

**Assessment of Impacts of Cycones Desmond, Idai and Kenneth and the Drought
in Southern Africa**

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On 14 March 2019 in Malawi, aerial pictures taken by the drone task force (international organizations such as UNICEF and Red Cross as well as the governmental counterparts) captured the flooded areas around Marka, located right on the Malawi – Mozambique border. The images show that weak, temporary structures have been affected the most and some of the submerged as a result of the extensive flooding and heavy rainfall.

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Courtesy of Mr J Nkhokwe, Director of the Department of Climate Change and Meteorological Services of Malawi

Introduction:

This presentation begins by setting the scene at global and regional level. This setting, as well as climate projections provide the basis and rationale for the need for WMO to assess the impacts of disasters and more specifically to Malawi, Mozambique and Zimbabwe. These countries which were affected the most and directly by Tropical Cyclones Idai and Kenneth and to a lesser extent, Desmond for Mozambique. A generic template in the form of a survey is annexed to show the format the Regional Office of Africa uses to assess the impacts. Lastly, the paper will make recommendations based on the assessments done for Malawi, Mozambique and Zimbabwe.

The Setting

Statistics obtained by the World Meteorological Organization (WMO) indicate that between 1998 and 2017, over 4.5 billion people worldwide were affected by natural disasters. Approximately 96% of them were weather related. Of these, 45% were affected by floods, 33% by droughts, 16% from storms (including sand), 3% due to earthquakes and the remaining 3% by extreme temperatures, wildfires, landslides, volcanic activity and mass movement.

From 2018 to date

- Out of 17.7 million Internally Displaced Persons tracked by IOM, over 2 million were displaced due to disasters linked to weather and climate events (September 2018)
- Droughts, floods and storms have been the events leading to most disaster-induced displacement ;
- Displaced persons often live in more marginal areas and vulnerable to secondary displacement
- 100s of thousands of African communities were affected by secondary displacement due to extreme events, heavy rain and flooding and landslides

In addition to the above, the Global economic Forum of 2019 identified major factors that would impact the global economy in 2019 (**Annex 1**). The greatest threats were from extreme weather events, failure to mitigate and adapt to climate change, and natural disasters. Water crises are not too far behind. This turned out true for Southern Africa (tropical cyclones Idai and Kenneth as well the low levels in Lake Kariba).

Lastly, records to date indicate that 2019 will be the hottest year on record, worldwide. This is evidenced by unprecedented wildfires in Arctic circle, record breaking heat waves, rapid melting of sea ice and rise in sea level. The global averaged temperature rise since industrial times is now about 1.1°C. The implications are gloomy

- more severe weather extremes are forecast and they would be the new normal: It is advisable to expect them every year and so to plan for them;
- the melting of icebergs will transfer energy from the polar regions to the tropics, leading to more tropical cyclones, storms, coastal erosion, landslides;
- sea-level rise is forecast to increase more rapidly and this is a potential problem for the small island state as well as coastal countries;

- earthquakes would most probably increase in frequency due to pressure from water loading; In the case of Africa, along the Africa Rift valley stretching from the Mozambique/ Zimbabwe through Malawi, Tanzania to Kenya; and
- there will be greater impact on water, energy, food security for over **3 billion people projected for Africa by 2040** (with attendant problems such as migration, environmental refugees, intra- and trans-boundary conflicts).

Rationale for Assessments of Impacts

For the present and projected future state of global climate summarised above, Southern Africa will not be spared. The impacts of Tropical Cyclones Idai and Kenneth are now well documented. With projected increase in the extremes of weather, mindful that Africa is highly vulnerable to climate change impacts with 34 of the Least Developing Countries (LDCs) and noting that they are least prepared for the associated disasters, the Regional Office for Africa found it necessary to assess impacts of any major hydro-meteorological disaster on the continent. This part of the broader vision 2030, overarching priorities and long-term goals of WMO. For the sake of brevity, these are indicated in **Annex 2** of this paper as well as in the WMO Website **public.wmo.int**.

The assessments enable the WMO to identify the state or preparedness of the National Meteorological and Hydrological Services (NMHS) and shape the nature of the assistance the NMHS requires by addressing the gaps. The assessments also enable WMO to document each major disaster on the basis of science, technology and service delivery, partnerships as well as governance. Lastly, the assessments are used as a measure of progress by the NMHSs as well as by the country in the quest for disaster preparedness.

The nature and severity of disasters affecting Africa vary from country to country and from region to region. Many, if not all, of them are transboundary in nature. The state of preparedness, or lack thereof, the policies and as well as the stages of development also vary across the continent. Above all, the governance mechanisms, institutional arrangements and apportionment of responsibilities are highly variable. As such, the Regional Office of Africa has designed a generic assessment form in the form of a survey. The form is sent to the NMHS of the country affected by the disasters that the state of readiness. The generic assessment form is attached as **Annex 3**. Reference to it shows that it is designed to capture as much information as possible for follow up action.

Assessments of impacts for Malawi, Mozambique and Zimbabwe following Tropical Cyclones Idai and Kenneth in March 2019.

Following the devastations of TCs Idai and Kenneth, the assessments were done in two phases: assessing through a survey and fact finding missions for validation and verification.

- (a) the Regional Office sent the assessment form to the Directors of the NMHSs of Malawi, Mozambique and Zimbabwe. The forms were duly filled and sent back to the Office for analysis.
- (b) WMO then sent fact finding missions to these countries. The first mission was to Mozambique as it was most affected by the floods. The missions to Malawi and Zimbabwe have just been undertaken in October.

The Terms of Reference for the Task Teams included, among others, the roles of each entity in the total value chain (prior to, during and after) in the event of the disaster. This involved interviewing the various players in government (policies, governance and institutional arrangements, financial support), development partner and donor communities (capacity development and logistics), private sector (communication, advocacy and relief) and, where possible and time permitting, the communities that were affected. It was also deemed necessary to ascertain the levels of coordination among them all.

- (c) The results of the missions are being analysed and will be shared by the respective governments as well as the way forward by WMO. The underlying question to each organization and level of government was whether the country was ready for the next disaster? What aspects were in place and what are the gaps.

Preliminary findings from the fact finding missions

The results, findings and recommendations of the assessment missions are going through the proper channels. However, some of these will be highlighted in the country presentations. Common to all three countries are the following

- (i) All the countries are not yet fully ready for the next disasters. The main reason lack of coordination and collaboration among the various actors on disaster preparedness: this is particularly the case among government institutions.
- (ii) The gap between early warning (by the NMHS) and early action (government and other departments);
- (iii) The NMHSs issued advisories, warnings, alerts and forecasts through press releases;
- (iv) The NMHSs issued weather forecasts of the 2018-2019 at their National Climate Fora following SARCOF 2018 and updated throughout the season; This included the forecast of below normal rainfall.
- (v) Communication and downscaling of information remains a challenge, especially reaching the last mile (communities in the rural areas);
- (vi) Development partners and NGOs are generally satisfied with the quality and type of products they are receiving from the NMHSs. This can, however be improved, especially climate prediction beyond one year.
- (vii) Development partners are also providing capacity (human and infrastructure), financial and logistic assistance to the governments, including NMHSs, Disaster and Water authorities;

Preliminary recommendations from the Assessments

- (i) There is an urgent need to address transboundary communication and exchange early warning information. This is the responsibility of SADC Secretariat. Accordingly, the SADC Climate Services Centre requires urgent capacity development. It is lagging other similar institutions in Africa;

- (ii) Each country should revive the National Early Warning Unit (NEWU). The SADC DRR organ should re-establish the Regional Early Warning Unit. These are multi-sectoral, but the core members are (NMHSs, Water, Agriculture, Health, Energy, Statistics and Finance) arms from the government side. Development partners can also be roped in;
- (iii) WMO and other organisations, including the AUC and UNECA should partner SADC to establishment and take ownership of a SADC Multi-Hazard Early Warning System that will also include a communication strategy that will ensure that no one will be left behind when it comes to weather and climate information.

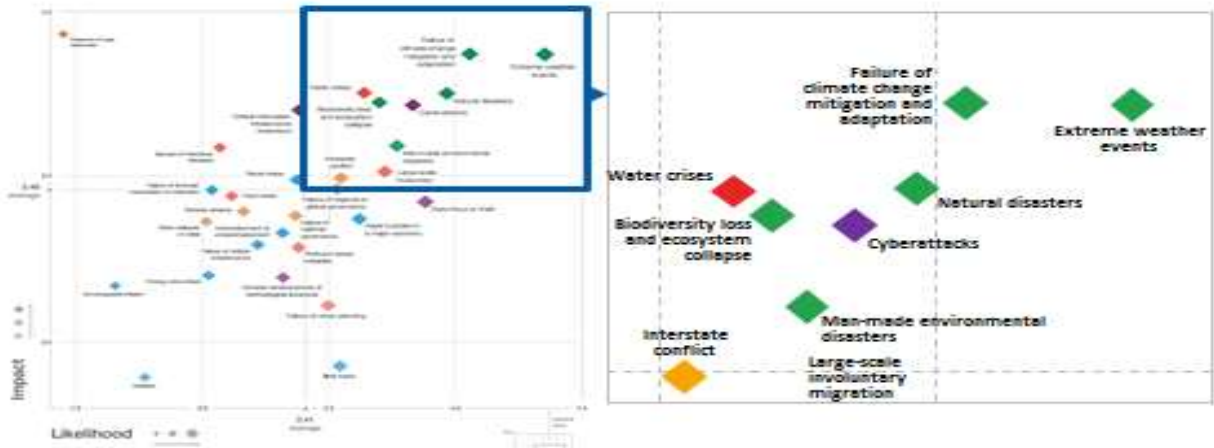
Concluding Remarks

Climate projections requires an urgent shift in the mindset, commitment and concrete action of governments. Focus and associated investments should shift from disaster response to early warning. Weather and climate forecasts are now much more accurate and reliable than before. Capacity development should begin with them. Leaving this to other organisations, especially the private sector and leave them vulnerable. This can be resolved through legislation that clearly spells out who in the country is the single authority for issuing what.

Lastly, the relocation of the WMO Regional Office for Africa to the continent to be near the AUC and UNECA is clear testimony that the time has come to take weather and climate information to the African governments and to the last mile. If all of us work together, we will go further in meeting the SDGs, the Sendai Frame work on Disasters and the Agenda 2063 of the African Union. This means mainstreaming weather and climate information in all socio-economic development plans at continental, regional national and local levels. WMO will continue to play its part, including providing the technical expertise, standards and guides to all members.

Annex 1

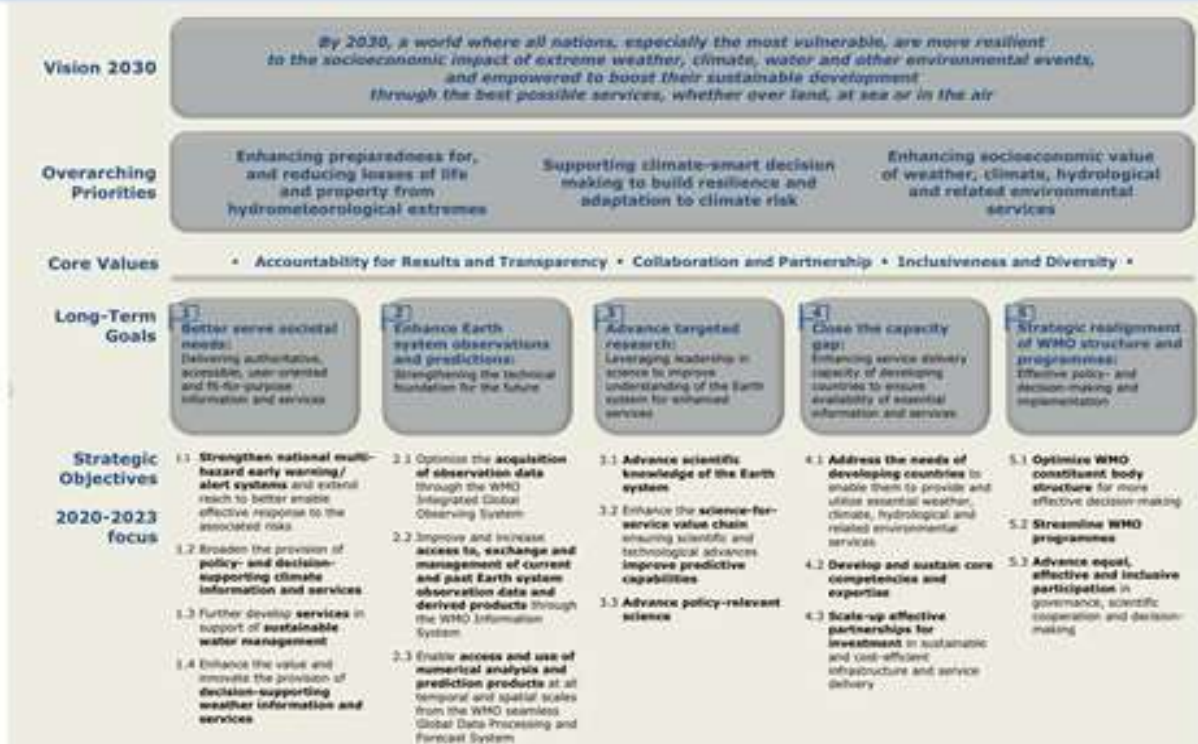
Biggest risks for world economy 2019



World Economic Forum Global Risks Landscape 2019

Annex 2

WMO Vision & Priorities



Annex 3

Information gathering on extreme weather and climate events

Keeping good record of the occurrence of extreme weather and climate events as well as their impacts on society and the environment would serve many uses for the providers of weather and climate services. Key among them is the opportunity to learn from past events with a view to the development of more pre-emptive and responsive weather and climate services for our countries in WMO Ra-I (Africa).

Furthermore good performance in risk management, as a result of the provision of better weather and climate services, goes a long way in increasing the visibility of the NMHSs which enhances greater support to NMHSs from local authorities.

In light of the above, we will appreciate it if you could complete the questionnaire to enable us prepare a comprehensive report of extreme weather and climate events as they occur in the region and provide you with the necessary assistance.

Please note that the draft version of the report on the event will be shared with you for information and approval, prior to circulation to third parties.

1. Name of Country:
2. Type of hazard:
3. Date(s) of occurrence:
4. Time of occurrence:
5. Duration of occurrence:
6. Areas affected including percentage coverage of the national territory:
7. Situation of staff and facilities of Meteorological and Hydrological Services in the affected area:
8. Actions taken by the NMHSs before, during and after the hazard:
9. Were lives lost, about how many?
10. Provide a financial estimate of the amount of damage to property incurred from the event:
11. What does the damage to property consist of?
12. Was the loss of lives preventable?

13. If Yes, how?
14. What could the NMS have done differently to ensure a better management of the disaster?
15. What are the prevailing challenges in your service that require capacity development to enhance your early warning and disaster risk management capabilities?
16. Required assistance for the rehabilitation of damaged hydrological and meteorological infrastructure:
17. Latest situation in the country:
18. Any other information (written or in pictures) concerning the event that you deem important to share with us?
19. Names of person completing the questionnaire:
20. Email address of person completing the questionnaire: