

Briefing Note – 13 March 2017

MADAGASCAR

Tropical Cyclone Enawo

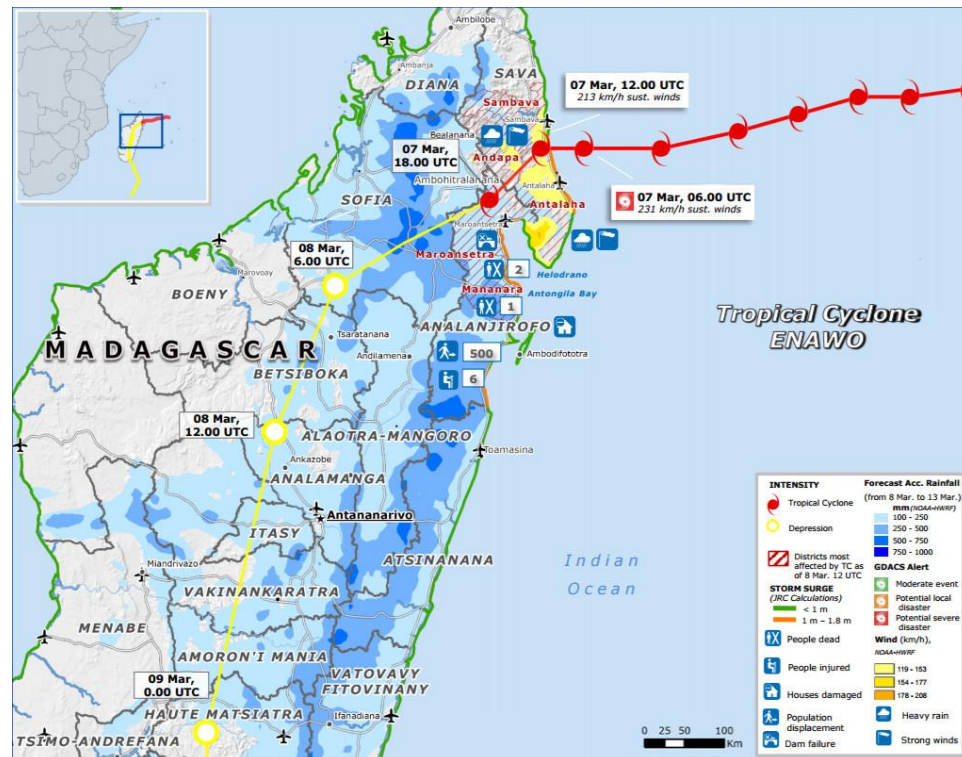
Category 4: Saffir-Simpson



Need for international assistance	Not required	Low	Moderate	Significant	Major
Expected impact	Very low	Low	Moderate	Significant	Major

Crisis overview

Map of areas affected by Tropical Cyclone Enawo



ECHO 08/03/2017. See end of document for enlarged version.

Key findings

Anticipated scope and scale

Heavy rain in the aftermath of the Tropical Cyclone is affecting several regions, in the central-eastern and south-eastern areas of the country, including Mania, Matsiatra Ambony, Vatovavy-Fitovinany and Ihrombe.

Several regions are at risk of flooding, as heavy winds, floods, and landslides are likely to continue. Rivers across the country at risk of overflowing due to the heavy rains. Flooding in Antananarivo, could lead to outbreaks waterborne diseases.

Priorities for humanitarian intervention

- **Shelter & NFIs:** At least 883 houses have been damaged by the cyclone and 5,630 have been damaged due to floodwater, particularly in Antalaha district.
- **Food:** Food stocks and reserves have been destroyed by the cyclone and flooding. Food availability is a challenge to affected populations in remote areas cut off by damaged roads. 100% of the crops and rice fields in Antalaha and Sambava have been submerged and destroyed.
- **WASH:** Access to drinking water in Antahala district is limited. The overflowing of rivers in Antananarivo is likely to contaminate drinking water.

Humanitarian constraints

- Severe weather conditions have hindered search and rescue, and have made it difficult for agencies to reach affected areas.
- Several districts in Sava region and around Antananarivo have been cut off by landslides. Communications lines are down due to power outages.

Limitations

- Should water levels continue to rise the situation will change.
- The total number of people affected and displaced may change, as previously inaccessible areas are reached.

Tropical Cyclone Enawo, equivalent to a Category 4 hurricane on the Saffir-Simpson scale, made landfall over Antalaha district, in the northeastern coast of Madagascar, on 7 March at around 10:30am local time. Wind speeds of 220–230 km/h were recorded, along with heavy rains. The storm traversed nearly the length of the island over two days, affecting communities from north to south across Madagascar's eastern and central regions. On 7 and 8 March, approximately 131mm of rain was recorded in Antananarivo (OCHA 09/03/2017). On 8 March, the cyclone weakened to a 'moderate' tropical storm, with an average speed of 80km/h, and the storm exited the country on 10 March.

As of 13 March, at least 100,000 people have been directly affected by the cyclone, approximately half of whom are in Antalaha district. At least 50 people have been killed, and 183 wounded, mainly in Analanjirofo and Sava regions. Over 110,000 people have been displaced by flooding and storm waters, particularly in Antalaha and Maroantsetra districts.

Crisis impact

As of 13 March, at least 50 people have been killed, and 183 people wounded, mainly in Analanjirofo and Sava regions (ECHO 12/03/2017). At least 100,000 people have been directly affected by the cyclone, with approximately 50,000 people affected in Antalaha district (Reuters 11/03/2017).

Over 110,000 people have been displaced by flooding and storm waters (ECHO 12/03/2017). 40% of the population of Maroantsetra district has been displaced by floodwaters (OCHA 13/03/2017). Over 27,000 people have been displaced in Antananarivo (OCHA 13/03/2017).

Shelter and NFIs: At least 883 houses have been destroyed by the cyclone and 5,632 houses have been damaged due to flood water (IFRC 12/03/2017). More than 605 houses have been flooded in Analanjirofo region (Mananara Nord, Maroantsetra, Vavatenina and Soanierana Ivongo districts) (BNGRC 09/03/2017). Six communes in Maroantsetra are completely flooded; 65% of the houses in Maroantsetra town have been destroyed (ECHO 09/03/2017). Over 80% of houses in Antalaha town and Sambava have been destroyed (RFI Afrique 10/03/2017). Approximately 35,000 people reside in Antalaha town and 40,000 people reside in Sambava (Open Data for Madagascar 2014).

IDPs are being sheltered in schools and churches (BNGRC 09/03/2017). As of 8 March, approximately 500 people had taken refuge in a sports hall after the Andriantany Canal overflowed (Reuters 08/03/2017).

Food: In the most affected areas, household food stocks and supplies have been destroyed due to flooding (RFI Afrique 12/03/2017). As of 13 March, affected households are estimated to have two to three weeks of food stocks remaining (OCHA 13/03/2017).

Food availability is a challenge to affected populations in remote areas cut off by damaged roads (OCHA 13/03/2017).

Widespread agricultural damage has been reported. 100% of the crops and rice fields in Antalaha and Sambava have been submerged and destroyed (Handicap International 10/03/2017; IFRC 10/03/2017). Antalaha port is inaccessible, but is a vital port for food supplies to Sava region. Food prices in local markets are increasing (OCHA 13/03/2017).

WASH: Floodwater has contaminated wells and damaged water systems, particularly in Antalaha district, hindering access to safe drinking water (OCHA 13/03/2017). The overflowing of rivers, streams, and creeks in Antananarivo is likely to contaminate drinking water (RFI Afrique 10/03/2017).

Health: There is a risk of outbreaks of waterborne diseases due to the overflowing of rivers in Antananarivo (L'Express Mada 10/03/2017). Floods have also affected basic health facilities in affected areas – particularly in Antalaha and Maroantsetra districts (OCHA 13/03/2017). In the past, flooding in the aftermath of cyclones have resulted in cases of cholera (UMBC 2005). However, no cases of cholera or acute watery diarrhoea have recently been reported.

Education: Two school buildings have collapsed (BNGRC 09/03/2017). In Sava region, at least ten school buildings in Antaha district have been destroyed (RFI Afrique 10/03/2017).

Impact on critical infrastructure

Since 8 March, power outages have been widespread in affected areas.

Due to severe weather conditions, roads in the most affected areas are inaccessible (IFRC 10/03/2017). Debris and bird carcasses have blocked roads (IFRC 10/03/2017).

Humanitarian and operational constraints

Severe weather conditions have hindered search and rescue, and have made it difficult for agencies to reach the most affected areas (Handicap International 10/03/2017).

Several districts in Sava and Analanjirofo regions and around Antananarivo have been cut off by landslides.

As of 10 March, Antalaha port is inaccessible. An airport road has been blocked in Analanjirofo region (BNGRC 09/03/2017).

In the most affected areas, communications lines are down due to power outages (IFRC 10/03/2017).

Aggravating factors

Population density

The population density in the most affected regions of Sava and Analanjorofo is quite high. Analanjorofo region has a population density of 48.5 people/km² (PNAE 2014). Sava region has a population density of 43 people/square km (PNAE 31/07/2016). In Sava region, Antalaha district has a population of 230,000 people (Reuters 09/03/2017).

Housing/infrastructure

Housing in the most affected areas in the northeast of the country is mainly made of thatch and leaves which are not sturdy and prone to complete destruction in cyclones (L'Express de Madagascar 09/03/2017).

Food insecurity in Grand Sud

Over 850,000 people are severely food insecure in the Grand Sud – 330,000 people are in Emergency (IPC Phase 4) and 515,000 people are in Crisis (IPC Phase 3) (IPC Info 06/10/2016). The main causes of the severe situation in the most affected districts are the effects of El Niño, including poor rainfall, which have resulted in insufficient household agricultural production (corn, cassava and rice) and depletion of food stocks (IPC Info 06/10/2016).

Response capacity

Local and national response capacity

On 7 March, a red alert was issued in the regions of Diana, Sava, Sofia, Analanjorofo, Alaotra-Mangoro, Atsinanana, Boeny, Betsiboka, Analamanga, Itasy, Bongolava, and Vakinankaratra (Reuters 08/03/2017).

The government's office of national disaster and risk management (BNGRC) is responsible for disaster management and response. As of 7 March, six BNGRC teams were sent to affected areas (Antalaha, Analanjorofo, and Sofia) to support local authorities and to train rescue workers (News Mada 07/03/2017). Tents, beds, survival kits and food were provided (RFI Afrique 07/03/2017). As the tropical storm moved inland, the BNGRC evacuated affected populations (BNGRC 09/03/2017). On 9 March, relief items were pre-positioned in 15 districts (BNGRC 09/03/2017).

As of 13 March, local NGOs and the BNGRC have distributed supplies to affected populations. 250 metric tons of rice and 125 metric tons of vegetables have been distributed (RFI Afrique 12/03/2017).

The Malagasy Red Cross Society has mobilised 889 volunteers in the affected areas. Volunteers provide first aid and psychosocial support to the affected communities (IFRC 10/03/2017).

International response capacity

UN agencies have mobilised the emergency cash grant system, with an initial fund allocation of USD 200,000 (IFRC 10/03/2017).

On 7 March, OCHA deployed an UNDAC (UN Disaster Assessment and Coordination) team (BNGRC 07/03/2017).

Medair pre-positioned 2,000 WASH kits around Maroantsetra on 8 March (Med Air 08/03/2017)

Information gaps and needs

- Up-to-date and accurate demographic profiles for affected areas are lacking.
- Lack of information on humanitarian needs of affected populations, due to difficulties in accessing the most affected areas.

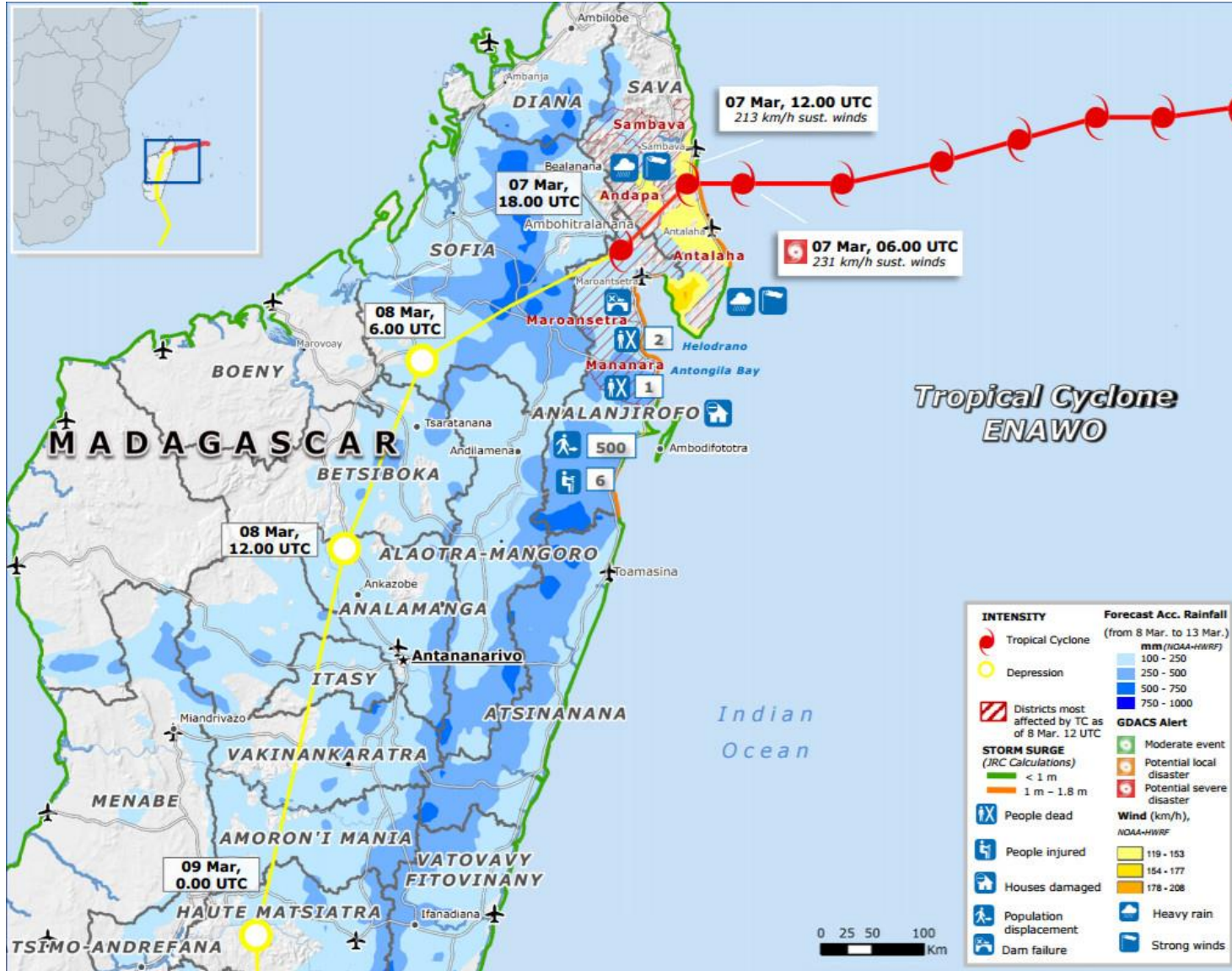
Lessons learned

- Cyclones make landfall Madagascar almost every year but functional early warning systems are a novelty to rural areas (OCHA 2011).
- Long-term solutions to rising waters in the capital, may be more effective than emergency measures, due to frequent cyclones and heavy rains in Madagascar (Midi Madagasikara 10/03/2017).
- Floods are often followed by epidemics. An increased amount of stagnant water increases the risk of mosquito- and waterborne diseases.

Key characteristics

Key indicators	National	Analanjirifo	Sava
Total population	24,430,325 (CIA World Factbook 31/07/2016)	1,063,197 (INSTAT Madagascar 2014)	1,034,598 (INSTAT Madagascar 2014)
% population in rural areas	65% (World Bank 2015)		
Gender and age distribution of population	0-14: 40% 15-24: 20% 25-54: 32% 55-64: 4% >65: 3% (CIA World Factbook 12/012017)		
State capital	Antananarivo (CIA World Factbook 12/01/2017)	East Fenerive (Madasun 13/05/2016)	Sambava (Madasun 13/05/2016)
Lighting and cooking sources	98% use solid fuels for cooking 82% use wood for cooking 17% use charcoal for cooking <1% use gas, electricity, kerosene for cooking (Global Alliance for Clean Cookstoves 2016)		
WASH			
Access to improved drinking water source (with infrastructures such as tap water)	51% in urban areas 40% in rural areas	30% in urban areas 25% in rural areas	43% in urban areas 28% in rural areas
Utilisation of latrines	54% in urban areas 48% in rural areas Source: PNAE 31/05/2016	36% in urban areas 66% in rural areas Source: PNAE 30/06/2016	27% in urban areas 78% in rural areas Source: PNAE 31/05/2016
Health			
Maternal mortality:	353 deaths / 100,000 live births		
Infant mortality:	42 deaths / 1,000 births CIA World Factbook 31/12/2015		
Food security	848,659 food insecure, including - 333,343 in Emergency (IPC Phase 4) - 515,316 in Crisis (IPC Phase 3) - 528,498 in Stressed (IPC Phase 2) Source: IPC Info 06/10/2016	Population is food secure Source: IPC Info 06/10/2016	Population is food secure Source: IPC Info 06/10/2016
Nutrition levels	10,000 children under five SAM 100,000 MAM – all in Grand Sud (OCHA 30/11/2016)	None reported	None reported
Literacy	65% over 15 (CIA World Factbook 12/012017)		
Population density	39 person / sq. km (PNAE 31/07/2016)	48.5 / sq. km (PNAE 2014)	43 / sq. km (PNAE 31/07/2016)

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