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# FAO REGIONAL CONFERENCE FOR AFRICA

## Thirtieth Session

**Khartoum, the Sudan, 19-23 February 2018**

**Climate Change and its impact on the work and activities of FAO:  
Building resilience to address extreme vulnerability of  
Africa's agriculture and rural livelihoods**

## Executive Summary

Africa is particularly affected by and vulnerable to climate change. This is linked to the importance of the agriculture sector for the livelihoods and food security of its populations, its place in national economies and lack of resources and capacities to support adaptation to climate change. The impact of climate change combined with the vulnerability of Africa's agriculture and rural livelihoods call for appropriate climate change adaptation and mitigation (CCAM) measures as well as Disaster Risk Reduction (DRR) and rural livelihood resilience building in the region. FAO is supporting its member countries in making food and agricultural systems and rural livelihoods more resilient to the impacts of climate change, guided by the FAO Strategy on Climate Change and in keeping with the directions of the 2018-2019 FAO Biennial focus on climate change.

In 2018-2019, FAO will reinforce its work with African countries on their priority actions towards the achievement of the SDGs, the refinement and implementation of their Nationally determined contributions (NDCs) and the preparation of implementation plans to the Sendai Framework for DRR 2015-2030 in Africa.

## Matters to be brought to the attention of the Regional Conference

The Regional Conference may wish to:

- a) provide advice on how FAO can best support African countries in planning, refining and implementing actions and mobilizing financial support that build resilience and address vulnerabilities of agricultural and rural livelihoods to climate change;

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- b) provide guidance and advice on how FAO can provide support to member countries in preparing and implementing their NDCs and National Adaptation Plans (NAPs) as well as in international processes as appropriate;

## I. Introduction

1. The positive trend observed in the fight against hunger at the beginning of the century has faded out in recent years and in 2015 and 2016 has even reversed. The rate of undernourishment increased to reach 22.7 percent in 2016, with 224 million people affected. Prevalence of severe food insecurity has also increased since 2014. In 2016, it affected 315 million people in Sub-Saharan Africa, i.e. almost one third of the population and half of all severely food insecure people worldwide. Recent data and analysis suggests that such trends will continue in 2018 and beyond unless drastic changes occur.
2. Climate change and a number of contextual factors, including extreme events, other shocks and stresses such as conflicts and food chain hazards, have badly impacted the food security outlook on the continent.
3. Fundamental challenges confronted by Africa are addressing the root causes of vulnerabilities while minimizing negative impacts for the short- and longer-term. At global level, the SDGs of the Agenda 2030, the Paris Agreement on Climate Change, and the Sendai Framework for DRR 2015-2030 in Africa are some of the key policy frameworks to guide action. At regional level, the Malabo declaration<sup>1</sup> and the implementation guide of the Comprehensive Africa Agriculture Development Programme (CAADP) are expected to provide a renewed impetus and to stimulate decisions and actions. These should yield tangible and measurable results against ambitious targets compatible with the aspirations of the African Union (AU) Agenda 2063.
4. These global frameworks recognize the critical role of agriculture to reach objectives related to development, DRR and CCAM. They also highlight potential interaction between climate change and migration.

## II. Climate change as a driver of change of African agricultural and food systems

5. Climate change jeopardizes human development by putting stress on food systems and rural livelihoods all around the globe, especially in developing countries. Populations in Africa are increasingly exposed to climate related impacts and natural hazards including both rapid- (e.g. tropical storms, rains and floods) and slow-onset events (e.g. forest degradation, loss of biodiversity and desertification). The frequency, magnitude and impact of these phenomena affecting Africa and its agriculture sectors at large have increased over the last few decades.
6. The sensitivity of crops, livestock, and fisheries to negative effects of climate change such as temperature changes, water availability, land degradation and extreme weather events, puts yields, and farmers' livelihoods at risk. Projections of climate change impacts in Africa indicate that between 75 and 250 million people will be exposed to water scarcity by 2020 and that the area of arid land in Africa will grow by between 5 percent and 8 percent by 2080, if current trends are not reversed.
7. In Sub-Saharan Africa, 93 percent of farmed land is rainfed. This is often compounded with unsustainable agriculture practices, which can lead to the degradation of natural resources and increase vulnerability to future risks.

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<sup>1</sup> Malabo declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods (2014)

8. It is estimated that land use change and degradation is responsible for about 20 percent of carbon emissions globally<sup>2</sup>. African ecosystems are already affected by climate change, and future impacts are expected to be substantial. Human pressure resulting in overexploitation of natural resources and land use change in combination with climate change is predicted to accelerate the degradation of African ecosystems including land, marine, forest, wetland and other important ecosystems.

9. By 2020, yields from rainfed agriculture could be reduced by up to 50 percent in some countries due to the combined effect of climate change and other constraints related to agriculture and land use<sup>3</sup>. It is projected that agricultural production, including access to food will be severely compromised in many African countries. Estimated yield losses by 2050 range from 18 percent for Southern Africa to 22 percent aggregated across Sub-Saharan Africa. Yield losses for South Africa and Zimbabwe are projected to be greater than 30 percent<sup>4</sup>. This would further adversely affect food security and exacerbate malnutrition<sup>5</sup>.

10. The livestock sector experiences significant negative climate impacts in animal productivity, yields of forage and feed crops, animal health and reproduction and biodiversity. For example, in the past three decade, various Sub-Saharan African countries, 20-60 percent losses in animal numbers were recorded during serious drought events. In South Africa, dairy yields were predicted to decrease by 10-25 percent under certain climate change scenarios<sup>6</sup>. Increased temperatures and reduced precipitation have direct negative impacts on yields, and records from drought events can reveal important drops in forage production.

11. Climate change scenarios predict an increase in drought in many parts of the continent. This will affect water availability, forage and crop production. The process of desertification will reduce the carrying capacity of rangelands and the buffering ability of agropastoral and pastoral systems. Hot environment impairs production (growth, meat and milk yield and quality, egg yield, weight, and quality) and reproductive performance, metabolic and health status and immune response.

12. The impact of climate change is most severely felt by Least Developed Countries (LDCs), Small Island Developing States (SIDS) and areas with particularly fragile ecosystems (e.g. mangroves, coastal areas, drylands and mountains). Africa has close to 320 coastal cities with a population of more than 10 000 people, and an estimated total population of 56 million people in 2005 living in low-elevation coastal zones. Towards the end of the twenty-first century, projected sea level rise will affect low-lying coastal areas and increase the vulnerability of coastal cities and areas. The projection that sea level rise could increase flooding and salinization problems, particularly on the coasts of Eastern Africa, will have implications on human health.

13. Temperature increases may affect riverine and lake fisheries, with variation however across Africa. Ocean ecosystems, in particular coral reefs, will be affected by ocean acidification and warming as well as changes in ocean upwellings, negatively affecting economic sectors such as fisheries.

14. Climate change, combined with globalization, affects the distribution and occurrences of animals, plants, pests and diseases. Diseases that are transmitted by arthropod vectors are most sensitive to changes in climate, such as trypanosomosis, Rift Valley fever, malaria, bluetongue or zika.

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[http://www.unccd.int/Lists/SiteDocumentLibrary/Publications/2015\\_Climate\\_LD\\_Outcomes\\_CST\\_Conf\\_ENG.pdf](http://www.unccd.int/Lists/SiteDocumentLibrary/Publications/2015_Climate_LD_Outcomes_CST_Conf_ENG.pdf)

<sup>3</sup> FAO, 2016. Africa regional overview of food security and nutrition. The challenge of building resilience to shocks and stresses. <http://www.fao.org/3/a-i6813e.pdf>

<sup>4</sup> [https://www.ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-Chap22\\_FINAL.pdf](https://www.ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-Chap22_FINAL.pdf)

<sup>5</sup> Robert Mburia. 2015. Africa Climate Change Policy: An adaptation and development challenge in a dangerous world. Climate Emergency Institute

<sup>6</sup> IPCC, 2014. [http://ipcc-wg2.gov/AR5/images/uploads/WGIIAR5-PartB\\_FINAL.pdf](http://ipcc-wg2.gov/AR5/images/uploads/WGIIAR5-PartB_FINAL.pdf)

Bio-ecology of locusts and cereal rusts, which are long-standing pests, can be affected by climate change and associated exceptional weather events. In addition, the effects of climate change on new transboundary plant pests and diseases such as the recent and rapid spread out of the Fall Armyworm across the African continent cannot be neglected.

### **III. FAO support to enable climate action for agriculture in Africa**

15. The FAO analysis of the NDCs shows that both adaptation and mitigation actions in the food and agriculture sectors are priorities in African countries.

16. In 2017, FAO published its first detailed regional analysis of NDCs for Eastern Africa. FAO will support the Eastern African countries in developing NDC implementation strategies in 2018. During the biennium, FAO will develop a NDC implementation support platform to facilitate knowledge and information sharing among relevant stakeholders and will continue to facilitate the Thematic Working Group on Agriculture, Food Security and Land Use under the umbrella of the NDC Partnership.

17. FAO will continue working on the Global Action Programme on Food Security and Nutrition in Small Island Developing States (GAP) which builds on the outcomes of the Small Island Developing States Accelerated Modalities of Action (SAMOA).

18. The United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UN-REDD<sup>7</sup>) programme is supporting 25 countries in Sub-Saharan Africa to achieve their “REDD+ readiness” requirements, including the development of national REDD+ strategies or action plans, the design of National Forest Monitoring Systems (NFMS) for Monitoring Reporting and Verification (MRV), the elaboration of Forest Reference Levels (FRL), and the development of safeguards information systems (SIS).

19. A key element of the Paris Agreement, the Enhanced Transparency Framework (ETF) requires countries to provide national inventory reports of their greenhouse gas (GHG) emissions and information on the progress made in implementing their NDCs. Developing countries are also required to set up MRV activities for the Nationally Appropriate Mitigation Actions (NAMAs) and undertake voluntary MRV of their activities related to reducing emissions from deforestation and forest degradation (REDD+). FAO continues to support countries in meeting these reporting requirements through the REDD+ and the National Forest Monitoring teams and programmes such as the Mitigation of Climate Change in Agriculture (MICCA) and the UN-REDD programme. In 2018, under the Capacity Building Initiative for Transparency (CBIT) of the Global Environment Facility (GEF), FAO is launching a global project to support developing countries in complying with the EFT requirements in the agriculture, forestry and other land use (AFOLU) sectors.

20. FAO supports the implementation of the Great Green Wall for the Sahara and the Sahel Initiative (GGWSSI) with a project covering six African countries that assists local communities, government and civil society in the sustainable management and restoration of their dryland forests and rangelands affected by desertification, land degradation and drought. FAO efforts will lead to the restoration of 40 000 ha of degraded land and improve the living conditions of over 1 million people.

21. The Integrating Agriculture into National Adaptation Plans (NAP-Ag) programme, coordinated by FAO and United Nations Development Programme (UNDP) aims to address climate change adaptation concerns in national planning and budgeting processes in 11 developing countries, including the Gambia, Kenya, Uganda and Zambia. In Kenya, the NAP-Ag programme has provided support to the development of a new Climate-Smart Agriculture (CSA) Framework, and two studies are being conducted on the institutional needs and challenges for adaptation planning in the country.

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<sup>7</sup> The UN REDD Programme is a collaborative partnership between FAO, UNDP and UNEP.

22. Several countries have already developed their NAP roadmaps, to which the NAP-Ag programme has contributed with relevant activities. In Uganda, the programme supported the development of a framework for costing and implementation of the NAP-Ag. In Kenya, NAP-Ag supported the finalization and adoption of a NAP, in which agriculture is one of the sectors. Where a NAP roadmap is not envisaged, the programme provides support tailored to national circumstances, such as in Zambia where support has been provided to the National Policy on Climate Change and National Agricultural Policy.
23. The NAP-Ag programme conducts activities improving the generation of evidence-based results for NAPs to inform policy on adaptation planning and monitoring and reporting. In Uganda, the NAP-Ag programme has supported the development of a national Performance Monitoring and Evaluation (M&E) Framework for the Agriculture NAP and has built capacity for Parliamentarians, Central Government Officers, Local Government Officers and Non-state actors in gender responsive planning, budgeting and policy development and implementation.
24. FAO, with support from the NAP-Ag programme, continues to assist countries to design activities that can leverage allocations from the Green Climate Fund (GCF) Readiness and Preparatory Support Programme to advance agriculture and adaptation planning activities. FAO has been supporting the National Designated Authorities (NDAs) of Kenya and the Sudan as a GCF delivery partner in preparing and submitting GCF NAP/adaptation planning readiness proposals.
25. In November 2016, FAO became a GCF grant-implementing entity for medium-sized projects (USD 50-250 million) with a medium level of environmental and social risk. FAO stands ready to also support its member countries to develop and implement country-led projects in other FAO areas of expertise. In 2017, more than ten African countries<sup>8</sup> were supported to prepare their GCF concept notes and proposals, of which six received direct financial support from FAO.
26. As of November 2017, FAO's current GEF portfolio stands at USD 740 million. Of this amount, almost USD 60 million were secured in new approvals in 2017, supporting 35 countries. In total, FAO has implemented or supported the implementation of GEF projects in 31 African countries. The total value of climate finance in FAO's GEF portfolio amounts for USD 424 million from which 33 projects (21 percent of the portfolio value) are focused on climate change adaptation (CCA) with USD 157 million in funding, and USD 267 million address climate change mitigation as part of multifocal area projects, while only 1 percent of the project portfolio focuses exclusively on climate change mitigation. Africa comprises the largest share of FAO's CCA portfolio with USD 86 million in grant financing from the GEF. The partnership between FAO and GEF will continue to expand as GEF7 is rolled out, enhanced by the recent integration of the FAO's GEF unit into the Climate and Environment Division (CBC).
27. Through the implementation of its programme Economics and Policy Innovations for Climate-Smart Agriculture (EPIC), FAO has trained extension workers in a number of countries. EPIC is working on a project to strengthen the capacities in three partner countries, namely Malawi, Zambia and Viet Nam, to address the constraints to adopting CSA and promote CSA practices. The project strengthens also the capacities of Ministries of Agriculture to engage in UNFCCC negotiations.
28. FAO is a supporting partner of the GGWSSI that aims at reversing land degradation and desertification in Africa drylands, boosting food security and supporting local communities to adapt to climate change. Through the GGWSSI, Africa expects to sequester 250 million tons of carbon in drylands by 2030.

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<sup>8</sup> Benin, Burkina Faso, the Congo, the Democratic Republic of the Congo, Ethiopia, the Gambia, Ghana, Kenya, Mauritania, Mozambique, the Sudan, the United Republic of Tanzania

29. FAO supports the implementation of the GGWSSI with a project covering six African countries<sup>9</sup> that assists local communities, government and civil society in the sustainable management and restoration of their dryland forests and rangelands affected by desertification, land degradation and drought. FAO efforts are projected to lead to the restoration of 40 000 ha of degraded land and to positively impact the living conditions of over 1 million people.

#### **IV. Mainstreaming climate change adaptation and mitigation**

30. The FAO Strategic Framework and programmes have been revised to better align with the 2030 Agenda, the Paris Agreement on Climate Change and the Sendai Framework for DRR 2015-2030 in Africa.

31. As a contribution to global efforts towards climate change mitigation and adaptation, led by UNFCCC, and based on the Organization's long-standing work in addressing climate change challenges related to the agriculture sectors, FAO developed a corporate Strategy on Climate Change<sup>10</sup> to better channel its work on climate change.

32. The Strategy contributes to the achievement of the SDGs and more specifically to the targets under SDG 13 on climate change. A Results Framework has been developed to translate FAO commitments set out in the Action Plan into outputs at global, regional and country levels. The Results Framework includes the contribution of all five FAO Strategic Programmes and embeds the implementation of the Strategy within the FAO Strategic Framework.

#### **V. Mainstreaming disaster risk reduction and resilience**

33. Africa's agriculture and related livelihoods of people are particularly vulnerable to threats. This has many reasons including the continent geographical position, endemic and extreme poverty, low levels of education, weak or fragile governance systems, limited infrastructures and access to economic and social services and markets. Recurrent shocks have also eroded the capacities of most exposed households and institutions to recover from new shocks.

34. During the decade 2005-2015, the agriculture sector on average absorbed 23 percent of the total damage and losses caused by medium- and large-scale natural disasters in low and middle income countries worldwide<sup>11</sup>. This figure rose to 80 percent in the case of droughts in Africa. The total production loss in crop and livestock from natural disasters in Africa over the same period accounted for USD 26 billion; the equivalent of 10 percent of total potential production in Sub-Saharan Africa. The importance of the agriculture sector to the African economies and its sensitivity to climate fluctuation (weather extreme events and climate variability) are beyond such high figures. Similarly, most often, violent conflicts affect primarily rural areas and result in a decrease of areas cultivated, yields and livestock population, with further disruptions along the value chains.

35. Some progress to reduce risk exposure and losses had already been made starting in 2004 when the AU adopted the regional strategy on DRR, implemented in line with the Hyogo Framework. Countries and subregions were encouraged to develop national and regional policies and coordination mechanisms and to strengthen their preparedness measures. A culture of risk management and the concept of "resilience" were promoted.

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<sup>9</sup> Burkina Faso, Ethiopia, the Gambia, the Niger, Nigeria and Senegal

<sup>10</sup> <http://www.fao.org/3/a-i7175e.pdf>

[http://www.unccd.int/Lists/SiteDocumentLibrary/Publications/2015\\_Climate\\_LD\\_Outcomes\\_CST\\_Conf\\_ENG.pdf](http://www.unccd.int/Lists/SiteDocumentLibrary/Publications/2015_Climate_LD_Outcomes_CST_Conf_ENG.pdf)

<sup>11</sup> FAO, 2017. The impact of disasters and crises on agriculture and food security <http://www.fao.org/3/a-i7279e.pdf>

36. But much more needs to be done. The Programme of Action for the Implementation of the Sendai Framework for DRR 2015-2030 in Africa adopted at the January 2017 Assembly of the AU must quickly translate into anticipative and preventive decisions and actions at subregional, national and local levels and this is first and foremost the responsibilities of member countries. The Common African Position to the 2017 Global Platform for DRR (held in Cancun, 22-26 May) underscores the importance of DRR for the realization of Agenda 2063.

37. Anchored in the 2015 global agenda namely the Sendai Framework for DRR 2015-2030<sup>12</sup> in Africa, the Paris Agreement on Climate Change and the overarching SDGs and linked to the One Health approach and the Committee on World Food Security's Framework for Action for Food Security and Nutrition in Protracted Crises (FFA)<sup>13</sup>, FAO's integrated approach to resilience provides demand driven capacity development and interventions within and across countries and subregions in the following key areas: (1) legal, policy and institutional systems and regulatory frameworks for risk reduction and crisis management in agriculture (risk governance). This includes committing to continuing engagement with specialized regional and subregional bodies (e.g. Global Alliance for Resilience, the IGAD Drought Disaster Resilience and Sustainability Initiative); (2) information, risk and vulnerability assessment, resilience measurement and early warning – early action against potential, known and emerging threats to agriculture sector, food security, and nutrition; (3) promotion and diversification of agriculture based livelihoods with risk reducing technologies and practices along the food chain, and vulnerability reduction measures, including risk transfer and social protection; and (4) proactive support to preparedness for effective response and recovery across all agriculture sectors. All these measures must address climate and sector specific risks to ensure climate resilient and sustainable development.

38. From now on, DRR and resilience have to be systematically mainstreamed including in sectoral and climate development policies and plans. Dedicated substantial and careful attention is required when designing any strategy, policy or programme. This is particularly critical for the agriculture sector (including livestock, fisheries and forestry). Resilience, which encompasses risk management and reduction (Disaster Risk Management [DRM] and DRR) cannot remain the exclusive prerogative of DRM and DRR experts or agencies. It must be sector and risk specific and be combined with climate change adaptation measures. It is therefore essential that all staff of ministries in charge of the sector, be sensitized or trained adequately depending on their roles and responsibilities on DRR and CCA for climate resilience.

39. National DRR strategies and institutions tend to neglect the capacities and the importance of the agriculture sector in DRR, DRM and CCA also when disasters strike. Partnerships must be strengthened on climate resilience. Ministries of agriculture should establish solid and continuous relationships with national disaster risk reduction/management agencies and climate agencies so as to ensure that the agriculture sector is adequately taken into account at all times. Maintaining reliable and updated baseline data on the agriculture sector, familiarity with sector specific risk and vulnerability assessments, resilience measurement and post disaster assessment methodologies is commonly critical to have the agriculture sector adequately considered when a disaster or crises strike and livelihoods have to be maintained or rebuilt. More importantly, investment must be made urgently and at scale in vulnerability reduction measures for most threatened communities and countries in Africa to prevent and reduce the impact of climate extreme events and climate variability on the agriculture sector and the overall food systems on which current and future generations depend for their survival and well-being.

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<sup>12</sup> <http://www.unisdr.org/we/coordinate/sendai-framework>

<sup>13</sup> <http://www.fao.org/cfs/cfs-home/activities/ffa/en/>