Policy Paper

Sustaining the Momentum for Implementation of CSA in Eastern and Central Africa

Mary Nyasimi

Key Messages

» Increased climate vulnerability in Eastern and Central Africa (ECA) is mainly attributed to the high concentration of smallholder farmers, pastoralists, and fishing communities that are dependent on rain-fed production systems.

» The impacts of climate change on the agriculture sector have led to the development and implementation of a large number of CSA Initiatives that address the goals of food security while ensuring a reduction in vulnerability and greenhouse gas emission.

» Several CSA initiatives are under implementation by countries in ECA. However, the extent of implementation varies across countries due to differences in policy development and stakeholder engagement processes.

» To scale up CSA in ASARECA member countries, there is a need to:

- Develop and/or support stakeholders in developing CSA policies, projects, strategies, and programs anchored on the triple wins of CSA i.e. increasing agricultural productivity, improving resilience to climate change, and contributing to long-term reductions in greenhouse gas emissions.
- Establish more innovative multi-stakeholder partnerships at the national and sub-national levels to facilitate coordination, knowledge transfer, and innovation diffusion of CSA across different actors
- Utilize emerging innovations and evidence to ensure stakeholders design resilient gender responsive and socially inclusive climate smart initiatives across agricultural value chains
- Utilize globally led processes like the National Determined Contributions (NDCs) and National Adaptation Plans (NAPs) as an opportunity to integrate CSA initiatives in national agendas, thus aligning with national low carbon development pathways.

This policy brief focuses on mapping of Climate Smart Agriculture (CSA) initiatives in the 12 ASARECA member countries. It identified 489 CSA policies, strategies/plans, programs, projects, networks/partnerships, hubs/platforms that were implemented from 2015 to 2020. The brief further highlights the target beneficiaries of the CSA initiatives, the institutional landscape and multistakeholder partnerships and processes to scale up CSA initiatives, strategic research and innovation priorities for CSA and offers recommendations for concrete actions that can sustain the momentum of CSA implementation under the changing climate.

1 Introduction

Climate change is a threat to the continued economic growth and livelihoods of vulnerable populations in Africa. Left unchecked, climate change can create major impacts on the economy, environment, and society as a whole. Addressing climate change impacts is critical for the realization of a climate resilient development pathway especially for countries in Eastern and Central Africa, where rainfed dependent small-holder crop and livestock farmers, and fishing communities dominate the agricultural landscape. To address these impacts, national governments and other stakeholders are realizing that the CSA approach promises resilient agricultural systems (Bhardwaj and Cahill, 2019; FAO, 2010). The CSA initiatives are currently being implemented at various levels right from the community, sub-national, national, regional, and global level by state and non-state actors, either individually or jointly. These CSA initiatives are broadly defined to include policies, plans, strategies, programs, projects, multi-stakeholder platforms, partnerships, communities of practice, networks, and hubs among others. Isolated implementation of the CSA initiatives accompanied by poor coordination and accountability will result in a small-scale impact. Under such circumstances, what is needed is extensive documentation of the CSA initiatives to identify best practices for scaling up, avoid duplications, and increase coordination amongst the CSA initiatives in the ASARECA member countries.

This policy brief aims to a) inform stakeholders about the CSA landscape across ASARECA member countries, b) outline the extent of CSA initiatives and their implementation, and c) provide recommendations on how to sustain the existing efforts.

2 Methodology

This study was commissioned by ASARECA with the aim of mapping CSA initiatives, ascertaining their status and trends across the member countries in Eastern and Central Africa comprising: Burundi, DR Congo, Ethiopia, Eritrea, Kenya, Madagascar, Republic of Congo, Rwanda, South Sudan, Sudan, Tanzania, and Uganda. A mixed-methods approach that entailed a desk review and stakeholder survey (through emails and telephone) to collect both qualitative and quantitative data was used. A Glossary of CSA practices and technologies terms was used in identifying CSA initiatives. Quantitative and qualitative data were analyzed using descriptive statistics and content analysis, respectively.

3 Results

3.1 Status of CSA Implementation in Eastern and Central Africa

The study shows that ASARECA member countries in ECA are implementing various CSA initiatives that seek to build climate resilient food and agricultural systems that are compatible with achieving a country's national development agenda. For the period between 2015 and 2020, a total of 489 CSA initiatives are being implemented, with projects accounting for the highest proportion (50.7%) and policies the least (1.6%) (Figure 1). Of these 489 CSA initiatives, 81%, 17%, and 2% were categorized as ongoing, completed, and pipeline respectively. The pipeline initiatives were defined as CSA initiatives that are scheduled to start in 2021 and 2022. These pipeline initiatives are mainly planned projects in Ethiopia (2), Kenya (3), Rwanda (2), and Tanzania (3).

An analysis of the CSA policy frameworks showed that national governments have put in place various policy legislation and legal frameworks that support

Figure 1: Percentage distribution of CSA inititaives across ASARECA member countries 2015-2020 (n=489)

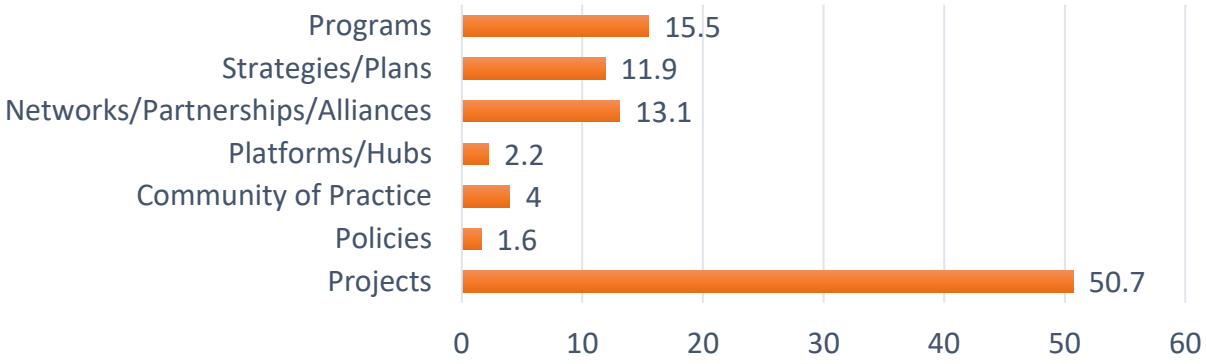

Figure 1: Percentage distribution of CSA inititaives across ASARECA member countries 2015-2020 (n=489)

agricultural development and respond to the effects of climate change. The study revealed that none of the target countries has a policy that directly addresses CSA. However, CSA is mentioned in policies that are anchored in agricultural, climate change, and climate finance policies. These are found in Burundi (2), Kenya (3), Rwanda (1), Eritrea (1), and Uganda (1)

The study revealed that CSA practices were also integrated into globally led policy processes like Nationally Determined Contributions (NDCs) and the National Adaptation Plans (NAPs). Countries that explicitly mention CSA in their NDCs are Burundi, Eritrea, Kenya, Madagascar, South Sudan, Tanzania, and Uganda. The NAP review showed that both Ethiopia and Kenya explicitly mention CSA as part of their adaptation strategies in the agricultural sector. The Sudan NAP mentions several Climate Smart Technologies that specifically focus on the agricultural sector.

3.2 Country Level Implementation of CSA Initiatives

The ASARECA member countries are at different stages of implementing various CSA initiatives across the sub-region. The analysis shows that Kenya has the highest number of initiatives (63), followed by, Uganda (38), Tanzania (37), Rwanda (29), Ethiopia (25), Burundi (23), DRC (19), Madagascar (14), Sudan (14) and South Sudan (11). Less than 10 CSA initiatives were reported in Eritrea (9), and the Republic of Congo (2) (Figure 2). The presence of various CSA initiatives within the region was attributed to the existence of a wide range of policy frameworks that address the declining agricultural productivity emanating from environmental degradation and the impacts of climate change. Out of the 489 CSA initiatives, 159 and 46 were being implemented at regional and global levels respectively.

Figure 2: Number of CSA Initiatives In Each Country (n=489)

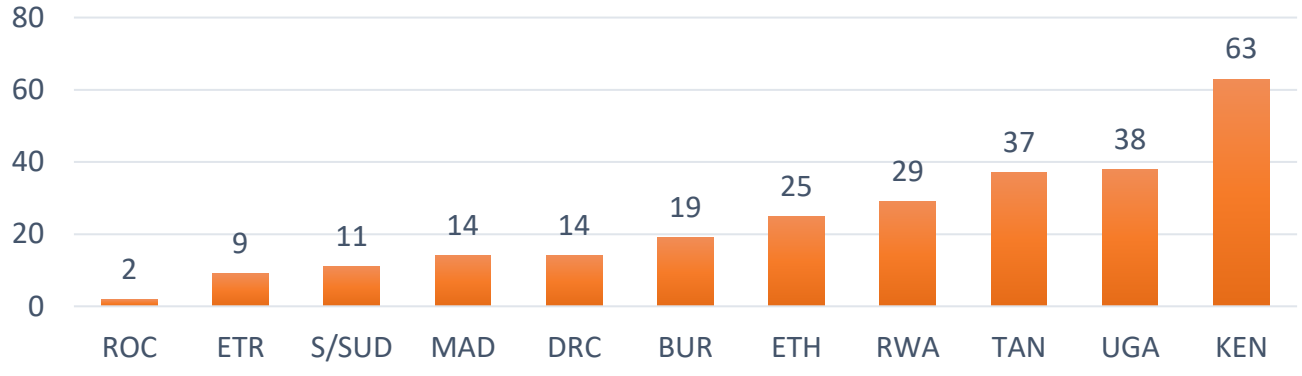

Figure 2: Number of CSA inititaives in each Country (n=489)

3.3 Proportion of Initiatives Contributing to the CSA Triple Wins

CSA is considered a promising approach that integrates policies, practices, and technologies around food security, adaptation, and mitigation. Analysis of the various CSA initiatives shows that over half of the initiatives (56.9%) are geared towards increasing agricultural productivity (food security), while those addressing adaptation and mitigation measures comprised only 32.5% and 10.6%, respectively (Figure 2). This indicates that the target countries in ECA place more emphasis on enhancing food productivity while contributing towards the long term reduction of greenhouse gases (GHGs) is not considered as a priority goal. Burundi, Eritrea, Kenya, Madagascar, South Sudan, Tanzania, and Uganda have explicitly mention CSA in their NDCs. As pointed earlier, Ethiopia and Kenya explicitly mention CSA as part of their NAPs, while Sudan NAP mentions several climate smart technologies for the agricultural sector. This demonstrates the countries' commitment to addressing climate change impacts to build resilient farming systems and improve agricultural productivity.

3.4 CSA Practices and Technologies Profiled

The mapping of CSA initiatives confirms the existence of various practices and technologies considered to encompass CSA (FAO, 2013; World Bank, 2013). The study profiled CSA agricultural practices and technologies in ASARECA member countries that not only aim at increasing food security and resilience for farmers but also contribute towards improving the environment through the reduction of GHGs. The identified CSA practices included; crop, livestock, soil, forestry, aquaculture, water management, and climate risk management among others. The study revealed that most CSA practices and technologies being implemented target on-farm level production level and to a lesser extent other segments of the value chains.

3.5 Target Beneficiaries of CSA Initiatives

The ASARECA member countries are dominated by subsistence smallholder farmers practicing mixed crop-livestock systems under the rain-fed system (Connolly-Boutin and Smit, 2016; Moyo, 2016). These farmers operate under different climatic conditions and the various CSA initiatives support them to transform their agricultural systems so that they become resilient and food secure despite the changing climate. Subsistence smallholder farmers practicing mixed crop-livestock farming systems under the rain-fed system are the major beneficiaries of most CSA initiatives (321) in the target countries (Table 1). Over three quarters (77.6%) of the CSA initiatives identified by the study targeted women, youth, and marginalized people. This group constitutes the most vulnerable category that is also most negatively impacted by floods and droughts in the region.

3.6 Institutional Landscape and Multistakeholder Partnerships and Processes to Scale-up CSA Initiatives

Due to a large number of crop and livestock farmers, and fishing communities within the target countries, different stakeholders are needed to achieve the desired scale of adoption of CSA. National governments in collaboration with multi-stakeholders are well placed to drive successful implementation of CSA as well as sharing and exchange of information. This study identified a range of stakeholders involved in CSA initiatives which included; National Governments; Non-Governmental Organizations (NGOs); Community Based Organizations (CBOs); International and National Research Institutions, Academia, and various UN bodies among other actors.

Table 1: Target populations under CSA initiatives (N=489)

Different target populations in ASARECA member countries	Number of mentions (n=489)
Smallholder mixed crop-livestock farmers operating under rain-fed and irrigated agricultural systems	321
Farmer associations and farmer groups operating under rain-fed and irrigated agricultural systems	147
Pastoralist and Agro-pastoralists majorly operating in arid and semi-arid lands	238
Fishing communities operating in the marine, freshwater, and aquaculture waters	102
Youth (both male and female)	96
Women and female-headed households	286
Policymakers and decision-makers at relevant Government Ministries, Departments, and Institutions	109
Technical experts and extension agents	158
Private sector	192

Table 1: Target populations under CSA initiatives (N=489)

The study, however, revealed that initiatives by the various stakeholders were not necessarily aligned to country policies, strategies, and development agenda, a process that could affect the long term sustainability of such initiatives.

To scale up and achieve the CSA triple wins, effective and inclusive multi-stakeholder initiatives amongst national governments, NGOs, CBOs, private sector, academia, donors, national and international research institutions are needed. These multi-stakeholder initiatives can collate and share knowledge, expertise, technology, and financial resources across member countries. Mapping of CSA initiatives identified multi-stakeholder networks, the communities of practice (CoPs), and platforms formed mainly to leverage policy, provide technical and financing support for grassroots, national and regional level strategies, projects and programmes. The study revealed that the highest number of networks, alliances, and partnerships are found at the regional (43) and global (16) levels. 24 CoPs are operating at various levels (national, sub-regional, and global) with most of the CoPs operating at regional (9) and global (8) levels. Kenya has 4 CoPs while South Sudan, Uganda, and Sudan each have one CoP. Hubs and Platforms also exist across member countries and serve to provide digital space to generate scientific information, demonstrate new CSA practices and technologies, and facilitate the transfer of these practices and technologies to stakeholders. A total of 11 CSA hubs and platforms were identified with the largest concentration of hubs and platforms operating at the global (7) and regional (3) levels. At the country level, only 1 hub was reported in Kenya.

3.7 Strategic Research and Innovation Priorities for CSA

The increasing complexity and multidimensionality of social, economic, and environmental implications of climate change on agricultural systems in the target countries have made policymakers, researchers, and other relevant stakeholders aware that innovative and more integrated approaches to research and innovation have to be adopted to effectively tackle the challenges posed by climate change. The emerging challenges of climate change in the agriculture sector have led to the development of collaborative innovations and technologies aimed at transitioning farming communities towards achieving the triple wins of CSA (Dinesh et al. 2017). A review of research and innovation priorities shows that national governments are affirming their political will to better integrate research and innovation through co-designing, co-financing, and co-ownership of joint CSA programs, projects, networks, and platforms. For example, Tanzania's Climate Smart Agriculture Alliance (TCSAA) and Kenya's Climate Smart Agriculture Multi-stakeholder platform (CSA-MSP) are defining long-term, strategic partnerships with various stakeholders to achieve the common strategic CSA agenda that is aligned with relevant national development agenda, policies, and strategies. These partnerships are also aimed at identifying and sharing innovative CSA solutions that are climate resilient, efficient, cost-effective, and sustainable. Some of the innovative CSA solutions that care being implemented by the various CSA initiatives include: (i) digitizing CSA; (ii) mechanizing CSA; (iii) developing and scaling up business models for CSA; (iv) micro-insurance and index-based insurances schemes; (v) public and private innovative financing and invest-ments models for CSA; (vi) CSA multi-stakeholder platforms; and (vii) public-private partnership (PPP) for technology innovation and transfer. These innovations have proved that public-private partnerships can play a significant role in developing and scaling up innovative CSA solutions.

4 Conclusion

Climate-Smart Agriculture provides a critical pathway towards transitioning the agriculture sector towards a sustainable growth pathway that addresses national and global development goals. From the analysis, it is evident that there exist several initiatives across target countries aimed at addressing CSA goals. Although goals like food security seem to be heavily addressed, there are still opportunities across practices that embrace elusive goals of mitigation. There are disparities in the implementation of CSA based on member country circumstances. However, global processes like NDCs and NAPs provide the best opportunity for integration and implementation of CSA across member states. Multi-stakeholder platforms and digital innovations are an emerging catalyst for scaling up CSA and such processes need to embrace public-private partnerships to sustain the innovations.

5 Implications and Recommendations

The study draws several recommendations for sustaining existing efforts aimed at increased integration of CSA in policy and practice. The efforts by ASARECA member countries to adapt their agriculture to the changing climate in the agriculture sector are gaining momentum as evidenced by the large number of CSA initiatives being implemented. The CSA initiatives, especially policies, programmes, projects, and strategies will enable farmers to adapt to challenges of climate change while maintaining and improving societal wellbeing. Findings show that there are no policies that directly address CSA, and CSA is anchored in agriculture and climate change policies. This implies that ASARECA member countries need to design new and/or adopt and refine existing policies in closely related sectors such as agriculture to enable farmers, pastoralists, and fishermen to adapt to the changing realities.

While mapping of CSA Initiatives shows the diversity of initiatives, they also indicate opportunities for identifying best practices for scaling up across the ECA region. For example, countries that have developed CSA strategies have the highest number of projects and programs being implemented at the grassroots level. This implies that more farmers, pastoralists, and fishing communities will gain access to innovative CSA practices and technologies and hence increase their adaptive capacity. Emerging CSA networks/partnerships, hubs and platforms, and COPs demonstrate the commitment by various stakeholders to learn, share and exchange information on CSA, as well as recognizing that addressing impacts of climate change on agriculture may require working together to develop and implement innovative transformative changes. Thus, the creation of networks/partnerships,

hubs, and platforms, and COPs at different levels provide opportunities for continuous learning and innovating and strategic adaptation to new CSA information.

The ASARECA Secretariat, therefore, need to undertake the following steps to scale up/ sustain existing CSA initiatives;

- Consider both food security, adaptation, and greenhouse gas reduction in the efforts to scaling up CSA initiatives within the ECA region. While considering food security as the main objective for CSA initiatives, national governments, and their stakeholders should also ensure that improving resilience and contributing to GHGs reductions is equally considered. This can be achieved by integrating CSA practices such as efficient resource use and agricultural waste management
- Develop collaborative partnerships to facilitate coordination of CSA initiatives within the ECA region. With a large number of CSA initiatives, ASARECA member countries need to develop more multi-level, multistakeholder engagements/ partnerships to facilitate coordination and knowledge sharing, technology, and CSA policy development
- Support the development of CSA initiatives that cater to the whole agricultural value chain sector. Though a variety of CSA practices and technologies are included within the CSA initiatives, there is a need to look beyond the farm level by investing along the whole agricultural value chain to include climate-resilient infrastructures such as roads to access markets, post-harvest and storage facilities, cold chain storage for livestock vaccines, among others.
- Mainstream gender and social inclusion into CSA initiatives. Not all CSA initiatives have the gender equality and social inclusion lens. Therefore, national governments and stakeholders should also ensure that all initiatives have gender equality and social inclusion lens so that the most vulnerable, that is, women, youth, and marginalized groups participate and gain from CSA initiatives
- Support development of CSA policies and strategies for enhanced implementation of CSA in the ASARECA member countries. To safeguard the progress made in developing and implementing CSA initiatives against climate change and emerging pandemics like Covid-19, national governments need to develop CSA policies and strategies and/or integrate the CSA approach in national agricultural and climate change policies, strategies, and development agendas.

References

Bhardwaj, G., and Cahill, C. (2019). Managing Global Food Insecurity. Chatham House. Accessed on October 7, 2020 from https://www.chathamhouse.org/2019/01/managing-global-food-insecurity.

Connolly-Boutin, L. and Smit, B. (2016). Climate change, food security, and livelihoods in sub-Saharan Africa. Reg Environ Change (2016) 16:385–399.

Dinesh, D., Aggarwal, P., Khatri-Chhetri, A., Rodríguez, AM., Mungai, M., Radeny, M., Sebastian, L. and Zougmoré, R. (2017). The rise in Climate-Smart Agriculture strategies, policies, partnerships and investments across the globe. Agriculture for Development, 30 (2017).

FAO. (2013): Food and Agriculture Organization of the United Nations: Climate Smart Agriculture; Source Book. FAO, Rome Italy. http://www.fao.org/3/a-i3325e.pdf.

FAO. (2010): Food and Agriculture Organization of the United Nations: Climate-Smart Agriculture. Policies, Practices and Financing for Food Security, Adaptation and Mitigation. FAO, Rome Italy. http://www.fao.org/3/i1881e/i1881e00.pdf.

Moyo, S. (2016). Family farming in sub-Saharan Africa: its contribution to agriculture, food security and rural development. FAO, Rome Italy.

World Bank. (2013). Policy Brief: Opportunities and Challenges for Climate-Smart Agriculture in Africa. World Bank, Washington, DC. World Bank. https://openknowledge.worldbank.org/handle/10986/26079 License: CC BY 3.0 IGO.

In partnership with

ASARECA Partners

Design and Layout by Tabitha Muchaba

Photo: Stateofisrael

The Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) is a not-for-profit sub-regional organization of the National Agricultural Research Systems (NARS) of 11 member countries, namely: Burundi, the Democratic Republic of the Congo, Eritrea, Ethiopia, Kenya, Madagascar, Rwanda, South Sudan, Sudan, Tanzania and Uganda.

ASARECA brings together scientists from the national agricultural research institutions of the member countries, national agricultural extension service providers and other strategic development oriented partners to generate, share and promote knowledge and innovations to solve common challenges facing agriculture in the member countries.

The ASARECA's strategic plan (2007-2016) and both the first (2009-2013) and second operational plans (2014-2018) have been aligned to the CAADP and the Science agenda. ASARECA significantly contributes directly to the CAADP Pillar IV, while also supporting the other 3 Pillars in joint collaborations with other like-minded institutions and partners.

ASARECA
Transforming Agriculture for Improved Livelihoods