TROPICAL CYCLONE IDAI

Figure Analysis – Displacement Related to Disasters

TC-2019-000021-MOZ, TC-2019-000025-ZWE

CONTEXTUAL INFORMATION

The disaster event

Mozambique, Zimbabwe, Malawi and Madagascar were affected by Tropical Cyclone Idai between 4 March and 21 March of 2019. With a death toll of about 1,000 people, including 602 people in Mozambique, Idai was one of the deadliest and most damaging tropical cyclones ever recorded in the South-West Indian Ocean basin.

Cyclones are not uncommon in the region, particularly in Mozambique, but the impact of the storm was devastating. The only comparable disaster in recent years was the widespread flooding associated with Cyclone Eline in 2000. Idai was a Category 2 storm with maximum sustained winds of 160 kilometres an hour to 180 kilometres an hour when it made its second landfall, in Mozambique. The intensity of the storm was rare, and this, combined with the high amount of accumulated precipitation over its extended lifespan, meant people living in low quality housing were particularly at risk. Mozambique, Malawi and Zimbabwe were the worst affected countries.

The storm had a long and loopy cyclone path. It first formed as a tropical depression in early March, making landfall in Mozambique and bringing heavy rains to Zambezia province before reaching the Southern Region of Malawi. Malawi was heavily affected by the rainfall, which caused extensive flooding and a total of 87,000 new displacements.

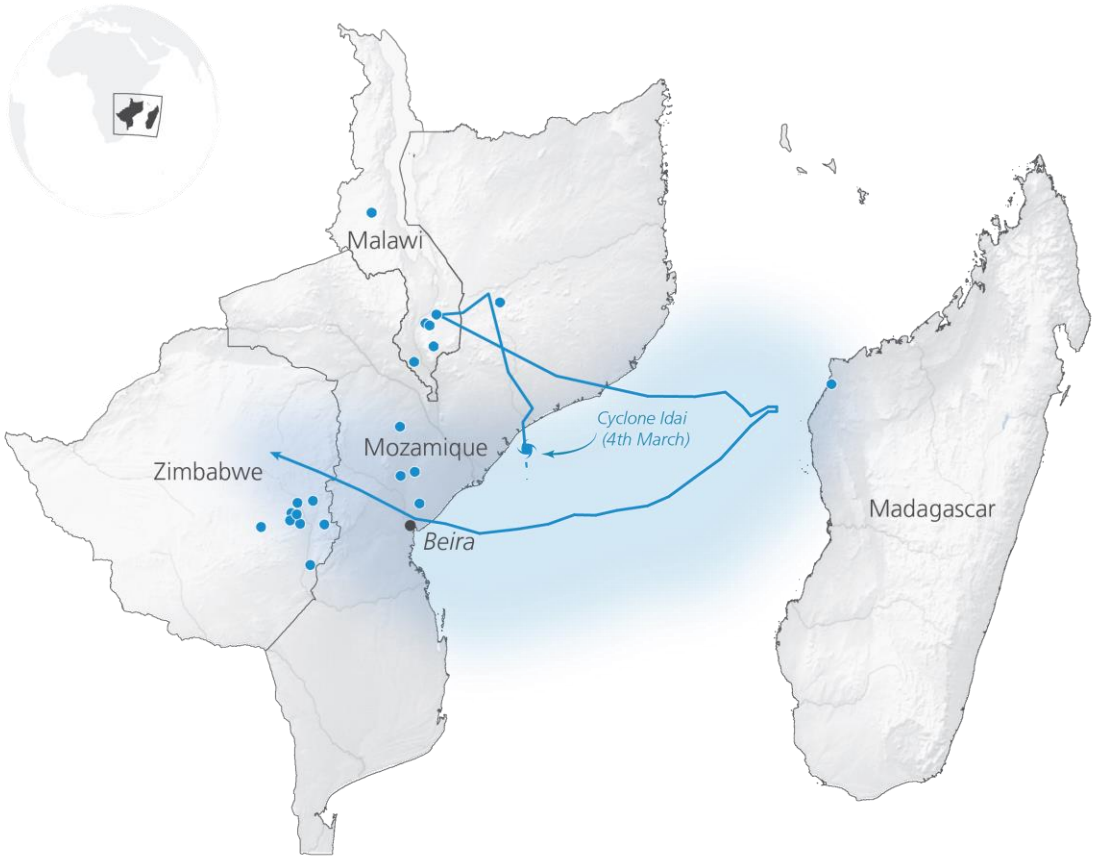
The tropical depression then turned back east into the Indian Ocean, where it picked up in intensity and reached tropical cyclone status. After becoming a Category 3 storm, Cyclone Idai passed close to the western coast of Madagascar on 11 March. About 500 new displacements were recorded as a result of flooding in Besalampy district. The cyclone then turned southwest, heading towards Central Mozambique.

The cyclone weakened in intensity slightly before making a second landfall in Mozambique on the evening of 14 March, this time as a Category 2 cyclone, cutting close to the city of Beira. Based on the destruction of about 111,000 homes, there were an estimated 478,000 new displacements. This was particularly significant in the coastal city of Beira, especially in neighbourhoods with informal housing, as well as in farming communities in low lying areas near riverbanks in Sofala, Manica, Tete and Zambezia provinces.

The cyclone moved further inland and reached eastern Zimbabwe on 15 March. There it brought strong winds, landslides and heavy rainfall to rural areas of Manicaland and Masvingo provinces, triggering about 51,000 new displacements.

Displacements linked to Tropical Cyclone Idai

Map 1: Cyclone Idai trajectory from March 4th to 21st March 2019



Location of displacement events
Tropical cyclone track
Potential cyclone track area

Due to rounding, some totals may not correspond with the sum of the separate figures.
Sources: Local authorities, relief workers, local media, OCHA, Red Cross, INGC, IOM, ECHO, DODMA (2019)
Cyclone data: GDACS, 2019

Table 1: Table 1: Summary of internal displacement for Cyclone Idai.

Country	Mozambique	Malawi	Zimbabwe	Madagascar	TOTAL
New displacements[1]	478,169	86,976	50,905	500	616,550
Estimated IDPs as of 31 December 2019[2]	93,516	53,237	50,905	N/A	197,658
Houses destroyed [3]	111,202	N/A	10,097	N/A	112,125
People pre-emptively evacuated before the event[4]	N/A	N/A	N/A	N/A	
People officially sheltered after the event[5]	77,019	86,976	1273	N/A	165,268

Notes

[1] *This corresponds to new instances of internal displacement related to the disaster event*
[2] *This corresponds to the total number of individuals living in a situation of internal displacement as of 31 December 2019 due to the disaster event*
[3] *This corresponds to the number of houses destroyed by the disaster event*
[4] *This corresponds to the number of people that have detected as pre-emptively evacuated before the disaster event*
[5] *This corresponds to the total number of people that have been sheltered following the event*

Internal displacement was the highest in Mozambique, where the cyclone passed twice, the first time as a tropical depression, and the second time as a category 2 cyclone. Compared with the other countries affected by Idai, Mozambique also recorded the highest displacement relative to population size. Housing destruction was also the highest in Mozambique, as the cyclone passed through areas with informal and fragile housing. Many displaced people stayed with host families, but a significant proportion of people went to shelters run by the government and humanitarian partners.

The country with the second highest recorded displacement was Malawi, where weeks of heavy rainfall associated with the Idai weather system caused extensive flooding in the Southern Region. All of the recorded displacement was of people staying in shelters run by the government and humanitarian partners.

In Zimbabwe, the cyclone triggered strong winds, flooding and landslides in mountainous areas of Manicaland and Masvingo provinces, with Chimanimani and Chipinge districts in Manicaland suffering the worst impacts. The damage was extensive and left a high death toll of 304 people. There were, however, fewer people recorded as displaced than in Malawi, perhaps because the affected districts were more sparsely populated.

On the total displacement detected in Zimbabwe, 97.5%, or 49,632 people, were living in host communities, and 2.5%, or 1,273 people, were living in collective shelters or camp-like settings. Ten thousand ninety-seven houses were recorded as completely destroyed. This scale of destruction explains why as of December 2019, there were 43,352 individuals still displaced.

Displacement was comparatively lower in Madagascar. The passage of the cyclone close to the west coast caused winds and heavy rain, but it did not make landfall. IDMC has low confidence in the displacement estimate, however, as it comes from an article in the media. No evaluations were produced by the government or humanitarian partners.

There was no information available on pre-emptive evacuations in any of the countries.

Figure 1: Trends of people living in IDP sites, both shelters and resettlement sites, in Sofala, Manica, Tete and Zambezia of central Mozambique in 2019. Source: IOM DTM emergency tracking reports

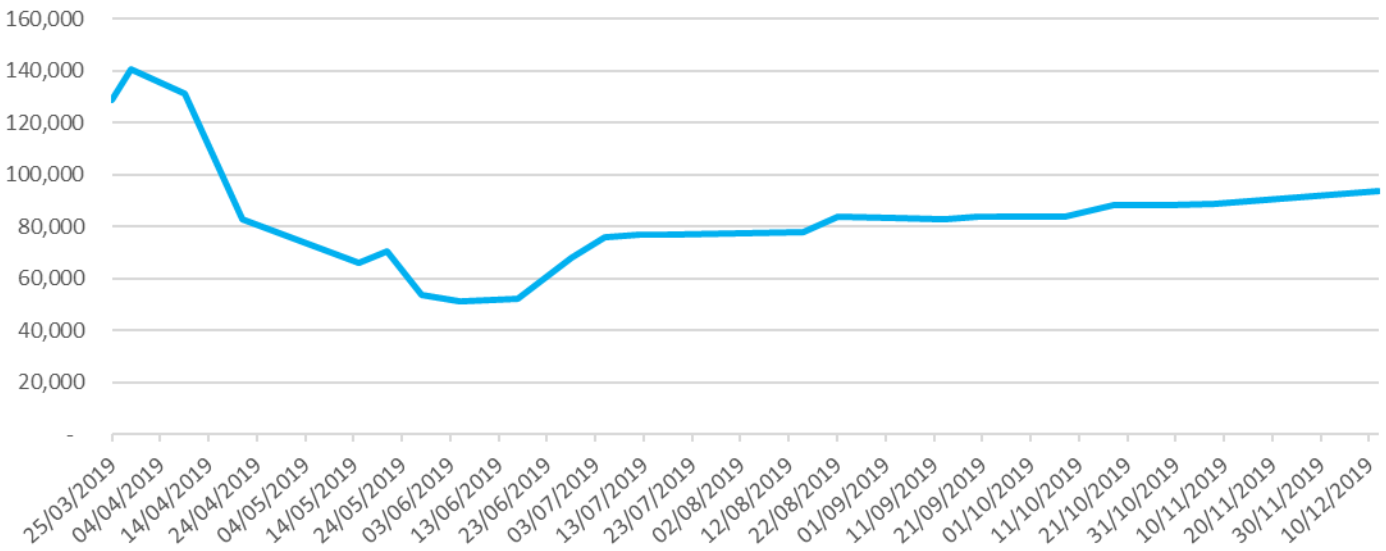


Figure 1 shows the evolution of people staying in collective shelters of different types over time. It is interesting to see how the number of people staying in shelters varies. In Mozambique, this is related to the type of shelter, the disaster phase and variations in data collection.

In the first, emergency phases of the disaster, there is a peak in the population of internally displaced people (IDPs) as people go to stay in emergency accommodation centres established in public spaces. This number decreases in the chart in April as people start to return home and these temporary sites are closed, such that fewer sites are surveyed by data collectors.

In the medium- and long-term recovery phases of the disaster, resettlement sites are opened. People begin moving to these areas which are intended for longer-term living. Data collectors start to track the number of people staying in these newer types of sites.

Further information and analysis on the evolution of the IDP population over time, humanitarian needs and challenges in Mozambique, can be found in the joint IDMC- IOM DTM Snapshot report: 8 months after Idai.

DATA SOURCES AND METHODOLOGY

The displacement estimates for Mozambique, Malawi, Zimbabwe and Madagascar come from a range of sources, including the International Organization for Migration's Displacement Tracking Matrix (IOM DTM), the UN Office for the Coordination of Humanitarian Affairs (OCHA), the Southern African Development Community (SADC), the Humanitarian Office of the European Commission (ECHO), Malawi's Department of Disaster Management Affairs (DODMA), Mozambique's National Institute of Disaster Management

(INGC) and the media. IDMC collected a total of 88 "facts", or lines of data, from these different sources to verify or "triangulate" the final published estimates. The diversity of the sources that published displacement-related data reflects the historic nature of the disaster for the region.

Our stock estimation in 2019: Providers of disaster displacement data tend not to include information about when, how and for how long people were displaced. One of the main gaps and challenges in accurately estimating the number of IDPs is the lack of measurement of return flows. Nor does data tend to be collected on people who have achieved durable solutions by integrating locally or resettling elsewhere in the country.

Our year-end estimate is based on time series data and housing destruction data for specific disaster events, as well as aggregated figures about the number of people displaced by disasters recorded by governments and other stakeholders. (more information on - http://www.internal-displacement.org/sites/default/files/2020-GRID-methodology.pdf)

Main caveats and monitoring challenges

Country	New displacements	Estimation of the Total number of IDPs	Number of houses destroyed
Mozambique	478,169	93,516	111,202

In Mozambique, the main data sources that were used to come up with the final displacement estimates were INGC and IOM DTM. IOM DTM, in collaboration with the Mozambican government through the INGC, collects data on displaced populations through the use of daily emergency tracking reports, multisectoral location assessments (MSLAs), and baseline assessments tracking affected populations living outside of displacement sites. IDMC's new displacement estimate is based on estimated housing destruction reported by INGCin Sofala, Manica, Tete and Zambezia provinces, where a total of 111,202 houses were recorded as destroyed. This figure has been multiplied by IDMC's estimate for Mozambique's average household size (AHHS) to obtain the figure of 478,169.

This methodology was considered preferable to calculate the new displacement estimate. Using only the data on people in different types of IDP sites would not have accounted for people who, because their home was uninhabitable, may have stayed with host families.

According to data from IOM DTM, there were still 93,516 people living in a situation of displacement at the end of the year.

Country	New displacements	Estimation of the Total number of IDPs	Number of houses destroyed
Malawi	86,976	53,237	

In Malawi, the main data sources used to come up with the final displacement estimates were DODMA and IOM DTM. IDMC estimates that there were 86,976 new displacements as a result of Cyclone Idai. This comes from a report published by DODMA and the UN Resident Coordinator's Office on 23 March 2019 on the impact of the cyclone, including displacement.

Although similar figures were published by IOM DTM and OCHA around the same time period, this particular figure was selected because a large number of sites, 173, were surveyed.

Country	New displacements	Estimation of the Total number of IDPs	Number of houses destroyed
Zimbabwe	50,905	50,905	10,097

In Zimbabwe, the main data source used to come up with the final displacement estimates was IOM DTM. A total of 50,905 people were recorded as having been displaced by a baseline assessment conducted by IOM DTM on 27 April.

The housing destruction figure and the estimate of the total number of IDPs comes from a report published by IOM DTM in February 2020. A baseline assessment was conducted in December 2019 in 12 districts in Manicaland and Masvingo to monitor the locations and priority needs of the people still affected by the disaster.

Country	New displacements	Estimation of the Total number of IDPs	Number of houses destroyed
Madagascar	500		

In Madagascar, the data sources used to come up with the final displacement estimate were news reports published in local media including L'express de Madagascar, Midi Madagasikara and News Mada. The final estimate of 500 people displaced concerns a figure of 500 people described as having evacuated in Besalampy district: from the fokontany of Antsahamalia to the fokontany of Antsakoazato. A fokontany is the smallest level of government in Madagascar's political system.