

ZAMBIAN SUBMISSION TO THE SBSTA SUBMISSION ON ISSUES RELATING TO AGRICULTURE

This submission is made by Zambia in response to the SBSTA 38 conclusions that invited Parties to submit views on the current state of scientific knowledge on how to enhance the adaptation of agriculture to climate change impacts while promoting rural development, sustainable development and productivity of agricultural systems and food security in all countries, particularly in developing countriestaking into account the diversity of agricultural systems and the differences in scale as well as possible adaptation co-benefits (Document FCCC/SBSTA/2013/L.20 para 2).

Recognizing that agriculture holds the key to Zambia's rural and sustainable development, and emphasizes that agriculture is central to the economic and social development of its people. The priority for Zambia and other African countries in the agriculture sector is to enhance socio-economic development, ensure food security, eradicate poverty, ensure environmental and livelihood sustainability with special attention to small-holder and marginal farmers and fishers through adapting to the effects of climate change with the identification and maximization of the potential of adaptation co-benefits. . Zambia's capacity to produce food is likely to be challenged by the combined effects of resource degradation and increasing adverse impacts climate variability and change. Thus, ensuring food security in this region requires urgent actions to improve the productivity and climate resilience of agriculture and an increased attention to climate risk management tools, including safety nets and insurance, to ensure adequate and affordable food is available for the most vulnerable..

From the global perspective, it is appreciated that due to uncertainties in climate projections and other factors, including carbon dioxide fertilization, socio-economic development pathways and the differential adaptive capacities of countries in the region, projections of the impacts of climate change on agriculture are not spatially explicit and depend heavily on scenario assumptions that fail to mimic the future climate conditions. Some studies conducted on the impacts of climate change on agriculture in Zambia amidst several limitations, indicate significant impacts on agriculture production. The major constraints could be attributed to the gaps in the scientific knowledge of climate change impacts on agriculture that have hitherto not been modelled due to data limitations. For example, there is limited understanding of: (1) direct impact of climate change on pastoralism and African agricultural and livestock farming systems; (2) the prevalence and impact of pests and diseases in changing climate; (3) the socio-economic impact of extreme weather and climate events, and loss and damage associated with extreme and slow onset events, as current GCM scenarios do not account for such events and yet they are increasingly becoming common in Zambia; and (4) effectiveness of adaptation response measures and coping strategies by small scale farmers. This is further constrained by technical and institutional capacities that hinder effective application of climate modeling to inform national development planning and decision making at different levels.

In light of the foregoing, the Zambia has identified three priority areas that the international community through SBSTA could support Zambia so that it could have the most current state of

knowledge that would enhance Zambia's adaptive capacity to address climate change impacts and build climate resilient agriculture sector. These are:

- 1. Capacity building on the development and application of tools and methods for climate monitoring, modelling, uncertainty analysis, downscaling, early warning and updatability for climate change: Zambia just like the rest of Africa** is vulnerable to several climate change related challenges and impacts that are tied closely to the Country's geographical diversity, economy and population patterns. Since there is paucity of accurate historical climate and agricultural data in Africa, there is need to study in detail the indicators of exposure and, sensitivity. Also needed is data relevant to slow onset changes that will affect agriculture, fisheries, and food security, such as temperature rise, long-term drying. In addition, it is imperative for the international community to put in place a programme of work on capacity building on development and application of various tools and methods, particularly for climate monitoring, modelling, downscaling and early warning for developing countries, especially Africa with a view to building the requisite technical capacity and strengthening institutional infrastructure.
- 2. Assessment, development and identification of research and technological options and practices for agricultural adaptation and adaptation co-benefits, including understanding positive impacts (opportunities), challenges to adaptation, and monitoring systems for adaptation:** The motivation for research and technological options is the need to develop innovations tailored to the local scale that directly and indirectly enhance adaptive capacity of Zambia's agriculture in a changing climatic environment so as to identify when transformational approaches to adaptation are necessary.. Enhanced research, including competitive research funding and better-managed programmes is critical for innovation to improve agricultural productivity to alleviate global poverty and hunger, as well as to identify adaptive limits and implications for regional food security.
- 3. Identification of approaches to enhance integration of indigenous and science-based knowledge:** Indigenous knowledge (IK) plays a critical role in decision making among the Zambian small scale farmers in their quest to manage climate related risks including extreme weather events and cope with the impacts. Such coping strategies and indigenous knowledge vary by province or district and to a great extent are localized to sub-district levels. On the other hand, science-based knowledge systems such as weather forecasting, though useful, need downscaling for them to be meaningfully applied at the local scale. Therefore, to be more effective in dealing with the increasing challenges of climate change impacts in Zambia, it is imperative to integrate indigenous knowledge and science-based knowledge systems.

Finally, we note that the IPCC would have released the Working Group I report, "The Physical Science Basis" of its Fifth Assessment Report (AR₅) and therefore, would welcome their

participation at this workshop. In particular, it may be useful to have a presentation on the global and regional climate projections.