

# **Risk and Vulnerability of Agricultural Systems to different Climate Change Scenarios in Africa**

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# Current and Projected Climate Change Scenarios in Africa

- Increased temperatures in much of Africa by  $>2^{\circ}\text{C}$  by the end of the century (IPCC AR5)
- Increased precipitation in highlands of Eastern Africa
- Decreased precipitation in Northern and Southern Africa

## Climate Risks

- Drought
- Floods
- Desertification
- Highly intra and inter-seasonal rainfall variability
- High temperature extremes

# Sources of Vulnerability in Africa

- Decline in land areas suitable for major staple crops (notably in Southern, Eastern/Horn of Africa, North and Sahelian region of West Africa)
- Rain-fed agriculture
- Sea-level rise
- Agricultural water scarcity
- Changes in dynamics of pests and diseases
- Limited access to adaptable crop/fodder germplasm and livestock breeds
- Lack of alternative livelihood strategies

# Country Experiences

- Lack of quality data and information on climate (temperature, rainfall and frequency of extreme events) and non-climate information (water, soils, food security, human health, terrestrial ecosystems and agro-biodiversity).
- Lack of synchronization with national and regional planning processes.
- Insufficient collaboration amongst partners (private sectors, academia, R&D) on assessment process.
- Weak institutional capacities in various aspects -
  - Production, manipulations and communication of data.
  - Human capacity.
  - Financial resources and capacity.
  - Framework for analyzing Costs and benefits of risks and vulnerabilities.
  - Lack of consolidated database of tested/proven risk management technological options.
  - Lack of standardized framework and tools for analyzing risk and vulnerability management technologies, practices and approaches.

# Processes under the Convention that facilitate the identification and assessment of risk and vulnerability

- **IPCC** – at Regional level: provides the latest scientific evidence (Countries are now using AR5 reports as reference materials)
- CGE on National Communications risk and vulnerability guidelines training modules.
- NAPA and NAPS processes also deals with V& A issue we can learn some lessons from such processes

# Areas for Synergies...1

- Support policy harmonization and sectoral coordination in agriculture
- Review and recommend appropriate institutional setups.
- Generic guidelines for risk and vulnerability assessments
- Harmonize and validate climate data information across regions.
- Establish strong linkages between the national and regional climate and hydrological databases
- Develop guidelines and analytical tools for better integration of gender issues into policies addressing climate risks and vulnerabilities in the agriculture sector.

## Areas for Synergies...2

- Develop and promote communication tools on gender integration into climate change risks and vulnerabilities of the agriculture sector
- Identify entry points for increased participation of the private sector in the assessment of risks and vulnerabilities in agriculture (EG).
- Support research and development to promote better understanding of risks and vulnerabilities, trends of climate change on agricultural systems in Africa, as well as promote use of appropriate control and management methods for climate-related pest and diseases

# Areas for Synergies...3

- Develop tools, guidelines, methodologies, and approaches to analyze climate data and assess the risks and vulnerabilities of African agricultural systems and water management at regional, national, and local levels; (EG; SBSTA/SBI).
- Strengthen national systems for collecting, analyzing, and disseminating risk and vulnerability data and information.
- Collect and establish accessible regional climate databases eg ACMAD, Regional Climate Service Centers
- Identify measures to improve readiness for effective risk and vulnerability responses
- Aligning risk and V&A in Agriculture in the NAP processes



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