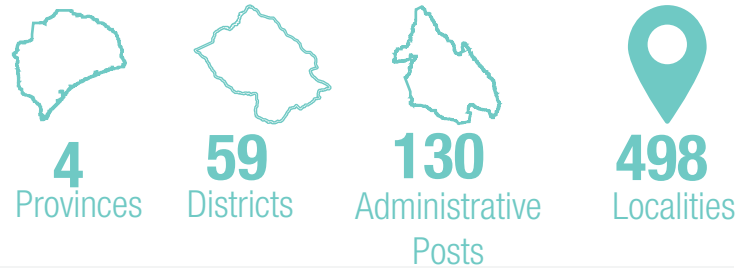


# MOZAMBIQUE DISASTER RISK ASSESSMENT

JANUARY 2020

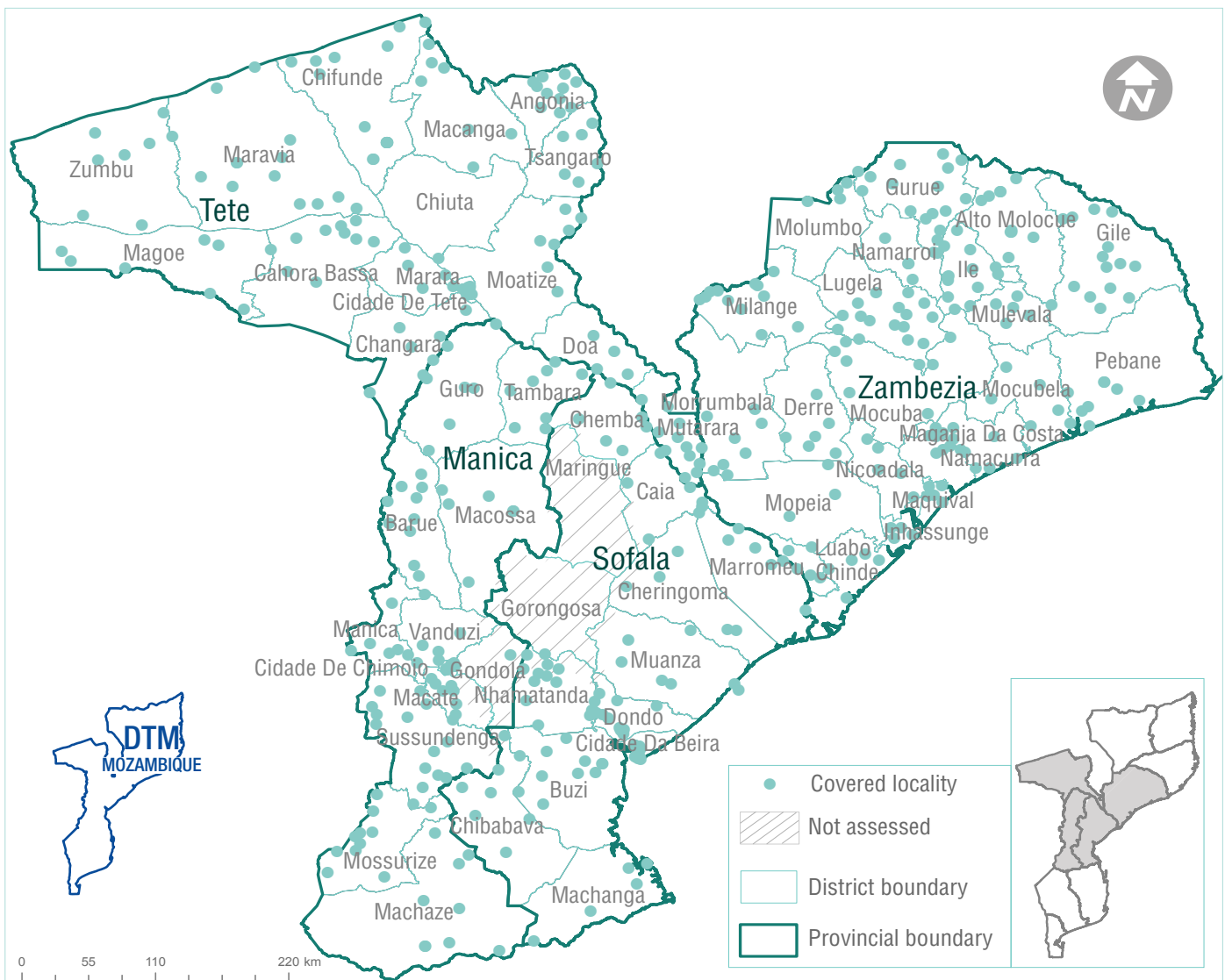
## OVERVIEW

From 18 to 27 November, in close coordination with Mozambique's National Institute for Disaster Management (INGC), IOM Displacement Tracking Matrix (DTM) teams conducted a Disaster Risk Assessment at locality level (localidade), corresponding to the lowest administrative level in the country.



This assessment covered 498 Localities (130 Administrative Posts) in 59 Districts of Manica, Sofala, Tete and Zambezia provinces. The DTM teams interviewed locality chiefs to capture information on flood, rain and strong wind risk, evacuation planning (identified evacuation routes and buildings), and access to services in these localities. The data in this report is based on responses of local authorities.

The central region of Mozambique faces significant challenges related to climate change, including increased flooding and increased vulnerability of the local populations. The results of the assessment show that 65 per cent of the localities (representing 324 localities) assessed were affected by Cyclone Idai, and that **84 per cent (representing 417 localities) of the localities are at risk of natural disasters**, particularly rain and strong winds (85%) and floods (46%).



This map is for illustration purposes only - names and boundaries on this map do not imply official endorsement or acceptance by IOM

# RISK/VULNERABILITY ASSESSMENT

## Flood Risk/Vulnerability by Locality

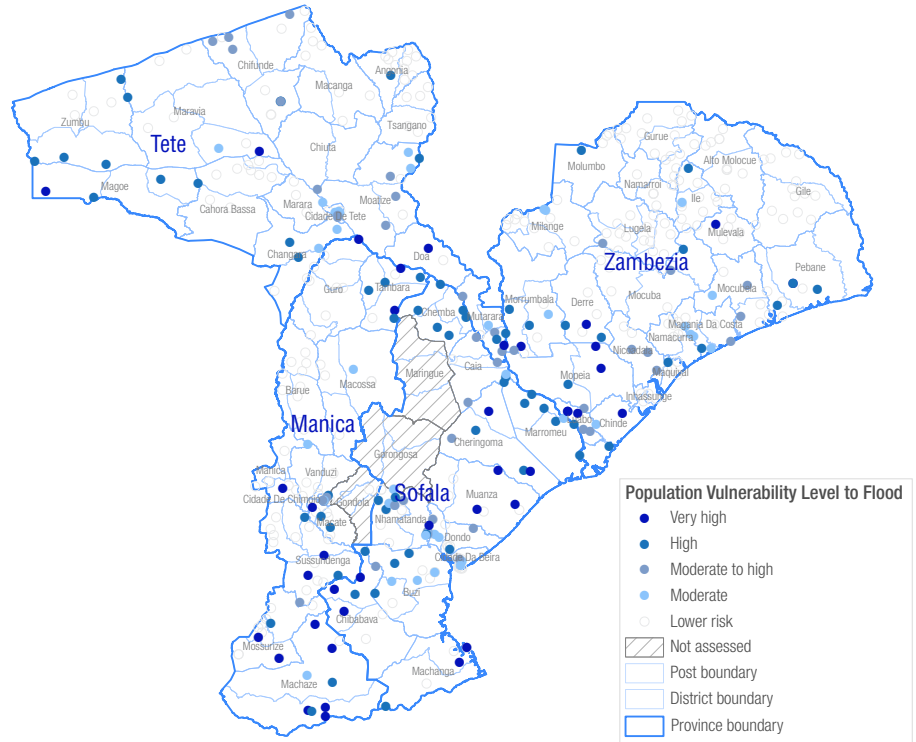


In **38%** of localities (representing **191** localities) populations are vulnerable to flooding

### Vulnerability by Province at Locality Level

Province	Very High	High	Moderate to High	Moderate	Total
Manica	7%	6%	3%	2%	18%
Sofala	6%	12%	5%	6%	29%
Tete	2%	9%	8%	8%	27%
Zambezia	6%	9%	6%	5%	26%
<b>Total</b>	<b>21%</b>	<b>36%</b>	<b>22%</b>	<b>21%</b>	<b>100%</b>

The analysis shows that populations in 38 per cent (191 localities) of the localities at risk of natural disaster (417 localities) are vulnerable to flooding, which are located in the provinces of Sofala (29%, representing 56 localities), Tete (27%, representing 52 localities), Zambezia (26%, representing 50 localities) and Manica (17%, representing 33 localities).



The analysis shows that populations in 41 per cent of the posts at risk of natural disaster are vulnerable to flooding, which are located in the provinces of Sofala (34%, representing 18 posts), Zambezia (34%, representing 18 posts), Tete (17%, representing 9 posts) and Manica (15%, representing 8 posts).

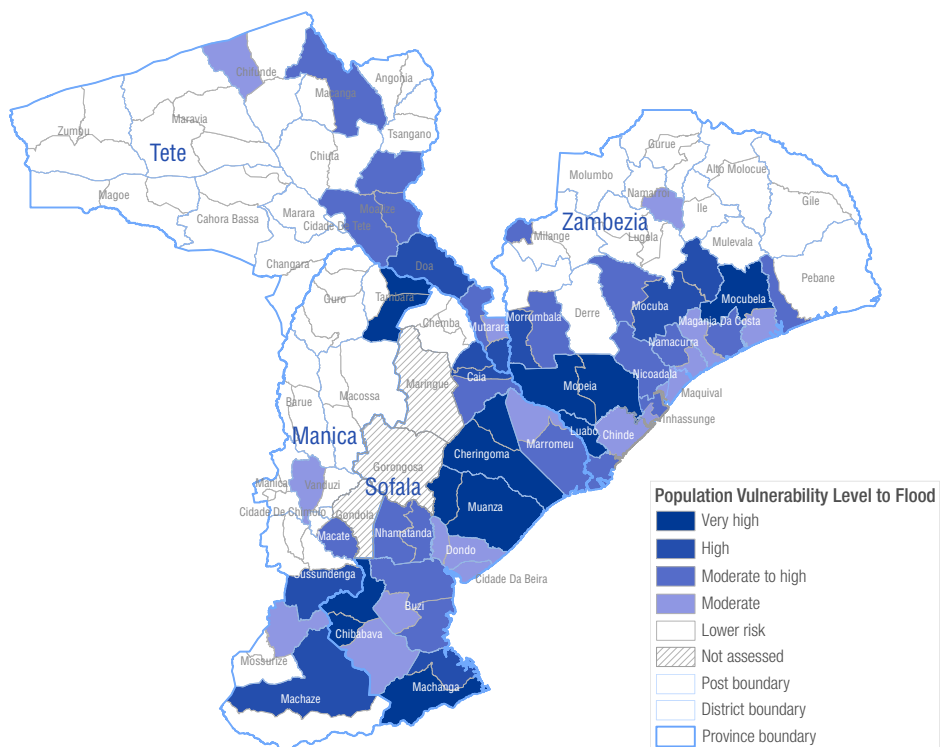
## Flood Risk/Vulnerability by Post



In **41%** of posts (representing **53** posts) populations are vulnerable to flooding

### Vulnerability by Province at Post Level

Province	Very High	High	Moderate to High	Moderate	Total
Manica	6%	2%	2%	6%	16%
Sofala	11%	4%	9%	9%	33%
Tete	0%	0%	9%	8%	17%
Zambezia	6%	6%	8%	14%	34%
<b>Total</b>	<b>23%</b>	<b>12%</b>	<b>28%</b>	<b>37%</b>	<b>100%</b>



### Strong Wind and Rain Risk/ Vulnerability by Locality

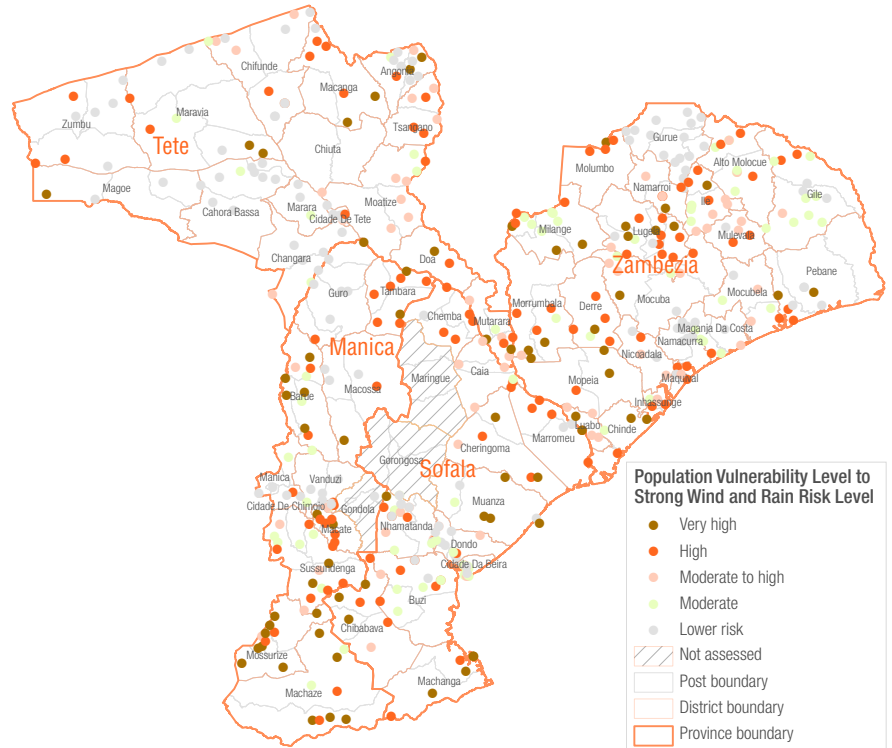


In **71%** of localities (representing **356** localities) populations are vulnerable to strong wind and rain

### Vulnerability by Province at Locality Level

Province	Very High	High	Moderate to High	Moderate	Total
Manica	8%	8%	2%	3%	21%
Sofala	4%	7%	4%	6%	21%
Tete	3%	6%	6%	4%	19%
Zambezia	7%	14%	8%	10%	39%
<b>Total</b>	<b>22%</b>	<b>35%</b>	<b>20%</b>	<b>23%</b>	<b>100%</b>

The analysis shows that populations in 71 per cent (356 localities) of the localities at risk of natural disaster (417 localities) are vulnerable to strong wind and rain, which are located in the provinces of Zambezia (38%, representing 137 localities), Manica (21%, representing 73 localities), Sofala (21%, representing 76 localities) and Tete (20%, representing 70 localities).



The analysis shows that populations in 71 per cent of the posts at risk of natural disaster are vulnerable to strong wind and rain, which are located in the provinces of Zambezia (36%, representing 33 posts), Manica (24%, representing 22 posts), Sofala (23%, representing 21 posts) and Tete (17%, representing 16 posts).

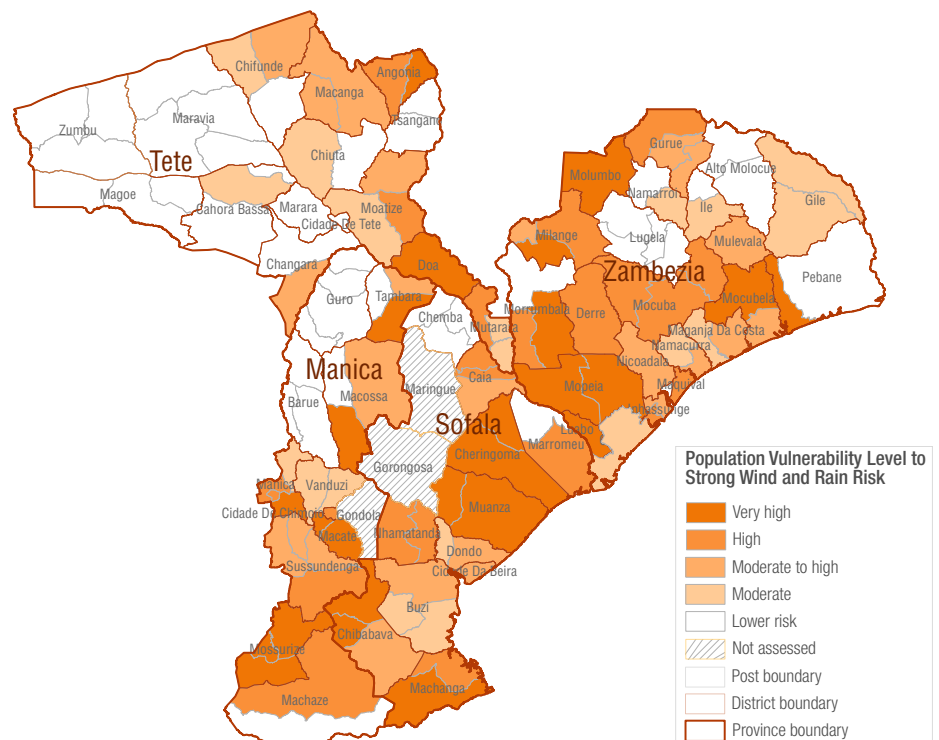
### Strong Wind and Rain Risk/ Vulnerability by Post



In **71%** of posts (representing **92** posts) populations are vulnerable to strong wind and rain

### Vulnerability by Province at Post Level

Province	Very High	High	Moderate to High	Moderate	Total
Manica	5%	8%	8%	3%	24%
Sofala	7%	4%	9%	3%	23%
Tete	0%	3%	5%	9%	17%
Zambezia	3%	9%	14%	10%	36%
<b>Total</b>	<b>15%</b>	<b>24%</b>	<b>36%</b>	<b>25%</b>	<b>100%</b>



## PHYSICAL ACCESS CONSTRAINT

Physical access constraints were identified in 61 per cent of the localities assessed (304 localities). Of these 304 localities, 13 per cent (64 localities) are affected by partial constraints while 48 per cent (240 localities) are facing major constraints. Within these localities, damaged roads constitute 45 per cent of the physical access constraints identified, closed road 22 per cent, damaged bridge 21 per cent, no road access but can only be accessed by river 8 per cent, no access 4 per cent and movement restrictions due to military operations 1 per cent.

Gorongosa, Gondola and Maringue districts in Sofala were not assessed.

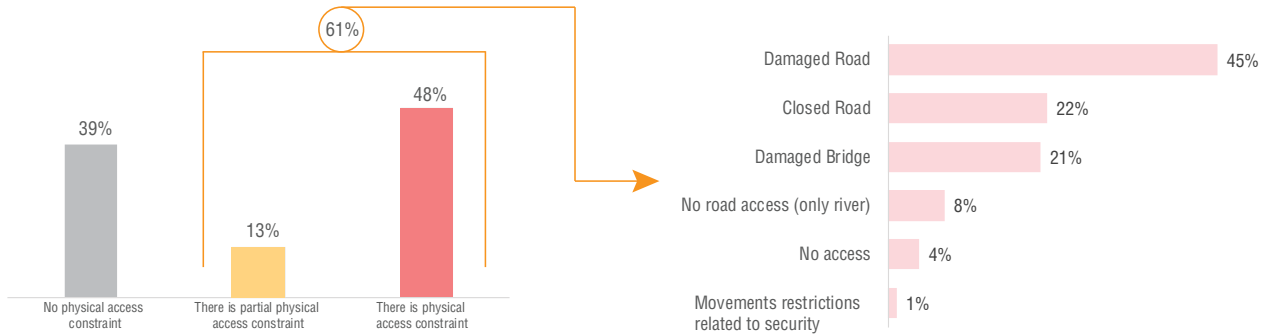
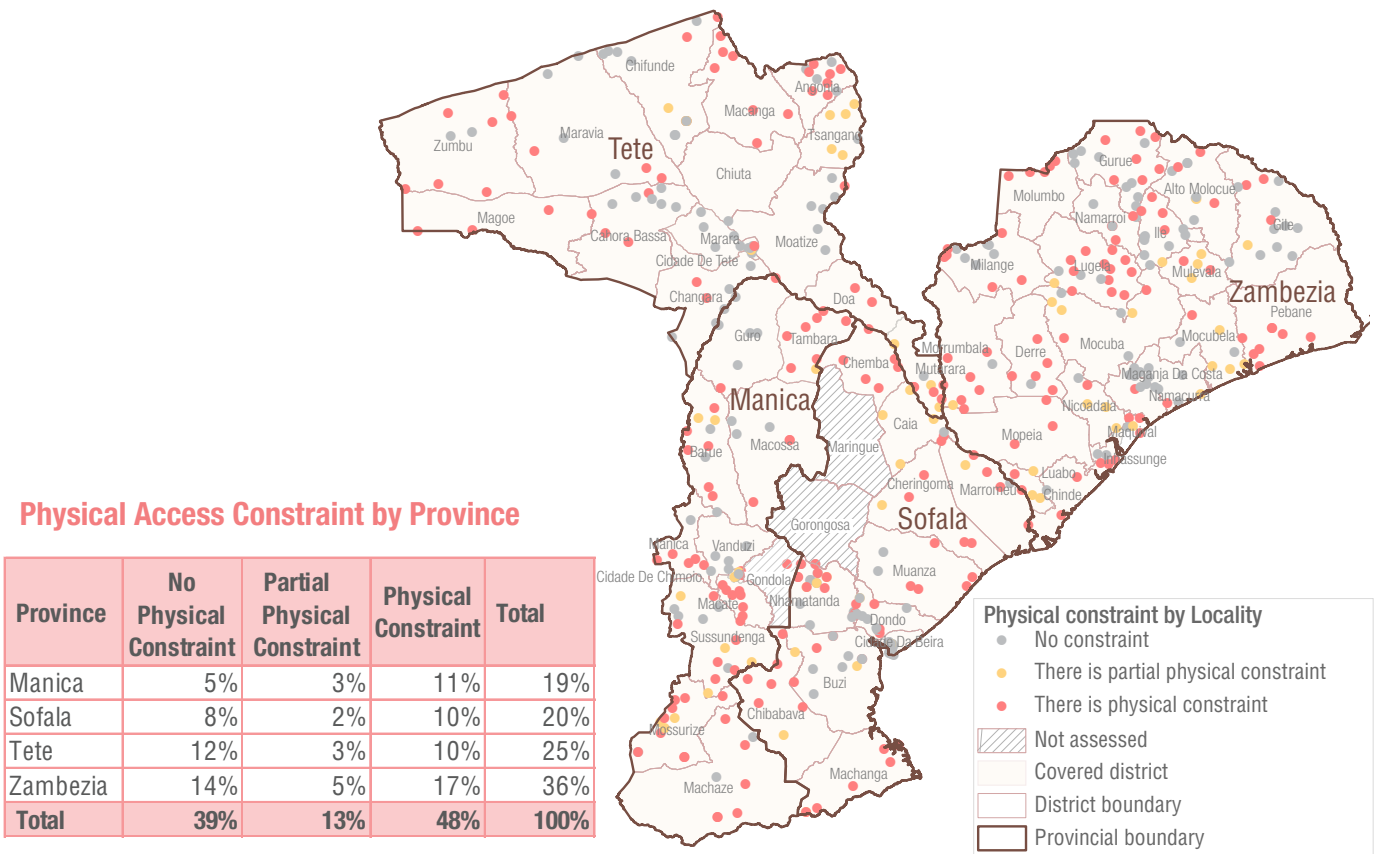


Fig 1: Type of physical access constraints



## ACCESSIBILITY IN EVENT OF NATURAL DISASTER



**57%** of the localities might become inaccessible in event of natural disaster



**11%** of the localities might become partially inaccessible in event of natural disaster

# EVACUATION PLANNING

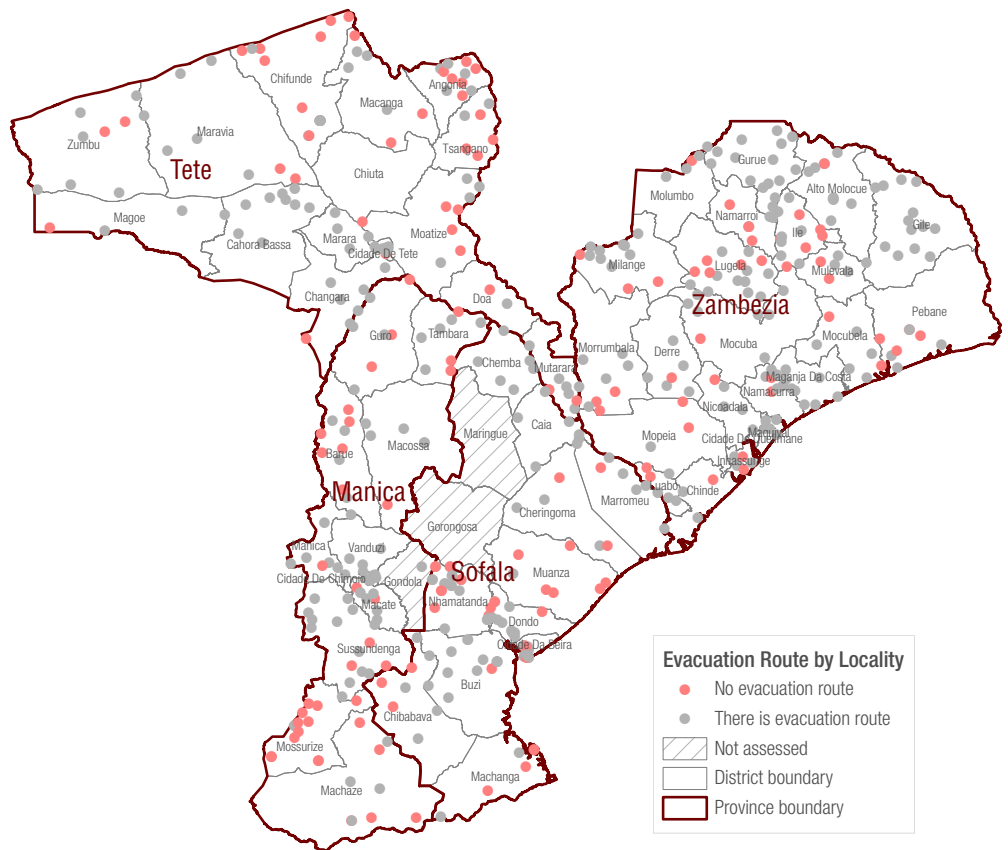
## Evacuation Routes



**70%** of localities (representing 348 localities) have identified evacuation routes in event of natural disaster

**30%** of localities (representing 150 localities) do not have identified evacuation routes in event of natural disaster

Localities with no Evacuation Route		
Province	# of Localities	% by Locality
Manica	34	23%
Sofala	33	22%
Tete	39	26%
Zambezia	44	29%
<b>Total</b>	<b>150</b>	<b>100%</b>



## Evacuation Centres

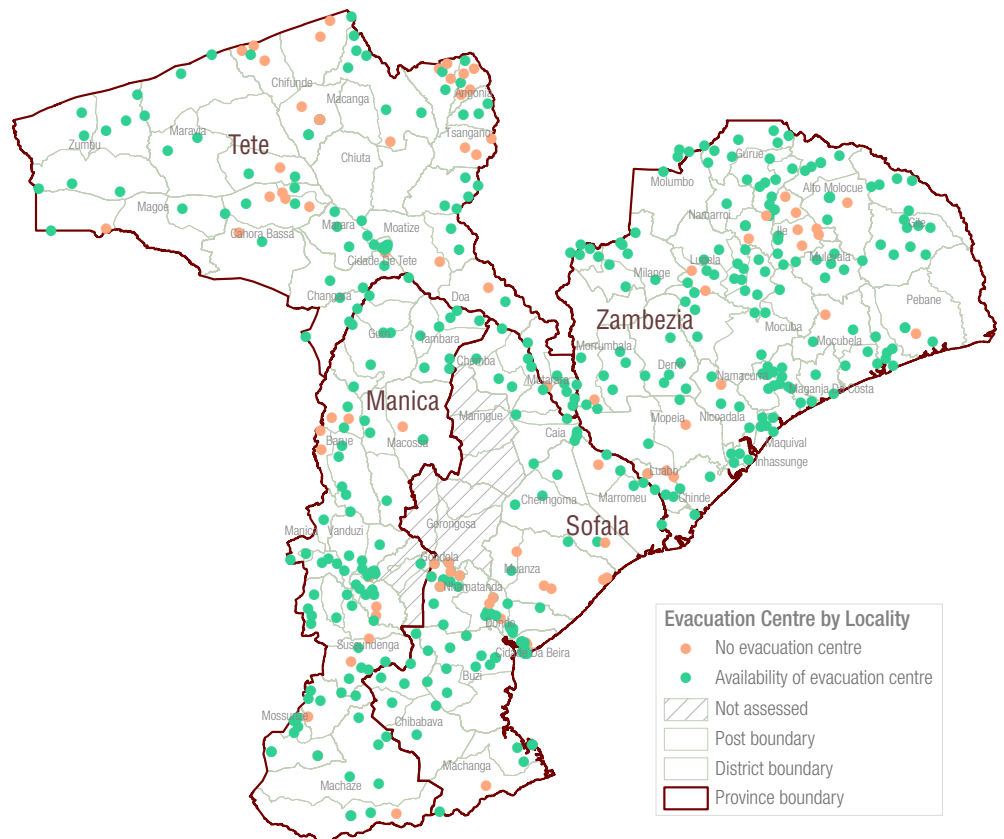


**82%** of localities (representing 407 localities) have public buildings for shelter in event of natural disaster

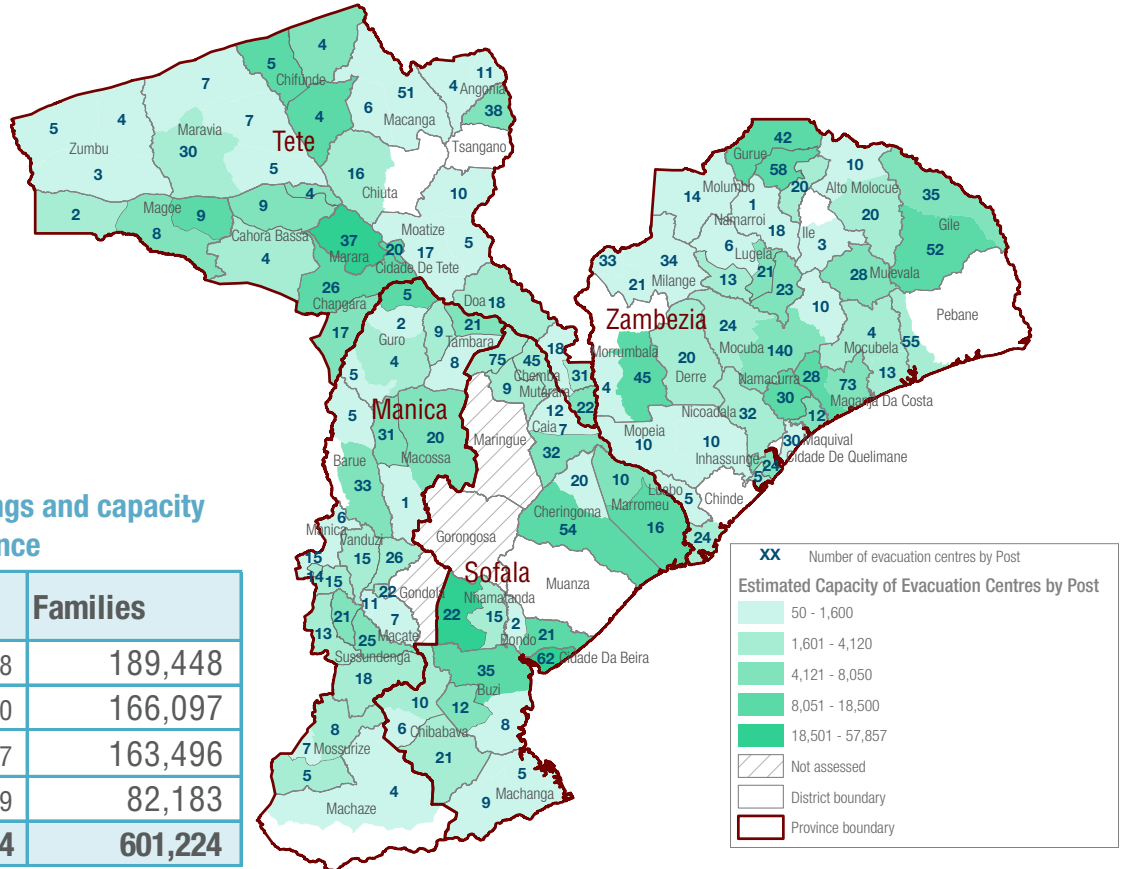
**18%** of localities (representing 91 localities) do not have public buildings for shelter in event of natural disaster

### Localities with No Evacuation Centres

Province	# of Localities	% of Localities
Manica	12	13%
Sofala	19	21%
Tete	38	42%
Zambezia	22	24%
<b>Total</b>	<b>91</b>	<b>100%</b>



Reportedly, **2,394** public buildings are available for emergency shelter in event of natural disaster, with capacity to host **601,224** individuals.



Number of public buildings and capacity by province

Province	Buildings	Families
Sofala	508	189,448
Zambezia	1,050	166,097
Tete	457	163,496
Manica	379	82,183
<b>Total</b>	<b>2,394</b>	<b>601,224</b>

## ACCESS TO SERVICES BY LOCALITIES

### Access to Healthcare Services



Eighty per cent have access to healthcare services while **20%** of the localities do not have access.



Do not have access

### Access to Drinkable Water



Seven-three per cent have access to drinkable water while **27%** of the localities do not have access.



Do not have access

### Access to Electricity



Forty-one per cent have access to electricity while **59%** of the localities do not have access.

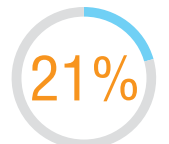


Do not have access

### Access to Source of Livelihood



Seventy-nine per cent have access to source of livelihood while **21%** of the localities do not have access.



Do not have access

## DTM IN MOZAMBIQUE

IOM's Displacement Tracking Matrix (DTM) is a system to track and monitor displacement and population mobility. It is designed to regularly and systematically capture, process and disseminate information to provide a better understanding of the movements and evolving needs of displaced populations. DTM has been implemented in Mozambique since 2013 with contextualized forms and tools for disaster and crisis responses in coordination with the INGC.

## METHODOLOGY

To ensure a more robust targeted response for the humanitarian community, DTM provides key information and critical insights into the situation on internal displaced persons (IDPs), affected populations and returning populations across cyclone Idai affected areas. DTM implements three main components: daily tracking, baseline, and multi sectoral assessments.

Through the baseline locality assessments, DTM tracks the locations and sizes of the three core target populations categories, building an understanding of the main internal displacement patterns and dynamics in the affected region.

The disaster risk assessment was carried out through key informant interviews by DTM enumerators and SDPI (Service at District level for Planning and Infrastructures) focal points. Risk to natural disasters was not assessed based on geophysical conditions but based on local authorities knowledge on past exposure to disastrous events.

## VULNERABILITY LEVEL ANALYSIS MATRIX

### Step 1:

Local authorities were interviewed and asked if the locality is at risk of flood and strong wind and rain, the presence of physical access constraint and evacuation routes.

### Step 2:

At locality level, population vulnerability to flood and strong wind and rain was calculated by factoring the following criteria: risk, physical access constraint and evacuation routes at locality level (see table 1).

CRITERIA FOR VULNERABILITY LEVEL ANALYSIS AT LOCALITY LEVEL			
RISK LEVEL	FLOOD/ STRONG WIND AND RAIN RISK	IS THERE PHYSICAL ACCESS CONSTRAINT?	IS THERE EVACUATION ROUTE?
VERY HIGH	YES	YES	NO
HIGH	YES	YES	YES
	YES	PARTIAL	NO
MODERATE TO HIGH	YES	NO	NO
	YES	PARTIAL	YES
MODERATE	YES	NO	YES
LEAST	NO	NO	YES

Table 1: Criteria for vulnerability level analysis at locality level

### Step 3:

Based on each locality vulnerability level a quantitative rank is attributed (see Table 2). Sum the values of the ranking by locality and divide the sum by the count of localities in the post. Each post is given a value based on Table 3.

RANKING VULNERABILITY LEVEL	
VERY HIGH	10
HIGH	8
MODERATE TO HIGH	5
MODERATE	2

Table 2: Ranking vulnerability level by locality

RISK RANKING FOR MERGING LOCALITIES INTO POSTOS	
VERY HIGH	8 to 10
HIGH	6 to < 8
MODERATE TO HIGH	3 to < 6
MODERATE	0.1 to < 3

Table 3: Ranking vulnerability level by post

