Fourth Africa Climate Talks (ACTs!), Maputo, Mozambique, 27-29 July 2022

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Theme: Ensuring a just and equitable Transition and human security in Africa: Building Resilience
Session 3: Climate Change Impacts in Africa: Insights from the Inter-governmental Panel on Climate Change (IPCC) 6th Assessment Report (AR6).$

IPCC has 3 Working Groups (WGs):
WG1: Contributes to the *Physical Basis* of Climate Change (report for AR6 contribution released on 9th August 2021);

WG2: Contributes to the *Impacts, Adaptation and Vulnerability* of Climate Change (report for AR6 contribution released on 28th February 2022).

WG3: Contributes to the *Mitigation* of Climate Change (report for AR6 contribution released on 4th April 2022).

Synthesis Report of the IPCC AR6 to be released at end of 2022 or early 2023.

Climate Change Impacts in Africa
The WG2 of IPCC AR6 under observational impacts on Climate Change recognizes the interdependence of (a) *Climate*, (b) *Ecosystems and Biodiversity* and (c) *Human Societies.* For incidence, the biodiversity loss due to the overconsumption of natural/environmental resources including land and ecosystem degradation, rapid urbanization, human demographic shifts, social and economic inequalities and a pandemic can have definitive ramifications as impacts.

GHGs emissions caused by human beings trigger climate change which has impacts on human society, causing massive Loss and Damage. The Risks emerge from the overlap of increased and intensified climate hazards, vulnerability and exposure of the human system as well as ecosystem and biodiversity to the generated hazards which sometimes surpass the limits of adaptation and hence lead to mortality /loss and damage.

The climate change impacts include and are not limited to the following: rise in surface *temperatures* which trigger global warming and climate change; increased frequency and intensity of *precipitation causes flash floods*; frequent and prolonged *droughts*; wild/forest *fires*; damages of monstrous *tropical cyclones* like Idai; storm surges and *sea-level rise* and the potential submergence of low-lying coastal regions and Small Island Developing States (SIDS). Slow-onset processes like sea-level rise, ocean acidification and droughts have devastating impacts; impacts of hydrological changes resulting from the *retreat of glaciers from Mts in the Eastern part of Africa* i.e. Kilimanjaro (5.8km AMSL) in Tanzania, Mt Kenya (5.2km AMSL) in Kenya and Rwenzori (5.0km AMSL) on the boarder of Uganda and DRC will have a tragic impacts on communities, ecosystems and biodiversity downstream; and an increase in *urban air pollution* in mega cities due to increased rural urban migration in Africa and Asia will cause problems on human physical health and mental well-being.

Shift of Species polar wards: examples are the African Bees moving to the sub-tropical regions and mosquitos to higher elevation (bring highland malaria to those not immune).

If we look at adverse impacts of climate change on some of the exemplars in the User Interface Platform (UIP) of the Global Framework of Climate Services (GFCS) - {Agriculture, Health, Water, Disaster Risk Reduction (DRR) and Energy}, we the get the following ramifications:

Agriculture: Drought – causes low yields in food production leading to famine, malnutrition and hunger; reduced animal and livestock productivity; reduced fisheries yield and aquaculture production; infectious waterborne and vector borne diseases (typhoid, cholera, meningitis, malaria, rift valley fever, anthrax, etc.

Water: In the case of a prolonged drought episodes – there is water scarcity which leads to inadequacy of water for drinking, sanitation and hydro-electric energy generation and supply.

Disaster Risk Reduction (DRR): With increases hydrometeorological disasters, Early Warning Services (EWS) at NMHSs are crucial for safety of life, protection of property and conservation of the natural environment. However, it is also of critical importance to cooperate with the Disaster Management and Civil Protection Agencies to build a quick response mechanism to disasters.

Adverse impacts of Climate Change will, thus, affect the key economic sectors in the UIP of the GFCS and slow down the achievement/attainment of the UN-SDG 2030 and the AU Agenda 2063 of the "Africa we want- and nobody should be left behind"

Question: What should the countries in the region do? What is the better approach?

Response: From the WMO approach, the region (Africa) should note and do the following actions:

1. Note that almost **90%** of all natural disasters are meteorological in nature: surface temperatures are increasing global warming and climate change; Polar ice are melting causing sea-level rise; Intense and frequent precipitation cause floods; frequent and prolonged droughts cause havoc on social, biodiversity and ecosystems.
2. Note that hydrometeorological disasters can destroy the economy of a country by **10%-20% of its GDP** and reserve the country's growth and development.
3. Note that **Investment in meteorological infrastructure** saves life and property by a ratio of **1:10** on return to such investment and even more. These investments are observations systems; telecommunication system for rapid data exchange; improved climate database management system (DBMS) for and high computing platforms for data processing, analysis and forecasting; improved product dissemination system to stakeholders – government and communities at the last mile (media collaboration is key here).
4. Come up with **Nationally Determined Contributions (NDCs)** to address low carbon emissions in the Paris Agreement putting in perspective the country's level of development and unique priorities.

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