



## Policy Paper

# Financial Investments for Implementation of Climate Smart Agriculture Initiatives in Eastern and Central Africa

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### Key Messages

- » To counteract the impacts of climate change on agriculture, solid financial commitments from the national governments and other stakeholders are required for the implementation of climate smart agriculture.
- » There are external opportunities for ASARECA member countries to tap into climate finance to implement CSA initiatives such as multilateral and bilateral grants and loans, development banks, UN agencies, Foundations, and overseas development agencies
- » Multilateral and bilateral grants, loans, development banks, UN agencies, foundations, and overseas development agencies provide external opportunities for ASARECA member countries to scale up CSA initiatives.
- » ASARECA member countries need to establish and strengthen financing mechanisms e.g., establishing sub-national and national climate change funds and climate financing policies.
- » National governments and other stakeholders in ASARECA member countries should continue to tap both public and private financing to implement CSA initiatives.

*This policy brief identifies and discusses the sources and amounts of funding to advance the implementation of CSA initiatives in ASARECA member countries.*

### Introduction

Countries in Eastern and Central Africa (ECA) have and continue to outline bold commitments to build climate resilient agriculture-based economies in their national development strategies, climate change, and agriculture strategies, Nationally Determined Contributions (NDCs), and National Adaptation Plans (NAPs). These commitments are backed up with financial pledges designed to meet country adaptation and mitigation goals and objectives that will be accomplished within a specified time. Specifically, ASARECA member countries have committed to mobilize financial investments through public and private sources. In this regard, it is expected that most of the national strategies and plans including NDCs and NAPs will be financed through public funds. It is important to point out that member countries have committed to reducing emissions through various NDCs actions with support from the international community in the form of finances, investment, technology



development and transfer, and capacity-building.

This policy brief aimed to identify the sources and estimated amount of funding for Climate Smart Agriculture (CSA) initiatives between the years 2015 and 2020 in the twelve ASARECA member countries. For this policy brief, CSA initiatives were defined to include policies, strategies/plans, programs, projects, networks/partnerships/alliances, hubs/platforms, and communities of practice (CoPs). Identification of sources, as well as amounts of funding for CSA, is critical because the agricultural sector is a source of livelihoods for most of the people living in these countries and contributes significantly to the Gross Domestic Product (GDP) of these economies. The sector is extremely vulnerable to climate change largely due to changing rainfall patterns, increasing temperatures, and extreme weather events that are negatively affecting crops, livestock and fisheries, and all other activities along the value chains. Despite this, funding for agriculture and climate change initiatives has been below the estimated need (FAO, 2019; Goedde et al. 2020; AfDB, 2019; Odhengo et al. 2019). For instance, in the 2019/2020 budget, Rwanda and Kenya allocated only 4.4% and 3.2% respectively to the sector (FAOSTAT, 2020). These budgets are well below the recommendations set by the Comprehensive Africa Agriculture Development Programme (CAADP), which requires countries to allocate at least 10% of their national budgets to agriculture to achieve 6% growth of the agricultural economy (AU, 2014). Several factors are contributing to these including; (i) low annual government funding allocated to agriculture, (ii) a weak enabling environment to attract climate investment, (iii) limited institutional capacity to access and manage finance and to develop bankable climate change and agricultural projects, and (iv) cumbersome processes and requirements of international funds and institutions (Somorin, 2020; FAO, 2019; AfDB, 2019; Odhengo et al. 2019; Goyal and Nash, 2017; Goedde et al. 2020; Sharma et al. 2014).

Among the ASARECA member countries, only Kenya has so far developed a climate finance policy that can facilitate increased allocation of climate finance to vulnerable sectors like agriculture. Most of the CSA initiatives being implemented in the countries require

funding from national governments and other sources such as multilateral grants and loans, bilateral grants and loans, private philanthropy and foundations, banks, and microfinance institutions. However, with low budget allocation and funding for agriculture, climate change will continue to create serious havoc on food security, thus leading to more vulnerable people in the Eastern and Central Africa sub-region.

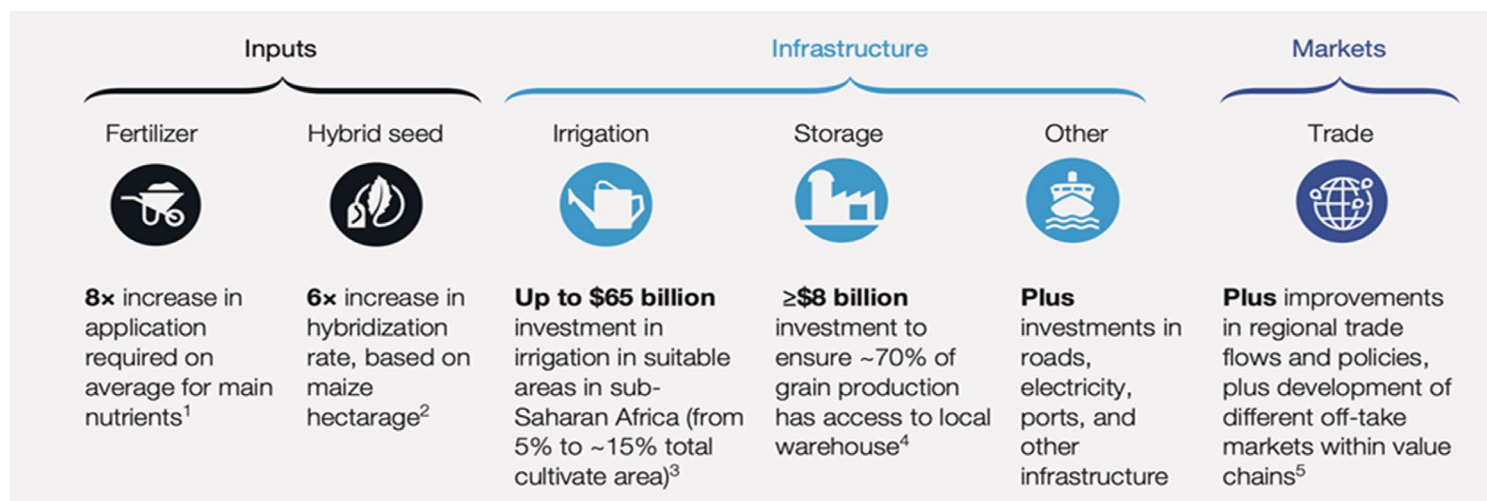
## 2. Methodology

This study was commissioned to identify sources as well as the estimated amount of funding required to implement CSA initiatives in ASARECA member countries which include; Madagascar, Tanzania, Kenya, Burundi, Rwanda, Uganda, Ethiopia, Eritrea, South Sudan, Sudan, DRC, and the Republic of the Congo. The policy brief focuses on available evidence of sources and amounts of funding put in place to implement CSA initiatives. In each country, a rapid review of available documents and stakeholder survey (through emails and telephone) was conducted to provide information on sources and amounts of funding. Respondents who participated in the Key Informant (KI) survey were purposively sampled using a contact list provided by ASARECA Secretariat as the sampling frame. Snowballing sampling was integrated to identify more respondents. Descriptive statistics were used for the analysis of both qualitative and quantitative data. A database for CSA initiatives was developed, and it included sources and amount of funding for various initiatives reviewed. This CSA database will be made available on the ASARECA website and will be open to countries to provide additional information with prior authorization from the host. Countries with limited financial information and/or evidence of funding are therefore encouraged to share information.

## 3. Finance Investments for Climate Smart Agriculture Initiatives

Financing investment for CSA initiatives is critical for the development and transformation of the agricultural sector under a changing climate. According to Goedde et al (2020), to deliver on Africa's agricultural potential, it will require a significant investment in climate resilient inputs (fertilizers and seeds), infrastructure (irrigation and storage, energy), and markets (trade) (Figure 1 below).





**Figure 1: Investments needed to deliver on Africa's agricultural potential (Geodde et al. 2020)**

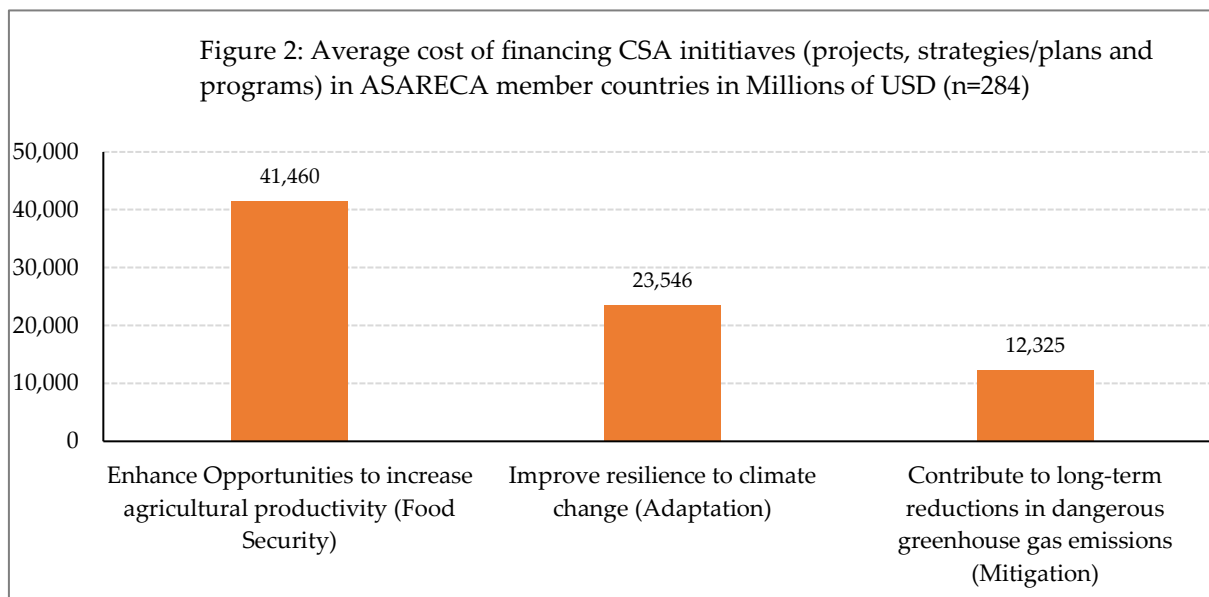
Financing for climate change actions especially in agriculture is now available for all developing countries across the globe. Within the ASARECA member countries, agriculture has been identified as one of the major emitters of greenhouse gases. Therefore, there is potential for agriculture to receive the much-needed investment from a variety of sources (WRI CAIT, 2017). Ethiopia's Climate Resilient Green Economy (CRGE) was identified as the recipient of the highest amount of financing for CSA initiatives estimated at 150 billion (USD) for 15 years (2011- 2025). Analysis indicates that Ethiopia has the highest average amount of funding for CSA initiatives estimated at USD 194 million, while the Republic of Congo had the lowest at USD 10 million (Table 1 below).

Table 1: Average amount of funding for CSA initiatives in ASARECA member countries (n=284)		
Country	Average (millions USD)	Range (USD)
Burundi	57 Million	4.2-149 Million
DR Congo	25 million	802K-73 Million
Eritrea	17 million	14-37 Million
Ethiopia	194 million	8.6-365 Million
Kenya	94 million	117K-279 Million
Madagascar	87 million	920K-254 Million
Republic of Congo	10 million	120K-20 Million
Rwanda	65 Million	99K-186 Million
South Sudan	23 Million	1.8-37 Million
Sudan	73 Million	3.4-357 Million
Tanzania	25 Million	1.2-180 Million
Uganda	28 Million	450K- 248 Million

**Table 1: Average amount of funding for CSA initiatives in ASARECA member countries (n=284)**

*Since this figure is so large compared to financing for other CSA initiatives, it was considered an outlier and excluded from the analysis.*

The primary goal for most of the CSA initiatives identified is to enhance opportunities for increasing agricultural productivity and food security. Among the 284 CSA initiatives funded, content analysis shows that on average funding for food security initiatives was USD 41,460 million. Funding for adaptation and mitigation was USD 23,546 million and USD 12,325 million respectively. This analysis seems to indicate that the priority goal for financing organizations is to meet the demand for food security within ASARECA member countries. Opportunities to increase agricultural productivity under the changing climate receive most of the funding because agriculture is a major livelihood strategy and feeds millions of households. This perhaps explains why food security is considered as the priority by financing institutions (Figure 2 below). Agriculture also plays a vital role in generating incomes, enhancing health outcomes and economic growth, and to continue this trajectory, food security needs to be secured.



**Figure 2: Average cost of financing CSA initiatives (projects, strategies/plans and programs) in ASARECA member countries in Millions of USD (n=284)**

*‘National governments and their international development and donor partners and private sector must commit themselves to financing for CSA and climate change research in order to end food insecurities and enhance communities adaptive capacity.’*

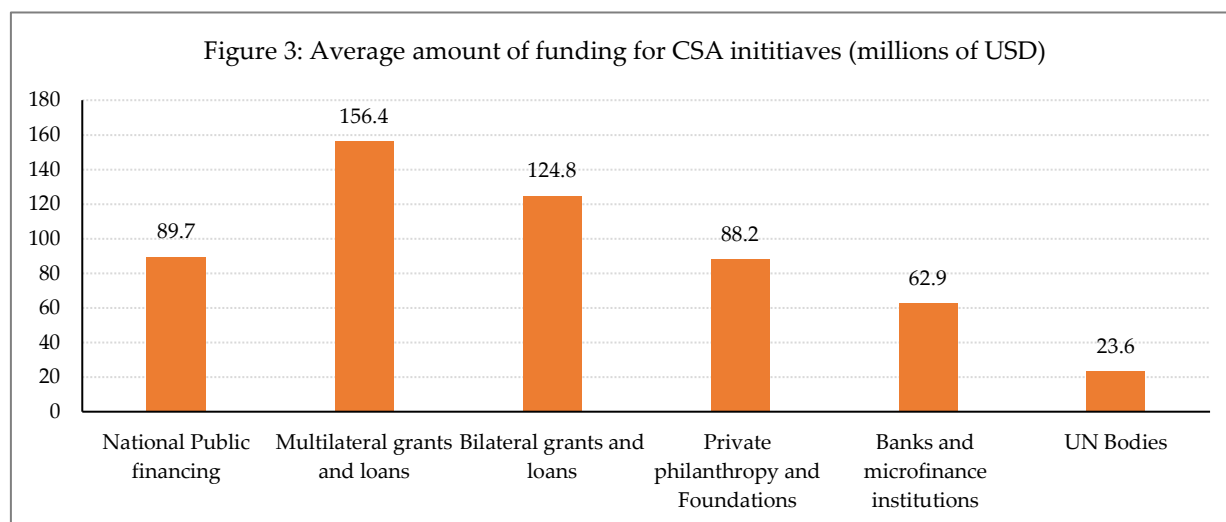
Prioritizing agricultural productivity to ensure food security implies that the countries consider the agricultural sector an important investment. These financial investments in increasing food security are complemented with cross-cutting efforts such as enhancing women and youth empowerment and energy and water access, especially for irrigation. Data for the total funding budgets for policies, communities of practice, networks/partnerships, and hubs/platforms were not available. This is because the communities of practice, networks/partnerships, and hubs/platforms emerge from an identified common interest or need by stakeholders implementing CSA, and their funding allocation is always included in CSA strategies/plans, projects, and programs. In other cases, communities of practice, networks/partnerships, and hubs/platforms are established voluntarily by individuals and institutions.

#### 4. Sources of Funding for CSA initiatives

Mapping of the financing landscape for CSA initiatives shows that it is highly fragmented with financing coming from multiple sources to support increased productivity, building resilience, and reducing GHG sources. This has led to a thin spread of financing resources which increases the challenges associated with accessing finance for CSA and thus reduces overall efficiencies. On average, USD 23 million was available for CSA projects, programmes, and strategies. As mentioned above; the amount of funding for policies, communities of practice, hubs/platforms, and networks/partnerships/alliances was not immediately available during the review process. Overall, the different sources of public and private finance were identified as: (i) national governments (public expenditure); (ii) multilateral grants and loans; (iii) bilateral grants and loans; (iv) private philanthropy and foundations; (v) banks and microfinance institutions; and (vi) UN agencies.

According to UNFCCC (2016), the largest source of financing for agriculture and climate change is multilateral and bilateral grants and loans. However, recent years have seen a rise in the complexity of CSA initiatives, practices, and technologies. Accompanying this rise is the complexity of the AR4D funding landscape and donor funds delivery channels from traditional bilateral and multilateral donors (such as USAID, SIDA, CIDA, and UK Aid) to a new breed of donor partners. New official donors such as private philanthropy, non-government organizations, and the private sector are joining in providing funding for development projects including CSA initiatives (OECD, 2018). This is good news for ASARECA member





**Figure 3: Average amount of funding for CSA initiatives (millions of USD)**

countries, as financing aid becomes more diversified. Findings from the study show that the largest sources of funding for CSA initiatives are mainly multilateral grants and loans (US\$ 56.4 Million), followed by bilateral grants and loans (US\$ 124.8 Million) (Figure 3 below).

At the national level, CSA policies, strategies, and plans are mostly financed through public financing mechanisms. ASARECA member countries have provided for annual CSA national budgets since CSA is a priority in national development agendas as well as agriculture and climate change policies, strategies, and plans. The countries have equally mainstreamed CSA into national strategic development agendas and commitments to ensure that funds are available for implementing CSA. For example, in their NDCs, Tanzania is projecting to invest about USD 500 million to 1 billion per annum for adaptation priority actions and a total of USD 60 billion for mitigation. Kenya is investing USD 40 billion for adaptations and mitigation actions. Uganda estimates 2.4 billion for adaptation and 5.4 billion for mitigation over the 10 years (of which USD 476.0 million is for CSA). Rwanda is investing USD 11 billion for adaptation and mitigation actions. It is important to point out that over 60% of the NDCs in Africa are subject to the conditionality of available finance, capacity, and technology transfer (AfDB, 2019).

Some external donors are also financing policies and strategies as well as other CSA initiatives. These donors include:

- » Global Environment Facility (GEF),
- » Green Climate Fund (GCF),
- » Adaptation Fund (AF),
- » Climate Investment Funds from multilateral development banks (MDBs) such as the African Development Bank (AfDB);

- » United Kingdom's Department for International Development (DFID),
- » French Development Agency (AFD),
- » Danish International Development Agency (DANIDA),
- » German International Development Agency (GIZ),
- » Japan International Cooperation Agency (JICA),
- » European Union,
- » Belgian Development Agency;
- » Irish Aid,
- » Swedish International Development Cooperation Agency (SIDA),
- » Germany's International Climate Initiative
- » The German government-owned development bank (KfW)
- » Private philanthropy and Foundations such as the Rockefeller Foundation, Bill and Melinda Gates Foundation, McKnight Foundation among others.

## **5. Climate Change Funds for Mobilizing Resources for CSA initiatives**

ASARECA member countries are making progress towards mobilizing resources for CSA initiatives, particularly strategies, projects, and programs. One of the novel strategies for mobilizing funds for CSA is the establishment of climate change funds at sub-national, national, regional, and global level. Climate change funds are devolved at national and sub-national levels to promote the mainstreaming of climate action into national and sub-national planning and budget systems (Murphy and Orindi, 2017). Additionally, climate change funds are structured to blend with financial resources from national public expenditures (budgets) and international climate funds that include multilateral and bilateral grants and loans, private sector, development banks, and private philanthropy (Murphy and Orindi, 2017).

### 5.1. Sub-National Climate Change Funds

The findings of this study show that only Kenya has established climate change funds at the sub-national level. Kenya's devolved system of governance (National and County governments) is structured in such a way that it can deliver optimal service delivery to the counties. Kenya's Five County Governments namely: Wajir, Kitui, Makueni, Garissa, and Isiolo have established County Climate Change Funds (CCCF) that will identify and prioritize finance investments to reduce climate risk and achieve adaptation priorities at the local level (Orindi et al. 2017; Murphy and Orindi, 2019). The Five CCCFs are aligned with Kenya's National Climate Change Fund, National Climate Change Framework Policy (2016), NAP, NDC, Climate Change Act (2016), and Other National Development Strategies. Though not directly linked to climate change and CSA, Uganda's Northern Uganda Social Action Fund is implementing a Climate-Smart Agriculture Support Project (USD 130 million) to enhance adaptation to climate risks, improve agricultural productivity, and providing an effective response to disasters. However, findings from this study also show that there are no sub-national level climate change funds in other ASARECA member countries.

### 5.2 National Climate Change Funds

Due to the impacts of climate change on economic sectors, particularly agriculture, ASARECA member countries require significant financing to support the development and implementation of CSA initiatives. The establishment of National Climate Change Funds (NCCF) will be critical for CSA initiatives. Sources of funds to support the NCCF are from national governments and are complemented with external financial support. Findings show that Kenya (National Climate Change Fund), Rwanda (National Climate Change and Environment Fund-FONERWA), and Uganda (National Climate Green Fund (NCGF) have established NCCF with mandates for mobilizing climate financing.

### 5.3 Regional Climate Change Funds

At the regional and continental level, the study identified four (4) climate change funds that ASARECA member countries can tap into for financing CSA initiatives. The beneficiaries of these regional and continental funds include National African Governments, NGOs, Research Organisations, and Regional Institutions. Some of the funds identified in this study include:

- » Africa Climate Change Fund (ACCF)
- » Climate Investment Funds (CIFs)
- » Congo Basin Forest Fund (CBFF)
- » East Africa Climate Change Fund (EACCF)

**Table 2: GCF funding for CSA initiatives in some ASARECA member countries**

Country	Focus area of project	Amount (Millions USD)
Sudan	Building resilience of pastoral systems	41.2
Ethiopia	Improving climate resilience, land productivity, carbon storage, increasing access to diversified livelihood activities	296.2
	Providing rural communities with water supplies for small-scale irrigation and domestic use	50.0
Kenya	Increasing accessibility to climate data and information, and enhancing the ability of community-based cottage industries to access markets and financial services	34.5
Tanzania	Sustainable provision of water and improvement of farming conditions.	200.7
Uganda	Enhancing the livelihoods of subsistence farming communities through fishing and agriculture	44.3
Madagascar <sup>*1</sup>	Building resilience of agriculture and fishing communities	49.2
Madagascar	Enhancing resilience of smallholders, reducing GHG emissions, and channeling private finance into climate-smart investments in agriculture and renewable energy	19.3
Ethiopia and Uganda <sup>*2</sup>	Provision of alternative wood resources to local communities and protection of natural forests	200
Kenya, Tanzania and Uganda <sup>*3</sup>	Providing loans through local partner financial institutions to borrowers in sustainable energy, energy efficiency, housing, agriculture, forestry, and water and waste management.	766.4
Uganda and Kenya <sup>*4</sup>	Supporting innovative agribusinesses that enhance the climate resilience of smallholder farmers	56.0

**Table 2: GCF funding for CSA initiatives in some ASARECA member countries**

<sup>\*1</sup>This project is implemented in Small Islands states of Madagascar, Mauritius, Seychelles, and Comoros

<sup>\*2</sup> Implemented in seven countries: Paraguay, Ghana, Sierra Leone, Uganda, Ecuador, Peru, and Ethiopia

<sup>\*3</sup> Implemented in seventeen countries: Morocco, Benin, Cameroon, Côte d'Ivoire, Egypt, Kenya, Mauritius, Namibia, Nigeria, South Africa, Tanzania, Togo, Ecuador, Senegal, and Burkina Faso

<sup>\*4</sup> Implemented in four countries: Uganda, Kenya, Ghana, and Nigeria

*‘Currently the Green Climate Fund (GCF) account for 54% of the total flows from climate funds and thus it will play significant role in financing CSA initiatives’*

#### 5.4 Global Climate Change Funds

At the global level, the study identified five (5) climate change funds that are supporting CSA initiatives within ASARECA member countries. These include;

- » Global Environment Facility (GEF)
- » Least Developed Countries Fund (LDCF)
- » Green Climate Fund (GCF)
- » Adaptation Fund (AF)
- » Special Climate Change Fund (SCCF)

Findings show that some countries are beneficiaries of the GCF funding that targets different aspects of the three pillars of CSA, that is, increasing food security, enhancing resilience, and reducing greenhouse gas emissions. These countries include Sudan, Ethiopia, Kenya, DRC, Rwanda, Tanzania, Uganda, Madagascar, and Kenya (Table 2 above).

#### 5.5 Overseas Development Agencies (ODAs), Foundations, UN Agencies and Development Banks

For decades, Overseas Development Agencies (ODAs) have funded developmental projects across Africa, including ASARECA member countries. ODAs have provided both financial and technical support for climate change related issues. As part of the Declaration on Integrating Climate Adaptation into Development Co-operation, the ODAs declared that climate change is a serious threat and committed to integrating climate change adaptation in development planning and assistance in 2006 (OECD, 2016). Results of the study show that ASARECA countries are receiving financial assistance from ODAs to support the implementation of CSA initiatives. Among the CSA initiatives mostly supported were: strategies/plans, projects and programs for activities such as enhancing food security, improving nutrition and health status, provision of weather and agro-advisory services, agribusiness, micro-irrigation schemes, provision of credit and climate resilient inputs, improving soil, water and natural resource management, and capacity building of farmers and policymakers. Results also show that; Foundations, UN agencies, and Development Banks are investing in CSA initiatives across the member countries (Table 3 below).

*‘Feed the Future initiative funded by USAID supports smallholder households to increase food security, nutrition and income through provision of CSA practices and technologies, focusing on horticulture, dairy, livestock, and staple crops’*

Table 3: ODAs and Foundations funding CSA initiatives in ASARECA member countries			
ODAs	Foundations	UN Agencies	Development Banks
USAID	Rockefeller Foundation	UNDP	World Bank
Belgian Development Agency (ENABEL)	Bill and Melinda Gates Foundation	IFAD	African Development Bank
UK Department for International Development (DFID)	McKnight Foundation	FAO	
European Union		WFP	
Gesellschaft für Internationale Zusammenarbeit (GIZ)		UNICEF	
Irish Aid		OCHA	
Swedish International Development Cooperation Agency (SIDA)			
Canadian International Development Agency (CIDA)			
Agence Française de Développement (AFD)			
Japan International Cooperation Agency (JICA)			
Danish International Development Agency (Danida)			

**Table 3: ODAs and Foundations funding CSA initiatives in ASARECA member countries**

## 6. Conclusion

ASARECA member countries have various sources of funding for CSA initiatives including national budgets that are being used to support CSA strategies, projects, and programs. Many of the CSA initiatives funded are geared towards increasing opportunities for agricultural productivity and resilience building. National Governments are providing finances for CSA initiatives, particularly strategies, projects, and programs. However, there is still a reliance on donor funding to complement the budgets allocated to CSA. Presently, Kenya, Uganda, and Rwanda have established a climate change fund, a proactive mechanism to mobilize funds for climate actions including CSA. This is critical in consolidating all the financing efforts under one body so that National Governments can easily keep track and monitor finances coming into their countries. Using examples from Kenya, Uganda, and Rwanda, other ASARECA member countries have the opportunity to establish NCCF. There is an evolution of donor funding for CSA initiatives thus suggesting that donor priorities are shifting towards addressing the impacts of climate change on the agricultural sector.

## 7. Implications and Recommendations

ASARECA member countries are adversely affected by weather variability because of their dependency on rain-fed agriculture. The variability in rainfall and temperature is directly affecting crop, fish, and livestock yields (Zougmore et al, 2018). Therefore, financing and investment in CSA initiatives in the target countries are critical to enabling the agricultural sector to withstand and be resilient to the impacts of climate change. However, the budgetary allocation for the agriculture sector has remained relatively low, despite the National Governments' commitment to achieving a 6% annual agricultural growth rate and a 10% agricultural expenditure share by 2025 (AU, 2014). With low budget allocation and funding for agriculture, climate change will continue to negatively impact agricultural productivity and food security, thus leading to more vulnerable people in member countries.

This study, therefore, highlights some recommendations for the ASARECA secretariat to implement to enhance increase financing for CSA initiatives in member countries. The recommendations are:





- » Increased support to coordinate efforts to address financial incentives for CSA initiatives
- » Strengthen capacities for national governments and other stakeholders to access financial services for smallholder farmers to implement CSA across Eastern and Central Africa sub-region
- » Support establishment of country platforms involving government, farmers, private sector, financing institutions, and civil society
- » Support national governments through capacity building to unlock financial resources for CSA such as the Green Climate Fund, Global Environmental Facility, Global Adaptation Fund, Africa Climate Change Fund, and African philanthropy). This is, particularly enhance the capacity of National designated institution in each country that can access climate financing
- » Support each country to establish National Climate Change Funds (NCCF) that can be used to mobilize both internal and external funding for effective implementation of CSA initiatives using success stories from Kenya, Uganda, and Rwanda
- » Support member countries and other stakeholders to increase financial investments to increase food security, enhance resilience and reduce greenhouse gas in agriculture and this should be complemented with crosscutting efforts such as enhancing women and youth empowerment and access to energy and water especially for irrigation.



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In partnership with



#### ASARECA Partners







Photo: Neil Palmer (CIAT).

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.