



## COMESA SUBMISSION ON OF ISSUES RELATED TO AGRICULTURE UNDER SBSTA

***The Common Market for Eastern and Southern Africa (COMESA) UNFCCC admitted Observer Organization makes this submission pursuant to the request by 40<sup>th</sup> Session of SBSTA to submit our views, recalling Article 9 of the Convention, on the basis of the objective, principles and provisions of the Convention, in accordance with decision 2/CP.17, paragraph 75, taking into account the conclusions of SBSTA 38, in the following areas:***

- (a) Development of early warning systems and contingency plans in relation to extreme weather events and its effects such as desertification, drought, floods, landslides, storm surge, soil erosion, and saline water intrusion;***
- (b) Assessment of risk and vulnerability of agricultural systems to different climate change scenarios at regional, national and local levels, including but not limited to pests and diseases.***

### **A. EARLY WARNING SYSTEMS AND CONTINGENCY PLANS**

#### **Background**

Africa is among the most vulnerable continents to the negative impacts of climate variability and climate change owing to the high frequency and intensity of extreme climate events. Emerging empirical evidence from IPCC AR5 shows increased frequency of droughts, floods, rising temperatures, sea level rise, and other extreme weather events, pose major threats on populations that derive their livelihoods from these agricultural systems. For example, the droughts in The Gambia of the Sahel region in 2013, according to Yaffa, led to a decline of 39% in groundnut, 45% in maize, 64% in millet, and 50% in rice production, respectively. In the Horn of Africa, the UNICEF reported in 2011 that 8.8 million people needed humanitarian support during the 2011 drought. According to the UNEP Report of 2009, droughts as a result of climate change have contributed to significant reductions in the size and water levels of Lake Chad in West Africa by 95% in 2001. These droughts have contributed to significant reductions in the size and water levels of Lake Chad in West Africa by 95% in 2001, which resulted in increase in poverty due to its direct impact on fisheries and food security. Other reports indicate that African flood fatalities increased by a factor of ten from 1950 to 2009 and during the decade 2000-2009 have doubled. The understanding, prediction and early warning of extreme climate events are therefore critical to climate risk reduction and sustainable development in Africa. Early warning system is, “the set of capacities needed to generate and disseminate timely and meaningful warning information to enable individuals, communities and organizations threatened by a hazard to prepare and to act appropriately and in sufficient time to reduce the possibility of harm or loss.”

In Africa, there are many EWS in operation (Continental Early Warning System of AU, FewNet, Nile Flooding Early warning System, Regional Climate Outlook Forums for Southern Africa, East Africa and West Africa, among others, covering most types of natural hazards, conflicts, ecological changes, health-related and complex humanitarian crises. However, these systems are not working as expected due to a wide range of factors including data gaps, difficulties in accessing data where it is collected, lack of suitable early

warning indicators that are gender sensitive, inadequate data monitoring and observatories for agro-hydro-meteorological hazards, and inadequate mechanisms for multi-disciplinary and /or multi-agency coordination. Other barriers include the inability of regional, sub regional and national systems to downscale regional level EWS products to the local level for actions, lack of institutional coordination structures, insufficient gender considerations, inadequate financial and human resources capacities, untimeliness, inaccuracy and unreliability of EW information.

At the national level, there are various EWS (See Appendix I). However, there are often no specific emergency response plans that consider hazard/risk levels and characteristics of vulnerable and marginalized groups including women, children, elderly and the physically challenged; limited political will of the benefits of early warning; inadequate feedback and improvement mechanisms of EWS; unclear and inconsistent EWS messages that have inadequate risk information and poor stakeholder engagement. Furthermore, it is recognized that there is inadequate risk awareness and hazard recognition and related emergency response actions. National governments also do not allocate adequate resources to support building of EWS capacities (human, financial, equipment, etc.) across national and local levels, for long-term sustainability.

Generally, contingency preparedness by institutions to respond to various hazards in a coordinated and integrated manner is far from the desired level. In most cases, while early warning signals may be issued in good time, response is often late, haphazard and reactive rather than proactive. Response is mostly curtailed by lack of clarity on the roles and responsibilities as well as collaboration and coordination by different institutions that should include the possibilities of gender inclusive public-private-people partnerships (PPPP). On the other hand, public awareness about contingency plans is low, worsening the situation. While indigenous knowledge exists, it is not adequately integrated into contingency plans and disaster response strategies.

In order to address the short, medium and long-term challenges and barriers identified above, it is suggested that the following actions categorized into three tiers (policy, planning and practice) need to be undertaken as a matter of urgency at regional, sub-regional and national levels.

### **At the regional level:**

#### **Policy**

- Strengthening regional forums and networks, such as the ICPAC's outlook forum for seasonal climate forecasts; SADC Climate Prediction Centre and FEWS net.
- Supporting regional institutional frameworks, policies and systems for monitoring and evaluating EWS in Africa to share and promote best practices.
- Enhancing regional systems that would remove barriers to the use and uptake of EWS messaging that would encompass:
  - packaging of information appropriately to meet the needs of end users.
  - timely access of EWS messages by end users.
  - downscaling of regional information to local level for actual actions.
  - building capacity of the coordinating institutions (technical, financial and human).
  - improving trust in the EWS message and the messengers.
  - avoiding of the use of early warning information by opportunists.
- Promoting and strengthening Public-Private-People Partnerships (PPPP) in the design and implementation of EWS.

## **Planning**

- Supporting the implementation of a regional system for inventorying and documenting the current landscape of Early Warning Systems in Africa that would include:
  - various applications, including identification of hazards such as floods, drought, pests and diseases, seasonal rainfall, and other disasters,
  - temporal scale for early warning (short and long term),
  - identification of the users of these systems,
  - spatial scale of the systems regional, sub regional sub national
  - purpose/objectives of the early warning systems
- Establishing monitoring systems at all levels.
- Integrating Agro-hydro advisories into regional EWSs.
- Developing a comprehensive list of adequate buffer stocks (food and materials) for multiple hazards.

## **Practice**

- Enhancing regional systems that would address existing knowledge gaps, such as:
  - Inter-annual and intra-seasonal characterises of the rainfall onset, duration of the rains, wet and dry spells, cessation, and length of growing period.
  - linkage of indigenous knowledge-based and scientific EWSs.
  - understanding of the causes of inaction to EWS messages by stakeholders at all levels, from governments to communities.
  - inadequate understanding of end user needs.
  - impacts and measurement of benefits of EWSs.
- Strengthening communication strategies among EWS stakeholders at different levels.

## **At the sub-regional and national levels:**

### **Policy**

- Promoting political will of the benefits of early warning that would be reflected in harmonized national and local management policies, planning, legislation and budgeting.
- Providing adequate financial resources to support disaster risk management.
- Promoting and strengthening Public-Private-People Partnerships (PPPP) in the design and implementation of EWS.

### **Planning**

- Allocating adequate resources to build EWS capacities (human, financial, equipment, etc.) across national and local levels, for long-term sustainability.
- Improving feedback mechanisms for contingency, Early Warning and response systems at all levels to provide systematic evaluation and ensure system improvement over time.
- Establishing monitoring systems at all levels.
- Establishing adequate buffer stocks for addressing multiple hazards.
- Establishing and strengthening microfinance and cooperative opportunities that include insurance schemes and social safety nets for crops, livestock, fisheries, and losses due to pests and diseases.

### **Practices**

- Building systems that synergistically address hazard detection, monitoring and forecasting; risk analysis and incorporation of risk information in contingency planning and warnings; dissemination of timely and authoritative warnings; and

community planning and preparedness with the ability to activate emergency plans to prepare and respond, coordinated across agencies at national to local levels.

- Identifying stakeholders, clearly defining their roles and responsibilities and coordination mechanisms within national and local plans, legislation, directives and memoranda of understanding
- Producing EWS messages that are clear, consistent and that include risk information; designed to link threat levels to contingency preparedness and response actions (using colour, flags, etc.); understood by authorities and end users; and issued from a single (or unified), recognized and authoritative source.
- Developing specific emergency response plans that consider hazard/risk levels, characteristics of the exposed communities (urban, rural and particularly vulnerable groups such as children, women, the elderly and the hospitalized).
- Creating risk awareness and training in risk management , hazard recognition and related contingency response actions integrated in various formal and informal educational programmes
- Developing EWS through strengthening and integrating scientific and indigenous knowledge and capacities of women, men and the youth among other actors.

## **B. ASSESSMENT OF RISK AND VULNERABILITY OF AGRICULTURAL SYSTEMS IN AFRICA**

### **Background**

Agriculture systems, comprising crop, livestock, and fisheries production systems, continue to be the cornerstone of livelihoods and economies of Africa. There is growing evidence of risks and vulnerabilities of African agricultural and livelihood systems to climate change. Emerging empirical evidence from IPCC AR5 shows increased frequency of droughts, floods, rising temperatures, sea level rise, and other extreme weather events, pose major threats on populations that derive their livelihoods from these agricultural systems. For example, in Southern Africa, according to the UNEP/ICRAF 2009 Report, the drought in 2009 resulted to annual crop loss of between 10% to 50%. This resulted to food insecurity in the country. Further, according to Ramirez-Villegas and Thornton in 2015, maize production in Africa is projected to decrease by 12% - 40%. According to the same authors, climate change is projected to reduce areas suitable for coffee production by about 50%. According to a review by AfricalInteract in 2013, climate variability may have devastating impacts on African economies. Water as a risk and vulnerability as reported by the same source indicates that water scarcity is expected to be limited for irrigation and other productive uses. As such, non-action in addressing climate change risks and vulnerabilities will result in loss of livelihoods, migration, and insecurity in the region.

At national levels, Ethiopia, Uganda, Rwanda, Kenya, Malawi and The Gambia have undertaken or are in the process of undertaking risk and vulnerability assessment work including, in agriculture. Recognizing that agriculture holds the key to national sustainable and rural development, a top priority at the national and local levels now is how to feed the projected population increase in respective countries. This task is especially formidable in most African countries, where close to 75% of the small scale farmers directly or indirectly rely on rain-fed agriculture, fisheries, and livestock as a source of livelihood. African countries' capacity to produce food is likely to be challenged by the combined impacts of natural resource degradation, exposure to climate risks and vulnerability of agricultural systems to different climate change scenarios at national and local levels, including but not limited to pests and diseases, limited knowledge, information, and skills, and limited access to appropriate and climate change-friendly technologies. Thus, ensuring food security by reducing risks and vulnerabilities at the national and local levels requires urgent actions to

improve the productivity and promote climate-resilience of agriculture including livestock and fisheries and to enhance the food value chains to ensure adequate nutrient-rich and pollutants-free and affordable food supplies.

There are so many gaps that do exist in Africa at regional, national and sub national levels such as:

- Limited understanding of the precise risks and vulnerabilities for decision-making.
- Inadequate integration of risks and vulnerabilities in policy and institutional frameworks.
- Insufficient harmonization of climate data and information across the region.
- Inadequate climate-resilient water management knowledge for African agricultural systems.
- Inadequate climate-related pests and diseases risks and vulnerabilities management knowledge for African agricultural systems.
- Inadequate consideration of gender issues addressing climate change-related risks and vulnerabilities.
- Inadequate participation of the private sector in assessment of risks and vulnerabilities of climate change-related agricultural systems.

In order to address the short, medium and long-term challenges and barriers identified above, it is suggested that the following actions categorized into three tiers (policy, planning and practice) need to be undertaken as a matter of urgency at regional, sub-regional and national levels,

#### **Policy,**

- Support policy harmonization and sectoral coordination in agriculture

#### **Planning**

- Integrate climate change risks and vulnerabilities in to policy M&E mechanisms.
- Build institutional and human capacities to enhance research uptake, knowledge translation, and the use of appropriate tools at regional, national, and local levels.
- Review and recommend appropriate institutional setups
- Harmonize and validate climate data information across regions
- Strengthen regional and national institutions and climate and hydrological data bases as well as their linkages
- Build institutional and human capacities to acquire the appropriate knowledge and skills to address the challenges of climate change risks and vulnerabilities including those related to climate-related pests and diseases and integrated water resources management.
- Develop guidelines and analytical tools for better integration of gender issues in to policies addressing climate risks and vulnerabilities in the agriculture sector.
- Develop and promote communication tools on gender integration in to climate change risks and vulnerabilities of the agriculture sector.
- Identify entry point for increased participation of the private sector in the assessment of risks and vulnerabilities in agriculture

#### **Practice**

- Support research and development to promote better understanding of risks and vulnerabilities of climate change on agricultural systems in Africa.
- Develop tools, guidelines, methodologies, and approaches to assess the risks and vulnerabilities of African agricultural systems and water management at regional, national, and local levels.
- Strengthen national systems for collecting, analyzing, and disseminating risk and vulnerability data and information

- Collect and establish accessible regional climate data bases
- Identify measures to improve readiness for effective risk and vulnerability responses
- Support research and development to promote better understanding of the trends as well as promote use of appropriate control and management methods for climate-related pest and diseases.
- Develop and Support research and development to promote better understanding and integration of differentiated knowledge on risks and vulnerabilities of gender issues.