

# MOZAMBIQUE

## Flooding in the central provinces

### KEY FIGURES

**250,000**  
AFFECTED PEOPLE

**49,200**  
DISPLACED PEOPLE

**48,000**  
DAMAGED OR  
DESTROYED HOUSES

**High risk**  
OF CHOLERA  
OUTBREAK

**7.2**  
INFORM CLIMATE  
CHANGE RISK SCORE

#### FUNDING AND RESPONSE CAPACITY

INGD, the Mozambican Government, the Mozambican Red Cross, UN agencies (UNFPA, WFP, etc.)

### CRISIS IMPACT OVERVIEW

- On 11 March 2023, Cyclone Freddy made its second landfall as a severe tropical cyclone on Mozambique's Zambezia province, following its first landfall on Inhambane province on 24 February. As at 16 March, the cyclone had dissipated over land. It brought heavy rains across Manica, Niassa, Sofala, Tete, and Zambezia provinces, affecting more than 250,000 people. The rains resulted in floods and landslides. As at 15 March, about 49,200 people had been displaced and were sheltering at accommodation centres in the affected provinces (OCHA 16/03/2023; The Guardian 17/03/2023; WFP 16/03/2023). The total death toll in the aftermath of the second landfall is 86 (The Globe Echo 17/03/2023; RFI 19/03/2023).
- The most affected province is Zambezia, where around 85% of the total affected population resides. It has registered at least 53 of the deaths recorded from the aftermath of the second landfall of the cyclone. The province has also recorded the most people (around 37,300 or 75%) among those displaced as a result of the second landfall, followed by Sofala (around 20%) (OCHA 16/03/2023).
- The cyclone has partially or totally damaged more than 48,000 houses and damaged more than 50 health units and 580 schools. It has also destroyed around 38,000 hectares of croplands and damaged about 192,000 hectares (OCHA 16/03/2023).
- Mozambique has an INFORM Climate Change Risk score of 7.2/10, with scores of 6.6/10 and 7.1/10 for hazard and exposure to floods and coastal floods, respectively. It scores a 6.2/10 in terms of the lack of coping capacity and a 7.6/10 for overall vulnerability to climate change, indicating that it is more likely to be affected by and less likely to respond to and cope with the effects of climate change (EC accessed 19/03/2023 a; EC accessed 19/03/2023 b).

### Anticipated scope and scale

- The estimated number of affected people is likely to rise because of the continued impact of the floods and once further assessment data becomes available (OCHA 16/03/2023). As at 16 March, satellite imagery

indicated flooding in Sofala, Tete, and Zambezia provinces. The imagery also showed flooding in Gaza, Inhambane, and Maputo provinces, likely a result of the aftermath of Cyclone Freddy's first landfall. It also showed that over 800,000 people could be exposed to flooding in the country (WFP 16/03/2023).

- As at 16 March, water levels were expected to increase in the basins of Buzi, Licungo, Namacurro, Nioiode, Pungoe, Raragara, Rovuma, and Zambezi Rivers, which would result in more floods. As at 16 March, urban and peri-urban flooding in the city of Quelimane was expected to worsen (OCHA 16/03/2023; WFP 16/03/2023).
- As at 17 March, authorities forecast a further rise in water levels as a result of continuing rainfall in river basins throughout northern Mozambique (Club of Mozambique 17/03/2023 a).
- The figure of displaced people may also increase because of the increased risk of flooding.

### Humanitarian constraints

- Road damage has limited the ability of responders to conduct assessments and reach the affected people. As at 15 March, the main road linking Mozambique's northern and southern parts was flooded just north of Quelimane city, Zambezia province. In total, nine roads have been reported to be impassable in Zambezia province, making it difficult for aid workers to move (OCHA 16/03/2023).
- As at 17 March, a bridge collapsed on the road connecting Cuamba in Niassa province and Nampula province because of flooding in Namithimbua River, potentially constraining humanitarian activities in the two provinces (Club of Mozambique 17/03/2023 a).
- Some districts in Manica province, such as Tambara, have been isolated from road networks, potentially hampering the humanitarian response (WeWorld 15/03/2023).
- A lack of means of transport and fuel in Manica has made it difficult to follow up on cholera cases in the province (WeWorld 15/03/2023).



## CRISIS IMPACT

### Health

The presence of stagnant water, poor sanitary conditions, and limited access to basic WASH facilities in overcrowded accommodation centres result in a lack of hygiene and pose a high risk of the spread of cholera, diarrhoea, and malaria. The country has been facing a cholera outbreak since September 2022, and the cases continue to increase. Poor sanitation and the contamination of water sources as a result of the heavy rains and floods are contributing to the increase in these cases. As at 18 March, the cumulative number of cholera cases reached nearly 10,000, including at least 54 deaths across 35 districts in seven provinces (OCHA 16/03/2023; UNICEF 19/03/2023). Cholera cases have been reported in Gaza, Inhambane, Manica, Niassa, Sofala, Tete, and Zambezia provinces (WFP 16/03/2023; Club of Mozambique 16/03/2023; OCHA 16/03/2023). In the week of 17 March, more than 610 cholera cases, including at least eight deaths, were reported in the province of Zambezia (Club of Mozambique 17/03/2023 b).

The cyclone has damaged more than 50 health units, decreasing the health response capacity in the cyclone-affected areas (OCHA 16/03/2023). The cyclone also blew off the roof of the old provincial hospital in Quelimane, affecting the treatment of patients (Zitamar News 13/03/2023).

For pregnant women and women of reproductive age, dignity kits, safe spaces, and mobile clinics are needed. The cyclone has affected an estimated 16,000 pregnant women (OCHA 16/03/2023).

### WASH

The cyclone has damaged or destroyed water and sanitation systems, resulting in a lack of access to potable water and sanitation facilities. There have also been reports of the scarcity of water purification and disinfection products, as well as insufficient levels of chlorine in the water supply, especially in Manica province. These could lead to a lack of potable water (WeWorld 15/03/2023; OCHA 16/03/2023).

It is estimated that more than half of the population of Mozambique does not have access to clean water, and more than 75% of the people do not have access to proper sanitation facilities (UNICEF accessed 20/03/2023). One of the leading causes of death among children under five in the country is diarrhoeal diseases linked with poor water and sanitation (Macicame et al. 14/10/2018; Chilaule et al. 04/2016; Chissaque et al. 10/05/2018). The flood situation, combined with poor sanitation facilities, could increase the prevalence of diarrhoeal diseases.

### Livelihoods

The cyclone has disrupted people's livelihoods. Around 70% of the population in Mozambique is employed in agriculture (WB 05/04/2022; WFP 07/07/2021). As at 15 March, around 38,000 hectares of croplands were destroyed, and about 192,000 hectares were damaged (OCHA 16/03/2023).

The current main harvesting season is expected to run until April (OCHA 18/02/2023). The impact of the loss and damage of croplands might worsen the food insecurity situation in the country and push some people into Crisis (IPC Phase 3) levels of food insecurity.

### Education

Mozambique's literacy rate is estimated at 47% (28% for women and 60% for men). Although around 95% of girls enrol in primary school, over half of them drop out by the fifth grade (USAID accessed 19/03/2023). The cyclone has damaged around 580 schools, disrupting the education of more than 120,000 students and heightening the risk of dropouts, especially for girls (OCHA 18/02/2023; WFP 16/03/2023).

## IMPACT ON CRITICAL INFRASTRUCTURE

Public infrastructure in Mozambique is severely underdeveloped, with only 18% of highways being paved. The road network is vulnerable to certain weather conditions, such as flooding, which may render some roads inaccessible (The Borgen Project 21/01/2018). The second landfall of Cyclone Freddy caused more damage and destruction to roads and bridges, just after the first landfall of the cyclone damaged more than 1,250km of roads in the country. The second landfall of the cyclone also damaged the electricity supply, water supply, and mobile telephone network in Maganja da Costa, Mocuba, Pebane, and Quelimane cities in Zambezia province, although these basic services had been restored as at 15 March (OCHA 18/02/2023).



## DRIVERS OF THE CRISIS

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### Rainy season

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The main driver of the crisis is the rainy season, typically spanning from November–April, which is when storms generally occur in Mozambique. In the last decade, five cyclones and two tropical storms have hit the country, affecting a cumulative 3.8 million people (WorldData.info accessed 19/03/2023; OCHA 13/01/2023; USAID 10/2012).

### Climate vulnerability

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The Global Climate Index 2021 assessed that Mozambique was the African country most vulnerable to climate change. Globally, it was the 13th least prepared country to cope with the phenomenon (Germanwatch 25/01/2021; WFP 01/05/2021). Around 60% of the total population lives in low-lying coastal areas with weak and non-resilient infrastructure. This percentage of the population primarily relies on local natural resources, agriculture, and fisheries for their livelihoods, making them more vulnerable to weather events. Alternating flood and drought events affect farmers' and fishermen's ability to consistently grow crops and fish, affecting their livelihoods and risking the increase of food insecurity and malnutrition levels among their communities (USAID 10/2012; DownToEarth 13/07/2021). Recurrent storms and cyclones, which have especially been affecting Sofala and Zambezia provinces, have been leaving communities little time to rebuild their homes and recover their livelihoods (USAID 10/2012; CCCM Cluster accessed 19/03/2023).

## COMPOUNDING/AGGRAVATING FACTORS

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### Food insecurity and malnutrition

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The impact of the cyclone is affecting areas of the country already previously dealing with food insecurity. In the provinces of Sofala, Tete, and Zambezia, an estimated two million people (around 40% of the total population in the three provinces) were facing Stressed (IPC Phase 2) levels of food insecurity, and around 170,000 were facing IPC 3 levels, as per projections made for April–September 2022 (IPC 07/12/2021). Chronic malnutrition also affects around 43% of the children under five in the country. The prevalence of chronic malnutrition among children is higher in Cabo Delgado, Nampula, Niassa, and Zambezia provinces (UNICEF accessed 19/03/2023).

### Lack of socioeconomic resilience and coping capacity

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As per 2014 estimates, around 65% of the population lived under the international poverty line of USD 2.15 (in 2017 purchasing power parity terms) per day per capita, around 46% lived under the national poverty line, and around 74% of the population faced multidimensional poverty (WB 10/2022). Such poverty levels hinder the population from generating resources to reduce the impact of shocks. A lack of coping capacity in the country means that the population is less likely to be able to cope and recover when met with shocks (EC accessed 19/03/2023 a).

### Cyclone Freddy's first landfall

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In February 2023, the combined effects of heavy rains and cyclone Freddy's first landfall affected nearly 240,000 people in the provinces of Gaza, Inhambane, Maputo, and Sofala. Around 22,000 houses were damaged, and almost 14,000 were destroyed. Around 60 health centres were also damaged (OCHA 03/03/2023; OCHA 16/03/2023). The aftermath of the first landfall stretched the humanitarian capacity into a lack of supplies and staff. There was a need for resources for the immediate recovery of agricultural activities and key infrastructure to prevent a widespread and prolonged crisis from affecting basic services, economic activities, and agriculture (OCHA 03/03/2023). It is likely that there will be similar needs in the provinces affected by the second landfall. The second landfall will also likely stretch government and humanitarian capacities even further.

## FUNDING AND RESPONSE CAPACITY

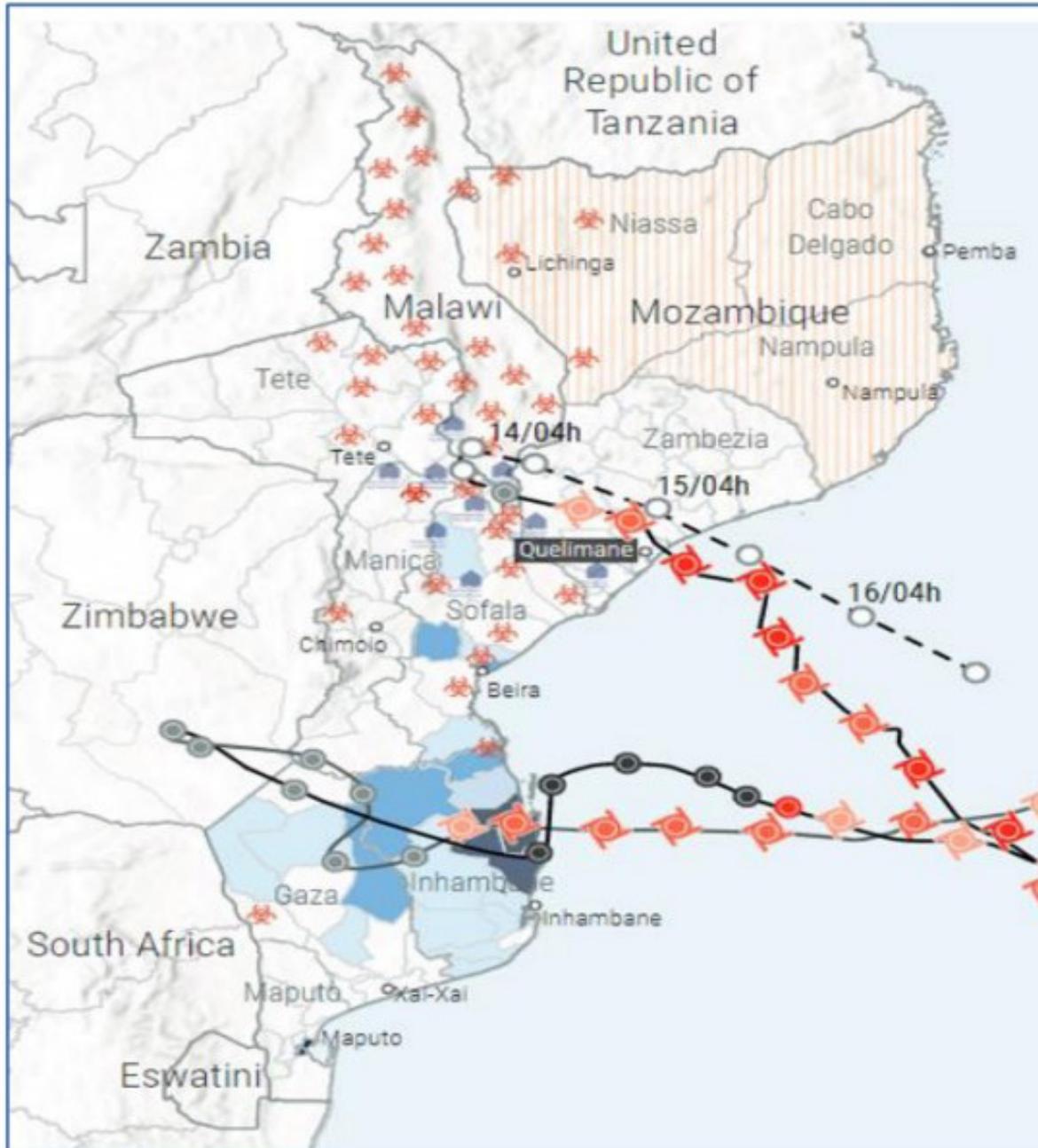
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The National Institute for Disaster Risk Management (INGD) has set up 139 accommodations centres countrywide. The INGD has also reinforced the pre-positioning of fuel, boats, food, and non-food supplies. The Government can provide food assistance to about 140,000 people for a period of seven days. Humanitarian organisations can provide food assistance to around 100,000 people for a period of 15 days and provide medicine to 150,000 people for a period of three months (OCHA 16/03/2023).

Rapid diagnostic test kits for cholera, 50 hospital beds to support cholera treatment centres, and 14 tents and fuel have been sent to support the Quelimane general hospital's cholera response (OCHA 16/03/2023).

WeWorld is distributing 300 hygiene kits, including water purifiers, to families of patients leaving the cholera treatment centres in Gondola, Manica, and Tambara districts in the province of Manica. The organisation is also providing disinfection and cleaning materials to the health centres and rehydration centres in Manica province (WeWorld 15/03/2023).

## TRAJECTORY OF TROPICAL CYCLONE FREDDY AS AT 16 MARCH



Source: OCHA (16/03/2023)

Note: satellite-detected water extent in Zambezia and Sofala provinces can be found [here](#).