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Forum for Agricultural Research in Africa

DeSIRA LIFT

AFRICA CLIMATE SMART AGRICULTURE

IMPLEMENTATION PLAN 2022-2032

In the Context of the African Union Climate Change and Resilient Development Strategy and Action Plan, 2022-2032

Africa Climate Smart Agriculture
Implementation Plan 2022-2032

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Climate Change and Resilient Development Strategy and Action Plan, 2022-2032

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CONTENT

ACRONYMS AND ABBREVIATIONS

ACSAF:	Africa Climate Smart Agriculture Framework
ADCOM:	Adaptation Communication
AFOLU:	Agriculture, Forestry and Other Land Use
Agenda 2063:	Africa's Agenda 2063
ARBE:	AUC Department of Agriculture, Rural Development, Sustainable Environment and Blue Economy
AU:	African Union
AUC:	African Union Commission
AU GRAP:	African Union Green Recovery Action Plan, 2021-2027
AUDA-NEPAD:	African Union Development Agency
AMCEN:	African Ministerial Conference on Environment
CAADP:	Comprehensive Africa's Agricultural Development Programme
CoP:	Conference of Parties to UNFCCC
CRA:	Climate Resilient Agriculture
CSA:	Climate Smart Agriculture
CSAIP:	Climate Smart Agriculture Implementation Plan
EC:	European Commission
EU:	European Union
FAO:	Food and Agriculture Organization
FARA:	Forum for Agricultural Research in Africa
GRAP:	African Union Green Recovery Action Plan 2021-2027
IFAD:	International Fund for Agricultural Development
IGO:	Intergovernmental Organization
INDC:	Intended Nationally Determined Contributions
INGO:	International Non-governmental Organization
IPCC:	The Intergovernmental Panel on Climate Change
GCF:	Green Climate Fund
GHG:	Greenhouse Gas
KJWA:	KORONIVIA Joint Work on Agriculture
LULUCF:	Land Use, Land Use Change and Forestry
MTOP:	Medium Term Operational Plan
NAP:	National Adaptation Plan
NAIP:	National Agricultural Investment Plan
NDC:	Nationally Determined Contributions
NDP:	National Development Plan
NGO:	Non-governmental Organization
REC:	Regional Economic Community
SDGs:	Sustainable Development Goals
SEBE:	AUC Directorate of Sustainable Environment and Blue Economy
SBSTA	UNFCCC Subsidiary Body for Scientific and Technological Advice
SBI:	UNFCCC Subsidiary Body for Implementation
SRO:	Subregional Research Organization
S3A:	Science Agenda for Agriculture in Africa
UNFCCC:	United Nations Framework Convention on Climate Change

EXECUTIVE SUMMARY

INTRODUCTION:

This is the executive summary of the decadal Africa Climate Smart Agriculture Implementation Plan (CSAIP) 2022-2032. It is an input for the operationalization of aspects of the African Union Climate Change and Resilient Development Strategy and Action Plan 2022-2032. The CSAIP is a framework for African countries, Regional Economic Communities (RECs) and other development stakeholders as they seek to implement their climate smart or resilient agriculture (CSA) policies, strategies, programmes, financing and support systems in response to the devastating and unabating impact of climate change on agriculture and sustainable food systems on the African continent

The CSAIP proposals are inputs and programme offerings for CSA policies, strategies, programmes, financing and support systems as well as institutional frameworks for governance, management and financing arrangements in the effort to promote transition to CSA practices across the African continent. These proposals will evolve over time in the implementation of the FARA broader Africa Climate Smart Agriculture Framework (ACSAF). CSA options integrate traditional and innovative practices, including agroecological practices, technologies and services that are relevant for particular location, are sustainable, economic and environmentally sound. There is no consensus as to what set of practices constitutes CSA.

AIM AND OBJECTIVES OF THE CSAIP:

The aim of this CSAIP is to provide a continental framework for the implementation of the CSA priorities of the AU climate change strategy 2022-2032 and the climate resilient agriculture pillar of the AU Green Recovery Action Plan (GRAP) 2021-2027 as well as to facilitate implementation of regional strategies and national CSA programmes. A CSA strategy needs to be aligned to other strategies on issues of food security, land degradation and biodiversity loss, among others. In essence, the CSAIP is not limited to serving simply as a technical resource for the two AU strategies but provides interventions and guidance to direct country-level engagements. The specific objectives are to:

a. Facilitate development of CSA policies, strategies and programmes in countries that have yet to embrace, adopt and transition to CSA practices.
b. Provide direct support to countries in the development of national CSAIPs and transition plans in the form of development of CSA investment plans.
c. Assist countries with undertaking institutional and policy reforms that are conducive for transition from conventional to CSA practices.
d. Lead, in collaboration with AU organs and agencies and other major regional and continental organizations, the development of capacity building and strengthening programmes for the integration of climate change considerations into Africa's agriculture and sustainable food systems transformation programmes and the effective implementation of national CSAIPs.
e. Guide the development of appropriate means of implementation, including financing arrangements, for CSAIP implementation at country and regional levels.
f. Assist countries to establish CSA stakeholders consultative, knowledge and information sharing platforms for the dissemination of CSA best practices, advancing proposals on performance-improving reviews of policy requirements and institutional architectures for sustained transition from conventional to CSA practices.

STATE OF CSA AND PRIORITIES OF THE CSAIP:

To assess the present position of CSA practices on the African continent, including what is working and what is not, as well as gender issues and also, determine priorities for the CSAIP, the development of this plan involved a continental survey of national stakeholders, development partners and various actors working on CSA, agriculture and sustainable food systems.

Present Position:

The present position on the continent is that more than 60% of African countries that responded to the survey questionnaire have CSA strategy and stakeholders' consultative platforms, while 50% have CSA policy frameworks. Only 25% of the countries, however, have CSA Investment Plans, 38% have CSA capacity building and strengthening programmes and CSA implementation support systems for farmers. The weakest areas of CSA adoption and implementation are in CSA gender frameworks, cost estimates for transition from conventional to CSA practices, capacity to estimate the expected level of GHG emissions reduction that CSA practices would bring about in a country. Only 13% of the countries had positive responses to these. What this means is that African countries need support for CSA policy framework, capacity building programmes, CSA investment plan and the development of CSA gender-responsive framework. Capacity for estimating GHG emissions in the agriculture sector needs to be developed in all African countries. The present situation depends too heavily on international consultants and is untenable.

Feedback from 80% of African countries points encouragingly and strongly to the evidence that CSA is currently widely practised across the African continent. The most widely-adopted practice is the use of improved seeds or new varieties of crops cultivars/ self-fertilizing/ climate-ready-and-resilient crops that are tolerant to extreme temperatures, droughts, floods and salinity, among others. This CSA practice is followed progressively by conservation agriculture and rangeland and pasture management through rotational grazing and improved forage, rainwater harvesting, and improved animal breeding and genetic selection for feed efficiency. This range of CSA practices is being undertaken by 70% of the respondent countries. It is worthy of note that some 60% of the respondent African countries practice alteration in land-use pattern, crop diversification and rotation or intercropping, integrated farming, integrated pest management and manure management. Only about 50% of the countries are, at present, investing in CSA practices involving integrated nutrient management, changes in planting times (changing cropping seasons), application of resource-efficient technologies, feed management, as well as relying on better weather forecasting and early warning systems. This needs rapid upgrading.

The implications are quite clear. CSA is widely practised in Africa. What Africa needs is a comprehensive CSA implementation plan geared towards addressing each and every country's specific needs in the efforts to transition from conventional to CSA practices. The transition is not a case of "one size fits all".

Priorities:

In response to the issue of countries' priorities in the launch of a Continental CSAIP, about 90% of African countries had as their highest priority the need to develop well-funded national incentives systems for transition to and adoption of CSA practices as well as ease of access to CSA technologies and innovations. This score is followed by the need for the development of CSA capacity strengthening programmes; the development and continuous enhancement of CSA national support systems; development and operationalization of an effective CSA national stakeholders' consultative and knowledge sharing platforms; development, institutionalization and enforcement of a national gender-sensitive or responsive framework for CSA policy, strategy and national support systems as well as access to CSA knowledge and information. These had a respectable score of 78%. Technical knowledge and models in GHG emissions estimation were considered critical by 67% of the responding countries. The same percentage or number of countries would like support in developing or updating their CSA Investment Plan and enhancing CSA financing arrangements. Slightly above 50% of the respondent countries worried about knowing the cost of transition from conventional to CSA practices.

What is Not Working Well: Survey results indicated that the following, among others, are not working adequately on CSA implementation:

1. Limited access to appropriate gender-sensitive technologies and innovations.
2. Poor technology transfers, especially to rural farmers. Interventions should target Africa's rural farmers by supporting emerging or building on the concept of Lead Farmers that can be used as pilots and later on to inspire others.
3. Inadequate policy incentives to attract more farmers to participate in CSA practices.
4. Government's inability to harmonize CSA messages across all players including NGOs.
5. Inadequate climate finance for improved investment for CSA adoption, especially by smallholder farmers. Climate finance is central to the success of CSA transition and adoption.
6. Ineffective adoption and implementation of existing National CSA Investment Plans as guiding national framework documents.
7. Absence of effective continental CSA platform for fact-finding and lessons learning among countries on implementation.
8. There is a need to ensure CSA policy and strategy are in place for a country to guide roll-out of a CSAIP.
9. There is a need for Government entities, especially Ministries of Environment, Climate Change and Agriculture, to work together in national synergy to facilitate implementation of CSA initiatives.
10. There is a lack of appropriate policies in some country context and climate finance to scale and speed up programmes for the expansion of utilization of newly released adaptable seed varieties of crops to combat droughts and diseases.
11. There is a need to allocate land to farmers to develop ranches for pastoral farming to minimize cattle headers-crop farmers conflicts arising from cross-border movements of cattle headers, which leads to the destruction of farmlands, crops and lives of farmers.
12. CSA adoption and transition needs a variety of human and institutional capacity building and strengthening interventions in countries among stakeholders (public and private sector, NGOs, farmers, farmers organizations, extension service providers, research institutions, etc.). Weak institutional framework at the level of governments needs to be strengthened.
13. Bottlenecks in accessing funds from the Green Climate Fund and other Climate Investment Funds should be addressed as a matter of urgency.
14. There is a need for modification of labour-intensity of equipment to facilitate participation by different groups of farmers, especially women.

In addition to the foregoing, national stakeholders would like to see the following addressed by the CSAIP:

1. Financial constraint hindering effective implementation of conservation agriculture[1]
2. A need to step up soil, water catchment survey and analysis in selected areas of agro-ecological zones.
3. A need to significantly increase the introduction of drought, diseases and pests resistant crop varieties in marginal land.
4. The CSAIP should set up a continental knowledge sharing platform on CSA practices.
5. The CSAIP should provide for protection, improvement and use of some of the most indigenous farming systems on the continent so as to preserve important genetic resources, such as edible wild crop relatives that are likely to be at risk.
6. The CSA Implementation Plan should provide for a robust capacity building and strengthening programme that improves the effectiveness and efficiency of all institutions involved in CSA policies, strategies, practices and programmes.

1 For instance the Participatory Integrated Climate Services for Agriculture (PICSA) as well as the Lesotho Machobane Farming System need to be rolled out in all the districts of the country.

What is Working in CSA Practices: From the national stakeholder survey, it was abundantly evident that some policies, strategies and programmes are working very well for farmers in CSA transition and adoption. Among these are the following:

1. Introduction of government support facilities for farming-land preparation and provision of extension services to farmers, especially small-holder farmers.
2. Improvements in biomass production and organic matter composting for commercial use.
3. Improvements in weather early warning systems and services with increased community integration for enhanced feedback and early actions.
4. Emergence of multi-stakeholder platforms and integration for improved harmonization of CSA implementation.
5. Increased adoption and intensification of conservation agriculture and its promotion through government programmes[2].
6. Involvement of increasing number of stakeholders, sectors and actors in the shaping of CSA policy, strategy and programmes.
7. Improvements in policies that support climate smart and conservation agriculture in terms of information dissemination and capacitation of most vulnerable members of communities, low-income households, indigenous people as well as small-holder farmers.
8. Development of CSA Practices Application Training Manual for agriculture colleges and extension services providers.
9. The use of *lead farmers* approach or model to pilot initiatives. The approach should be reinforced as it allows quicker adoption of conservation agriculture.
10. Growing investment in crossbred heifer, given very high demand.

Gender Issues in CSA Transition and Adoption: The national stakeholder survey showed that gender issues have not been given appropriate and adequate attention in the conception, development and implementation of CSA policies, strategies, programmes, financing as well as national support systems and services. Respondents strenuously stressed that gender mainstreaming is very weak in terms of outreach by institutions, and strongly recommended, among others, that:

1. Forums be set up at national, regional and continental levels dedicated to addressing gender issues in the implementation and management of CSA policies, strategies and programmes.
2. Land access for women, youth and the disabled needs to be improved considerably.
3. Participation of women and youth in CSA policy, strategy and programme development and implementation should be stepped up significantly.
4. Access to finance for women and youth in CSA implementation needs urgent attention. Ease of access to finance especially by rural women for farming and CSA adoption is particularly pressing.
5. National CSA investment gender targets be introduced, and performance assessed regularly, possibly quarterly and annually.
6. A need to promote CSA interventions that provide for time-saving techniques and technologies, especially for women and also for the youth who need to be enticed into agriculture.
7. A need to reform laws, norms, policies and practices that continue to perpetuate gender inequalities. This is particularly the case with customary laws and practices, which adversely affect women and constrain their effectiveness and productivity in agriculture.
8. A need for the CSAIP to address the development of tillage systems that are friendly to women and reduce drudgery and labour-intensiveness through mechanization. For example, conservation agriculture involving the preparation of holes is excessively labour intensive.
9. Development of gender-sensitive CSA technologies and innovations should be stepped up. New and improved tools and technologies should consciously take into consideration the differentiated role of women in agriculture.

2.. See for instance Zimbabwe's Pfumvudza programme supporting about 2million vulnerable households in maize, sunflower, soya beans, small grains production. The crop intensification production programme has resulted in high rates of adoption since farmers get inputs support in the form of seeds and fertilizers with extension services being provided by the government.

KEY COMPONENTS AND PROGRAMMES OF THE CSAIP:

Responses from the national stakeholder survey pointed to areas of priority needs, which range from country to country depending on the extent of ongoing CSA practices and resource support. The consolidated list of proposed areas consists of the following:

No.	Table 1a: Stakeholder Responses on CSA Areas of Need
1	Expansion and strengthening of the Participatory Integrated Climate Services Agriculture (PICSA) model
2	Upscaling of Conservation Agriculture/Tillage
3	Upscaling and enhancement of Farming Systems like the Machobane Farming System
4	Development and implementation of CSA gender sensitive framework for climate smart agriculture policy, strategy, programmes, financing and national support system
5	Development of national institutional capacity for determining and monitoring cost estimates for transition from conventional to CSA practices in each and every African country
6	Building and nurturing technical capacity for determining and assessing expected level of GHG emissions reduction that CSA practices will bring about in African countries adopting such practices
7	Provision of support for the development of National CSA Investment Plan with the possibility of replacing NAIPs with CSAIPs
8	Development, institutionalizing and enhancing national CSA support systems
9	Building capacity to and participating in the development and promotion of enhanced access to CSA technologies and innovation systems
10	Providing support for the development of CSA policy, strategy and programmes as per country's need
11	Enhancement of access to CSA technologies and innovations by all farmers, especially smallholder farmers
12	Encouragement of rainwater harvesting for irrigation
13	Development, implementation and monitoring of policies and strategies for institutionalizing grazing-land practice for livestock management
14	Vast expansion of provision of borehole water facility, especially in drought-stricken areas and generally in rural farming communities as part of social adaptation programme
15	Encouragement of the CSA practice of integrated land use management system peculiar to each ecological zone in each African country
16	Integration of non-timber forest products (NTFPs) with annual cropping farming practices
17	Promotion of restoration and management of wetlands and integration of aquaculture

Based on the foregoing, the priorities of the CSAIP are as follows:

No.	Table 1b: Emerging CSAIP 2022-2032 Priorities and Areas of Intervention
1	Conduct of Country Readiness Assessment Survey for the integration of climate change considerations into agriculture and food systems and CSA transition (including review of agriculture sector mitigation and adaptation measures in the NDC)
2	Development/update of climate smart agriculture policy
3	Development/update of climate smart agriculture strategy
4	Development/update of climate smart agriculture investment plan
5	Development of climate smart agriculture capacity building and strengthening programmes
6	Development/enhancement of climate smart agriculture financing arrangement
7	Development/enhancement of climate smart agriculture support systems
8	Development of climate smart agriculture national stakeholder consultative and knowledge sharing platform
9	Development of gender sensitive framework for climate smart agriculture policy, strategy and support system
10	Access to climate smart agriculture knowledge and information
11	Access to climate smart agriculture technologies and innovations
12	Training on models for estimating GHG emissions in the agriculture sector and vulnerability assessments - exposure, sensitivity and adaptive capacity
13	Cost estimates for transition from conventional to climate smart agriculture practices
14	Expected level of GHG emissions reduction that climate smart agriculture practices will bring about in the country
15	Development of financing arrangements for the cost of transition from conventional to climate smart agriculture practices
16	Design of incentive systems for transition to or adoption of climate smart agriculture practices
17	Development of climate smart agriculture research and innovation systems at national, regional and continental levels

In the implementation of these priorities, existing farming systems and practices will be strengthened and enhanced. While the responses to the stakeholder survey, which provided most of the inputs for the articulation of the CSAIP priorities only tacitly indicated the fundamental importance and role of agroecological farming systems and practices in the expansion of CSA across the African continent, this CSAIP will vigorously support CSA transitions that encourage agroecological farming systems and practices beyond conservation agriculture and other current intensification systems and practices. Appropriate gender-responsive policy measures, financing initiatives and incentives, as well as institutional and governance arrangements will be strongly encouraged to facilitate CSA transitions that promote the salient features of agroecological farming systems and practices particularly diversity, synergies, resilience, circularity and recycling and co-creation and sharing of knowledge (Box 1). CSA agricultural systems and practices under this CSAIP will need to protect the environment, biodiversity, nature-based processes, efficient utilization of natural resources and ecosystems, while enhancing productivity, incomes, livelihoods and health and preserving diversity of food traditions and culture.

Box 1: The CSAIP 2022-2032 and Agroecological Farming Systems and Practices

What is agroecology? It is not a particular farming system. Rather, it is a variety of farming practices that protect the environment, promote biodiversity, nature-based recycling processes and preservation of natural ecosystems, while enhancing agricultural livelihoods, productivity and incomes and preserving culture and food transitions and promoting health, among others, in support of CSA transitions in response to climate change challenges. Agroecological practices combine and build on traditional knowledge with science for continuous improvement and innovation. Its practices are context-specific due to diversity of local knowledge and agricultural landscapes, culture, food traditions and practices.

As FAO noted, agroecology is not a new intervention in agriculture. It has been practised over the years in various dimensions since the 1920s[3]. It has a number of distinguishing features[4]. Among these are the following:

1. Diversity5 of species, crops, genetic resources, etc., through farming systems and practices that conserve, protect and enhance natural resources, biodiversity, and ecosystems. Examples of such farming systems are agroforestry for vertical diversity; intercropping for spatial diversity; crop rotation for temporal diversity, diversity of live-stock breed in livestock management systems, integrated farming systems such as mixed crop-livestock or crop-fish farming systems, among others.
2. Synergies in diversified agricultural systems that combine annual and perennial crops, livestock and aquatic animals, trees, soils, water and other components on farms and agricultural landscapes to enhance complementarities in the context of climate change. For instance, with about 15% of nitrogen6 applied to crops coming from livestock manure, this points to benefits from mixed or integrated crop-livestock farming systems.
3. Resilience, as agroecologically diversified agricultural systems have better capacity to recover from shocks and disturbances, which include extreme weather conditions, floods as well as resist pests and diseases attacks. The community of interacting organisms tend to self-regulate pests and diseases outbreaks
4. Circularity and recycling in the agriculture sector – agricultural systems that espouse agroecological practices imitate natural ecosystems and therefore support biological processes that drive recycling of nutrients, biomass and water within production systems.
5. Efficient use of resources resulting from diversity, synergies and natural recycling processes, among other practices
6. Co-creation and sharing of knowledge through participatory processes that provide for shared knowledge that is context specific.

In addition, but not exclusively, agroecology promotes culture and food traditions in farming systems and practices, human and social values as well as responsible governance of the agriculture sector.

In the implementation of this CSAIP, efforts will therefore be made to embed the foregoing features or elements in countries' implementation plans for the cultivation of the enabling policy, financing and institutional environment for the operationalization of agroecology. They will also provide the basis for planning, monitoring and evaluating CSA transitions to ensure agroecological compliance or friendliness.

In essence, to transform agriculture and food systems effectively and sustainably, agroecological practices will need to be mainstreamed into current and future farming systems. They provide a desired response to high-external input, resource-intensive agricultural systems that have caused massive deforestation, water scarcities, biodiversity loss, soil depletion and high levels of GHG emissions. Agroecology is therefore a key response to climate change challenges in agriculture.

It is to this end that this CSAIP will reinforce agroecological systems and practices using CSA as the intervention framework.

3 FAO argued that "Agroecology is not a new invention. It can be identified in scientific literature since the 1920s, and has found expression in family farmers' practices, in grassroots social movements for sustainability and the public policies of various countries around the world. More recently, agroecology has entered the discourse of international and UN institutions". See FAO, Ten Elements of Agroecology – Guiding the Transition to Sustainable Food and Agricultural Systems (undated).

4 These elements emanated from FAO regional seminars on agroecology (op. cit)

5 As pointed out by FAO (op. cit), "increasing biodiversity contributes to a range of production, socio-economic, nutrition and environmental benefits. By planning and managing diversity, agroecological approaches enhance the provisioning of ecosystem services, including pollination and soil health, upon which agricultural production depends. Diversification can increase productivity and resource-use efficiency by optimizing biomass and water harvesting".

6 See FAO, op. cit. Also, FAO observed that in Asia, integrated rice systems combine rice cultivation with the generation of other products such as fish, ducks and trees. By maximising synergies, integrated rice systems significantly improve yields, dietary diversity, weed control, soil structure and fertility, as well as providing biodiversity habitat and pest control.

CSAIP EXPECTED OUTPUTS AND OUTCOMES:

The expected outputs and outcomes of this CSAIP include the following:

Table 2: CSAIP 2022-2031 Expected Outputs and Outcomes

No.	Performance Areas 2022-2032	Expected Outputs 2022-2032	Expected Outcomes 2022-2032
1	Development of CSA policies, strategies and programmes in countries that have yet to embrace, adopt and transition to CSA practices	Expanded CSA practices in 55 African countries and 8 AU-recognized RECs	Effective governance and management of CSA policies, strategies and programmes
2	Support to countries in the development of national agricultural transition plans in the form of CSAIPs and CSA investment plans	CSAIPs and CSA investment plans in 55 African countries and 8 AU-recognized RECs	All countries on the path of climate resilient transition in agriculture and sustainable food systems. National investment programme for coordinated funding for CSA adoption and transition
3	Assistance to countries to undertake institutional and policy reforms that are conducive for transition from conventional to CSA practices	55 African countries and 8 AU-recognized RECs with enhanced institutional and policy environment for CSA practices	Improved and responsive policy and institutional environment for CSA transition and practices
4	Leading, in collaboration with AU organs and agencies and other major regional and continental organizations, the development of capacity building and strengthening programmes for the integration of climate change considerations into Africa's agriculture and sustainable food systems transformation programmes and the effective implementation of national CSAIPs.	Enhanced capacity in 55 African countries and 8 AU-recognized RECs for integration of climate change considerations into agriculture and food systems and CSA practices	Sustained reform and adoption of agricultural transformation policies and strategies with integrated climate-change and gender-sensitive considerations
5	Guiding the development of appropriate gender-responsive means of implementation, including financing arrangements, for CSAIP implementation at country and regional levels.	55 African countries and 8 AU-recognized RECs supported with innovative financing strategies and means of engagements for effective implementation of their CSAIPs and CSA investment plans	Improved access to finance and support infrastructures for CSA investment plans and small-holder farmers, especially women and youth
6	Assistance to countries to establish CSA stakeholders consultative, knowledge and information sharing platforms for the dissemination of CSA best practices, advancing proposals on performance-improving reviews of policy requirements and institutional architectures for sustained transition from conventional to CSA practices	Shared knowledge, information and skills for 55 African countries and 8 AU-recognized RECs on CSA best practices and avoidable pitfalls	Ease of access to new knowledge and information services by policymakers and all categories of farmers, especially the majority of rural farmers (through channels including smart technologies and Apps)

7	Facilitation of development of national and regional innovation systems for climate smart agriculture and food systems	National and regional innovation systems and institutional frameworks developed in 55 African countries and 8 AU-recognized RECs in aid of continuous improvements in CSA practices	Capacity within African countries and regions for continuous improvements and innovations in the integration of climate change into agriculture and food systems. Strong link between CSA research and innovation-driven expansion of CSA practices and adoption

CSAIP DELIVERY MODALITIES:

These will be through sensitization of African countries, regional bodies and other stakeholders, development partners supporting agriculture and sustainable food systems to tools and instruments for CSAIP implementation at continental, regional and national levels. The modalities will consist of the following, among others:

a. Organization of regional roll-out workshops for member states and regional bodies. These will be held in each of the regions.
b. Presentations and engagement with countries requiring direct support for application of the CSAIP framework in coherence with other strategies for food security, biodiversity loss, soil and water management.
c. Integration of the CSAIP into the broader AU climate change strategy and green recovery implementation frameworks.
d. Engagement of development partners for inclusion of the CSAIP in their agriculture and food systems support programmes for Africa.
e. Facilitation of development of continental means of implementation for countries to transition to CSA from conventional agriculture.
f. Assignment of roles and responsibilities to members of CSA national platforms, especially the private sector, NGOs and farmers organizations to lead specific aspects of the national CSAIP and CSA investment plans7.
g. Facilitation of an effective, responsive and representative composition of CSA teams at national level to provide for groups that are most vulnerable to climate change, the smallholder farmers, fisher communities, pastoral and agro-pastoral communities, women and youth.
h. Encouragement and facilitation of efforts by governments to ensure that CSAIPs are developed at subnational levels, especially at local government or communities' level in support of village and district levels participation in CSA planning process, transition and adoption8.
i. Alignment of CSAIP with all ongoing initiatives and programmes of development partners at continental, regional and national levels and their working groups or task forces.

7 Development and implementation of CSA policies and strategies are too public sector centric. There is need to assign roles to non-governmental organizations beyond mere consultations to lead implementation of aspects of plans.

8 This is already the practice in some countries like Rwanda where all 30 Districts (local administrative entities) usually develop their own District Development Plans building on national sectoral targets. Districts, therefore, have some autonomy to domesticate these national targets according to local conditions and priorities. More specifically, each district responds to the national targets according to the existing opportunities and challenges within their own districts. For example, a rural district with relatively higher land availability and having issues of increasing droughts will have to prioritize the climate resilient agriculture actions as set by the Rwandan Government's Strategic Plan for Agricultural Transformation 4 (PSTA4), covering the period of 2018–2024.

CSAIP GOVERNANCE AND MANAGEMENT:

The application of this CSAIP framework requires established governance and management institutional framework at country level. Depending on each country's circumstances, such arrangement will be expected to include the following, among others:

a. A dedicated, well-staffed and equipped organizational structure within the Ministry of Agriculture or agency with responsibility for CSA. The composition and functions of the structure will be determined based on institutional needs assessment to determine requirements for effective operation and high-level performance.
b. A national stakeholders' platform for harvesting ideas and innovations for continuous reform and improvement of policies and programmes.
c. Production of an annual report of CSAIP performance will be expected. The reports will be consolidated to generate regional and continental level reports.
d. Establishment of a knowledge hub to profile CSA implementation and provide access to performance reports. These will be consolidated by FARA across the continent. The knowledge hub will also offer knowledge services to countries.
e. Creation of appropriate Apps for real-time access to knowledge and information by farmers seeking guidance in languages that are accessible.

MEANS OF IMPLEMENTATION OF CSAIP:

The implementation of this CSAIP will be at national and regional levels. Domestication will therefore be the responsibility of each country. This could be facilitated by development partners, NGOs and agencies operating at the country level through interventions, which include capacity building and strengthening programmes across the CSA value chains. This plan proposes the following financing arrangements for CSAIP implementation:

1. Creation of a dedicated country level CSA fund
2. Establishment of a dedicated UNFCCC Subsidiary Body for Developing Countries, Agriculture and Food Systems
3. Ring-fenced funding and improved allocation of resources under the Green Climate Fund, Global Environmental Facility and Climate Investment Funds for CSA transition and adoption in Africa
4. Reform of domestic financial sector to ease access to resources for CSA transition and practices
5. Prioritization and incentivization of private sector investment in CSA.
6. Offset of debt with national carbon credits for countries with repayments made to national Emissions or Green Transition Funds that will provide for the proposed dedicated CSA Fund to support immediate adaptation programmes in areas severely affected by droughts.
7. Regular presentation of the CSAIP in investment forums to support mobilization of financing for countries' CSA investment plans and programmes.

MONITORING, EVALUATION AND REPORTING ON THE CSAIP:

This CSAIP will be monitored by means of annual implementation reports issued by countries and consolidated by FARA. Evaluation will be done biennially, and reporting made to AUC and continental stakeholders. What will the CSAIP monitor and evaluate? These will consist of the following indicators:

1. Number of countries transitioning to CSA from conventional agriculture
2. Range of CSA practices being adopted across the continent
3. Rate of adoption of CSA practices
4. Impact of CSA practices on productivity, output, and incomes, carbon sequestration, GHG emissions, biodiversity, among others.

5. Funding made available for CSA implementation at the international level
6. Extent of financing of CSA investment plan at country level
7. Nature of CSA support systems put in place by governments
8. Gender responsiveness of national CSA policies, strategies and financing
9. Effectiveness of access to CSA information and knowledge by farmers
10. Effectiveness of CSA capacity development programmes

RISKS AND RISK MANAGEMENT STRATEGIES IN CSAIP IMPLEMENTATION:

The risks facing implementation of this CSAIP and the strategies by which they can be managed are as follows:

Table 3: Potential Risks and Management Strategies

No	Potential Risk	Rating	Management Strategy
1	The CSAIP may not be adopted by countries due to poor resource support for CSA transition	Medium	Commitment of 10% national budgetary allocation to agriculture sector made by African Heads of State and Government under the Maputo Declaration in 2003 and renewed in 2014 under the Malabo Declaration is yet to be met by many African countries. The sector is still not adequately funded, dependence on donor funds is high in some cases and budget execution rate low in other cases. Transition to CSA requires support systems, which need complementary resources. This CSAIP proposes sources of financing including reform of existing sources so as to facilitate CSA transition. There is a growing call for the CoPs to pay more attention to issues of agriculture and food systems. Egypt pledged to bring up agriculture at CoP27 as host country.
2	Governments are not likely to be able to provide required support systems for CSA transition	Medium	Experience from about 22 African countries implementing CSA programmes have shown encouraging commitment. There is a need to do more, especially given that the execution rate of agricultural sector budget is on the low side in a context of inadequate resources. Given the urgency of the need to integrate climate change considerations in agriculture and food systems, governments will be compelled to step up responses. External support is reasonably available to supplement government's measures. Improvement in fund disbursement is however of vital importance.
3	Inadequate international funding for CSA transition will remain due to poor attention to agriculture and food systems issues at the UN CoPs.	Medium	International concerns and interest in CSA transition in Africa is growing rapidly. These, however, have not been met with commensurate resource support. Strong voices at CoP27 and a push for more resources from sources such as GCF, GEF and CIFs as well as bilateral and multilateral institutions could minimize this risk. African countries also need to improve execution rate of budgets for food and agriculture projects.

4	International financing for CSA investment programmes will remain low and grossly inadequate due to inability of the international community to meet overall commitments for climate change responses.	Medium	Climate finance of US$100billion annually by 2020 pledged by developed countries at the climate conference in Copenhagen in 2009 has not be fully met. There was a recommitment to this financing at CoP26 with a pledge of US$500billion by 2027. There is promising goodwill on the part of the international development community for climate finance, which will positively affect CSA investment programmes.
5	Domestic finance institutions will see CSA transition as riskier compared to conventional practices	Medium	Domestic financing arrangements have not been very effective thus far. Encouragement of domestic finance institutions will help alleviate this risk. Appropriate incentives could have positive impact on the flow of domestic funds from finance institutions.
6	Continuing insecurity and conflicts across the continent will undermine successful transition to CSA practices and achievement of its benefits.	Medium to high	Insecurity arising from insurgencies is a major challenge to the farming community. This has displaced farmers and left farmlands to waste. Governments are committing resources to improve the security situation and displaced people are gradually being resettled. While this still remains a high risk to agriculture and food security, it is equally promising that within the period of this CSAIP the security situation will improve to allow farmers to expand production.
7	Crop and livestock insurance will remain out of reach for small-holder farmers thus undermining uptake of CSA practices	High	Insurance is still out of reach for a majority of farmers, especially those in rural communities. Loss of crops and livestock due to extreme weather arising from climate change remains a huge risk. The situation in the Horn of Africa and the Sahelian subregion attests to the devastating impacts of climate change. Innovative ways of insuring small-holder farmers need to be developed as part of social adaptation programmes. This should be part of a just transition in the planning of programmes for climate resilient agriculture and sustainable food systems.

CONCLUSION:

National CSAIPs and CSA investment plans should supplant the CAADP NAIPs or be more dominant in ongoing agricultural transformation strategies and investment plans. For this strategic transition to take place, governments and the international development partner community may insist on supporting each country's agriculture and food systems through gender-responsive national CSAIP frameworks. FARA should work with AUC and other institutions to push for a decision on this at CoP27 or subsequent COPs.

NEXT STEPS:

The AU Climate Change and Resilient Development Strategy and Action Plan 2022-2032 for which this CSAIP is an input in the implementation framework will need to be adjusted. This should provide for the following, among others:

1. A consolidation of the agriculture, food systems and related interventions into one Axis for coherence and coordination.
2. Provision for refinement of the objectives and outcomes to include expected reductions in GHGs that will result from each of the Axes and their priorities. The essence of climate resilient development is a definitive and measurable reduction in GHG emissions through strategies, policies and programmes.

3. Propose implementable financing mechanisms and instruments for CSA expansion highlighting what is working and what is not, with concrete country cases of progress in this direction. African countries are not starting from the scratch.
4. Recognize the need for and facilitate transition from country and regional National Agriculture Investment Plans (NAIPs) to gender-responsive Climate Smart Investment Programmes (CSAIPs) and related investment plans
5. Provide support to significantly increase the number of African countries with gender-responsive CSA supportive policies, strategies, investment programmes and financing arrangements.

I. INTRODUCTION

I.1. Overview

This is the decadal Africa Climate Smart Agriculture Implementation Plan (CSAIP) 2022-2032. It is an input for the operationalization of the African Union Climate Change and Resilient Development Strategy and Action Plan 2022-2032. The CSAIP is a framework for African countries, Regional Economic Communities and other development stakeholders as they seek to implement their climate smart or resilient agriculture policies, strategies and programmes in response to the devastating and unabating impact of climate change on agriculture and food security on the African continent9.

The CSAIP proposals will serve as inputs and programme offerings for CSA policies, strategies and programmes as well as institutional frameworks for governance, management and financing arrangements in the effort to promote transition to CSA practices across the African continent. These proposals will evolve over time in the implementation of the FARA broader Africa Climate Smart Agriculture Framework (ACSAF). They will therefore continue to undergo reviews and refinements through stakeholder feedbacks and recommendations even after this final report on the CSAIP design.

The delivery of this assignment was undertaken over the period from July to November 2022 and in line with the terms of reference. The context in which this assignment was carried out required strong collaboration across leading regional and continental institutions for the integration of the CSAIP into the implementation frameworks of the AU Climate Change and Resilient Development Strategy and Action Plan 2022-2032 and the AU Green Recovery Action Plan (GRAP) 2021-2027.

I.2. Aim and Objectives of Assignment

The terms of reference of this assignment sets forth the main objective as being to "*develop knowledge materials that will inform appropriate policy action at the continental, sub-regional, and national levels for managing climate change adaptation related to agriculture*". To this end, fundamentally, this assignment will therefore need to provide concrete inputs for the implementation of the agriculture and food systems-related components of AU Climate Change and Resilient Development Strategy and Action Plan 2022-2032 and the AU GRAP 2021-2027. With respect to the AU climate change strategy, the CSAIP provides specific guidance on the implementation of Axis 2 priorities to facilitate implementation at country, regional and continental levels. This equally applies to the AU GRAP's Pillar on Climate Resilient Agriculture. In essence, this assignment aids implementation of the AU climate change and green recovery strategies. Hence, in addition to the full CSAIP and possibly a policy brief, there could be an Implementation Advisory Memorandum to the AUC on the utility of this Plan in the roll-out of the AU climate change strategy and the GRAP initiative[10].

The specific objectives of this assignment are twofold. These are to:

a. Develop a 10-year (Decadal) Plan to implement the Africa Climate Change and Resilient Development Strategy and Action Plan 2022-2032 as it relates to agriculture[11].
b. Present the Plan (an Africa Climate Smart Agriculture Implementation Plan 2022-2032) for validation at the FARA Biennial Climate Smart Agriculture Conference on 14-16 September 2022[12].

9 Climate change predictions remain stubbornly uneasing and unnerving, if not frightening. Recent indications are that millions in the tropics could potentially be exposed to dangerous heat waves for half of the year by 2100, even if Paris Agreement targets are met, and outside the tropics deadly heat waves will become annual occurrences. Beyond 51 degrees Celsius, temperatures are considered dangerously high and unsafe for human beings. The likelihood is high that the Paris Agreement deal of less than 2 degrees Celsius above preindustrial levels may not be met, thus exposing the tropics and the African continent to severe temperatures and weather conditions. This places much of sub-Saharan Africa at considerable risk - see, Lucas Vargas Zeppetello, Harvard University Study Report 2022, *Journal of Communications, Earth and Environment*, 2022.

10 The Advisory Memoranda will be submitted through the African Union Commissioner for Agriculture, Rural Development, Sustainable Environment and Blue Economy (ARBE).

11 This will be extended to the AU Green Recovery Action Plan 2021-2027 that has Climate Resilient Agriculture as one of its five Pillars.

12 Due to the late start of this assignment (end July 2022), the Inception and Progress Report of 18th August 2022 advised that it would not be possible to present a final CSAIP, as consultations would be ongoing by the time of the CSA Biennial Conference in September 2022.

Thus, this assignment will present a continental framework for launching FARA ACSAF at the United Nations Climate Change Conference (CoP27) at Sharm El-Sheikh, Egypt, in November 2022, while contributing to the implementation of the AU climate change and green recovery strategies and action plans.

I.3. Assignment Delivery Modalities

Annex 2 presents the modalities for the delivery of this assignment. These consist of the approach, methodology, a clarification of the scope of the assignment, major stakeholders and development partners that are being consulted and key documents that have so far informed the analysis in the preparation of the CSAIP.

I.4. Assignment Activities, Deliverables and Timelines

Annex 3 sets out the core activities of the assignment, expected deliverables and the timelines for their production. The assignment is expected to be completed by the end of September 2022. Data and information for the preparation of the CSAIP were collected from three sources: a) a desk review of the AU Climate Change and Resilient Development Strategy and Action Plan 2022-2032, the AU Green Recovery Action Plan 2021-2027 and numerous reports on Africa's agriculture and food systems with implications for CSA transition on the continent; b) survey of government ministries and agencies, RECs, development partners, IGOs, NGOs and various organizations working in the areas of climate smart or resilient agriculture; and c) interviews of selected policymakers, development stakeholders and partners working on CSA policies, strategies and programmes.

(a) Desk review

The desk review covered a range of documents. These are listed in Annex 3 of this report. They include the AU climate change and green recovery strategies, national and regional climate change strategies, CAADP, AU Malabo declaration, reports of international organizations and meetings on CSA, among others.

(b) Surveys through questionnaires

Two sets of questionnaires were developed and administered (Annex 4). One targeted Governments/Ministries of Agriculture and the other was directed at development partners, the private sector and organizations working in the area of agriculture and sustainable food systems in Africa.

(c) Interviews with selected stakeholders

In addition to responses to the questionnaires, interviews were held with senior development managers of various agriculture organizations to deepen responses and perspectives on various aspects the CSAIP.

I.5 Main Deliverables

The main deliverables of this assignment consisted of the following:

a) An inception report laying out the design of the assignment, the methodology and a provisional outline. This was completed on 18 August 2022.
b) This interim report that was presented at the FARA Climate Smart Agriculture Biennial Conference on 14 -16 September 2022 and transmitted for comments.
c) This final Africa Climate Smart Agriculture Implementation Plan 2022-2032 for roll-out.

I.6 Scope of the Assignment

The focus of the CSAIP is on five priorities of the AU climate change strategy. These are priorities 1, 2, 6, 7 and 8[13] under Axis 2 of the strategy. To this end, the CSAIP provides the much-needed inputs for the CSA-related Axis 2 priorities. It also responds to implementation planning needs of the Climate Resilient Agriculture Pillar of the AU Green Recovery Action Plan 2021-2027. Thus, the scope of this assignment was limited to developing a CSAIP that offers implementation framework for Axis 2 of the AU Climate Change and Resilient Development Strategy and Action Plan 2022-2032 and the Climate Resilient Agriculture Pillar of the AU Green Recovery Action Plan 2021-2027. Elements in the CSAIP and the delivery instruments and tools are highlighted in Table 1.

13 As relates to digitalization of agriculture

Table 1: CSAIP for the AU Climate Change and Resilient Development Strategy and Action Plan, 2022-2032 in the Area of Agriculture and Food Systems

No.	Elements in Development of the CSAIP	Delivery Instruments and Tools of Engagement
1	CSA Implementation Planning Activities	CSA country profiling studies and mapping of ongoing interventions by governments, private sector, development partners and NGOs, among others Needs assessment to validate CSA priorities in the climate change strategy and action plan CSA capacity development programmes CSA communication and knowledge management system for national, regional and continental-level sharing of best practices and solutions Advocacy for CSA transition from conventional agricultural practices to more sustainable ones.
2	Sensitization and Mobilization of National and Regional Stakeholders	Strategies for country and regional roll-out of the CSAIP National stakeholders' coordination framework Convening of stakeholder, development partners and investors platforms in support of the CSAIP Establishment of Technical Advisory Panels in support of CSA implementation
4	Development and Roll-Out of the CSAIP	Preparation of annual work programmes Integration of CSAIP into national agricultural and food security policies, strategies and plans; National Economic Recovery Plans; National Green Growth Strategies and Plans; and NDC-aligned National Development Visions and Plans
5	Means of Implementation of the CSAIP	Public sector role and responsibility Private sector engagement Development partner engagement CSA national transition policies and support systems Defined intervention instruments including capacity building and strengthening, law, norms and policy reforms, tax incentives, investment promotion
6	Monitoring, Evaluation and Reporting on Implementation of the CSAIP	Institutional coordination mechanism Monitoring, evaluation and reporting frequency

I.7 Structure of Report

This report was prepared in four parts. Part I is introductory and presents an overview of the assignment that guided the development of the CSAIP, the aim and objective of the assignment, approach and methodology, delivery modalities and the scope of work. This Part also outlines the main deliverables of the assignment and the timelines in their production. Part II examines Africa's climate change context and the impact of climate change on Africa's agriculture and food systems. It presents highlights of the consultations undertaken on issues in the development of the Continental CSAIP. In Part III, the emerging elements of the CSAIP 2022-2032 are presented. These consist of the aim and objectives, the key components and priorities, expected outcomes of the CSAIP, delivery modalities and means of implementation. Other aspects of the CSAIP include its governance and management arrangement, instruments in the monitoring and evaluation of the Plan as well as potential risks and their management strategies in the launch and implementation of the Plan. And lastly, Part IV brings up conclusions and presents the next immediate steps required for the roll-out of the CSAIP.

II. CONTEXT

II.1 Overview

But Why Develop a Continental CSAIP?

This CSAIP is developed in response to the challenges of climate change. The impact of climate change on agriculture and sustainable food systems in Africa has been devastating and remain a major threat to lives and livelihoods. Mitigating and adapting to its effects constitute an existential requirement for the African continent. Yet, in turn, Africa needs to play its role in global efforts to reduce the contribution of agriculture to GHG emissions that are responsible for global warming despite the continent's limited share in global emissions. The agriculture sector is the second largest contributor to GHG emissions after energy. It is for this reason that it is of vital importance for Africa to transition its agriculture and food systems from their conventional to climate smart or resilient and sustainable practices. Progress is being made, albeit insufficiently. African countries are heavily dependent on agriculture. Transition holds significant benefits for agricultural productivity, increased outputs, incomes, green jobs and value-chain opportunities.

II.2 Agriculture in Africa's Development

Despite the impressive growth of Africa's agriculture in the past two decades, Africa's food and nutrition challenges remain enormous and food security precarious. Some 40% of the continent's 1.3 billion people still live below the US$1.90 per day poverty line. This has been further exacerbated by the devastations caused by the Covid-19 pandemic. MDG 1 had sought to reduce condition of extreme poverty and hunger by half by 2015. Progress was made but was insufficient. The Malabo Declaration of 2014, on the one hand, and UN SDGs 2030 and Africa's Agenda 2063, on the other, placed emphasis on ending poverty in all its forms and ensuring food and nutrition security for all by 2025 and 2030, respectively. Africa, with the support of the international development community, is investing in agriculture and food systems to fight poverty and hunger. At many levels, the right things are being done. But these remain generally inadequate in scope and coordination, and often insufficiently financed during execution.

The situation is being compounded by the effects of climate change, conflicts, farm killings and recently the ongoing Russian-Ukraine conflict. From improved seeds to modern crop protection solutions, to smart technology for farmers in the fields and their access to market information, to making foods fresher, safer, and healthier, Africa's agricultural and food system can and urgently need to be more productive, more sustainable, more efficient, and more interconnected. Significantly enhanced investment in climate resilient agricultural transition with required support systems from policies through to technologies, capacity and financing are critical for the continent to respond effectively to its food security needs in the face of the challenges posed by climate change.

Extreme temperatures[14], flash floods, wildfires and droughts are increasingly becoming more frequent and intense due to climate change. These are causing mass displacement of people. Drought has placed some 22 million people at the risk of starvation in the Horn of Africa (UN WFP, August 2022). This represents a rise of about 9 million since the start of 2022 for the subregion. WFP stated this is the result of failure of four consecutive rainy seasons, which has pushed populations in Kenya, Ethiopia, and Somalia to the brink of famine. It noted that more than a million people have left their homes in search of food and water.

14 Beyond the continent, the issue of unprecedented heatwave has been global this year. In August this year, China warned of the severe threat to autumn harvest from agriculture due to the worst heat wave it has so far recorded. The heat is drying up the critical Yangtze River, with its water flow 50% lower than the five-year average. It is urging crop protection in the face of the country's hottest summer on record…urging water conservation for crops (Greenpeace, East Asia)

Box 1: Worrying Insecurity Challenges in Africa's Agriculture and Food Security

Africa needs to address the security issue to ease the challenge of food security.

African countries are struggling to curb infiltration of insurgents, militants, and bandits across much of the continent. Military operations have been stepped up against these groups in the Sahel region and much of the south of the Sahara Desert, and around the Lake Chad, sections of Central, Eastern and Southern Africa. The security situation is complex and challenging, given the highly motivated and mobile nature of these groups who often use motorbikes to stage ambushes and surprise attacks on villages and farming communities and even military posts and targets. Badly shaken locals are abandoning their villages, farms and livestock. This has made united national and cross-border strategies imperative.

II.3 Consultations on Issues in the Development of Africa's Climate Smart Agriculture Implementation Plan 2022-2032

II.3.1 Overview of Findings

The draft CSAIP 2022-2032 report was presented at the FARA CSA conference on 14-16 September 2022 in Accra, Ghana. The excellently well-attended conference drew more than 250 physical participants and some more online. Very few issues on the CSAIP draft report were raised by participants and also discussed during a panel session. To these, immediate responses were provided. This report adjusts for the feedback received at the conference. Central among these is the issue of access by African countries and organizations to effective, efficient and adequate climate finance. However, the major challenge has been and still remains. And that is, climate finance for what? African countries will need to put forward bankable projects and programmes in order to be able to benefit from the CSAIP.

Following the CSA conference, the development of the CSAIP undertook a field survey among all 55 African countries. All ministries of agriculture, livestock, land, forestry, fishery, range, water and rural settlement/development were contacted. There were however only 23 responses. Twelve were through telephones, one was by zoom call and ten filled out the questionnaire. Responses in much of West Africa and the Sahel region were largely absent due to transitional governments. Countries such as Kenya and Lesotho were also in democratic political transitions following elections that brought in a new president and a new prime minister, respectively. In the case of Nigeria, a political transitional process is ongoing with elections due in the first quarter of 2023. Insecurity in much of the African continent and climate-change induced floods that have displaced a large number of farmers and the rural farming community also affected ability of some countries to respond effectively and present credible representation of the situation in respect to the issues raised in the questionnaire.

Despite these challenges, responses were received from 23 countries and these significantly represented the diversity of the agroecological zones and agricultural capacity of the continent – from the leading economies such as South Africa and Nigeria to the most challenged needing immediate support like South Sudan and those in-between. Combined with feedback from the conference and given the situations facing countries in terms of political transitions and insecurity, the indications are that there will be little to no statistically significant difference in the findings of the survey, if it is to be reconducted over and over again.

II.3.2 Analysis of Results

Table 1 summarizes the main findings from the questionnaires that were submitted. Not all questions were responded to consistently by the respondents. As a result the average score for each of the questions varied according to the number of respondents. These ranged from 8-10 respondents to the questionnaires.

To enable respondents to freely express their views, the survey made it optional for disclosure of names, positions and titles. The survey also undertook that individual responses would not be identified, and their responses attached to the report. As a result only consolidated results and averaged scores are presented. However, for operational programming and follow-ups, the survey provided for countries with special intervention needs.

A total of 23 countries responded to the survey that was administered directly by email directly to the senior management of agriculture, land, fisheries ministries across the African continent. The distribution of country respondents consisted of Minister, Deputy Minister, Chief Directors, Directors, Deputy Directors, Assistant Directors, Principal Officer and a Senior Officer who reported under the guidance of a Minister.

Due to the somewhat sensitive nature of some of the questions, 13 respondents provided their feedback by phone calls as provided for in the questionnaire. One opted for a conference call on the Zoom online meeting platform, while 10 submitted responses through the questionnaires. There was delay in sending out the French translation of the questionnaire, while some countries are still in political transition. Transitional countries were, understandably, unable to respond due to uncertainty in ministerial positions. On the whole, the 23 respondents provided a reasonably good, if not a respectable, reflection of the state of CSA policies, strategies, programmes, practices, financing as well as the effectiveness of national stakeholders' consultation platforms on the African continent and the nature and structure of the priority needs under the AU GRAP

With respect to the survey questions, the summary of the responses are as follows:

1) Which of the following frameworks does the Government/Ministry of Agriculture have in place in respect of climate smart agriculture?

In terms of the responses, more than 60% of the countries that responded have CSA strategy and stakeholders' consultative platforms, while 50% have CSA policy framework. Only 25% of the countries, however, have CSA Investment Plans, 38% have CSA capacity building and strengthening programmes and CSA implementation support systems for farmers. The weakest areas of CSA adoption and implementation are in CSA gender framework, cost estimates for transition from conventional to CSA practices, capacity to estimate the expected level of GHG emissions reduction that CSA practices would bring about in a country. Only 13% of the countries had positive responses to these.

Box 2: Implications of Findings for Future Country Support

African countries need support for CSA policy framework, capacity building programmes, CSA investment plan and the development of CSA gender-responsive framework. Capacity for estimating GHG emissions in the agriculture sector needs to be developed in all African countries. The present situation depends too heavily on international consultants and is untenable.

1) In which of the following frameworks or intervention areas of a continental CSA Implementation Plan in support of the African Union Climate Change and Resilient Development Strategy and the AU Green Recovery Action Plan do you think your country needs support?

In response to this question, about 90% (89%) of African countries had as their highest priority the need to develop well-funded national incentive systems for transition to and adoption of CSA practices as well as ease of access to CSA technologies and innovations. This score is followed by the need for the development of CSA capacity strengthening programmes; the development and continuous enhancement of CSA national support systems; development and operationalization of an effective CSA national stakeholders' con-

sultative and knowledge sharing platforms; development, institutionalization and enforcement of a national gender-sensitive or responsive framework for CSA policy, strategy and national support systems as well as access to CSA knowledge and information. These had a respectable score of 78%. Technical knowledge and models in GHG emissions estimation were considered critical by 67% of the responding countries. The same percentage or number of countries would like support in developing or updating their CSA Investment Plan and enhancing CSA financing arrangements. Slightly above 50% of the respondent countries worried about knowing the cost of transition from conventional to CSA practices.

Box 3: Implications for National Incentive Systems for CSA Adoption and Practice

Priority areas for African countries in CSA transition include developing and strengthening countries' national incentive systems for the adoption of CSA practices as well as access to gender-responsive technologies and innovations. This is followed by CSA implementation capacity building and establishment of national consultative platforms for knowledge sharing. Also of critical need is the development of gender-sensitive framework for CSA adoption and implementation by all African countries. Gender-responsive framework for CSA adoption and implementation remains extremely weak across all countries on the African continent.

2) Which of these Climate Smart Agriculture Practices are currently undertaken in your country?

Feedback from 80% of African countries points encouragingly and strongly to the evidence that CSA is currently widely practised across the African continent. The most widely-adopted practice is the use of improved seeds or new varieties of crops cultivars/ self-fertilizing/ climate-ready-and-resilient crops that are tolerant to extreme temperature, drought, flood and salinity, among others. This CSA practice is followed progressively by conservation agriculture and rangeland and pasture management through rotational grazing and improved forage, rainwater harvesting, and improved animal breeding and genetic selection for feed efficiency. This range of CSA practices is being undertaken by 70% of the respondent countries. It is worthy of note that some 60% of the respondent African countries practice alteration in land-use pattern, crop diversification and rotation or intercropping, integrated farming, integrated pest management and manure management. Only about 50% of the countries are, at present, investing in CSA practices involving integrated nutrient management, changes in planting times (changing cropping seasons), application of resource-efficient technologies, feed management, as well as relying on better weather forecasting and early warning systems. This needs rapid upgrading.

CSA practices that are yet to see progressively enhanced adoption include improved diet composition, supplementation of feed additives and selection of forage plants of high-quality for breeding as well as crop relocation practice. The current reported adoption rate is 30% among countries across the continent. Site-specific nutrient management, as a practice, was slightly ahead at 40% adoption rate across African countries. Crop and livestock insurance schemes were however abysmally low and available in only 20% of the countries that responded.

Box 4: Implications for Enhanced Adoption of CSA Practices Across the African Continent

CSA is widely practised in Africa in varying levels and dimensions.. What Africa needs is a comprehensive CSA implementation plan geared towards addressing each and every country's specific needs in the efforts to transition from conventional to CSA practices. The transition is not a case of "one size fits all".

3). What are your country's immediate priority projects and programmes in climate smart agriculture and sustainable food systems that could be supported under the continental Africa Climate Smart Agriculture Implementation Plan (CSAIP)?

Responses from countries pointed to areas of priority needs, which range from country to country depending on the extent of ongoing CSA practices and resource support. The consolidated list of proposed areas consists of the following:

No.	Potential Priority CSA Projects for Possible Support under the Continental CSAIP
1	Expansion and strengthening of the Participatory Integrated Climate Services Agriculture (PICSA) model
2	Upscaling of Conservation Agriculture/Tillage
3	Upscaling and enhancement of the Machobane Farming System
4	Development and implementation of CSA gender sensitive framework for climate smart agriculture policy, strategy, programmes, financing and national support system
5	Development of national institutional capacity for determining and monitoring cost estimates for transition from conventional to CSA practices in each and every African country
6	Building and nurturing technical capacity for determining and assessing expected level of GHG emissions reduction that CSA practices will bring about in African countries adopting such practices
7	Provision of support for the development of National CSA Investment Plan with the possibility of replacing NAIPs with CSAIPs
8	Development, institutionalizing and enhancing national CSA support systems
9	Building capacity to and participating in the development and promotion of enhanced access to CSA technologies and innovation systems
10	Providing support for the development of CSA policy, strategy and programmes as per country's need
12	Enhancement of access to CSA technologies and innovations by all farmers, especially smallholder farmers
13	Promotion of rangeland and pasture management through rotational grazing and improved forage
14	Encouragement of rainwater harvesting for irrigation
15	Development, implementation and monitoring of policies and strategies for institutionalizing grazing-land practice for livestock management
16	Vast expansion of provision of borehole water facility, especially in drought-stricken areas and generally in rural farming communities as part of social adaptation programme
17	Institutionalization of range land management system
18	Encouragement of the CSA practice of integrated land use management system peculiar to each ecological zone in each African country
19	Integration of non-timber forest products (NTFPs) with annual cropping farming practices
20	Promotion of restoration and management of wetlands and integration of aquaculture

Box 5: Implications for Determination of Priority Interventions

CSA is widely practised across African countries in various dimensions.
The implication is that support CSA adoption and expansion need to be country-specific rather than a common or general programme of support. A one-size-fits-all will be inappropriate.

4). Based on your experience in the implementation and management of climate smart agriculture policies, strategies and programmes, please list what has not worked well and that could benefit from interventions through the Climate Smart Agriculture Implementation Plan (CSAIP).

Respondents put forward what they felt have not worked well in the adoption and implementation of CSA practices in their countries. Box 6 presents a summary of issues raised.

Box 6: CSA Practices in Africa: What Has Not Worked Well

1. Limited access to appropriate technologies such as planters and ridgers (tractor drawn)
2. Inadequate policy incentives to attract more farmers to participate
3. Absence of national targets on climate smart initiatives
4. Inability to harmonize climate smart messages across all players including NGOs
5. Lack of financing for improved investment for smallholder farmers
6. Need to facilitate the building up of biomass for incorporation into the soil
7. Despite development of a National Climate Smart Agricultural Investment Plan being in place there is little or no implementation and its full adoption as a guiding document.
8. Inadequate continental CSA platform for fact-finding and lessons learning among countries on implementation.
9. The project approach versus the integration of funded efforts into national programs seem to be producing less sustainable results. There is need to ensure CSA policy and strategy are in place to guide application of CSAIP.
10. The implementation and management of CSA policies, strategies and programmes, the rolling out of the CSA has worked inefficiently to cover all the country. There is a need for financial assistance to intervene for positive impact.
11. There is a need to harmonize CSA initiatives across government. For example, Ministry of Environment needs to work together with Ministry of Agriculture to attain national synergies.
12. Innovation and technology transfers, especially to rural farmers. Intervention should target rural farmers by supporting emerging or lead farmers that can be used as pilots and later on to inspire others.
13. Currently, lack of policies and funding to scale up programmes of newly released adaptable seed varieties of crops to combat drought and disease and technologies associated with reduction of loss of land degradation.
14. Failure to appropriately allocate demarcated land to individual livestock keeper
15. CSA capacity building needs to be upgraded and weak institutional framework strengthened
16. Finance from ODA should be scaled up
17. Bottleneck in accessing funds from GCF and other climate funds should be addressed as a matter of urgency
18. Support resilient basic seed production and replication for smallholder farmers for improved food security

6) Based on your experience in the implementation and management of climate smart agriculture policies, strategies and programmes, please list what has worked well and needs to be reinforced and strengthened through the Climate Smart Agriculture Implementation Plan (CSAIP) for effectiveness and shared as replicable CSA practices.

The responses in respect of what has so far worked well in CSA policies, strategies and programmes are reported in box 7.

Box 7: CSA: What Has Worked Very Well

1. Introduction of tractor-drawn ridger has improved participation
2. Improvement in biomass production and organic matter composting for commercial purposes
3. Increased trap crops and complimentary crops research for reduced evapotranspiration and weed suppression, increased food and nutritional security
4. Improvement in weather early warning systems and services with increased community integration for enhanced feedback and early action
5. Emergence of multi-stakeholder integration for improved harmonization of climate smart agriculture implementation
6. Adoption of growing application of Conservation Agriculture and its promotion seem to be doing well in some areas with need for modification of labor-intensive equipment to facilitate participation by different groups of farmers.
7. The involvement of all stakeholders to shape national climate change policy to include all sectors has been a stronghold that however needs individual sectors to have either policies and strategies such as CSA ones to be more focused and impact full by addressing climate related challenges specific to Agriculture.
8. Clear policies that support Climate Smart Agriculture (CSA) PICSA and Conservation Agriculture in terms of information dissemination and capacitation of most vulnerable members of the community, low-income households, indigenous people as well as small scale farmers.
9. Development of CSA manual for agriculture colleges that is being used as part of training. In addition, the manual is being used in the training of extensionists. Cascading of the training to farmers is needed. Ongoing intensification of Conservation Agriculture through a government programme (Pfumvudza). This has resulted in high rates of adoption since farmers get inputs support in the form of seeds and fertilizers with extension services being provided by the government.
10. The use of lead farmers to pilot initiatives is a good practice that is working. The approach should be reinforced as it allows quicker adoption of Conservation Agriculture.
11. Enhanced investment in crossbred heifer, given very high demand

In addition to the foregoing, respondents would like to see the following addressed by the CSA Implementation Plan:

1. Financial constraint hindering implementation of PICSA, Conservation Agriculture (CA) as well as the Machobane Farming System. These need to be rolled out in all the districts of the country.
2. There is need to step up soil, water catchment survey and analysis in selected areas of agro-ecological zones.
3. There is need to significantly increase the introduction of drought/disease and pest resistant crop varieties in marginal land.
4. The CSA Implementation Plan should set up a continental knowledge sharing platform on CSA practices.
5. The CSA implementation plan should provide for protection of some of the most indigenous farming systems on the continent so as to preserve important genetic resources, such as edible wild crop relatives that are likely to be at risk.
6. The CSA Implementation Plan should provide for a robust capacity building and strengthening programme that improves the effectiveness and efficiency of all institutions involved in CSA policies, strategies and practices

7) Based on your experience in the implementation and management of climate smart agriculture policies, strategies and programmes, please list gender issues that need addressing in CSA policy, strategy, programmes and or financing.

In response to gender issues that the CSA Implementation Plan will need to take into consideration, box 3 presents some of the feedback from the survey.

Box 8: The CSAIP and Gender Issues

1. Land access for women, youth and the disabled needs to be improved.
2. Increased participation of women and youth in CSA policy, strategy and programme development and implementation.
3. Increase access to finance for women and youth in climate smart agriculture implementation.
4. Introduction of national CSI gender target that should be reviewed annually and quarterly
5. Development of succession plans for CSA initiatives at household level (increased investments) for enhanced gender participation and appreciation of improved soil properties, increased organic soil carbon.
6. There is a need to promote CSA interventions that provide for time saving techniques and technologies, especially for women who have multiple responsibilities but also for the youth who need to be enticed into agriculture.
7. There is need to reform laws, policies and practices that perpetuate gender inequalities. This is particularly the case with customary laws and practices, which adversely affect women and constrain their effectiveness and productivity in agriculture.
8. There is a need for forums dedicated to addressing gender issues in the implementation and management of CSA policies, strategies and programmes.
9. The CSAIP should address the development of tillage systems that are friendly to women and reduce drudgery and labour-intensiveness through mechanization. For example, conservation agriculture involving the preparation of holes is excessively labour intensive.
10. Technology and innovation. New or improved tools and technology should take into consideration the differentiated role of women and access to finance especially to rural women for farming.
11. Gender mainstreaming is very weak in terms of outreach by institutions

III. THE AFRICA CLIMATE SMART AGRICULTURE IMPLEMENTATION PLAN

III.1 Overview

Agriculture contributes an average of about 35% of Africa's gross domestic product (GDP) and is the source of employment for half of the active population of 1.38billion people. Agriculture and food systems are at the heart of Africa's food and nutrition security. Agriculture is about life and livelihoods for most African communities and a sizable proportion of the continent's population. As a result, it is a source of existential needs to eliminate poverty, create jobs far into a green transition context in the face of climate change, generate incomes and create wealth. The practice of agriculture is changing very rapidly, and the sector more than ever before now offers enormous opportunities for transition to climate-resilient agricultural practices that provide a suite of green technologies and jobs in the sector. To this end, the transition in agriculture and food systems as a driver of green growth and development plays an important role in current efforts to achieve Paris Agreement goals, objectives and outcomes on climate change. The situation on the continent is that Africa is not complacent. It is making the transition, albeit slowly but encouragingly.

In appreciation of the vital importance of agriculture and food systems in the global response to the effects of climate change, in recent years, there has been considerable attention to the state of agriculture and food systems globally and, especially, in Africa, given the devastating scourge of droughts in most parts of the continent as highlighted in Part II. These have been the subject of high-level conferences by the United Nations and the G7 group of wealthy industrialized countries; continental, regional and national meetings, consensus statements by the AU, IGOs, NGOs, development agencies, foundations, citizens groups and research centres globally.

The evidence is strong and consistent that climate change is responsible for disproportionately significant share of the challenges facing Africa's agriculture and food systems. There are also other causes as well. Among these are conflicts, militant insurgencies, banditry, and cattle herders-farmers clashes all of which have contributed in no small measure to rendering waste farmland and agricultural activities in a number of African countries. These challenges have been recently exacerbated by the global outbreak of the Covid-19 pandemic that plunged countries into recession, disruption of supply chains, loss of employment and incomes. Also telling, is the ongoing Russia-Ukraine conflict that has disrupted access to commodities such as wheat, sunflower oil and fertilizers on which a number of African countries are heavily dependent. Following interventions, shipment of these commodities has recently resumed but still under constrained and uncertain conditions.

The attention to issues of agriculture and food systems has been encouraging. The G7 at its meeting in May 2022 made this an agenda item. CoP26 brought this to the fore in 2021 and the AU declared 2022 the year of food and nutrition security, among others. Much earlier in 2011, CoP17 raised the issue of agriculture and food systems, while CoP23 launched the KORONIVIA Joint Work on Agriculture. The UNFCCC Subsidiary Body for Scientific and Technological Advice (SBSTA) and the Subsidiary Body for Implementation (SBI) were mandated in 2012 to deal with issues of Land Use, Land Use Change and Forestry (LULUCF). In-between the CoPs from CoP 23 to CoP 26 attention however fluctuated or even waned.

In response to the challenges of low-emissions and climate-resilient recovery from the Covid-19 pandemic, the African Union Assembly in February 2022 adopted the Green Recovery Action Plan (AU GRAP) 2021-2027. For more decisive action to integrate climate change considerations into development frameworks, processes and programmes at all levels, the AU launched the Africa Union Climate Change and Resilient Development Strategy and Action Plan 2022-2032. Ahead of CoP26 all African countries updated and transmitted more ambitious NDCs to the UNFCCC Table 3, developed Economic Recovery Plans and Green Growth Strategies and Implementation Plans as well as NDPs that are aligned to the updated NDCs.

All these frameworks put forward ambitious adaptation and mitigation measures for AFOLU. It is also worth noting that for the agriculture sector more than one-third of African countries have had in place climate smart agriculture policies, strategies and implementation plans. There is therefore growing commitment to transition to climate resilient agriculture and sustainable food systems. For this commitment to be effectively implemented a guiding framework is needed.

Box 9: Developing a Unified African Response to Climate Change

The quest for a unified continental response to climate change is slightly over a decade old. It can be traced back to January 2009. At the time, the AU Commission was mandated by the highest decision-making organ, the African Union Summit, to "facilitate the building of a common African Position on Climate Change in preparation for the fifteenth Conference of the Parties to the United Nations Framework Convention on Climate Change (COP15)" in Copenhagen, Denmark scheduled for December 2009. Meeting in Sirte, Libya in July 2009, the Executive Council of the AU adopted a landmark decision on climate change. This decision requested the AUC to collaborate with partners and elaborate a comprehensive African strategy on climate change. The request also sought technical back-up data on the impacts of climate change, economic costs and amount of carbon sequestered in various African ecosystems.

In 2014, the AUC produced the first draft climate change strategy and presented it to the AGN as well as to the African Ministerial Conference on Environment (AMCEN) for consideration. A delay in finalization of the document and changing new realities most importantly the 2015 Paris Agreement had an impact on the completion of the strategy. Between 2018 and 2020 AUC expanded its engagement to include member states and development partners to update the 2014 draft strategy and incorporate the Paris Agreement, emerging science, and recent realities like the one posed by the COVID-19 pandemic and the global economic recovery agenda.

It is in this context that this Climate Smart Agriculture Implementation Plan (CSAIP) has been developed in support of the AU African Climate Change and Resilient Development Strategy and Action Plan 2022-2032. In support of this strategy, this CSAIP provides an implementation framework for the CSA component of Axis 2 of the strategic interventions of the AU climate change strategy (Box 10).

As indicated earlier, a growing number of African countries are already implementing CSA policies, strategies and programmes in various forms. This CSAIP builds on their ongoing programmes and assists others to develop and launch CSA to transition from conventional agricultural practices.

Box 10: African Union Climate Change and Resilient Development Strategy and Action Plan 2022-2032

1) African Union Climate Change and Resilient Development Strategy and Action Plan 2022-2032 and African Union Green Recovery Action Plan (GRAP) 2021-2027

African Union Climate Change and Resilient Development Strategy and Action Plan 2022-2032: Strategic Intervention Axes and Priorities:

The four main strategic intervention axes are:

1) Strategic Intervention Axis 1: Strengthening Policy and Governance
2) Strategic Intervention Axis 2: Adopting Pathways towards Transformative Climate-Resilient Development
3) Strategic Intervention Axis 3: Enhancing the Means of Implementation towards Climate-Resilient, Low-Emission Development, Including through Climate Finance
4) Strategic Intervention Axis 4: Leveraging Regional Flagship Initiatives

Under strategic intervention axis 2, the Climate Change Strategy proposes the following priority areas:

1) Transforming food systems
2) Protecting land-based ecosystems
3) Transforming energy systems
4) Transforming mobility and transport
5) Enhancing inclusive, low-emission industrialization
6) Transforming water systems
7) Transforming the blue economy
8) Digital transformation
9) Resilience urban centres

Priorities 1, 2, 6, 7 and 8 fall within core competencies and mandate of the CSAIP.

African Union Green Recovery Action Plan (GRAP) 2021-2027: Strategic Intervention Pillars

The AU GRAP has five core areas of interventions called Pillars. These are as follows:

1)Climate Finance
2) Renewable Energy and Just National Transition
3) Climate Resilient Agriculture
4) Biodiversity and Nature-Based Solutions
5) Green and Climate-Resilient African Cities

III.2 Dimensions of the Climate Smart Agriculture Implementation Plan

The UN Food and Agriculture Organization (FAO) defines Climate Smart Agriculture (CSA) as agriculture that sustainably increases productivity, enhances resilience (adaptation), reduces or removes greenhouse gases (mitigation) where possible, and enhances achievement of national food security and development goals. In 2010, the organization put forward a climate smart agriculture approach, which it presented at the Hague Conference on Agriculture, Food Security and Climate Change[15].

15 See FAO. Climate Smart Agriculture: Policies, Practices and Financing for Food Security, Adaptation and Mitigation. Rome, Italy: Food and Agriculture Organization of the United Nations (FAO); 2010).

Generally, CSA options integrate traditional and innovative practices, technologies and services that are relevant for particular location, are sustainable, economic and environmentally sound. Some of the climate resilient agriculture practices and technologies are presented in Tables 4a & 4b[16]:

Table 4a: Highlights of Some Climate Smart Agriculture Practices and Climate Change Mitigation Objectives and Potential Benefits

CSA Practices	GHG Objectives	Potential Benefits
Crops		
Conservation tillage and traffic control	Capture carbon and reduce emission	Improves soil, water and air quality. Prevents soil erosion, reduces compaction and fuel use.
Integrated and site-specific nutrient management	Capture carbon and reduce emission	Improves water and air quality and also saves time, labour and money.
Crop diversification and crop rotation	Carbon sequestration	Improves soil and water quality and also reduces emission and water requirement and provides food security.
Livestock		
Manure management	Reduces emission	Improves soil quality, crop yield, on-farm sources of biogas fuel and possibly electricity for large-scale operations, provides nutrients for crops.
Rangeland and pasture management through rotational grazing and improved forage	Sequestration, emission reduction	Reduces water requirement, helps in withstanding drought. Increases long-term grassland productivity.
Feed management	Emission reduction	Improves quality of nutrients and overall efficiency in the use of feed.

Source: http://soils.usda.gov/survey/global-climate-change.html

Table 4b: Highlights of Some Climate Smart Agriculture Practices and Climate Change Adaptation Objectives and Potential Benefits

CSA Practices	GHG Objectives	Potential Benefits
Crops		
Drought-tolerant short-duration crop varieties for late sowing; flood-tolerant crop varieties; pests and diseases-resistant crop varieties.	Adaptation to extreme weather conditions (drought and floods) and resistance to pests and diseases	Improved yields under extreme weather conditions; improved incomes and food security
Minimum to zero tillage, use of biomass and crop residues	Adaptation to heat stress	Enhancement of soil microbial population and soil health
Improved planting methods (e.g., direct and drum-seeded rice)	Adaptation to water scarcity and reduced methane emissions	Improved water use efficiency and crop productivity; efficient use of labour, less drudgery, early crop maturity, low production cost, better soil conditions
Fishery and Livestock		
Captive breeding and rearing of fish seeds	Adaptation to extreme weather conditions – flash flooding, storms, heavy and erratic rainfall, fluctuations in temperatures; environmental conditions - water quality deterioration, river siltation	Improved maturation, breeding performance and productivity; promotes integrated farming; provides for effective control of post-larvae disease outbreaks; supports co-creation and sharing of knowledge; facilitates collective nursery fish farming for improved livelihoods for communities

16 Practices however need to be based on a broader strategy at farm and landscape levels for coherence.

Shelter management for small ruminants	Adaptation to heat stress, concentration of atmospheric CO2, variations in precipitations	Improved maturation, reproduction time and productivity (e.g., milk production), minimization of livestock diseases, enhanced animal health
CSA-Supporting Technologies		
Water-saving technologies and water harvesting structures Use of solar water pumps for irrigation Application of moisture conservation techniques Use of Apps and drones for inputs management Management of irrigation using tensiometer	Adaptation to water shortages	Improves efficiency of farm tanks and ponds as means of augmentation and management of small holder farmer water resources; supports low-cost water-harvesting and recycling; assists recharging of wells to improve shallow aquifers, etc.
CSA Support Services		
Development of seed banks to reduce shortages Provision of location-specific medium range weather forecasting Expansion of crop and livestock insurance	Adaptation to minimize losses and damage arising from extreme weather conditions – floods, cyclones, extreme temperatures, etc.	Sustained productivity, protection of livelihoods, stability of incomes

With respect to CSA, the following are worth noting in relation to some of the key practices listed in Tables 4a and 4b:

a. Conservation agriculture (CA) as a CSA practice is a resource-saving agriculture crop production that strives to achieve acceptable profit together with high and sustained production level while concurrently conserving the environment. It also enhances natural biological process above and below the ground. CA is characterized by three inter-linked principles, namely:

    1. Minimum mechanical soil disturbance: Excessive tillage of agricultural soils may result in short-term increases in fertility but will degrade soils in the medium term. Structural degradation, loss of organic matter, erosion and falling biodiversity are all to be expected.
    2. Permanent organic soil cover: Keeping the soil covered and planting through the mulch will protect the soil and improve the growing environment for the crop.
    3. Diversification of crop species grown in sequences/association: Diversification of crop or cropping system helps farmers in terms of risk minimization. It provides opportunity to crop for efficient utilization of natural resources and also maintains soil fertility.

d. Change in the location of crop and livestock, adjustment in cropping pattern, planting time and methods, fertilizer and pesticide use pattern, and other management practices help to reduce the risk of climate. Alternate land-use management practices also reduce disease and pest outbreak and provide remunerative production under aberrant weather situation.
e. Integrated nutrient management system or integrated plant nutrient supply system is a CSA practice which aims at achieving a harmony by efficient and judicial use of chemical fertilizers in conjunction with organic manures, use of well-decomposed crop residues, green manures, recyclable waste, compost including vermicompost, using legumes in crop-

ping systems, use of bio-fertilizers and other locally available nutrient sources for sustaining soil health and amelioration of environment as well as enhancing crop productivity on long-term basis

f. Site-specific nutrient management is a plant-based approach for managing the nutrient requirements of crop. It provides principles and tools for supplying nutrients as and when needed for plant to achieve high yields while optimizing the use of nutrients from indigenous sources. Applying the right nutrient source, at the right rate, at the right time, in the right place is essential to nutrient stewardship.
g. The water footprints to produce a kilogram of beef, pork, chicken and soybeans are 43, 18, 11 and 5 times higher than the water footprint of pulses. In fact, one study showed that 1 kg of legume only emits 0.5 kg in CO2 equivalent, whereas 1 kg of beef produces 9.5 kg in CO2 equivalent. So the inclusion of pulses in crop rotation and intercropping system shows better productivity, sustainability and environmental safety benefits (www.intechopen.com)
h. Yield instability is reduced by changing planting times. This has the potential to reduce the impact of temperature increase-induced spikelet sterility and also avoid flowering period to coincide with the hottest period. Crop calendar provides the information about crop location and cropping pattern based on weather pattern which helps the farmer for growing crop according to the occurrence of weather events. Cropping systems may have to be altered to the growth of suitable cultivars, increasing crop intensities (i.e. the number of successive crops produced per unit area per year) or planting different types of crops. Farmers under this practice adapt to changing situation by changing crops.
i. Climatic variabilities such as increased temperature, CO2 level, drought and floods would affect the production of specific crops. However, the impact will vary across crops and regions. CSA practice encourages the need to identify regions and crops that are more sensitive to climate changes/variability and relocate them in more suitable areas.
j. Integrated farming system is a practice that consists of integration of different interrelated, interacting and interdependent farm enterprises that are suited to agroclimatic condition and socioeconomic situation of the farmers, e.g., integrated rice-fish-poultry farming. Monocropping in flood- and drought-prone area is risky practice for farmers. Dependence on single enterprises not only increases the risk of crop failure but also leads to food, income and environmental insecurity especially in rain-fed area. Integrated farming system modules minimize risk from a single enterprise in the face of natural calamities, and diversified enterprises bring in the much-needed year-round income to farmers in monocropped paddy-growing areas and improve their livelihoods and resilience to extreme weather events.
k. Several climatic factors such as variability in rainfall and changes in temperature would affect the incidence of pest, disease, and host susceptibility of major crops, because climate is continuously changing which will potentially influence the pest/weed-host relationship by affecting the pest/weed population, the host population and the pest/weed-host interactions. To adopt in this situation, some of the potential CSA strategies will include:

1. Developing diseases and pest resistance cultivars.
2. Adopting integrated pest management with more emphasis on biological control.
3. Improving forecasting of incidence of pest using recent tools and techniques such as simulation modeling.
4. Developing location-specific crops, cultivars and alternative production techniques that are resistant to infestations and other risks.

Guided by the foregoing, the key elements of the CSAIP are as follows:

2). Aim and Objectives of the CSAIP

The aim of the CSAIP is to provide a continental framework for the implementation of the climate smart agriculture priorities of the AU climate change strategy 2022-2032 and the climate resilient agriculture pillar of the AU GRAP 2021-2027 as well as to facilitate implementation of regional strategies and national CSA programmes. In essence, the CSAIP is not limited to serving as a technical resource for the two AU strategies but provides interventions and guidance to direct country-level engagements. The specific objectives are to:

1) Facilitate development of CSA policies, strategies and programmes in countries that have yet to embrace, adopt and transition to CSA practices.
2) Provide direct support to countries in the development of national CSAIPs and transition plans in the form of development of CSA investment plans.
3) Assist countries with undertaking institutional and policy reforms that are conducive for transition from conventional to CSA practices.
4) Lead, in collaboration with AU organs and agencies and other major regional and continental organizations, the development of capacity building and strengthening programmes for the integration of climate change considerations into Africa's agriculture and sustainable food systems transformation programmes and the effective implementation of national CSAIPs, including governance, capacity of actors in the public and private sectors, application of digital technologies, among others.
5) Guide the development of appropriate means of implementation, including financing arrangements, for CSAIP implementation at country and regional levels.
6) Assist countries to establish CSA stakeholders consultative, knowledge and information sharing platforms for the dissemination of CSA best practices, advancing proposals on performance-improving reviews of policy requirements and institutional architectures for sustained transition from conventional to CSA practices.

2) Key Components and Programmes of the CSAIP – Priorities by African Countries and Regional Economic Communities

Table 6 summarizes the areas in which the CSAIP will develop capacity, facilitate the building of national support systems and sharing of knowledge and information among farmers (a FARA CSA app will be developed for country-level application). These areas are based on countries' priorities in their transition from conventional to climate smart agriculture and sustainable food systems or reinforcement of existing CSA practices as expressed in the outcomes of the national stakeholder survey undertaken.

No.	**Table 5: Countries' Priorities and Areas of Intervention for Possible Support under the Continental CSAIP**
1	Expansion and strengthening of the Participatory Integrated Climate Services Agriculture (PICSA) model
2	Upscaling of Conservation Agriculture/Tillage
3	Upscaling and enhancement of Farming Systems, including the Machobane Farming System
4	Development and implementation of CSA gender sensitive framework for climate smart agriculture policy, strategy, programmes, financing and national support system
5	Development of national institutional capacity for determining and monitoring cost estimates for transition from conventional to CSA practices in each and every African country

6	Building and nurturing technical capacity for determining and assessing expected level of GHG emissions reduction that CSA practices will bring about in African countries adopting such practices
7	Provision of support for the development of National CSA Investment Plan with the possibility of replacing NAIPs with CSAIPs
8	Development, institutionalizing and enhancing national CSA support systems
9	Building capacity to and participating in the development and promotion of enhanced access to CSA technologies and innovation systems
10	Providing support for the development of CSA policy, strategy and programmes as per country's need
12	Enhancement of access to CSA technologies and innovations by all farmers, especially smallholder farmers
13	Promotion of rangeland and pasture management through rotational grazing and improved forage
14	Encouragement of rainwater harvesting for irrigation
15	Development, implementation and monitoring of policies and strategies for institutionalizing grazing-land practice for livestock management
16	Vast expansion of provision of borehole water facility, especially in drought-stricken areas and generally in rural farming communities as part of social adaptation programme
17	Institutionalization of range land management system
18	Encouragement of the CSA practice of integrated land use management system peculiar to each ecological zone in each African country
19	Integration of non-timber forest products (NTFPs) with annual cropping farming practices
20	Promotion of restoration and management of wetlands and integration of aquaculture

Based on the foregoing, the priorities of the CSAIP are as follows:

No.	**Table 6: Dimensions of Potential Climate Smart Agriculture Practices for CSAIP Support**
1	Improved seeds/ new varieties of crops cultivars/ self-fertilizing/ climate-ready crops (tolerant to extreme temperature, drought, flood and salinity, etc)
2	Conservation agriculture/tillage (reduced-till or no-till)
3	Alteration in land-use pattern
4	Integrated nutrient management
5	Site-specific nutrient management
6	Crop diversification and rotation/intercropping[17] (shift from monocropping)
7	Changes in planting times (changing cropping seasons)
8	Crop relocation practice
9	Integrated farming practice
10	Application of resource-efficient technologies
11	Integrated pest management
12	Manure management
13	Rangeland and pasture management through rotational grazing and improved forage
14	Feed management
15	Rain-water harvesting
16	Crop and livestock insurance schemes

17

17	Improved diet composition, supplementation of feed additives and selection of forage plants of high quality for breeding
18	Improved animal breeding and genetic selection for feed efficiency
19	Better weather forecasting, early warning systems for: • Crop plans development • Crop insurance schemes for crop failure and loss of livestock • Low-cost access to finance and financial services • Micro-finance schemes for poor rural farmers, etc.

In the implementation of these priorities, existing farming systems and practices will be strengthened and enhanced. While the responses to the stakeholder survey, which provided most of the inputs for the articulation of the CSAIP priorities only tacitly indicated the fundamental importance and role of agroecological farming systems and practices in the expansion of CSA across the African continent, this CSAIP will vigorously support CSA transitions that encourage agroecological farming systems and practices beyond conservation agriculture and other current intensification systems and practices. Appropriate gender-responsive policy measures, financing initiatives and incentives, as well as institutional and governance arrangements will be strongly encouraged to facilitate CSA transitions that promote the salient features of agroecological farming systems and practices particularly diversity, synergies, resilience, circularity and recycling and co-creation and sharing of knowledge (Box 1). CSA agricultural systems and practices under this CSAIP will need to protect the environment, biodiversity, nature-based processes, efficient utilization of natural resources and ecosystems, while enhancing productivity, incomes, livelihoods and health and preserving diversity of food traditions and culture.

Box 11: The CSAIP 2022-2032 and Agroecological Farming Systems and Practices

What is agroecology? It is not a particular farming system. Rather, it is a variety of farming practices that protect the environment, promote biodiversity, nature-based recycling processes and preservation of natural ecosystems, while enhancing agricultural livelihoods, productivity and incomes and preserving culture and food transitions and promoting health, among others, in support of CSA transitions in response to climate change challenges. Agroecological practices combine and build on traditional knowledge with science for continuous improvement and innovation. Its practices are context-specific due to diversity of local knowledge and agricultural landscapes, culture, food traditions and practices.

As FAO noted, agroecology is not a new intervention in agriculture. It has been practised over the years in various dimensions since the 1920s[18]. It has a number of distinguishing features[19]. Among these are the following:

Diversity[20] of species, crops, genetic resources, etc., through farming systems and practices that conserve, protect and enhance natural resources, biodiversity, and ecosystems. Examples of such farming systems are agroforestry for vertical diversity; intercropping for spatial diversity; crop rotation for temporal diversity, diversity of live-stock breed in livestock management systems, integrated farming systems such as mixed crop-livestock or crop-fish farming systems, among others.
Synergies in diversified agricultural systems that combine annual and perennial crops, livestock and aquatic animals, trees, soils, water and other components on farms and agricultural landscapes to enhance complementarities in the context of climate change. For instance, with about 15% of nitrogen[21] applied to crops coming from livestock manure, this points to benefits from mixed or integrated crop-livestock farming systems.

Resilience, as agroecologically diversified agricultural systems have better capacity to recover from shocks and disturbances, which include extreme weather conditions, floods as well as resist pests and diseases attacks. The community of interacting organisms tend to self-regulate pests and diseases outbreaks
Circularity and recycling in the agriculture sector – agricultural systems that espouse agroecological practices imitate natural ecosystems and therefore support biological processes that drive recycling of nutrients, biomass and water within production systems.
Efficient use of resources resulting from diversity, synergies and natural recycling processes, among other practices

18 FAO argued that "Agroecology is not a new invention. It can be identified in scientific literature since the 1920s, and has found expression in family farmers' practices, in grassroots social movements for sustainability and the public policies of various countries around the world. More recently, agroecology has entered the discourse of international and UN institutions". See FAO, Ten Elements of Agroecology – Guiding the Transition to Sustainable Food and Agricultural Systems (undated).

19 These elements emanated from FAO regional seminars on agroecology (op. cit)

20 As pointed out by FAO (op. cit), "increasing biodiversity contributes to a range of production, socio-economic, nutrition and environmental benefits. By planning and managing diversity, agroecological approaches enhance the provisioning of ecosystem services, including pollination and soil health, upon which agricultural production depends. Diversification can increase productivity and resource-use efficiency by optimizing biomass and water harvesting".

21 See FAO, op. cit. Also, FAO observed that in Asia, integrated rice systems combine rice cultivation with the generation of other products such as fish, ducks and trees. By maximising synergies, integrated rice systems significantly improve yields, dietary diversity, weed control, soil structure and fertility, as well as providing biodiversity habitat and pest control.

Co-creation and sharing of knowledge through participatory processes that provide for shared knowledge that is context specific.
In addition, but not exclusively, agroecology promotes culture and food traditions in farming systems and practices, human and social values as well as responsible governance of the agriculture sector.

In the implementation of this CSAIP, efforts will therefore be made to embed the foregoing features or elements in countries' implementation plans for the cultivation of the enabling policy, financing, and institutional environment for the operationalization of agroecology. They will also provide the basis for planning, monitoring, and evaluating CSA transitions to ensure agroecological compliance or friendliness.
In essence, to transform agriculture and food systems effectively and sustainably, agroecological practices will need to be mainstreamed into current and future farming systems. They provide a desired response to high-external input, resource-intensive agricultural systems that have caused massive deforestation, water scarcities, biodiversity loss, soil depletion and high levels of GHG emissions. Agroecology is therefore a key response to climate change challenges in agriculture.

It is to this end that this CSAIP will reinforce agroecological systems and practices using CSA as the intervention framework.

4. Expected Outcomes of the CSAIP

The expected outputs and outcomes of the CSAIP are in line with the objectives and strategic priorities of the Plan. These are as set out in Table 7.

Table 7: CSAIP 2022-2031 Expected Outputs and Outcomes

No.	Performance Areas 2022-2032	Expected Outputs 2022-2032	Expected Outcomes 2022-2032
1	Development of CSA policies, strategies and programmes in countries that have yet to embrace, adopt and transition to CSA practices	Expanded CSA practices in 55 African countries and 8 AU-recognized RECs	Effective governance and management of CSA policies, strategies and programmes
2	Support to countries in the development of national agricultural transition plans in the form of CSAIPs and CSA investment plans	CSAIPs and CSA investment plans in 55 African countries and 8 AU-recognized RECs	All countries on the path of climate resilient transition in agriculture and sustainable food systems. National investment programme for coordinated funding for CSA adoption and transition
3	Assistance to countries to undertake institutional and policy reforms that are conducive for transition from conventional to CSA practices	55 African countries and 8 AU-recognized RECs with enhanced institutional and policy environment for CSA practices	Improved and responsive policy and institutional environment for CSA transition and practices

4	Leading, in collaboration with AU organs and agencies and other major regional and continental organizations, the development of capacity building and strengthening programmes for the integration of climate change considerations into Africa's agriculture and sustainable food systems transformation programmes and the effective implementation of national CSAIPs.	Enhanced capacity in 55 African countries and 8 AU-recognized RECs for integration of climate change considerations into agriculture and food systems and CSA practices	Sustained reform and adoption of agricultural transformation policies and strategies with integrated climate-change and gender-sensitive considerations
5	Guiding the development of appropriate gender-responsive means of implementation, including financing arrangements, for CSAIP implementation at country and regional levels.	55 African countries and 8 AU-recognized RECs supported with innovative financing strategies and means of engagements for effective implementation of their CSAIPs and CSA investment plans	Improved access to finance and support infrastructures for CSA investment plans and small-holder farmers, especially women and youth
6	Assistance to countries to establish CSA stakeholders consultative, knowledge and information sharing platforms for the dissemination of CSA best practices, advancing proposals on performance-improving reviews of policy requirements and institutional architectures for sustained transition from conventional to CSA practices	Shared knowledge, information and skills for 55 African countries and 8 AU-recognized RECs on CSA best practices and avoidable pitfalls	Ease of access to new knowledge and information services by policymakers and all categories of farmers, especially the majority of rural farmers (through channels including smart technologies and Apps)
7	Facilitation of development of national and regional innovation systems for climate smart agriculture and food systems	National and regional innovation systems and institutional frameworks developed in 55 African countries and 8 AU-recognized RECs in aid of continuous improvements in CSA practices	Capacity within African countries and regions for continuous improvements and innovations in the integration of climate change into agriculture and food systems. Strong link between CSA research and innovation-driven expansion of CSA practices and adoption

5. CSAIP Delivery Modalities

These will be through sensitization of member states and regional bodies and other stakeholders, development partners supporting agriculture and sustainable food systems in general and CSA in particular to tools and instruments for CSAIP implementation at continental, regional and national levels. The modalities will consist of the following, among others:

a. Organization of regional roll-out workshops for member states and regional bodies. These will be held in each of the regions.
b. Presentations and engagement with countries requiring direct support for application of the CSAIP framework.
c. Integration of the CSAIP into the broader AU climate change strategy and green recovery implementation frameworks - specifically the AU Climate Change and Resilient Development Strategy and Action Plan 2022-2032 and the AU Green Recovery Action Plan 2021-

2027

d. Engagement of development partners for inclusion of the CSAIP in their agriculture and food systems support programmes for Africa
e. Facilitation of development of continental means of implementation for countries to transition to CSA from conventional agriculture.
f. Assignment of roles and responsibilities to members of CSA national platforms, especially the private sector, NGOs and farmers organizations to lead specific aspects of the national CSAIP and CSA investment plans[22].
g. Facilitation of an effective, responsive and representative composition of CSA teams at national level to provide for groups that are most vulnerable to climate change, the smallholder farmers, fisher communities, pastoral and agro-pastoral communities, women and youth. They need to be part of the decision-making and policy and institutional reform processes.
h. Encouragement and facilitation of efforts by governments to ensure that CSAIPs are developed at subnational levels, especially at local government or communities' level in support of village and district levels participation in CSA planning process, transition and adoption[23].
i. Alignment of CSAIP with all ongoing initiatives and programmes of development partners at continental, regional and national levels and their working groups or task forces.

6. Governance and Management of CSAIP

The application of this CSAIP framework requires established governance and management institutional framework at country level. A country transitioning into CSA will be expected to put in place appropriate governance arrangement. Depending on each country's circumstances, such arrangement will be expected to include the following, among others:

a. A dedicated, well-staffed and equipped organizational structure within the Ministry of Agriculture or agency with responsibility for CSA. The composition and functions of the structure will be determined based on institutional needs assessment to determine requirements for effective operation and high-level performance.
b. A national stakeholders' platform for harvesting ideas and innovations for continuous reform and improvement of policies and programmes.
c. Production of an annual report of CSAIP performance will be expected. The reports will be consolidated to generate regional and continental level reports.
d. Establishment of a knowledge hub to profile CSA implementation and provide access to performance reports. These will be consolidated by FARA across the continent. The knowledge hub will also offer knowledge services to countries.
e. Creation of appropriate Apps for real-time access to knowledge and information by farmers seeking guidance in languages that are accessible.

22 Development and implementation of CSA policies and strategies are too public sector centric. There is need to assign roles to non-governmental organizations beyond mere consultations to lead implementation of aspects of plans.

23 This is already the practice in some countries like Rwanda where all 30 Districts (local administrative entities) usually develop their own District Development Plans building on national sectoral targets. Districts, therefore, have some autonomy to domesticate these national targets according to local conditions and priorities. More specifically, each district responds to the national targets according to the existing opportunities and challenges within their own districts. For example, a rural district with relatively higher land availability and having issues of increasing droughts will have to prioritize the climate resilient agriculture actions as set by the Rwandan Government's Strategic Plan for Agricultural Transformation 4 (PSTA4), covering the period of 2018–2024.

7. Means of Implementation of CSAIP

The implementation of this CSAIP will be at national and regional levels. Domestication will therefore be the responsibility of each country. This could be facilitated by development partners, NGOs and agencies operating at the country level. This plan proposes the following financing arrangements for CSAIP implementation:

a) Creation of a dedicated country level CSA fund
b) Establishment of a dedicated UNFCCC Subsidiary Body for Developing Countries, Agriculture and Food Systems in Africa
c) Ring-fenced funding and improved allocation of resources under the Green Climate Fund, Global Environmental Facility and Climate Investment Funds for CSA transition and adoption in Africa
d) Reform of domestic financial sector to ease access to resources for CSA transition and practices
e) Prioritization and incentivization of private sector investment in CSA
f) Offset of debt with national carbon credits for countries with repayments made to national Emissions or Green Transition Funds that will provide for the proposed dedicated CSA Fund to support immediate adaptation programmes in areas severely affected by droughts. There is a strong consensus that extreme weather conditions are the result of climate change caused by GHG emissions for which Africa has little responsibility
g) Regular presentation of the CSAIP in investment forums to support mobilization of financing for countries' CSA investment plans and programmes.

8. Monitoring, Evaluation and Reporting on the CSAIP

This CSAIP will be monitored by means of annual implementation reports issued by countries and consolidated by FARA. Evaluation will be done biennially, and reporting made to AUC and continental stakeholders. What will the CSAIP monitor and evaluate? These will consist of the following indicators:

a) Number of countries transitioning to CSA from conventional agriculture
b) Range of CSA practices being adopted across the continent
c) Rate of adoption of CSA practices
d) Impact of CSA practices on productivity, output and incomes
e) Funding made available for CSA implementation at the international level
f) Extent of financing of CSA investment plan at country level
g) Nature of CSA support system put in place by governments
h) Gender responsiveness of national CSA policies and strategies
i) Effectiveness of access to CSA information and knowledge by farmers
j) Effectiveness of CSA capacity development programmes by governments and international development partners

The M&E framework for this CSAIP will draw on existing methodologies by leading institutions like the World Bank which has developed a World Bank CSA Policy Index[24] (Box 11).

24 See World Bank, 2016, 2018; Ijeoma et al., 2015; Braimoh et al., 2017

Box 12: Highlights of World Bank CSA Policy Indicators

Rating of CSA project performance against its design targets and propose key actions in order to improve the overall performance against different criteria. The World Bank has also been analysing CSA policy and implementation in Africa and other regions since 2016. The agency has designed a set of "CSA Policy Indicators" to assess the enabling environment in the form of policy and institutional frameworks, and services and infrastructure, within a country supporting the implementation of CSA. The index is derived from 14 indicators (comprised of 31 sub-indicators) clustered into three broad themes: (1) Readiness Mechanism; (2) Services and Infrastructure, and (3) Coordination Mechanism aligned with the claimed "triple wins" of productivity, resilience, and mitigation to gauge the progress of countries in implementing CSA. The CSA Policy Index is meant to enable policy makers to use the index to identify gaps and to assess the full potential to support implementation of Climate Smart Agriculture policies and programmes

Specifically, it helps policy makers and other practitioners gauge the extent to which policies, frameworks, economic structure, social structure, and governance structure are conducive for supporting CSA implementation. The first theme, the "Readiness Mechanism," refers to the capacity of countries to plan and deliver adaptation and mitigation programs in ways that are catalytic and fully integrated with national agricultural development priorities. It also measures the country's capacity to leverage investments for climate action and incentivise adoption of new technologies. The second theme, "Services and Infrastructure," measures the country's institutional capacity to mainstream CSA, including how effectively a country can mobilize and coordinate across its various ministries and stakeholders to support CSA implementation. The third theme, the "Coordination Mechanism," is designed to assess collaboration for disaster risk management and coordination among the sectors involved in CSA.

9. Risks and Risk Management Strategies in CSAIP Implementation

The risks facing implementation of the CSAIP and strategies by which they will be managed are presented in Table 8.

Table 8: Potential Risks and Management Strategies

No	Potential Risk	Rating	Management Strategy
1	The CSAIP may not be adopted by countries due to poor resource support for CSA transition	Medium	Commitment of 10% national budgetary allocation to agriculture sector made by African Heads of State and Government under the Maputo Declaration in 2003 and renewed in 2014 under the Malabo Declaration is yet to be met by many African countries. The sector is still not adequately funded, dependence on donor fund is high in some cases and budget execution rate low in other cases. Transition to CSA requires support systems, which need complementary resources. This CSAIP proposes sources of financing including reform of existing sources so as to facilitate CSA transition. There is growing call for the CoPs to pay more attention to issues of agriculture and food systems. Egypt pledged to bring up agriculture at CoP27 as host country.

2	Governments are not likely to be able to provide required support systems for CSA transition	Medium	Experience from about 22 African countries implementing CSA programmes have shown encouraging commitment. There is a need to do more, especially given that execution rate of agricultural sector budget is on the low side in a context of inadequate resources. Given the urgency of the need to integrate climate change considerations in agriculture and food systems, governments will be compelled to step up responses. External support is reasonably available to supplement government's measures. Improvement in fund disbursement is however of vital importance.
3	Inadequate international funding for CSA transition will remain due to poor attention to agriculture and food systems issues at the UN CoPs.	Medium	International concerns and interest in CSA transition in Africa is growing rapidly. These however have not been met with commensurate resource support. Strong voices at CoP27 and a push for more resources from sources such as GCF, GEF and CIFs as well as bilateral and multilateral institutions could minimize this risk. African countries also need to improve execution rate of budgets for food and agriculture projects.
4	International financing for CSA investment programmes will remain low and grossly inadequate due to inability of the international community to meet overall commitments for climate change responses.	Medium	Climate finance of US$100billion annually by 2020 pledged by developed countries at the climate conference in Copenhagen in 2009 has not be fully met. There was a recommitment to this financing at CoP26 with a pledge of US$500billion by 2027. There is promising goodwill on the part of the international development community for climate finance, which will positively affect CSA investment programmes.
5	Domestic finance institutions will see CSA transition as riskier compared to conventional practices	Medium	Domestic financing arrangements have not been very effective thus far. Encouragement of domestic finance institutions will help alleviate this risk. Appropriate incentives could have positive impact on the flow of domestic funds from finance institutions.
6	Continuing insecurity and conflicts across the continent will undermine successful transition to CSA practices and achievement of its benefits.	Medium to high	Insecurity arising from insurgencies is a major challenge to the farming community. This has displaced farmers and left farmlands to waste. Governments are committing resources to improve the security situation and displaced people are gradually being resettled. While this still remains a high risk to agriculture and food security, it is equally promising that within the period of this CSAIP the security situation will improve to allow farmers to expand production.
7	Crop and livestock insurance will remain out of reach for small-holder farmers thus undermining uptake of CSA practices	High	Insurance is still out of reach for a majority of farmers, especially those in rural communities. Loss of crops and livestock due to extreme weather arising from climate change remains a huge risk. The situation in the Horn of Africa and the Sahelian subregion attests to the devastating impacts of climate change. Innovative ways of insuring small-holder farmers need to be developed as part of social adaptation programmes. This should be part of a just transition in the planning of programmes for climate resilient agriculture and sustainable food systems.

IV. CONCLUSIONS AND NEXT STEPS

1) Conclusions

Recent developments have shown very clearly that Africa is not food secure. Its agriculture and food systems are still very fragile and susceptible to external shocks and growing intensity of extreme weather conditions arising from climate change. A structured long-term solution is required through dedicated funding for climate change adaptation and mitigation in support of CSA transition. Perhaps it is time to develop a new framework that takes Africa's agriculture and sustainable food systems decisively beyond CAADP and Malabo Declarations. National CSAIPs and CSA investment plans should supplant the CAADP NAIPs or be more dominant in ongoing agricultural strategy transformations. For this strategic transition to be effective, governments and the international development partner community may wish to insist on supporting each country's agriculture and sustainable food systems through a national CSAIP framework. FARA should push for a decision on this at CoP27 and subsequent COPs.

2) Next Steps

The AU Climate Change and Resilient Development Strategy and Action Plan 2022-2032 for which this CSAIP is an input in the implementation framework will need to be adjusted. This should provide for the following, among others:

a) A consolidation of the agriculture, food systems and related interventions into one Axis for coherence and coordination.
b) Provision for refinement of the objectives and outcomes to include expected reductions in GHGs that will result from each of the Axes and their priorities. The essence of climate resilient development is a definitive and measurable reduction in GHG emissions through strategies, policies and programmes.
c) Propose implementable financing mechanisms and instruments for CSA expansion highlighting what is working and what is not, with concrete country cases of progress in this direction. African countries are not starting from the scratch.
d) Recognize the need for and facilitate transition from country and regional National Agriculture Investment Plans (NAIPs) to Climate Smart Investment Programmes (CSAIPs) and related investment plans
e) Provide support to significantly increase the number of African countries with CSA supportive policies, strategies, investment programmes and financing arrangements.

V. REFERENCES

- AUC, Draft Africa Climate Change Strategy 2020 – 2030, 16th October 2020
- African Union Commission, African Union Climate Change and Resilient Development Strategy and Action Plan 2022-2032
- African Union Commission, African Union Green Recovery Action Plan 2021-2027
- African Union Commission, Impact of the Coronavirus (COVID-19) on African Economy, 6th April 2020
- African Union Commission, Impact of the Coronavirus (COVID-19) on African Economy, 6th April 2020AfDB, Economic Brief 2017
- AGRA, Africa Agribusiness Outlook: Making Africa an even better place to do Agribusiness, 2022 Report
- Arndt, Channing, The Role of Agriculture and Food Systems in Achieving Net Zero Global Emissions, IFPRI Blog, Issue Post, 24th November 2021 (OPEN ACCESS | CC-BY-4.0)
- Agroecology TPP, Agroecologically-Conducive Policies – A Review of Recent Advances and Remaining Challenges, Working Paper 1, July 2022
- Barasa, Paul M; Botai, Christina M., Botai, Joel O. and Mabhaudhi, Tafadzwanashe, A Review of Climate Smart Agriculture Research and Applications in Africa, MDPI Agronomy, 21 June 2021
- Caprini, Alessandro, FARMING FIRST, Agriculture and COP26: What Do Countries'
- Climate Smart Agriculture Investment Plan for Ghana, Ministry of Food and Agriculture, Ghana (undated)
- Climate Smart Agriculture Plan for Mali, 2019
- What Climate Pledges Say About Their Food and Land Sectors 12/2021
- Climate Smart Agriculture Investment Plan for Ghana, Ministry of Food and Agriculture, Ghana (undated)
- Climate Smart Agriculture Plan for Mali, 2019
- Chillrud, Rebecca, The Role of Agriculture at COP22, https://www.eesi.org/articles/view/the-role-of-agriculture-at-cop22 November 18, 2016
- COP26 News www.news24.com/fin24 20211028
- Coombs, Charlie, What are the Biggest Achievements from Previous COP Climate Summits? Thred Media, GLOBALCITIZEN, https://globalcitizen.org/en, 26th October 2021
- CIAT; World Bank, Climate-Smart Agriculture in Zimbabwe. CSA Country Profiles for Africa Series. International Center for Tropical Agriculture (CIAT); Washington, D.C., 2017
- Climate Change, Agriculture and Food Security (CCAFS), Info Note: Uptake of Climate-Smart Agriculture in West Africa: What can we learn from Climate-Smart Villages of Ghana, Mali and Niger? June 2018
- Cirad, Tackle Climate Change: Recommendations for Agricultural Adaptation Policies of Tomorrow, Policy Brief, October 2021
- Desira/EC, INTPA/3, Supporting the Transformation of Agricultural and Food Systems through Agroecological Approaches (undated)
- FARA, Concept Note on African Climate Smart Agriculture Framework (ACSAF 2030) – Science-Based Response to the African Union Climate Change Strategy
- FARA, State of Knowledge on CSA in Africa: Case Studies from Nigeria, Cameroun and the Democratic Republic of Congo 2015.
- FARA, Concept Note on African Climate Smart Agriculture Framework (ACSAF 2030) – Science-Based Response to the African Union Climate Change Strategy
- FARA, State of Knowledge on CSA in Africa: Case Studies from Nigeria, Cameroun and the Democratic Republic of Congo 2015.
- FAO, Crop Prospects and Food Situation, Quarterly Global Report, July 2022
- Federal Republic of Nigeria, Adaptation Communication to United Nations Framework Convention on Climate Change, 2021

- G7 Meeting 2022, Germany: Chair's Summary – Session 5 "Response to Multiple Crises on the African Continent – focusing on Food Security", 19th May 2022
- GEF-GCF Pavilion, Green and Climate Resilient Agriculture, Highlights and Images of Main Proceedings, 9 November 2021
- HM Government, Net Zero Strategy: Build Back Greener, October 2021
- HM Government, Government Response to Climate Change Committee – Progress in Reducing Emissions, 2021 Report to Parliament
- Imperial College, London, Agriculture: A Call to Action for COP17 Climate Change Negotiators, 28 November 2011; https://www.imperial.ac.uk/news/104892/agriculture-call-action-cop17-climate-change/amp/
- International Rice Research Institute, https://www.irri.org/news-and-events/news/potential-rice-sector-development-sub-saharan-africa-and-opportunities-women, *Op Ed for International Women's Day 2021*
- United Nations Framework Convention on Climate Change (UNFCCC), Report of Conference of Parties (CoP) 17-26 (various reports)
- Veronica Ndetu, MOALFC-CCU, The Koronivia Joint Work on Agriculture (KJWA) at COP26, THEAGRI-CLIMATE Dialogue (undated).
- Welsh, Teresa, "COP 26 Agenda Comes Up Short on Food Systems, Advocates Say", Devex, 3 November 2021
- World Bank, Food Security Update, 15 August 2022
- World Bank, Africa Region, Sustainable Development Series, Unlocking Africa's Agricultural Potential – An Action Agenda for Transformation, April 2013
- World Bank, World Bank Approves $2.3 Billion Program to Address Escalating Food Insecurity in Eastern and Southern Africa, June 21, 2022
- World Bank, Climate-Smart Agriculture Implementation Brief – A Summary of Insights and Upscaling Opportunities through the Africa Climate Business Plan, June 2020
- https://agriculture.ec.europa.eu/news/cop26-participants-recognise-need-sustainable-food-systems-ensure-global-food-security-and-achieve-2021-11-09_en
- https://www.imperial.ac.uk/news/104892/agriculture-call-action-cop17-climate-change/amp/
- https://ukcop26.org/agricultural-commodity-companies-corporate-statement-of-purpose/
- https://www.eesi.org/articles/view/the-role-of-agriculture-at-cop22
- https://www.bbc.co.uk/news/science-environment 24021772; 59238869; 59088498; 59136545; 59131282; 59143027; 35073297; 58874518
- http://unfccc.int/2860.php
- https://www.hfw.com/downloads/clients/brief-Durban
- UN Climate Change Conference in Durban
- Climate Change Convention
- road map for implementation
- Kyoto Protocol
- new platform of negotiations
- broad-based stream of negotiations

- Review
- https://sdg.iisd.org/news/cop-26-events-address-agricultures-role-in-net-zero/
- IISD, COP 26 Events Addressing Agriculture's Role in Net Zero, Engaging the private sector to implement agriculture and land use priorities of NDCs and NAPs; Scaling up Climate Ambition on Land Use and Agriculture (SCALA); green and climate-resilient agriculture; Voices from the Field: Participatory Approaches of Climate Smart Agriculture Practices (CSA), Farmer Field Schools (FFS) and indigenous Chakra Systems; transformative action in the AFOLU sector and NDCs in the Near East and Africa; Koronivia Joint Work on Agriculture
- https://ccafs.cgiar.org/events/cop23-agriculture-advantage-case-climate-action-agriculture
- https://agriculture.ec.europa.eu/news/cop26-participants-recognise-need-sustainable-food-systems-ensure-global-food-security-and-achieve-2021-11-09_en
- https://www.imperial.ac.uk/news/104892/agriculture-call-action-cop17-climate-change/amp/
- https://ukcop26.org/agricultural-commodity-companies-corporate-statement-of-purpose/
- https://ukcop26.org/agricultural-commodity-companies-corporate-statement-of-purpose/
- https://www.eesi.org/articles/view/the-role-of-agriculture-at-cop22
- www.au.int
- www.news24.com/fin24 20211028
- www.worldbank.org/en/region/afr/overview
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ANNEXES

Annex 1: The Climate Change Context

(a) Overview

Climate change is today the single most significant development challenge facing the global community. Science has been emphatic in linking it to incidents of desertification, droughts, rising sea levels, falling water levels, extreme weather conditions, floods, hydrologic and oceanographic processes, and a number of natural disasters leading to destruction of ecosystems and marine lives, including fresh fish farming on which most rural livelihoods are based on the African Continent. The causes are traceable to human activities that are responsible for greenhouse gas emissions, including unstainable agricultural practices. Collective commitments and actions by the global community to reduce greenhouse gas emissions are therefore fundamental.

Earlier this year, the Intergovernmental Panel on Climate Change (IPCC) warned of the dangers to humanity of allowing temperatures to rise by more than 1.5°C this century. To keep temperature under this threshold, IPCC called on the global community to cut CO2 emissions by around 45% by 2030 based on 2010 levels. The need for ambitious emissions reduction targets especially by major emitting countries, decisive collective actions and related mitigation and adaptation measures formed the key issues that the landmark COP26 meetings sought to address in Glasgow, Scotland on 31st October – 12th November 2021. Climate change is affecting health, lives and livelihoods in every country and much more in Africa. Droughts are leading to water scarcity causing widespread crop failures and threatening food insecurity. Air pollution is negatively affecting health. Frequent flooding is spreading waterborne diseases and wildfires are devastating forests, farms, homes and livestock with far-reaching consequences.

The global community needs decisive and sustained responses to protect lives and livelihoods of both present and future generations. Africa needs to be visible in ongoing efforts not only to cut down on greenhouse gases, but very importantly in the development of new technologies and in promoting advances in science, technology and engineering for the production of environmentally and economically sustainable solutions. Mechanisms for connecting and transferring technical know-how to the continent will go a long way in ensuring its effective participation in current and future efforts in the management of climate change. Even though African countries do not contribute much to global CO2, it does not mean that environmentally-unfriendly development strategies should continue to be pursued. Africa must take advantage of being a late starter in development to follow a greener path to growth and sustainable development. Concerted efforts are required to correct for decades of global environmental neglect and the continent has a role to play. The time is now for it to act. And there are promising results as much as daunting challenges.

(b) Africa and Climate Change

It is common knowledge that the African continent contributes the least to global GHG emissions (about 4% of GHG emissions) but suffers the most devastating impacts of climate change. From the Sahel to the Horn of Africa, to the south of the continent and the small island nations, African countries suffer the challenging effects of extreme weather patterns. In West Africa, for instance, where climate change scenarios suggest an increase in the frequency and intensity of tidal waves and storm surges, a potential sea-level rise of one meter would cause a loss of 18,000 km2 of land, ultimately magnifying the damage to infrastructure and causing the displacement of populations. There is a strong link between the continent's climate and its development needs and losses. For instance, agriculture and food security cannot be separated from climate change. A 1.5°C - 2°C increase in temperature by the 2030s and 2040s can potentially lead to a 40% to 80% reduction in the area of land suitable for growing maize, millet and sorghum, some of the continent's main staple foods.

Unless bold and decisive action is taken, climate variability and changes pose significant risk with potential reversal effects on Africa's hard-won development achievements and its aspirations for further growth and poverty reduction.

Addressing the effects of climate change is an enormous challenge. The costs of adaptation are staggering and are only set to continue to rise. Unfortunately, the volume of climate finance flowing to Africa pales in comparison with the needs. Current levels of funding for adaptation on the continent amount to at most US$3 billion per year[25], which is negligible considering the needs. Despite this challenge, the continent is making determined effort to transform challenges into opportunities by investing resources in support of sustainable development. There is a need to considerably raise investments in and access to renewable energy by the populations and to power infrastructure – schools, healthcare facilities, businesses, and transportation system. The promotion of climate smart agriculture, biodiversity as well as clean, healthy and resilient cities are indispensable priorities.

Status of Climate Finance Relative to the US$100billion Target[26]

Year	Amount Provided (US$ billion)
2013	52.2
2014	61.8
2015	44.6
2016	58.6
2017	71.2
2018	78.9
…	…
2023[27]	100

Source: OECD

(c) The COVID-19 Pandemic and Impact on Global CO2 Emissions

When the world came under the grip of the Covid-19 pandemic in January 2020 with the attendant lockdowns, there was a significant drop in global CO2 emissions. The annual growth in global CO2 emissions fell from around 3% in the early years of this century to around 0.9% in the 2010s. Much of this change was due to a move away from coal as an energy source. The global response to the Covid-19 pandemic has become the source of the biggest annual fall in C02 emissions since World War II. A recent study[28] indicated that emissions declined by about 7% in 2020. Countries such as France and the UK saw the greatest falls, mainly due to severe lockdowns in response to the second wave of infections. Emissions fell in China in February and March 2020 but following the rebound from the coronavirus its overall emissions grew in 2021. In late 2020, China was at least close to having the same level of daily emissions as in 2019 and CICERO estimates suggested the country's emissions may have actually increased for the year 2020 relative to 2019, despite the pandemic.

Accordingly to the Global Carbon Project team, the year 2020 saw carbon emissions decline by 2.4billion tonnes. In contrast, the fall recorded in 2009 during the global economic recession was just half a billion tonnes, while the end of WWII saw emissions fall by under 1 billion tonnes. Across Europe and the US, the drop was around 12% over the year 2020, but some individual countries declined more. For instance, France saw a fall of 15% and the UK went down by 13%.

To meet the goals of the Paris Climate Agreement, global cuts in CO2 emissions will have to be up to 2 billion tonnes every year for the next 10 years. The atmospheric CO2 level and thus the world's climate will only

25 The US announced a funding support of US$3billion for climate change adaptation measures during COP26 on 6th November 2021
26 It was agreed at the climate conference in Copenhagen in 2009 that developed nations would provide US$100billion a year in climate finance for developing countries by 2020. The target has yet to be met. COP26 in November 2021 recommitted to this pledge
27 Indications from COP26, November 2021
28 CICERO 2020/2021; The Global Carbon Project 2020.

stabilize when global CO2 emissions are near zero. Although global emissions fell in 2020, they still amounted to about 39 billion tonnes of CO2 and thus further increased the amount of CO2 in the atmosphere[29]. Some of the top C02 emitting countries such as UK and France have a lot of their emissions coming from the transport sector and generally a bit less from industry and other sectors. This is because much of their electricity production is from nuclear energy with some 40% of their emissions coming from the transport sector.

Responses to the Covid-19 pandemic during the first and second waves of infections saw the use of cars dramatically fall during the lockdowns. There has been a significant drop in emissions from the aviation sector – with emissions falling by 40% below 2019 levels. There is therefore a lot that can be learned from the responses to the pandemic for longer term reduction of CO2. While a rebound in emissions started in 2021, climate policies can build on the Covid-19 experience. Part of this will include encouraging funding for economic recovery plans and programmes to be appropriately targeted towards green responses. Measures will need to boost initiatives that support less use of vehicles, for instance walking and cycling and deployment of electric vehicles, among others.

(d) The COVID-19 Pandemic and Impact on Africa's Economy

The COVID-19 pandemic brought about a severe shock to Africa's economy, leaving governments with the dual task of responding to the crisis while also addressing underlying structural challenges. Home to 1.38 billion people, Africa is recovering from the severe socio-economic impacts of the COVID-19 pandemic. In 2020, economic activities contracted by about 2%. The impact varies across countries. It plunged the continent into its first recession in more than 25 years (World Bank, June 2021)[30] exacerbating vulnerabilities of poor communities and debts of distressed countries. The World Bank estimated that it could push up to 40 million people into extreme poverty and erase at least five years of progress in fighting poverty. Most countries are expected to return to growth in 2021 with significant variations in speed of adjustment. With faster progress in the deployment of vaccines, it is estimated that growth could accelerate to 3.4% in 2021 and 4.5% in 2022[31]. Prior to the outbreak of the COVID-19 pandemic, Africa had a GDP growth rate of 3.6% (OECD, May 2020), which was insufficient to accelerate economic and social progress and reduce poverty[32].

II.3 Responses to Climate Change on Africa's Agriculture and Food Systems

The relationship between climate change and agriculture is well established. Agriculture is a significant contributor to climate change, accounting for between 19% and 29% of total GHG emissions33. Agriculture is also one of the sectors most vulnerable to the effects of climate change; consuming some 70% of global freshwater34 and providing subsistence for about 2.5 billion people globally who depend on it for their livelihood35. On average, for the African continent about 60% of the population is employed by the sector. As a result, the impact of climate change on agriculture on the continent is very severe. This however varies between regions and among the countries and predominant crop type. Extreme events, such as floods, droughts, and heat waves, especially when they occur in combination, tend to significantly erode poor peoples' assets and further undermine their livelihoods in terms of labour productivity, housing, infrastructure, and social networks36.

An analysis of the Nationally Determined Contributions (NDCs) submitted to the UNFCCC ahead of CoP26 by African countries shows virtually countries included agriculture and/or Land Use, Land Use Change and Forestry (LULUCF) sectors in overall mitigation contributions and adaptation measures. Focus on agricul-

29. The largest contributors to global C02 emissions are China (10,175 MtC02), US (5,285 MtC02), India (2,616 MtC02) and Russia (1,678 MtC02). Africa's contribution is negligible. Only South Africa is among the top 20 countries globally with high C02 emissions. In 2019 its emissions amounted to 479 MtC02 out of a global total of 36,441 MtC02. Eswatini (1.4 MtC02), Nigeria (140 MtC02). Namibia pop, 2.4m; 4.2MtC02) Botswana (pop 2.3m, 6.3MtC02), Zimbabwe (pop 14.6m; 10 MtC02).

30 www.worldbank.org/en/region/afr/overview

31 Ditto

32 OECD Policy Response to Corona virus: COVID-19 and Africa: Socio-economic implications and policy responses, 7 May 2020

33 See Vermeulen et al., 2012.

34 See Braimoh, 2013

35 See FAO, 2013b

36 see Olsson et al., 2014

ture and food systems has been increased rise since the mid to late 2000s, with particular attention given to agriculture-climate change linkages during the Durban 2011 Conference of the Parties (COP), including attempts to set up a separate Agriculture Working Programme under the UN Framework Convention on Climate Change (UNFCCC). While this attempt was initially unsuccessful, the focus on agriculture has continued to grow, until CoP 22 in Marrakech in 2016 laid the foundation for "Action for Agriculture"37, which was followed more decisively by the Koronivia Joint Work on Agriculture that was set up at CoP 23 in Bonn 2017 during Fiji presidency, underscoring the importance of the agriculture sector in adapting to and mitigating climate change.

Considerably much earlier, the African Union had long sought to position the continent on the path to integrate climate change considerations into development processes and programmes, including agriculture and food systems. This gave rise to the Maputo Declaration on Agriculture and Food Security in 2003 [Assembly/AU/Decl.7(II)] when African Heads of State and Government initiated the Comprehensive Africa Agricultural Development Programme, driven by national CAADP Compacts. To take forward commitment to agriculture, the AU adopted the Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods [Assembly/AU/2(XXIII)] (African Union 2015). That declaration, which was adopted by African Heads of State and Government at the 23rd African Union (AU) Summit in 2014, repositioned agriculture as a priority on the continental development agenda and reaffirmed the CAADP commitments for another 10 years. The CAADP that was developed to promote agricultural transformation across the region and also sought to address the impact of climate change on the continent's agriculture and food systems. To this end, CAADP hosted the first Africa Climate-Smart Alliance during the UN Climate Week in 2014, which it aligned to the CAADP framework seeking a balance in the trade-offs between economic growth and sustainability.

Over time, more decisively, a number of African countries have launched climate smart agriculture frameworks, strategies and programmes (Fig.1) in response to the challenges of climate change as part of national development visions, frameworks and plans38 as well as their NDCs.

The Malabo Commitments
1) Continue pursuing the values and principles of the CAADP process (as contained in the Maputo declaration)
2) Enhance public and private investment in agriculture
3) End hunger in Africa by 2025 by doubling current agricultural productivity levels and halving post-harvest loss
4) Halve poverty by 2025 through inclusive growth
5) Triple intra-African trade in agricultural commodities and services by 2025
6) Enhance resilience of livelihoods and production systems to climate variability and related risks.
Implementing Malabo - Strategic Action Areas for the IS&R under the two objectives

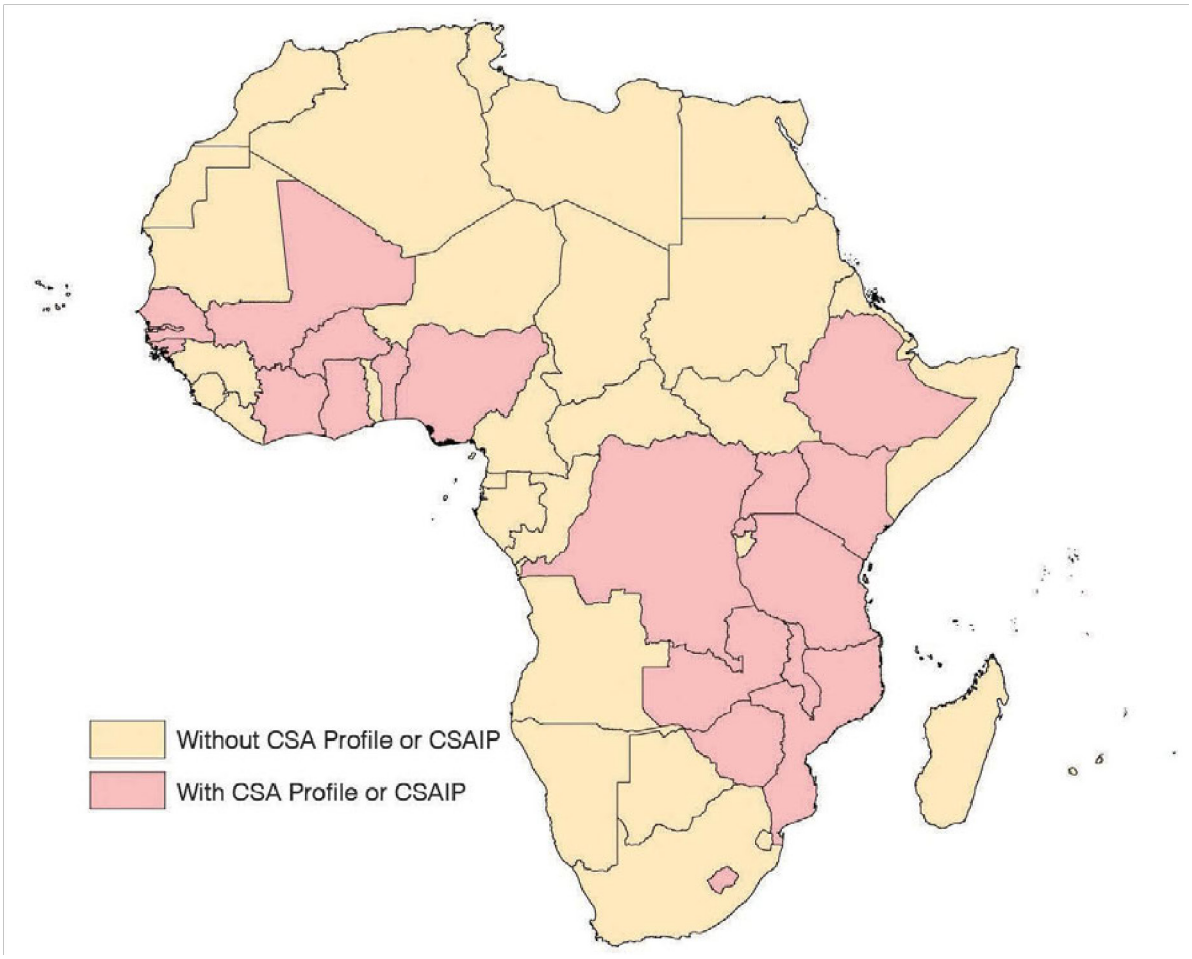
37 see CTA, 2016

38 In Ethiopia, for example, the *Climate Resilient Green Economy (CRGE)* is a key climate strategy that guides other growth and development plans (FDRE 2012). The strategy recognizes that Ethiopia will be highly vulnerable to the impacts of climate change. Kenya's *Climate Smart Agriculture Program* (CSAP 2015-2030) envisions "a climate resilient and low carbon growth sustainable agriculture that ensures food security and contributes to national development goals in line with Kenya Vision 2030" and also is thought to be crucial for coordinating domestic and international CSA interventions. In the preparation of the CSAP (2015–2030) Kenya combined the efforts of two ministries—the Ministry of Environment and Mineral Resources and the Ministry of Agriculture, Livestock and Fisheries. In Tanzania, and in addition to the *Vision 2025*, the government has sought to align responses to climate change and the promotion of CSA with broader investment and industrial strategies. Initiatives include the finalization of the Agricultural Sector Development Programme (ASDP II), which is intended to run for from 2017–2026 taking into account climate change. There is also the *Agriculture Sector Environment Action Plan* aimed at promoting sustainable production; the Climate Smart Agriculture Programme; and the *Tanzania Agriculture and Food Security Investment Plan* which also identifies climate change as an issue of concern. *Climate Smart Agriculture Guidelines* to guide implementation of the CSA Programme (2015–2025) have also been developed, identifying six strategic priorities as sources of Tanzania›s agricultural development and growth in a changing climate, as follows: (1) improved productivity and income; (2) building resilience and associated mitigation co-benefits; (3) value chain integration; (4) research for development and innovations; (5) improving and sustaining agricultural advisory services; and (6) improved institutional coordination.

Objective 1: Transformed agriculture and sustained inclusive growth	1a: Increase production and productivity 1b: Enhance markets, trade and value chains 1c: Increase resilience of livelihoods and systems 1d: Strengthen governance of natural resources
Objective 2: Strengthened systemic capacity to implement and deliver results	2a: Strengthen capacity for planning 2b: Strengthen policies and institutions 2c: Strengthen leadership, coordination and partnerships 2d: Enhance skills, knowledge and agricultural education 2e: Strengthen data and statistics 2f: Institutionalize mutual accountability 2g: Increase public and private financing

Source: World Bank, Science for Agriculture Consortium in Africa, 11 May 2017

Countries with CSA Profiles/CSAIP in Africa



Source: World Bank, June 2020

Illustrated by the case of Tanzania's Climate Smart Agriculture Programme and Resilience Programme, the key elements of the CSA programme respond to regional and international commitments on climate change, environment and sustainable development, and the CAADP. Through the CAADP, there has been increased investment by governments, the private sector, development partners and other stakeholders in the agriculture sector. These investments have taken different forms, which include supply of subsidized inputs, provision of agricultural extension services to farmers in rural areas, supply of subsidized machinery for cultivation, processing and value addition to agricultural produce and weather information services. The CAADP compact brought consultative frameworks into agriculture policy, strategy and investment programmes, a key component required for effective CSA transition by African countries.

It is in the foregoing context that the AU launched the GRAP in July 2021 and the AU Climate Change and Resilient Development Strategy and Action Plan 2022-2032 to bring coherence and coordination to the continent's responses to climate change as it recovers from the devastating COVID-19 pandemic.

These interventions are organizing frameworks for prioritizing and mobilizing coordinated interventions for adaptation and mitigation measures already put forward in countries' NDCs, NAPs and Green Growth Strategies, including Africa's Agenda 2063 and the UN SDGs. They offer opportunity to build capacity for integrating climate change considerations into national and regional development processes, policies and programmes and supporting the development of national systems of innovation across countries.

African Countries with INDCs, First NDCs, Revised FIRST and Second NDCs

No	Country	INDC	First/Second/ Updated/Revised NDC
1	Algeria		
2	Angola		
3	Benin		
4	Botswana		
5	Burkina Faso		
6	Burundi		
7	Cabo Verde		
8	Cameroon		
9	Central African Republic		
10	Chad		
11	Comoros	TBC	(First NDC)
12	Cote d'Ivoire		
13	Democratic Republic of the Congo		
14	Djibouti		
15	Egypt		
16	Equatorial Guinea		
17	Eritrea		
18	Eswatini		
19	Ethiopia		
20	Ghana		
21	Guinea		
22	Guinea Bissau		
23	Guinea-Bissau		
24	Kenya		
25	Lesotho		
26	Liberia		
27	Libya	TBC	TBC
28	Madagascar		
29	Malawi		
30	Mali		

31	Mauritania	TBC	(First NDC)
32	Mauritius		
33	Morocco		
34	Mozambique		
35	Namibia		
36	Niger		
37	Nigeria		
38	Republic of Congo		
39	Rwanda		
40	Sahrawi Arab Democratic Republic	TBC	TBC
41	São Tomé & Príncipe		
42	Senegal		
43	Seychelles		
44	Sierra Leone		
45	Somalia		
46	South Africa		
47	South Sudan		
48	Sudan		
49	Tanzania		
50	The Gambia		
51	Togo		
52	Tunisia		
53	Uganda		
54	Zambia		
55	Zimbabwe		

Source: Climate watch

Annex 2: CSAIP Assignment Delivery Modalities

Approach (1)	Methodology (2)	Scope of Assignment	Stakeholders & Development Partners for Consultation (3)	Key Documents to Consult (4)
1. General or consolidated to country specific analyses. 2. Use of consultation notes to seek clarifications and guidance from FARA and DeSIRA_LIFT 3. Reference and application of case studies, where applicable. 4. Presentation to FARA and DeSIRA_LIFT of Advisory memorandum and application guide on documents produced.	5. Analytical research and critical review of documentation listed in column (4) 6. Survey of stakeholders and development partners listed in column (3) using survey instruments 7. Interview of stakeholders and development partners to follow up on survey responses where necessary 8. Consultation of expert opinions 9. Organization of focus group meetings as may be requested by institutions or required by the assignment 10. Bilateral discussions with very senior development managers – agriculture, environment and climate change ministers, etc.	The delivery of this assignment will be limited or guided by the following: 1. Decisions that were formally adopted by UNFCCC CoP meetings of 17-26 and reported by the UNFCCC secretariat. 2. Implementation reports by African countries as contained in their Adaptation Communications to UNFCCC on policy actions in response to the CoP Decisions. 3. Emissions reduction proposals contained in African countries' updated NDCs, the latest of which were submitted to UNFCCC for the CoP26 meeting. 4. The African Union Climate Change and Resilient Development Strategy and Action Plan 2022-2032. The African Climate Change Strategy 2020-2030 on which the assignment ToRs were based was a working document. It was finalized as the African Climate Change and Resilient Development Strategy and Action Plan 2022-2032. There will be a critical review of this strategy so as to provide areas of possible improvement to the AUC. Given the broad coverage of the strategy, this assignment will focus on the priorities of the Axis that deals with food systems as they relate to climate smart agriculture. 5. The African Union Green Recovery Action Plan (GRAP) 2021-2027 that was adopted by the African Union Summit of February 2022.	6. Ministries of agriculture, climate change, environment, natural resources of AU Member States 7. Africa's Regional Economic Communities 8. Key African institutions – AUC, AUDA-NEPAD, Pan African Parliament (committees on agriculture and climate change) AfDB, Afrexim Bank 9. FARA, SROs, AFAAS 10. Agricultural research, development and knowledge institutes and networks 11. Leading regional, continental and international agricultural research and development organizations 12. Development partners and institutions supporting climate smart agriculture in Africa 13. Major investors, businesses and entrepreneurs in the agriculture sector 14. Private foundations and development champions in climate smart agriculture 15. IGOs and INGOs and NGOs like Pan African Farmers Organizations in climate smart agriculture	16. FARA Africa Climate Smart Agriculture Framework (ACSAF), MTOPs, S3A, CSA-related discussions on the knowledge platform, annual reports, among other documents 17. AU Climate Change and Resilient Development Strategy and Action Plan 2022-2032, AU Green Recovery Action Plan 2021-2027 18. AUDA-NEPAD Climate Resilient Agriculture programmes 19. RECs CSA-related strategies and programmes 20. AfDB CSA support strategy and programmes 21. Multilateral Development Institutions (EU, FAO, IFAD, World Bank, etc.) CSA support strategies and programmes for Africa 22. UNFCCC CoP17-26 Decisions and Decisions in respect of agriculture and food systems 23. African countries' adaptation communications (ADCOM) to UNFCCC 24. African countries' updated NDCs and implementation progress reports 25. African countries' Covid-19 Economic Recovery Plans, NDC-aligned NDPs. 26. CAADP and Malabo Declaration documents 27. Other relevant documentation

Annex 3: Assignment Activities, Deliverables and Timelines

No.	Deliverables/Activities	Timelines	Remarks
1	Discussions, conclusion and signing of assignment contract	21st - 25th July	
2	Launch of assignment, comments on/ clarification of ToRs and delivery of Draft Inception Report to FARA and DeSIRA_Lift	26th July - 9th August	
3	Finalization, review and approval by FARA and DeSIRA-Lift and dispatch of assignment survey instruments to stakeholders and partners and conduct of interviews	10th -15th August	
4	Review of documentation, research, preliminary consultations and delivery of Interim Report for the FARA 14-16 September 2022 CSA Biennial Conference: • **Interim Synthesis Report on CoP 17-26 Decisions and Policy Actions in respect of CSA (broadly agriculture and food systems)** • **Interim CSA Implementation Plan for AU Climate Change and Resilient Development Strategy and Action Plan 2022-2032** • **PowerPoint Presentation by consultant for the Conference**	31st August	Given that the assignment only started at the end of July, it will be difficult to present a final report for the September Biennial Conference. The interim documents will however be robust enough to provide guidance for the meeting.
5	First Draft Report (two documents in item 4 – incorporating inputs from surveys and guidance from the FARA 14-16 September CSA Biennial Conference	15th September	
6	Transmission of First Draft Report (two documents in item 4) to FARA and DeSIRA_Lift	16th September	
7	Revision and transmission of comments to consultant by FARA and DeSIRA_Lift	21st September	
8	Revision of Draft Report based on transmitted comments and guidance	26th– 29thSeptember	
	Dispatch of Final Report consisting of the Synthesis Report on CoP17-26 Decisions and Policy Actions and the CSA Implementation Plan for the AU Climate Change and Resilient Development Strategy and Action Plan 2022-2032	30th September	

6). In which of the following frameworks or intervention areas of a continental CSA Implementation Plan in support of the African Union Climate Change and Resilient Development Strategy and the AU Green Recovery Action Plan do you think your country needs support? Please, tick ( ) as appropriate:

No.	Frameworks for Climate Smart Agriculture	Please, tick ( ) as appropriate									(%)
1	Development/update of climate smart agriculture policy	X	X	0	0	0	X	X	0	X	56
2	Development/update of climate smart agriculture strategy	X	0	0	0	0	X	X	0	X	44
3	Development/update of climate smart agriculture investment plan	0	X	0	X	X	X	X	0	X	67
4	Development of climate smart agriculture capacity strengthening programme	X	X	0	X	X	X	X	0	X	78
5	Development/enhancement of climate smart agriculture financing arrangement	X	X	0	X	0	X	X	0	X	67
6	Development/enhancement of climate smart agriculture support systems	X	X	X	X	0	X	X	0	X	78
7	Development of climate smart agriculture national stakeholder consultative and knowledge sharing platform	X	X	X	X	0	X	X	0	X	78
8	Development of gender sensitive framework for climate smart agriculture policy, strategy and support system	X	X	X	X	0	X	X	0	X	78
9	Access to climate smart agriculture knowledge and information	X	X	X	X	0	X	X	0	X	78
10	Access to climate smart agriculture technologies and innovations	X	X	X	X	X	X	X	0	X	89
11	Training on models for estimating GHG emissions in the agriculture sector and vulnerability assessments	X	X	X	X	0	X	X	0	0	67
12	Cost estimates for transition from conventional to climate smart agriculture practices	0	0	X	X	0	X	X	0	X	56
13	Expected level of GHG emissions reduction that climate smart agriculture practices will bring about in the country	0	X	X	X	0	X	X	0	X	67
14	Development of financing arrangements for the cost of transition from conventional to climate smart agriculture practices	0	X	X	X	0	X	X	0	X	67
15	Design of incentive systems for transition to or adoption of climate smart agriculture practices	X	X	X	X	X	X	X	0	X	89
16	Others (please, specify)	• Developed manual for climate smart practice for the different agro-physiozones • Development of. CS Livestock Strategy • Community-based awareness programmes									

7). Which of these climate smart agriculture practices are currently undertaken in your country? Please, tick ( ) as appropriate:

No.	Dimensions /Options in Climate Smart Agriculture Practices	Please, tick ( ) as appropriate										(%)
1	Improved seeds/ new varieties of crops cultivars/ self-fertilizing/ climate-ready crops (*tolerant to extreme temperature, drought, flood and salinity, etc.*)	X	X	X	X	X	0	X	X	0	X	80
2	Conservation agriculture/tillage (reduced-till or no-till) *	X	X	X	X	X	X	0	0	0	X	70
3	Alteration in land-use pattern	X	X	X	X	X	0	0	0	0	X	60
4	Integrated nutrient management	X	0	X	X	X	0	0	0	0	X	50
5	Site-specific nutrient management	X	0	X	X	X	0	0	0	0	0	40
6	Crop diversification and rotation/intercropping (shift from monocropping)	X	X	X	X	X	X	0	0	0	0	60
7	Changes in planting times (changing cropping seasons)	0 *Not fully implemented since appropriate times not yet established*	X	X	X	X	0	0	0	0	X	50
8	Crop relocation practice	X	0	0	X	X	0	0	0	0	0	30
9	Integrated farming practice	X	X	X	X	X	0	0	0	0	X	60
10	Application of resource-efficient technologies	X	X	X	X	X	0	0	0	0	0	50
11	Integrated pest management	X	X	X	X	X	0	0	0	0	X	60
12	Manure management	X	0	X	X	X	0	0	0	X	X	60
13	Rangeland and pasture management through rotational grazing and improved forage	0 *Not fully adopted, some community dynamics bottlenecks that need to be solved*	X	X	X	X	X	0	0	X	X	70
14	Feed management	X	X	0	X	X	0	0	0	X	X	50
15	Rainwater harvesting	X	X	X	X	X	0	0	0	X	X	70
16	Crop and livestock insurance schemes	0	0	0	0	X	0	0	0	X	0	20
17	Improved diet composition, supplementation of feed additives and selection of forage plants of high quality for breeding	0 *To a lesser extent, need for upscaling*	X	0	0	0	0	0	0	X	X	30
18	Improved animal breeding and genetic selection for feed efficiency	X	X	0	X	X	X	0	0	X	X	70
19	Better weather forecasting, early warning systems for: • Crop plans development • Crop insurance schemes for crop failure and loss of livestock • Low-cost access to finance and financial services • Micro-finance schemes for poor rural farmers, etc.	0 *Models under development Still need strengthening*	X	0	X	X	0	0	0	X	X	50
20	Others, please specify	• Focus on climate-smart market-led agriculture • Strengthening and use of appropriate climate smart irrigation facilities and technologies										

8.) What are your country's immediate priority projects in climate smart agriculture and sustainable food systems that could be supported under the continental Africa Climate Smart Agriculture Implementation Plan (CSAIP)? Please, list 3-5 major priorities.

No.	Priority Climate Smart Agriculture Projects for Possible Support under the Continental Africa Climate Smart Agriculture Implementation Plan (CSAIP)
1	Participatory Integrated Climate Services Agriculture (PICSA)
2	Conservation Agriculture
3	Machobane Farming system
4	Climate smart agriculture gender framework
5	Cost estimates for transition from conventional to climate smart agriculture practices
6	Expected level of GHG emissions reduction that climate smart agriculture practices will bring about in the country
7	Climate smart agriculture investment plan
8	Climate smart agriculture support systems
9	Development and access to climate smart agriculture technologies and innovations
10	Development of climate smart agriculture investment plan
11	Up scaling Conservation agriculture/tillage

South Sudan

1	Development of climate smart agriculture policy
2	Development of climate smart agriculture strategy
3	Development of gender sensitive framework for climate smart agriculture policy, strategy and support system
4	Development of climate smart agriculture support systems
5	Access to climate smart agriculture technologies and innovations

Tanzania

1	Rangeland and pasture management through rotational grazing and improved forage
2	Rainwater harvesting
3	Demarcating of grazing land
4	Drilling of bore hole

Nigeria

1	Range land management system
2	Integrated Land use Management System peculiar to each ecological zones in Nigeria
3	NTFPs integrations with annual cropping
4	Wetland restoration and management with aquaculture

1). Based on your experience in the implementation and management of climate smart agriculture policies, strategies and programmes, please list what has not worked well and that could benefit from interventions through the Climate Smart Agriculture Implementation Plan (CSAIP).

1. Appropriate technologies such as planters and ridgers (tractor drawn) are limited in number
2. Lack of policy incentives to attract more farmers to participate
3. Lack of national targets on climate smart initiatives
4. Harmonizing the climate smart messages for all players including NGOs
5. Lack of financing for improved investment for small holder farmers on SNL –facilitate the building up of biomass for incorporation into the soil
6. Despite development of the National Climate Smart Agricultural Investment Plan being in place there seems to be little or no implementation and its full adoption as a guiding document calling for fact finding or lessons learning from other countries that are benefiting through its implementation.
7. Furthermore, the project approach versus the integration of funded efforts into national programs seem to be producing less sustainable results. Maybe the development of policy and strategy may help with application of the CSAIP.
8. The implementation and management of climate smart agriculture policies, strategies and programmes, the rolling out of the CSA has worked inefficiently to cover all the country. There is a need for financial assistance to intervene for positive impact.
9. There is a need to harmonize climate smart agriculture initiatives across government. For example, Ministry of Environment needs to work together with Ministry of Agriculture to attain national synergies.
10. Innovation and technology transfers, especially to rural farmers. Intervention should target rural farmers by supporting emerging or lead farmers that can be used as pilot and later on inspire others.
11. Currently, lack of policies and funding to scale up programmes of newly released adaptable seed varieties of crops to combat drought and disease and technologies associated with reduction of loss of land degradation
12. Allocating of demarcated land to individual livestock keeper
13. Capacities building need to be upgraded
14. Finance from ODAs should be scaled up
15. Weak institutional Framework
16. Bottleneck in accessing funds from GCF and other climate funds

2). Based on your experience in the implementation and management of climate smart agriculture policies, strategies and programmes, please list what has worked well and needs to be reinforced and strengthened through the Climate Smart Agriculture Implementation Plan (CSAIP) for effectiveness and shared as replicable CSA practices.

1) Introduction of tractor drawn ridger has improved participation
2) Support resilient basic seed production and replication for resilience for small holder farmers for improved food security
3) Biomass production and organic matter composting for commercial purposes
4) Increased trap crops and complimentary crops research for reduced evapotranspiration and weed suppression, increased food and nutritional security
5) Improved early warning systems and services with increased community integration for enhanced feedback and early action
6) Multi-stakeholder integration for improved harmonization of climate smart agriculture implementation
7) Pioneering of Conservation Agriculture and its promotion seem to be doing well in some areas with need for modification of labour-intensive equipment to facilitate participation by different groups of farmers.
8) The involvement of all stakeholders to shape national climate change policy to include all sectors has been a stronghold that however needs individual sectors to have either policies and strategies such as CSA ones to be more focused and impact full by addressing climate related challenges specific to Agriculture.
9) Lesotho has clear policies that supports Climate Smart Agriculture (CSA) PICSA and Conservation Agriculture have been working well in terms of information dissemination and capacitating most vulnerable members of the community, Low-income households, Indigenous people as well as small scale farmers. Financial constraint seems to be hindering implementation of PICSA, Conservation Agriculture (CA) as well as Machobane Farming System. They need to be rolled out to cover all the districts of the country, so there is a need for financial support to intervene.
10) Zimbabwe has developed a climate smart agriculture manual for agriculture colleges that is being used as part of training. In addition, the manual is being used in the training of extensionists. Cascading of the training to farmers would be appreciated.
11) Conservation Agriculture is being intensified through a government programme (Pfumvudza). This has resulted in high rates of adoption since farmers get input support in the form of seed and fertilizers with extension services being provided by the government.
12) Pilot initiatives through Lead Farmers. This approach should be reinforced as it allows quicker adoption of the Conservation Agriculture.
13) Soil, Water Catchment Survey and Analysis in selected areas of agro-ecological zones of South Sudan.
14) Introduction of drought/disease and pest resistant crop varieties in marginal land.
15) Engagement in knowledge sharing platform.
16) Protection of some of the most indigenous farming systems that preserve important genetic resources, such as edible wild crop relatives that are likely to be at risk.
17) Performance of crossbred heifer, demand is very high
18) Strengthened all institution involved in CSA practice

3). Based on your experience in the implementation and management of climate smart agriculture policies, strategies and programmes, please list gender issues that need addressing in CSA policy, strategy, programmes and or financing.

1) Land access for women, youth and disabled need to be improved
2) Increased participation of women and youth in climate smart implementation
3) Increase access to finance for women and youth in climate smart implementation
4) Development of national CSI gender target that will be reviewed annually and quarterly
5) Development of succession plans for CS initiatives at household level (increased investments) for increased gender participation and appreciation of improve soil properties, increased organic carbon in soil
6) Climate Smart Agricultural interventions that take into consideration the time saving techniques and technologies especially for women who have multiple responsibilities but also for the youth who need to be enticed into agriculture
7) Some inequalities resulting from conflicting laws (customary and modern)
8) My experience is that there has never been a forum addressing gender issues in relation to the implementation and management of climate smart agriculture policies, strategies and programme.

1) Gender issues include the need for development of tillage systems that are friendly to women and reduce drudgery through mechanization. For example, conservation agriculture involving the preparation of holes is labour intensive.
2) Technology and innovation. The new or improved tools and technology should take into consideration the differentiated role of women. Other issues that can be deliberately pursued is the access to finance especially to rural women for farming
3) Generally, women are always neglected in policy, strategy issues despite majority are participating in agricultural activities.
4) Involvement of youth in livestock production, processing and marketing especially graduate from livestock training Institute
5) Gender mainstreaming is very weak in terms of reach among institutions

PART II:

Climate Smart Agriculture and Sustainable Food Systems Policy Actions in Response to UNFCCC Conference of Parties (CoP) Decisions

1) On a scale of 5-0 (5=excellent, 0=Not aware) kindly rate the extent to which the Government/ Ministry of Agriculture is aware of the major decisions in the area of agriculture and food systems reached at CoP17 – CoP26. Please, tick ( ) as appropriate:

Level of Awareness of CoP Decisions	Excel-lent	Very Good	Good	Fair	Poor	Not aware	AVERAGE
	(5)	(4)	(3)	(2)	(1)	(0)	
Awareness of Agriculture and Sustainable Food Systems Decisions at CoP17 – CoP26	X		XXX	XXX	X		21/8 2.6/3.0 About good

2) Which of these CoPs decisions had the most profound influence on your country's climate smart agriculture policy actions? Please, identify the related agriculture and food systems decision, if possible:

No	Conference of Parties Decision	Related Agriculture and Food Systems Issues	Please, tick ( ) as appropri-ate	Not Aware
1	CoP26, Glasgow, Scotland, 31 October to 13 November 2021	7 Issues within KJWA Adaptation plans Access to financing mechanisms adaptation fund, GEF, GC Pursuing SDGs 2030 related Programmes on food security and CC actions and Environmental Sustainability	X	XXXXXX
2	CoP25, Madrid, Spain, 2-15 December 2019	7 Issues within KJWA Adaptation plans Access to financing mechanisms adaptation fund, GEF, GCF	X	
3	CoP24, Katowice, Poland, 2-14 December 2018			
4	CoP23, Bonn, Germany, 6-17 November 2017[40]	Setting the climate change standards. It has the effects on appropriate approaches towards agricultural innovations development.	X	
5	CoP22, Marrakech Kingdom of Morocco, 7-18 November 2016	Issues within KJWA Access to financing mechanisms adaptation fund, GEF, GC	X	

40 CoP 23 was a pathbreaking meeting. It introduced the KORONIVIA Joint Work on Agriculture (KJWA).

6	CoP21, Paris, France (Paris Climate Conference), 30 November - 11 December 2015	Reduction of greenhouse emissions, mitigation and adaptation of climate change effects, financing mitigation and adaptation efforts in developing countries.	X	
7	CoP20, Lima, Peru, 1-14 December 2014			
8	CoP19, Warsaw, Poland, 11-23 November 2013			
9	CoP18, Doha, Qatar, 26 November - 8 December 2012			
10	CoP17, Durban, South Africa, 28 November – 11 December 2011[41]			

3) Which of the following frameworks or actions of your country's climate smart agriculture programme were developed in response to CoPs decisions? Please, tick ( ) as appropriate:

No.	Frameworks & Actions in Climate Smart Agriculture	Please, tick ( ) as appropriate									(%)
1	Climate smart agriculture policy	X	X	0	0	X	X	0	0	X	56
2	Climate smart agriculture strategy	0	0	X	X	0	X	0	0	X	44
3	Climate smart agriculture investment plan	0	X	0	0	0	0	0	0	X	22
4	Climate smart agriculture capacity development programme	X	X	X	0	X	0	X	0	X	67
5	Climate smart agriculture financing arrangement	X	X	0	0	0	0	0	0	0	22
6	Climate smart agriculture support systems	0	0	X	0	X	0	0	0	0	22
7	Climate smart agriculture national stakeholder consultative and knowledge sharing platform	X	X	0	0	X	0	0	0	0	33
8	Climate smart agriculture gender framework	0	0	0	0	0	0	0	0	0	0
9	National estimates of the GHG emissions from the agriculture sector	0	X	X	X	X	0	0	0	0	44
10	Cost estimates for transition from conventional to climate smart agriculture practices	0	X	0	0	0	0	0	0	0	11
11	Expected level of GHG emissions reduction that climate smart agriculture practices will bring about in the country	0	0	X	X	X	0	0	0	0	33
12	Others (please, specify)										

41 CoP17 launched the Green Climate Fund (GCF). It mandated UNFCCC SBSTA to start work on LULUCF (Land Use, Land Use Change and Forestry) and expansion of the Clean Development Mechanism (CDM) to include additional land use, land-use change and forestry activities.

4) On a scale of 5-0 (with 5=excellent and 0= not aware), kindly rate the effectiveness of the CoPs in addressing agriculture and food systems issues in their agendas and adopted decisions. Please, tick ( ) as appropriate:

CoP Effectiveness Ratings	Excel-lent	Very Good	Good	Fair	Poor	Not Aware	Average
	(5)	(4)	(3)	(2)	(1)	(0)	19/8
Effectiveness of the CoPs on Agriculture and Sustainable Food Systems		XX	XX	XX	X	X	2.4 Fair

5) **Based on your experience in the implementation and management of climate smart agriculture policies, strategies and programmes, what key issues should Africa put forward on its position at CoP27 with respect to agriculture and sustainable food systems? List at least 3.**

1) Unlocking the bottlenecks restricting or limiting access to climate finance
2) More capacity building on climate action for agriculture to enable technology development and transfer
3) Capacitate parties to empower or engage private sector on climate action
4) Resilient seed production and increased support of indigenous seeds adaptive to climate change
5) Increase supply and affordability of climate smart machinery and implements
6) Strengthen early warning systems and service delivery
7) Develop policy for CSA and incentives for adoption of technologies
8) Need for increasing access to adaption and mitigation financing
9) Increasing extreme weather events have exposed millions of people, especially small-scale farmers, low-income households and indigenous peoples in developing countries, to acute food and water insecurity.
10) Agricultural systems are vulnerable to the adverse impacts of climate change
11) Safeguarding food security and ending hunger and the particular vulnerabilities of food production systems should be prioritized.
12) Africa should have one voice and be allowed to integrate traditional practices and modern production technologies to avert food insecurity (integrated soil fertility management)
13) Capacity for measurement, reporting and verification of greenhouse gases should be developed across all African countries
14) Innovation and technology
15) Rural finances
16) Food and nutrition security, including Gender roles
17) Policy
18) Investment
19) Capacity building

11) **Based on your experience in the implementation and management of climate smart agriculture policies, strategies and programmes, what kind of improvements would you like to see in CoP decisions on agriculture and sustainable food systems in meeting climate change goals and targets? List at least 3:**

1) Addressing the seven issues and others that may be identified and make decisions to move these topics ahead
2) Capacity building (including available negotiation training packages online) and information exchange in a more structured arrangement with frequent stocktaking.
3) Continued training on negotiations help developed countries participants benefit out of COPs instead of floating most of the times
4) Establishment of specific topics that could follow up implementation and assist where there is need.
5) The constituted bodies and operating entities of the Financial Mechanism should prioritize addressing issues related to agriculture in their existing mandates and work plans.
6) There should be more emphasis on improving sustainable production and animal health, aiming to reduce greenhouse gas emissions in the livestock sector while enhancing sinks on pasture and grazing land, which can contribute to achieving long-term climate objectives, taking into account different systems and national circumstances.
7) Existing tools for assessing and monitoring adaptation and its co-benefits could benefit from further adjustment and new tools could be developed for country-specific circumstances.
1) Benchmarking climate smart agriculture practices in Africa
2) Capacity building of extension and research organizations
3) Participatory technology development
1) Access to finance for rural farmers
2) Adoption of the food systems approach (production to marketing)
3) Nutrition awareness and link to early childhood development
1) Policy must be harmonized at all states levels
2) Support for less developed nations
3) Strengthening research collaboration between north and south

1) Based on your experience in participating at the CoPs, please comment on what has not worked well and should be changed in respect of Africa and responses to climate change challenges in the agriculture sector.

1) What has not gone well is lack of understanding for parties to support constant participation throughout the year
2) Apart from working on preparations for COPs maybe Africa should include sessions of stock-taking (achievements, challenges and information exchange) to assess if countries are indeed benefitting from COPs
3) Adoption of foreign-developed and not locally tested technologies as a way to reduce the vulnerability of food systems to climate change.
4) Never attended
5) I have not participated in CoP
6) Inadequate information and inadequate participation of technocrats from Africa

2) Based on your experience in participating at the CoPs, please comment on what has worked well and need to be reinforced and strengthened for effectiveness in respect of Africa and responses to climate change challenges in the agriculture sector.

1) Having preparatory meetings for Africa both virtual and physical is a strong point worth keeping
2) Acquiring funding for countries also strengthens Africa's position even though not all countries would be covered
3) The development of solutions that are context-specific and country-driven, and strategies and their implementation of strategies that are scaled up and customized for local conditions.
4) Never attended
5) I have not participated in CoP
6) All countries are invited

Africa Climate Smart Agriculture

Implementation Plan 2022-2032

Lorem Ipsum

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