



Food Security and Climate Change in Africa

Emerging Markets Forum

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Number of moderately or severely food insecure people (millions) (FAO data)

	2015	2019	2021	2022
World	1612	1817	2342	2357
Africa total	545	695	885	868
Eastern Africa	234	278	308	327
Northern Africa	60	71	87	84
Southern Africa	14	15	17	18
Western Africa	143	206	279	285
Middle Africa	n.a	n.a.	144	154



Food Insecurity and associated hunger has increased in 2020-2023, especially in Africa



- Causes include civil strife and war
- Economic constraints affecting food availability
- Extreme climatic events curtailing food production.
- *Negative climate impacts lead to decline in agriculture production, which reduces food availability and causes economic decline and food price increases, causing unrest*



People facing ACUTE Food Insecurity in Africa

Country	Millions of people in acute food insecurity status
Nigeria	84
Democratic Republic of the Congo	71.7
Sudan	25.4
Ethiopia	24
South Sudan	10.9
Somalia	9.9
Kenya (arid and semi-arid regions)	11.3
Malawi	10.5
Burkina Faso	9.1
Central African Republic	4.9
Mali	5.2
Madagascar	4.7
Cameroon	9.3
Mozambique	16.1
Niger	9.9
Senegal	7.2
Chad	5.3
Zambia	8.6
Tanzania	4.4
Zimbabwe	3.5
TOTAL	335.9

Global Report on Food Crises, 2023, FSIN and Global Network Against Food Crises. GRFC 2023, Rome, op. cit. See also FAO and WFP; Hunger Hotspots

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Climate Impacts have always affected African agriculture

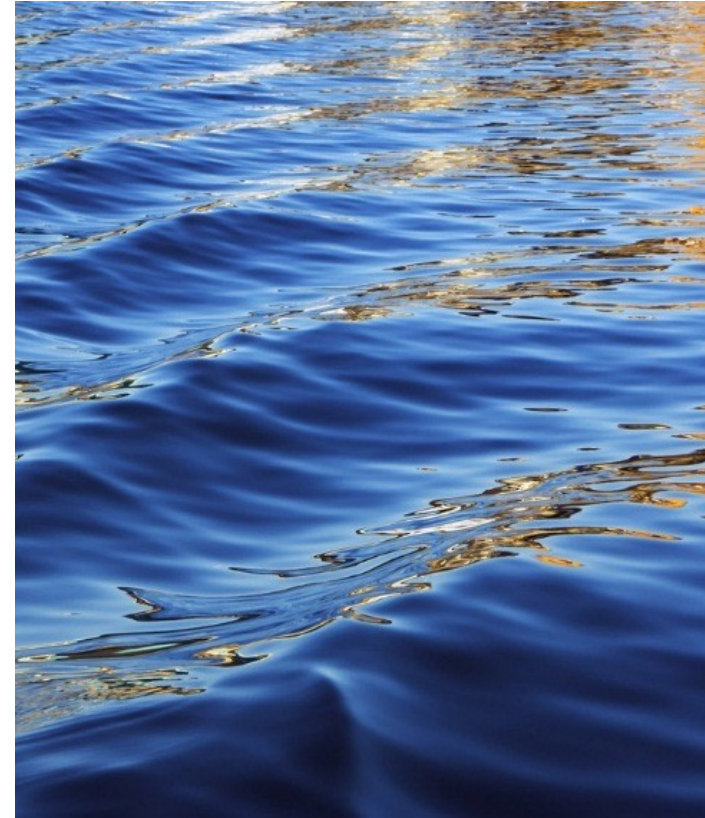
- Droughts, storms, flooding have impacted agriculture since ancient time
- Farmers have adapted to these problems:
- *Irrigation*
- *Physical structures to deal with flooding and to conserve soil moisture*
- *Natural barriers (tree barriers, hedge rows)*
- *Transhumant livestock raising in Africa (chasing the rain)*
- *Movement and resettlement*
- When adaptation impossible, food stocks, food aid, food imports can reduce food insecurity





Climate Change has already caused more frequent and intense droughts, storms, and flooding, as well as seawater intrusion in coastal areas of Africa
It has also brought new pests, plant diseases

Sources: IPCC ,World Bank, IFPRI, IMF, FAO, Brookings Institution, World Food Program, IFAD, academia



**Climate change has contributed
to the increase in food insecurity
in most of Africa
Projections are that the
situation will get worse in the
future**

Sources: World Food Program, FAO,
IFPRI, CGIAR, Brookings Institute,
IPCC, IFAD, World Bank

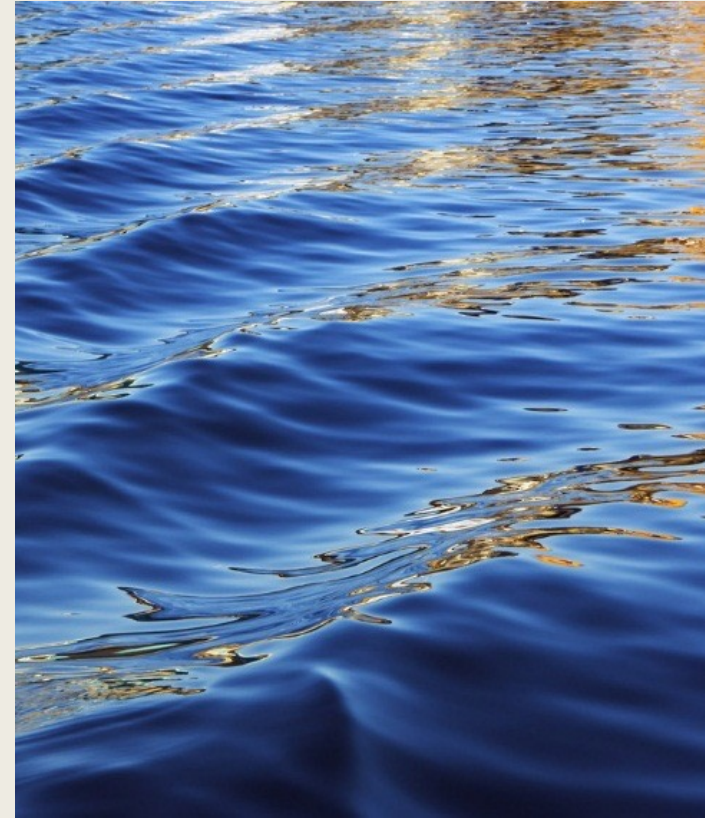
IMF

Technical Solutions to adapt agriculture to new adverse climate conditions, and to help mitigate agriculture's contribution to Greenhouse Gas Emissions, are known

- Irrigation
- Barriers to water run-off such as terraces, contour farming, plowing in crop residues
- Reforestation and forest preservation
- Wetland preservation and rehabilitation, as well as soil rehabilitation

Some new solutions have been developed in the past decade

- Modifying crop cultivars and livestock genetics to new climate situation (CRISPR)
- Solar pumps and solar energy for farms and for irrigation
- Water saving irrigation techniques (drip)
- Better water management on farm
- Conservation agriculture (no-till for example)
- Integrated pest management
- Organic fertilization (use of crop residues)
- Agro forestry and tree planting
- Infrastructure (flood barriers...)
- Plant based meat substitutes



These solutions have been applied in Africa, but not at an adequate scale

- Funding for agricultural adaptation in Africa is estimated at about \$ 1 billion p.a. World Bank estimate of funding needs for agricultural adaptation in Africa is \$ 15 billion p.a.




In many African countries, public expenditure on agriculture is low, and policy is anti-agriculture

Private investment in agriculture not forthcoming in countries which accord it low priority, and which have a poor policy environment for agriculture

Subsidies for irrigation water, chemical fertilizers induce overuse of these inputs, rather than water saving and use of organic materials for fertilization

African agriculture research, extension and education institutions are often neglected. They are the source of new local knowledge of climate impact and adaptation

African government policy should encourage adaptation to climate change: water and soil conservation, conservation agriculture, R&D.



If more financial aid and policy attention is paid to African agriculture in general, and adaptation to climate change in particular, how could the funds be managed?

- Existing climate change adaptation and mitigation programs include:
 - The Green Climate Fund, the International Finance Institutions, FAO, IFAD the World Food Program, the CGIAR
 - These institutions should be subjected to independent evaluation, and the better ones should receive the incremental resources

Coordination of additional aid for agricultural climate adaptation?

- The World Bank manages several large climate funds, has a good track record in project assistance, including in agriculture and food security. Has its capacity to manage been reached?
- The Green Climate Fund provides some resources for agriculture climate adaptation in Africa, as well as mitigation. Its agriculture and food expertise is limited.
- The Global Agriculture and Food Security Program (GAFSP) is led by a steering committee consisting of the IFIs, IFAD, FAO, IFC, major bilateral donors and civil society reps
- GAFSP pools resources to finance and promote Government led agriculture programs in recipient countries
- The CGIAR coordinates research on adaptation of agriculture and livestock raising to climate change.



Even rapidly expanded assistance for climate adaptation in African agriculture will not diminish the increasing problem of food insecurity for several years

Food aid and cash assistance to Africa's food insecure, as well as assistance to rehabilitate devastated agricultural sectors, will be needed well into the future

African governments should prepare their own plans for adaptation of agriculture to climate change. These should be the basis for financing