



Upscaling Climate-Smart Agriculture (CSA) adoption in Africa



Background and Context

The growing impact of climate change on African agriculture and food systems in the last two decades has created a major threat to food production and food security on the continent.

Climate change threatens to derail progress made so far in fighting food insecurity and poverty. Rainfall is increasingly variable in timing, amount, and intensity. Both drought and flooding have become more frequent and severe.

Across the continent, more than 51 million smallholder farming households still depend on rain-fed agricultural production systems, putting them at severe risk of climate change

Land degradation interacting with climate change represents one of the most urgent challenges for Africa, with profound implications for reduced food production, food insecurity, depleting natural resources, and economic development. The negative effects of climate change are reducing Africa's GDP by 1.4% and inducing adaptation costs that can reach up to 3% of GDP, every year until 2030.




Africa has been losing its forests at a very high rate of 3.9 million ha per year over the last decade, and of 4.4 million ha/year over 2015-2020, putting at risk the depletion of biodiversity and other ecosystem services, and in turn the sustainability of agriculture production.

The adoption of multiple CSA practices, techniques and technologies can help in building sustainable agricultural production systems, particularly in the smallholder farming system, improving farm productivity while adapting and building resilience of farmers and contributing to the reduction of carbon emission. Ecosystem and large-scale land restoration ARE crucial and key pillars of CSA upscaling in Africa.

CSA has been widely embraced in Africa as a guiding framework in policies for adaptation and mitigation action for the agricultural sector. But the current pace of transformation is not sufficient. Most African countries are off-track in meeting development and climate action commitments. We need to accelerate progress in making real changes on the ground.

Understanding the Challenges of CSA Adoption in Africa

There is a number of constraints to wide adoption of CSA, such as

-  **Lack of adequate policies**
-  **Lack of policy coherence**
-  **Lack of technical capacities,**
-  **Insufficient access to financial resources**
-  **insufficient engagement of the private sector.**

CSA analysis and technology adoption have too often focused on productivity and food production systems; with less attention in addressing the whole value chain.

There is an urgent need to change the way the food systems are managed to achieve food security and sustainable development. In this regard, post-harvest loss management including supporting efficient storage capacities need to be mainstreamed into the overall food system management.

Another factor that impedes the uptake of CSA technologies is that development practitioners lack evidence, tools and approaches of how the CSA innovations (indigenous and modern) can be practically implemented for agricultural systems, policies and institutions to be climate smart. They need to know how farmers can achieve synergies and minimize trade-offs in implementing multiple

interventions in their production systems.

The type of CSA options as well as the level of its adoption varies from one site to another, indicating that the adoption of CSA must be context specific and based on the needs and priorities of farming communities.

Opportunities for Transformation

The continent is in a position to trigger a rapid transformation of agriculture and food systems provided specific actions are taken towards **(1)** rerouting farming and rural livelihoods to new trajectories, **(2)** de-risking livelihoods, farms and value chains to deal with the increasing vagaries of weather and extreme events, **(3)** reducing emissions from diets and value chains, **(4)** realigning policies, finance, support to social movements, and innovation to facilitate action in the action areas above.

A number of initiatives to promote CSA implementation are underway including tracking mechanism for CSA implementation developed by AUDA-NEPAD in the framework of CAADP biannual reporting and under the UNFCCC, AGNES, etc.

The increasing adoption of the sustainable devel-

opment agenda and of green growth policies in African countries, provides important opportunities to upscale and promote the adoption of multiple CSA techniques.

These can help in building sustainable agricultural production systems, particularly in the smallholder farming system and in achieving community, national and regional goals of increased agricultural productivity, increased adaptation/resilience to climate change impact, and reduced greenhouse gas emissions from agriculture and food systems.

Innovative climate-relevant food systems transformation should be based on two parallel and inter-linked pathways:

A shared value model for agricultural transformation

- mutually-beneficial partnerships between farmers, the private sector, governments, research, non-state actors and development partners.

A youth empowerment model for young farmer development and support.

This pathway seeks to groom a new cadre of young agri-entrepreneurs to champion a sustained transformation in various components of the value chain.

Knowledge, Capacities, Research and Innovation for Climate Relevant Food Systems Transformation

Achieving the desired long-lasting CSA transformation will only be possible if a continental, system-wide capacity development approach is embraced that empowers people, strengthens organizations, institutions and networks as well as enhances the enabling policy environment.

Developing capacities with a bottom-up and participatory approach based on inclusive capacity assessments (including assessment of existing capacity and capacity needs) is key as CSA is context-specific. Climate-Smart villages are an interesting example. The continent is in a position to modernize rapidly with the use of digital tools, new technologies, and renewable energies. At the same time, there is an important potential of indigenous knowledge to address climate change issues.

Research must engage with relevant partners including farmers' organizations and extension services to generate the evidence-based knowledge on potential CSA technologies, but must also communicate them in appropriate formats together with capacity development efforts to raise capacity for implementation.

There is a need to develop early career researchers in NARs and Universities and to strengthen capacities and education programmes at different levels. Efforts on CSA country profiling should be encouraged in order to provide easy to read reference document - describing the climate change context, the state of knowledge and good practices in the Agriculture, Forestry and Land Use sectors and - proposing CSA technologies/practices for scaling up.

Science should be clearer on terminologies (CSA and Agro-ecology), and should sharpen its language to

effectively communicate and work with the private sector, policy makers, farmers to unlock CSA shared value.

It is also important to develop communication strategies targeting different segments of the society and to strengthen the engagement with the Media and the use of other communication tools for advocacy and raising awareness on CSA.

Development of a technology repository is crucial for capacity development. Digital platforms for sharing knowledge already exist. However, a different approach to knowledge management should be built and should not just be project and/or donor driven. CSA toolkits have been translated in different languages. The importance of social media platforms for engaging youth cannot be overemphasized.

Focus is often limited to technologies but social, organizational and soft skills and learning and innovation are also very important. Mutual learning is key. Capacities should be strengthened to facilitate the access of smallholder farmers to financial services and also to increase the provision of these services, especially to women and disadvantaged groups.

We need to make the right use of fertilizers. Extension services are essential to build capacities on this. Africa is leading negotiations on agriculture and climate change, and agriculture has a high profile in Africa National Determined Contributions (NDCs) and National Adaptation Plans (NAP). However, we need more Africa science to support negotiations and the development of NDCs and NAPs - African scientists should become reviewers of IPCC - African research organisations should become members of Climate Technology Center and Network.

Policy and Advocacy to Upscale CSA Adoption

“There is a need to increase policy coherence at country level.”

Policy constraints to wide adoption of CSA have been widely identified. There is a need to increase policy coherence at country level.

We need to strengthen country and sub-national multi-stakeholder dialogue on CSA, involving government, farmers, private sector, financing institutions, research/ academia, civil society and partners, to provide a forum for those who work on CSA to share and exchange experiences, information, and views on issues that need immediate attention.

There is the need to enhance the policy-science interface, through improved communication and dialogue, and enhanced evidence-based policy making. Science should package information in a useful way for policy makers.

More studies on monitoring and evaluation of the impact of CSA are needed. A tracking mechanism for CSA implementation is being developed by AU-DA-NEPAD in the framework of CAADP biannual reporting.

Developing such a tracking mechanism can build on FAO's developed Operational guidelines for the design, implementation and harmonization of monitoring and evaluation systems for climate-smart agriculture, and are to be used as a useful resource .

Agricultural investment plans and investment mobilisation should be developed to respond to the specific contexts and needs of the diverse Africa food systems, farmers and rural communities.

Unlock financial resources:

responsible banking, African philanthropy, impact funds, global specific funds (Green Climate Fund, GEF, Global Adaptation Fund, Africa Climate Change Fund). National designated institution in the country could access financing from the Green Climate Fund and to coordinate across economic sectors and develop integrated projects that also mainstream CSA.

The private sector must be engaged for widespread upscaling of CSA along the value chains.

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