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Destructive Floods in Tanzania

Source: <https://english.newstracklive.com/news>

Days of heavy rain caused destructive floods in the district of Rufiji in the Pwani region, eastern Tanzania-- sweeping away at least 3,500 residential properties and 6,600 ha (16,309 acres) of farmland in the first week of March 2020.

Historic Floods in Tanzania

Recent study done in East Africa show that short rain season (October-December) is projected to increase by more than 10% also the long rain season (March to May) is projected to increase by more than 15%.

Tanzania has a tropical equatorial type of climate. However, its climate has a great diversity due to the country's diversity in topography and waterbodies. The country is characterized by two rainfall regimes: namely unimodal and bimodal rainfall regime. The seasonal rains over the unimodal regime occur between October and May (Msimu) over the Southern, South-western, Central and Western areas of the country.

The bimodal rainfall regime has two rain seasons, the long rain season (Masika) experienced between March and May (MAM) and the short rain season (Vuli) occurring between October and December (OND) over the Northern coast, North-eastern Highlands, Lake Victoria basin and the Islands of Zanzibar (Unguja and Pemba).

The short rains (OND) are highly variable in space and time as compared to relatively less variable long rains (MAM) over the bimodal and the October to May (Musimu) rains over the bimodal. Annual rainfall varies from 200 mm to 1000 mm over most parts of the country.

Higher rainfall amounts are recorded over the highlands to the Northeastern and Southwestern parts. Central Tanzania is a semi - arid region with some parts receiving annual rainfall amount of less than 400 mm. The annual mean temperature range from 25°C to 32°C. In the highlands, average temperatures for the hot (February) and cold (July) months are about 20°C and 10°C respectively. The rest of the country has temperatures hardly falling below 20°C, with highest temperatures along the coastal belt and the western parts of the country. The high temperature season is between October and March while the coldest season occurs between May and August.

Most frequently floods occur in Mbeya, Pwani, Arusha and Morogoro regions. Dar es Salaam city in Pwani region and Kiyela in Mbeya region are particularly vulnerable. Since 2010 in those areas, floods occur almost every year and affect residents.

One of the latest unprecedented floods affects residents in Dar es Salaam on 20 December of 2011. According to the Tanzania Meteorological Agency (TMA), the rains were the heaviest in Tanzania since its independence in 1961. The total number of people affected by the floods was over 50,000 among which about 10,000 people were displaced. Several main roads that link the center to the suburbs were heavily flooded and some bridges were destroyed.

In the year of 2014 floods occur during four months (January, February, March and April) and were especially destructive.



Figure 1. Regions in Tanzania affected by flood events (1964-2014)

Financial Impact of Floods

The floods affect Tanzanian economy and especially the capital city. Dar-es-Salaam's economy and infrastructure suffers from frequent and severe flooding. Frequent floods have hit the city since 2009 occurring in 2009, 2010, 2011, 2014, 2015, seven floods between 2017-18, and 2019. Annexure 1 shows the major flood events.

According to a 2019 World Bank research, exposure to floods in the city is widespread with at least 39 % of the population, or 2 million people, having been impacted either directly or indirectly by floods. The April 2018 flood alone affected between 900,000 and 1.7 million people, and among affected households, 47% (18% of city population) reported health impacts. The economic losses were between US\$107-227 million.

Non –life insurance premium, in 2016, was just US\$ 282 million compared to the GDP of US\$ 48 billion. Thus, a huge protection gaps exists.

Source: *The World Bank, TIRA, TMA*

Sr. No	Year	Month	Region	Impact
1	2020	March	Pwani Region (Dar es Salaam is in this region)	Damaged 3,500 residential properties and 6,600 ha (16,309 acres) of farmland
2	2020	March	Dar es Salaam and surrounding regions	An important bridge collapsed
3	2018	April	Dar es Salaam and surrounding regions	Heavy rain caused buildings to collapse and widespread flooding in the city
4	2015	March	Dar es Salaam	Around 250 houses damaged or destroyed.
5	2014	April	Dar es Salaam, Rorya District in Mara, southern region of Mbeya	Affected around 20,000 people. Damaged transport infrastructure.
6	2011	December		Property damage of TSh 7.50 Million (USD 3,285 (2020 value))
7	2010	April		
8	2006	Nov-Dec		
9	2002	April		
10	1998	January- April		
11	1997	Oct- Dec		
12	1995	May		
13	1989	December		
14	1983	May		

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