



Resilient Agricultural Production Systems and Livelihoods with Climate-Smart Agriculture

Background and Context

Commitment 5 of the Malabo Declaration calls for AU Member States to enhance the resilience of livelihoods and production systems to climate variability and other related risks. To this end, AU Member States are expected to ensure that at least 30% of farm, pastoral and fisher households improve their resilience capacity and enhance investments for building the resilience of production systems. This may include, among others, expanding the adoption of climate-smart agriculture and other sustainable land management practices that can enhance the capacity of smallholder farmers to adapt to climate challenges and can curb resource degradation.

It is therefore imperative that the next generation of National Agricultural Investment Plans (NAIPs) be in step with the new paradigm, finding ways for African farmers to adapt – even thrive – in the face of climate change-related shocks, as well as for them to contribute to climate-resilient development pathways.

KEY MESSAGES

- ▶ The next generation of National Agricultural Investment Plans (NAIPs) must be in step with the new paradigm, finding ways for African farmers to adapt, even thrive, in the face of climate-related shocks.
- ▶ Climate-smart agriculture provides an alternative pathway by simultaneously addressing the three intertwined challenges of ensuring food security (through increased productivity and income), adapting to climate change and contributing to the mitigation of greenhouse gases.

The Necessity for Climate-Smart Agriculture in Africa

Millions of people in Africa depend on smallholder agricultural production systems that exclusively depend on a resource base that is deteriorating and producing less and less food. This, exacerbated by a changing climate, could force tens of millions of people into food insecurity and poverty. To make things worse, the African population is expected to double between now and 2050, requiring an estimated increase of more than 60% in crop production for the continent to be able to feed its projected population. Climate-smart agriculture provides an alternative pathway by addressing these multiple and intertwined challenges.

According to the Food and Agriculture Organization (2013), climate-smart agriculture (CSA) refers to agricultural practices that can simultaneously address three intertwined challenges of ensuring food security through increased productivity and income, adapting to climate change, and contributing to the mitigation of greenhouse gases. It is also important to note that climate-



Objective	Examples	Activity	Results		
			Outputs	Outcomes	Impacts
<i>Example:</i> CSA and resilient production systems	Financial resources are allocated within the NAIP for CSA practices	Build terraces, soil bunds and water-harvesting structures	Land is under sustainable land management; water for irrigation is increased	Soil fertility and water-use efficiency improve	Productivity is increased
	Monetary and non-monetary resources are allocated	Zone and map agricultural and protected areas; develop a CSA investment framework; train farmers in CSA practices; establish tree nurseries	Appropriate CSA interventions are identified; resources for CSA are mobilised; technology transfer is enhanced; seedlings are available	Natural resources are sustainably managed so as to increase income, improve food security, enhance adaptation to climate change and generate mitigation co-benefits	Resilience of production systems is enhanced
<i>Example:</i> Resilient livelihoods	Monetary and non-monetary resources are allocated for social protection and safety nets	Construct grain storage facilities; design and pilot insurance products; draw up the legal framework for safety nets	Grain storage facilities, index-based insurance, basic services and social safety nets are established	Improved response and recovery through improved access to grain storage facilities, index-based insurance, basic services and social safety nets	Resilience of livelihoods to climate-related risks is enhanced

Table 1: Examples of inputs, activities and results climate-smart agriculture and resilience.



smart agriculture is not a new agricultural system, nor is it a set of practices. It is a new approach, a way to guide the needed changes of agricultural systems, given the necessity to jointly address food security and climate change. Furthermore, there is growing recognition that CSA extends beyond on-farm practices to include provision of services – particularly information, technology and financing within agricultural and food value chains.

Efforts to promote the implementation of CSA at scale include, among other things, the identification of appropriate climate-smart practices and advisory services that support farmers' decision making and increase investment in CSA. These interventions, which are implemented beyond the farm, provide an enabling environment by supporting the adoption of climate-smart practices and the transition towards more climate-resilient production systems and livelihoods, while protecting farmers against the impacts of climatic extremes.



Recommendations for Anchoring CSA and Resilience within NAIPs

Cognisant of the fact that enhancing the resilience of smallholder farmers to climate change and weather variability is critical for increasing agricultural productivity sustainably, while also decreasing poverty and improving food security, the African Union Commission’s Department of Rural Economy and Agriculture (AUC-DREA) and the African Union Development Agency (AUDA-NEPAD) are supporting AU Member States to fully incorporate climate-smart agriculture (CSA) in the formulation of their National Agriculture Investment Plans (NAIPs). Their framing of CSA as ‘enhancing resilience’ reflects the evolution of thinking about adaptation to climate change and variability – from what agriculture needs to look like in a future climate scenario to greater focus on what can be done now to start the journey towards better adapting agriculture to climate change-related challenges.

The CAADP Results Framework (2015-2025), which followed the Malabo Declaration and which is considered to be an integral part of country CAADP implementation processes, identifies the percentage of households that are resilient to climate change and weather-related risks,

as well as the share of agricultural land under sustainable land management practices (including climate-smart agriculture), as important indicators of resilient production systems and livelihoods (see also Knowledge Note: Sustainable Land Management). A more debatable issue, meanwhile, concerns the unclear definition of the metrics that relate to resilience and / or climate-smart agriculture. There is general consensus that indicators which incorporate climate resilience concepts into theories of change and results frameworks may serve to gather evidence for improved planning, investments and decision making while also strengthening accountability.

Resilience-focused results can be evaluated at all levels of the results framework, including inputs and outputs, and can help develop a robust path for achieving intended outcomes and impacts. For example, the monitoring and evaluation framework developed by OECD (2002) follows a logical sequence of typical development intervention and implementation process for results. This sequence, however, can be adapted to support actions and verify that issues related to climate-smart agriculture and resilience are adequately addressed in a Malabo-compliant NAIP. A representation of this simplified framework is presented in Figure 1 below.

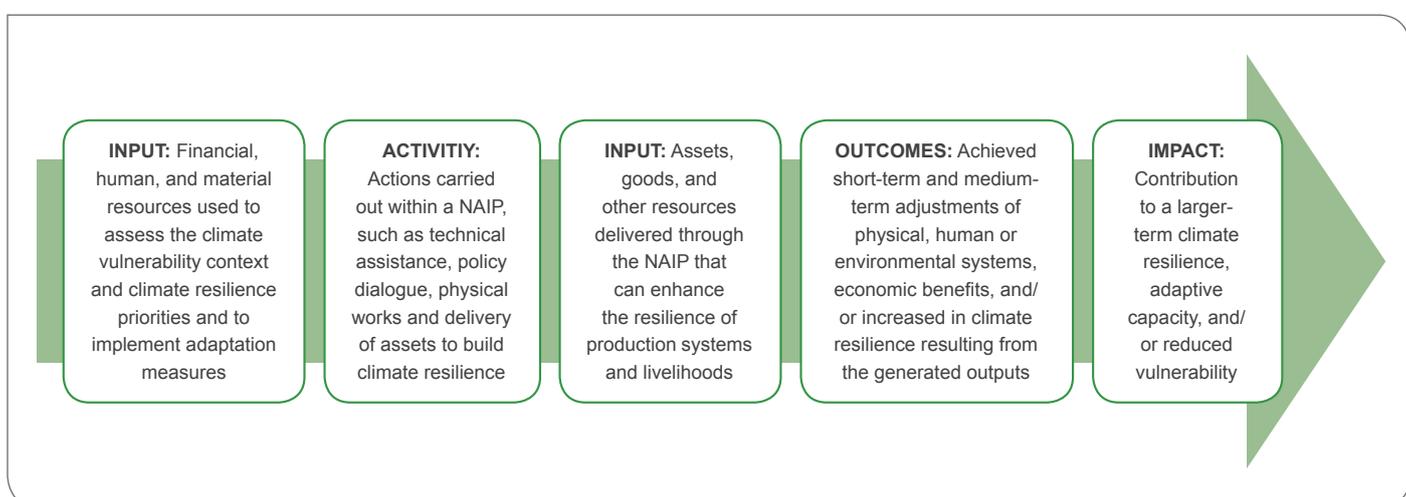


Figure 1: Developing a climate-resilient National Agriculture Investment Plan (NAIP).

It is very important to note that, while it is possible to compile a long list of examples and suggestions, consideration of a country's geo-physical and socio-economic circumstances and priorities determine which of them are the most relevant and feasible to be considered for inclusion in the NAIP. As a general guide, experts can refer to six categories of good agricultural adaptation practices: (i) use of improved seeds, (ii) soil and water management, (iii) timing of farming practices, (iv) changing crop distribution and densities, (v) changing livestock distribution and densities and (vi) farm crop and livestock diversification (GIZ, 2017).

It is also important to recognise that males and females differ in terms of how they experience the impacts of climate change, the degree to which they are vulnerable to these impacts and their capacity to adapt to them. The costs and benefits associated with adopting climate-smart agriculture technologies and practices are also not evenly distributed among household members. Gender analysis must therefore be an integral part of climate-smart agricultural interventions (see *Knowledge Note: Women Empowerment*).

How Climate-Smart Agriculture and Resilience is Measured in the Biennial Review

Malabo Commitment	Commitment Performance Category	Objectives	Indicator	Target value
Resilience to Climate Variability	6.1 Resilience to climate related risks	Promote utilisation of cost-effective, quality agricultural inputs, irrigation, mechanisation and agrochemicals for crops, fisheries, livestock and forestry in order to boost agricultural productivity.	6.1i- Percentage of farm, pastoral, and fisher households that are resilient to climate and weather related shocks	30%
			6.1ii- Share of agriculture land under sustainable land management practices	30%
	6.2 Investment in resilience building	Enhance investments for resilience building initiatives to protect rural workers and social groups, as well as vulnerable ecosystems.	6.2- Existence of government budget-lines to respond to spending needs on resilience building initiatives	100%

Further Information

- ▶ AUC and NPCA (2017). *African Union Business Plan to Implement the Malabo CAADP Declaration*. African Union Commission and NEPAD Planning and Coordinating Agency. - [View](#)
- ▶ African Union (unpublished). *Continental Climate Change Policy Framework – draft version*
- ▶ FAO (2013). *Climate-Smart Agriculture Source Book*. - [View](#)
- ▶ GIZ (2017). *Agricultural Adaptation: Six Categories of Good Practices and Technologies in Africa*. - [View](#)
- ▶ OECD (2002). *Glossary of Key Terms in Evaluation and Results Based Management*. Organisation for Economic Co-operation and Development. - [View](#)

Published by: African Union Commission - Department for Rural Economy and Agriculture (AUC-DREA) and African Union Development Agency – NEPAD

Prepared by: Prof. Ayalneh Bogale Gebreyohannis

Designed by: Twaai Design

Supported by: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

ISBN-Number: 978-1-928527-03-9

Date: June 2019