



REGIONAL CAPACITY BUILDING TRAINING WORKSHOP ON CLIMATE AND CLIMATE INFORMATION FOR AGRICULTURAL EXPERTS IN SOUTHERN AND EASTERN AFRICA REGIONS

Date: 16-20 September 2024

Venue: The Grand Palm Hotel | Gaborone, Botswana

Introduction

Capacity-building training workshops focusing on climate basics, climate information services, early warning systems, disaster management, and climate change impacts are essential for a wide range of Eastern and Southern Africa experts due to the region's acute vulnerability to climate variability and change. For instance, the agricultural sector, a cornerstone of these regions' economies, faces significant threats from changing weather patterns, such as increased frequency and intensity of droughts and floods. According to the Intergovernmental Panel on Climate Change (IPCC), the regions are also experiencing warmer temperatures, altered precipitation patterns, and more extreme weather events, directly threatening food security and livelihoods (IPCC, 2021). Therefore, agricultural experts should be equipped with knowledge and skills in climate science to better understand these changes and develop strategies that mitigate their impacts on crop and livestock productivity, water availability, and food security among men and women.

Moreover, effective disaster management and early warning systems are critical to reducing climate-induced disaster risks. However, many countries in the regions lacked the infrastructure and expertise to predict and respond to such events effectively. The South-South knowledge exchange and capacity-building training initiatives organized by regional partners such as the Accelerated Impacts of CGIAR Climate Research for Africa (AICCRA) and IGAD Climate Prediction and Application Center (ICPAC) empower experts to utilize climate information services and establish robust early warning systems and enhance preparedness and response capabilities. By promoting skills in climate risk management and adaptation strategies, such initiatives help bridge the gap between scientific research and practical application, enabling experts to implement policies and practices that safeguard agricultural productivity and community well-being. The United Nations Framework Convention on Climate Change (UNFCCC) underscores the importance of training initiatives that build adaptive capacity in the regions (UNFCCC, 2018).

Hence, understanding and addressing these challenges in a gender-sensitive manner requires building the capacity of agricultural experts and leading farmers to effectively utilize climate information, manage risks, and implement adaptation strategies. Therefore, the dissemination of CIS requires addressing the Gender-sensitive needs of men and women.

Objectives of the Training

The proposed capacity-building training workshop aims to equip agricultural experts in Southern and Eastern Africa with the knowledge and skills to tackle climate change challenges effectively. By enhancing their capacity to utilize climate information, manage risks, and implement adaptation strategies, the training workshop will contribute to sustainable agricultural development and improved food security in the regions. Specifically, it will

- Provide foundational knowledge on climate basics, including the drivers and impacts of climate change on agriculture.
- Build the capacity of men and women experts to interpret, disseminate and apply climate information for decision-making in agricultural planning and management
- Develop skills in setting up and operating early warning systems to mitigate the impacts of climate-related disasters.
- Equip participants with tools and techniques for managing climate risks in agricultural practices.
- Foster understanding of climate change and adaptation strategies to enhance resilience in agricultural systems.

Justification for the Selected Training Topics

Agriculture in Southern and Eastern Africa is predominantly rain-fed and thus highly susceptible to climate variability and change. According to the Intergovernmental Panel on Climate Change (IPCC), climate change will likely exacerbate droughts, floods, and extreme weather events in these regions, posing significant threats to food security (IPCC, 2021). Enhancing the capacity of agricultural experts to understand and respond to these threats is critical for ensuring sustainable agricultural development.

Climate basics training aims to equip agricultural experts with the knowledge and critical thinking skills needed to navigate the complex and rapidly evolving field of climate science. The trainees will gain a holistic understanding of climate science, which can be applied in a variety of contexts, from scientific research and policy analysis to community engagement and personal decision-making.

Climate information services (CIS) are essential for informed decision-making in agriculture. They provide data on weather patterns, seasonal forecasts, and climate trends

that can guide agricultural practices. However, the effective use of these services requires specialized knowledge and skills that many agricultural experts in the region currently lack. Training in this area will enable experts to make better use of available climate data, improving planning and reducing vulnerability (Zebiak et al., 2015).

- **Gender-sensitive Climate Information Services** are necessary because there are gender differences in access and use of Climate Information Services, and this can affect long-term climate action and resilience. For example, the effects of climate change affect men and women differently due to differences in socio-economic status as well as limited access to resources and early warning systems (Ngingi, N and Muange, C., 2022)

Early warning systems (EWS) are crucial for disaster risk reduction, providing timely information to minimize the impacts of climate-related hazards. Despite their importance, many regions in Southern and Eastern Africa lack effective early warning systems or the expertise to operate them. Training agricultural experts in early warning systems will enhance preparedness and resilience, reducing the adverse impacts of climate-related disasters (UNDRR, 2019).

Disaster risk management involves identifying, assessing, and prioritizing climate risks, followed by coordinated efforts to minimize their impact. This means implementing practices that reduce vulnerability and increase resilience to climate impacts in agriculture. Training programs that focus on climate risk management can empower agricultural experts to adopt practices that mitigate risks, such as crop diversification, improved irrigation, and soil conservation (FAO, 2016).

Climate Change and Gender are necessary to cope with the long-term impacts of climate change. Agricultural experts play a key role in designing and implementing these strategies, including developing climate-resilient crops, optimizing water use, and promoting sustainable land management practices. Training in adaptation is vital for enhancing agricultural productivity and food security in the face of climate change (Schmidhuber and Tubiello, 2007).

Target Audience

The International Livestock Research Institutes (ILRI's) Accelerating Impacts of CGIAR Climate Research for Africa in Eastern and Southern Africa (AICCRA ESA) in collaboration with its partner institutions (ICPAC, CCARDESA, and ASARECA) is organizing this regional training workshop. Hence, the workshop targets the following experts from these and other institutions:

- Agricultural experts/officers
- Researchers and academics
- Policymakers

Training Methodology

The training will consist of lectures, interactive sessions, and group discussions. It will also include case studies to provide practical insights and real-world applications. Digital tools and online platforms will also be incorporated to enhance learning and accessibility (in the case of CIS and EWS).

Expected Outcomes

- Enhanced capacity of agricultural experts to understand and respond to climate change.
- Improved use of climate information services in agricultural decision-making.
- Increased implementation of early warning systems and climate risk management practices.
- Greater adoption of climate change adaptation strategies in agricultural systems.
- Strengthened collaboration and knowledge sharing among agricultural stakeholders.

Program Agenda

Date	Activity/ training topic	Responsible
Day 1: September 16		
08:30 – 09:00	Registration	ILRI-AICCRA
09:00 – 09:10	Welcoming remark	CCARDESA
09:10 – 09:40	Opening remark	AICCRA, ICPAC, ASARECA, SADC-CSC
09:40 – 10:00	Introduction of participants	All
10:00 – 10:15	Overview of the training workshop	Dr. Teferi Demissie (AICCRA)
10:15 – 10:45	Group photo/Health break	
10:45 – 12:00	Understanding climate systems <ul style="list-style-type: none"> • Basic climate concepts • Climate system components • Climate processes and variability • Climate drivers and forcing • Types of climate data and climate analysis Interactive discussion	Dr. Tufa Dinku (IRI) Dr. Abebe Tadege (ICPAC) Dr. Hussen Seid (ICPAC)
13:00 – 14:00	Lunch	
14:00 – 15:30	Maproom presentation and discussions	Dr. Tufa Dinku (IRI)
15:30 – 16:00	Health break	
16:30 – 17:00	General discussion on Day 1 engagement	AICCRA and ICPAC
Day 2: September 17		
09:00 – 10:00	Overview of climate information services and key components of CIS; Climate data, analysis and interpretation; Seasonal climate forecasting (forecasting methods, understanding and interpreting the forecast); maproom demonstration	Dr. Tufa Dinku (IRI)
10:30 – 11:00	Health Break	
11:00 – 12:00	Gender and Climate Information Services	Joyce Jelagat
12:00 – 13:00	General Discussion	Moderator
13:00 – 14:00	Lunch	

14:00 – 15:00	Socio-economic benefits of climate information services in agriculture and food security	Dr. Masilin Gudoshava
15:00 – 16:00	Implementation of climate services <ul style="list-style-type: none"> • Co-production processes during the Greater Horn of Africa Climate Outlook Forum (GHACOF) • Integrating co-produced climate services in Sectoral platforms 	Dr. Hussen Seid (ICPAC)
16:00 – 16:30	Health Break	
16:30 – 17:00	General Discussion	Moderator
Day 3: September 18		
09:00 – 10:30	Pillar I & II of early warning system <ul style="list-style-type: none"> • Disaster risk knowledge • Detection, observation, monitoring, analysis and forecasting 	Dr. Ernest Afesismama (WMO-RoA)
10:30 – 11:00	Health Break	
11:30 – 13:00	Pillar III & IV of early warning system <ul style="list-style-type: none"> • Warning dissemination and communication • Preparedness and response capabilities 	Dr. Ernest Afesismama (WMO-RoA)
13:00 – 14:00	Lunch	
14:00 – 14:30	Crop capability tool for agro-advisory for CSA in Sub-Saharan Africa	Dr. Bradwell Garanganga (Digitron)
14:30 – 15:30	Experience-sharing session	All participants
15:30 – 16:00	Health break	
16:00 – 17:00	Experience-sharing session	All participants
Day 4: September 19		
09:00 – 10:30	Introduction to disaster risk management (definitions and concepts, types of disasters affecting agriculture) Risk Assessment and Analysis (Risk assessment methods, data collection and analysis);	Dr. Ahmed Amdihun and Dr. Jully Ouma, ICPAC
10:30 – 11:00	Health Break	

11:00 – 13:00	Disaster Risk Reduction (principles of DRR, preparedness and planning, anticipatory action), Risk financing and insurance for Agriculture; Policy and governance in DRM (Agricultural DRM)	Dr. Ahmed Amdihun and Dr. Jully Ouma, ICPAC
13:00 – 14:00	Lunch	
14:00 – 15:30	Overview of ICPAC's East Africa Hazard Watch	Dr. Ahmed Amdihun and Dr. Jully Ouma, ICPAC
15:30 – 16:00	Health Break	
16:00 – 17:00	Discussion	Moderator
Day 5: September 20		
09:00 – 10:30	Climate change fundamentals: Mechanisms and causes of current and future climate changes; Impacts of Climate Change; Mitigation and Adaptation	Dr. Abebe Tadege and Joyce Jelagat (ICPAC)
10:30 – 11:00	Health Break	
11:00 – 13:00	Gender-responsive mitigation and adaptation strategies Expectations from the upcoming COP29	Dr. Abebe Tadege and Joyce Jelagat (ICPAC)
13:00 – 14:00	Lunch	
14:00 – 15:30	General Discussion	Dr. John Recha (AICCRA)
15:30 – 16:00	Key messages from the training workshop	Dr. Teferi Demissie (AICCRA)
16:00 – 16:30	Closing remarks and the way forward	AICCRA and CCARDESA

8. References

FAO (2016). Climate Change and Food Security: Risks and Responses. Food and Agriculture Organization of the United Nations.

IPCC (2021). Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press.

Ngingi, N and Muage, C(2022): Access to climate information services and climate-smart agriculture in Kenya: a gender-based analysis. Climate Change (17:21)

Schmidhuber, J. and Tubiello, F.N. (2007). "Global food security under climate change." Proceedings of the National Academy of Sciences 104(50): 19703-19708.

UNDRR. (2019). Global Assessment Report on Disaster Risk Reduction. United Nations Office for Disaster Risk Reduction.

Zebiak, S. E., et al. (2015). Investing in climate services: potential benefits, risks, and priorities. WMO Bulletin 64(2).

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