Maputo
Nicunha	1	22 Feb	Unnamed River
Chiure-Sede	1	22 Feb	Unnamed River
Nanoa	1	22 Feb	Unnamed River
Chiure Velho	1	22 Feb	Unnamed River
Metoro	1	22 Feb	Unnamed River
Cuamba	1	22 Feb	Unnamed River
Tobue	1	22 Feb	Unnamed River
Cruzamento	1	22 Feb	Unnamed River
Chamba	1	22 Feb	Unnamed River

Data sources: WFP offices: WFP - Boundaries: UN Map, WFP - Roads: ©OpenStreetMap Contributors - Populated places: GeoNames - Accumulated rainfall: GPM - Weather forecast: ECMWF

Source: WFP (21/02/2023)