

: Part 1 - An African perspective

 By [Rudi Massyn](#)

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The impact of climate change on global agriculture is forcing farmers to speedily adapt to volatile weather conditions to ensure sustainability.

Over the next few weeks we are going to explore the effects of climate change on global and African agriculture and unravel what farmers are doing to mitigate the impact of these weather changes.



In the first installment of this series we discuss a report released by the Chicago Council on Global Affairs at the annual Food Security Symposium held on 22 May in Washington DC, United States. A delegation led by FARM Agricultural Risk Management Holdings Ltd and

Twenty-Two Media attended the symposium to better understand climate change and its role in agriculture and to gain further insight into the impact on Africa.

The report titled: "Advancing global food security in the face of a changing climate", explains that to successfully advance global food security, the food system must be resilient to the effects of climate change. Higher temperatures, changes in rainfall and natural disasters caused by climate change could undermine food production and put food supplies at risk. In total, climate change could reduce food production growth by 2% each decade for the rest of this century. Farmers everywhere will be affected.



The Global Food Security Symposium has been convened by the Chicago Council on Global Affairs annually since 2010 to identify opportunities for US leadership in alleviating hunger and poverty through agricultural development. More than 500 policymakers, corporate executives, scientists, farmers and senior leaders from international and non-governmental organisations gathered to discuss the report.

The report calls on all relevant stakeholders across the world to integrate climate change adaptation into their global food security strategies.

The report makes recommendations to the US Government on how to improve the efficiency of current funding for agricultural development, food and nutrition security, agriculture and food research, and climate change. The recommendations include:

- Passing legislation for a long-term global food and nutrition security strategy
- Increasing funding for agricultural research on climate change adaptation
- Collecting better data and making information on weather more widely available to farmers

- Increasing funding for partnerships between US universities and universities and research institutions in low income countries, to train the next generation of agricultural leaders
- Advancing international action through urging that food security be addressed through the United Nations Framework Convention on climate change and the Post 2015 Sustainable Development Goals

Without action, the effects of climate change could reduce global food production and availability. Water shortages and agricultural degradation spurred by climate change increase the risk of civil unrest, according to the US Department of Defense and National Intelligence Council. Efforts to decrease the number of chronically hungry, which currently number more than 840 million people, could also be hampered.

The African perspective

The report also deals with the effects climate change will have on African agriculture with particular focus on smallholder farmers. Strive Masiyiwa, Chairman of Econet wireless and the board chair of AGRA, said more needs to be done to help smallholder farmers develop resilience against the effects of climate change. Masiyiwa said that small scale farmers across many African regions are bearing the brunt of climate change. "Rural farmers are concerned about the effects of climate change. They are telling us that the rains are not coming as regularly as they used to, the yields are falling and they need seed that can withstand volatile agricultural conditions."

Agnes Kalibata, Minister of Agriculture and Animal Resources in the Republic of Rwanda, also spoke of climate change in African agriculture, saying that the weather is greatly influencing agriculture in Rwanda and for many farmers climate change has caused production losses of up to 50%.

The reality of climate change in South Africa

In South Africa a study by the Long-Term Adaptation Scenarios Flagship Research Programme (LTAS) explains the overall climate change vulnerability of the South African agricultural sector should be viewed as representing both risk and opportunity, with risks relating to potential changes in food security through the adverse impacts of climate change, socio-political conditions, and population growth, while opportunities include those related to regional trade within sub-Saharan Africa and technology sharing.

The South African agricultural and forestry sectors experience a range of vulnerabilities. This is due both to diverse agricultural natural capital that supports a dualistic, two-tiered, agricultural system (commercial vs. small scale), and the wide variety and high variability of climatic conditions across the country. Approximately 90 % of the country is sub-arid, semi-arid, or sub-humid, while about 10% is considered hyper-arid.

The study explains that rainfall is, to a large extent, the most important factor in determining potential agricultural activities and suitability across the country. Rainfall variability introduces an inherently high risk to climate change at many time scales, especially in transitional zones of widely differing seasonality and amount of rainfall. These transitional zones seem particularly sensitive and vulnerable to geographical shifts in climate.

The exceedingly high atmospheric demand, i.e. the potential evaporation, in South Africa at 1,400 to 3,000mm per year coupled with unreliable rainfall is often resulting in semi-arid conditions on grounds of high evaporation rates alone and despite often adequate rainfall.

The future

There is no doubt climate change is effecting global food security. Volatile climates are influencing agricultural practices for both emerging and commercial farmers alike. Adapting to these changes are going to be crucial to ensure survival and food security.

In conclusion Doug Bereuter, President Emeritus of the Asia Foundation, a nongovernmental development organisation

advises that; "History has shown that with adequate resources and support, agriculture can meet growing production demands and adapt to some changes in climate," said Bereuter. "But greater emphasis on adaptation must begin now."

See [Climate changing the face of agriculture]: Part 2 - [Farmers fight against climate change](#)

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