TRANSFORMING AFRICA’S AGRICULTURE: Accelerating Uptake and Spread of Conservation Agriculture in Africa

A CONDENSED CONTINENTAL PROGRAMME PROPOSAL

DECEMBER, 2017
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ABBREVIATIONS AND ACRONYMS

ACT African Conservation Tillage Network
AU African Union
CA Conservation Agriculture
CAADP Comprehensive African Agricultural Development Programme
CA-CoEs Conservation Agriculture Centres of Excellence
CGIAR Consultative Group for International Agricultural Research
CoP Community of Practice
CSO Civil Society Organisations
FAO Food and Agriculture Organisation of the United Nations
ICT Information and Communication Technology
M&E Monitoring and Evaluation
MDGs Millennium Development Goals
NAES National Agricultural Extension System
NARI National Agricultural Research Institute
NARS National Agricultural Research System
NEPAD New Partnerships for Africa’s Development
NGO Non-Governmental Organization
NPCA NEPAD Planning and Coordinating Agency
RECs Regional Economic Communities
SDGs Sustainable Development Goals
SROs Sub-Regional Research Organizations
TIPs Technologies, Innovations and Practices
A CONDENSED CONTINENTAL PROGRAMME PROPOSAL

1.0 BACKGROUND

1.1 ACT Network and the Potential Role of Agriculture

(a) The African Conservation Tillage (ACT) network is registered as a pan-African not-for-profit membership association that is established at three regional levels that include (i) Southern Africa Region; (ii) East and Horn of Africa Region; and (iii) West-Central Africa Region. A distinct North Africa region is foreseen in the near future. This setup enables each region to articulate its main uniqueness, thrust and strengths as basis for inter-regional sharing and interaction. The network was established in adherence to the African Union’s (AU) “Code of Ethics and Conduct for African Civil Society Organizations”. Membership to the Network is voluntary and brings together stakeholders and players who are (i) dedicated to improving agricultural productivity and development through sustainable management of natural resources in African farming systems; and (ii) committed to the principles of mutual collaboration, partnerships and sharing of information and knowledge on sustainable natural resource management and drawing on synergies and complementarities.

(b) Agriculture can play a major role in Africa’s development if three major transformations in agriculture are achieved. These include significant increases in productivity; significant increases in production; and significant increases in value addition. Because of the recognition of the potential role of agriculture, African Heads of States and Governments have adopted the new CAADP results framework during the 31st African Union Summit (Malabo, June, 2014). The adoption of the new CAADP results framework comes at a time when worldwide hunger has decreased by 132 million people in the last 20 years but increased by 64 million, from 175 to 239 million in Africa over the same period. Africa is a net importer of food having imported, for instance, 43 million tons of food worth USD 50 billion in 2011. While global population is projected, by 2013 basis, to increase by 33% to 9 billion people by 2050, Africa's population is projected to increase by 115% from 1.1 to 2.39 billion within the same period which would require at least a similar increase in food production to maintain status quo. These figures point to the bitter reality that urgent efforts are needed to transform agricultural production on the continent, in line with the CAADP framework to which African governments have pledged their support.

1.2 Agricultural Transformation and Conservation Agriculture

(a) Agriculture is the mainstay of the national economy and rural livelihoods of many African countries and provides the basis for the development of the other sectors. By offering employment to the majority of working population as well as contributing raw materials to the manufacturing/industrial sector, the agricultural sector has a definite role to play in the progress of African countries towards becoming food secure and industrialise. For the agricultural sector to improve on its contribution to the overall goal of national economic growth, wealth creation, food security and poverty alleviation, the agricultural sector must be transformed from
subsistence to a sustainable commercial and profitable business enterprise. However, agriculture in African countries is faced with major challenges caused mainly by the fact that the form of agriculture that has been promoted over the years is tillage-based farming which is now considered unsustainable. Tillage-based farming reduces soil organic matter, destroys soil structure and debilitates soil biodiversity, all of which are important elements in ecosystem functions that create healthy productive soils and deliver ecosystem services.

(b) Conservation Agriculture (CA) is defined as a production and land management system in which crop, soil, nutrient, pest, water and energy management components and operations are based on a sustainable ecological foundation provided by three interlinked principles that include (i) minimum soil disturbance (no-till/direct seeding); (ii) maintenance of permanent soil cover (mulch cover from crop residues and cover crops); and (iii) diversification (rotations and/or associations) of crops, including cover crops (FAO, 2008). The CA principles are applied through locally-formulated and locally-adapted practices to all land-based rainfed and irrigated agricultural production systems, including arable, rice-based systems, horticulture, tree crops and plantations, agro-forestry, organic and crop-livestock systems, with manual, animal-drawn or mechanized farm power (FAO, 2011; Kassam et al., 2011). Conservation Agriculture is, therefore, the integration of locally adapted and ecological management with modern and scientific agricultural production to promote food sufficiency, poverty reduction, and value added production through improved crop and animal production and production in relation to farmers’ objectives and market opportunities. Because of these benefits, conservation agriculture holds the key to Africa’s sustainable agricultural intensification.

2.0 PROGRAMME RATIONALE AND JUSTIFICATION

2.1 The Problem Statement

(a) Many organizations are increasingly calling for a serious focus on promotion of uptake and scaling up of available knowledge. They argue that the gap observed between knowledge and development action is as a result of agricultural technology developers limiting the communication of research results to scientific forums such as journal publications and scientific conferences. This approach limits the extent to which decision makers and key players along research impact pathways are reached by the research knowledge. Similarly, the poor performance towards meeting the Millennium Development Goals (MDGs) in Sub-Saharan Africa has also led to serious concerns calling for urgent need to put existing knowledge into action, with emphasis that “Knowledge is not lacking, what is lacking is the will to turn this knowledge into practice” (MDG Technical Support Centre, 2004). Further to this, the World Bank and other major development partners have continued to hold the view that “Access to knowledge and information hold one of the keys for the Africa continent to unlock its potentials to bridge the development gap in relation to the rest of the world and, therefore, scaling up good practices must become an integral part of development strategies”. At the continental level, the African Union/New Partnerships for Africa’s Development (AU/NEPAD) has highlighted and stressed the critical need to improve the participatory dissemination of improved technologies and to catalyse widespread adoption by farmers as a strategy for improving agricultural productivity and growth in the continent.
(b) Major changes in ecological awareness and knowledge have been occurring globally during the past three decades in the understanding of the root causes of agricultural land degradation and sub-optimal agricultural performance. This understanding has increasingly become a basis for the promotion of sustainable production intensification, sustainable agricultural land management, and rehabilitation of degraded agricultural land. Experiential knowledge from farming communities and formal scientific knowledge from research community have been accumulating from all continents including Africa, supporting and emphasizing the role of CA in sustainable agriculture intensification, improving food security and enhancing livelihoods and the environment. The uptake and utilization of this wealth of scientific knowledge needs to be accelerated in the African continent.

(c) Conservation Agriculture is not a single technology but a set of linked complementary practices that should be implemented in combination with other technologies and practices by farmers in order to obtain full benefits. These practices cover a large range of expertise from equipment and mechanization to cover crops and residue management to pest and diseases management to nutrient and water management including crop and cropping system management. In addition to this, each country and sub region in Africa has its own unique resource endowment, socioeconomic conditions, range of production systems, and agricultural and economic development opportunities. Further, each country and sub region has its particular level of adoption and spread of CA given its national level commitment towards CA. This state of affairs calls for flexibility and adaptability according to the specific biophysical and socio-economic situation in each country and sub region.

(d) Given the above understanding, therefore, the CA principles should be translated into a number of locally-devised and applied practices that can work simultaneously through contextualized crop-soil-water-nutrient-pest-ecosystem management at a variety of scales to address the following five major challenges experienced in the African continent and globally:

(i) Concerns regarding pervasive food insecurity and poverty, high prices for food, production inputs and energy, wide-spread degradation of agricultural land resource base, resource scarcity and climate change.

(ii) Short-comings of the relatively high-cost tillage-seed-fertilizer-pesticide-credit approach to agricultural development and sustainable livelihoods for resource-poor small scale farmers trapped in a downward spiral of land degradation, fragile economies and ineffective policy and institutional support.

(iii) Continuing high environmental impact of tillage-based agriculture, leading to economically and environmentally sub-optimal productivity in rain fed and irrigated agriculture, soil and agro-ecosystem degradation, pollution of water systems due to water erosion and leaching of agrochemicals, salinization and vulnerability to climate change.

(iv) Continued absence of agro-ecologically-based production systems that are environmentally more stable offering improved and sustainable productivity from efficient use of inputs as well as greater environmental services and are climate-smart in terms of adaptation and mitigation.

(v) The natural and man-made disasters and crises which often lead to emergencies involving large rural populations whose agriculture systems and livelihoods have to be rehabilitated through relief and development measures.

(e) Although CA has been shown to be relevant and appropriate for small and large scale
farmers at all levels of farm power and mechanization, from manually operated hand tools to equipment drawn by animals to operations performed by heavy machinery, its spread in Africa has been slow as compared to other continents. The reasons for this slow spread of CA in Africa can be attributed to broad constraints that include (i) continued promotion and support of tillage-based agricultural systems by national public and private institutions; (ii) weak policies and regulatory frameworks and institutional arrangements to support promotion and mainstreaming of CA; (iii) inadequate knowledge about CA systems among policymakers, extension and technical staff; (iv) inappropriate CA technology packaging and dissemination; (v) inadequate CA-based enterprise diversification and integration in farming systems; (vi) farmers’ inability to diversify crop rotations, sequences and combinations due to inadequate new knowledge, experience and seeds; (vii) inadequate skills and competencies among the farmers and other CA practitioners; (viii) farmers’ inability or lack of knowledge to generate extra biomass and maintain year-round soil cover through the use of specially introduced cover crops, intercrops and residue; (ix) the availability and access to the required CA equipment, machinery and inputs; (x) and absence of a strong continental body and strategic and policy framework to guide the promotion and mainstreaming of CA.

Promotion of CA principles and practices alone is not likely to lead to widespread uptake, utilization and scaling up of CA. The “CA-specific” core technologies, innovations and practices will need to be promoted in combination with the relevant “CA-associated” good technologies, innovations and practices such as those related to the development, management and upgrading of priority agricultural commodity value chains in line with the Malabo Declaration on African Agriculture and CAADP Implementation Strategy and Roadmap. Agricultural commodity value chains are currently the framework used to commercialize smallholder agriculture. Although there is information on how to develop, strengthen and upscale promising value chains, there is inadequate utilization of this information. The situation is further complicated by the fact that there are different commodities and variations across countries in terms of market conditions, enabling policies and actors among others. This area has drawn a lot of concern and effort from both the supply and demand side of agricultural knowledge and technology. This is the area of focus in which ACT and other partners shall leverage on by supporting, facilitating and coordinating national, sub regional, regional and continental actions designed to promote CA as the key driver of the African priority agricultural commodity value chains in the national, regional and global markets.

2.2 The Need for Enhanced Uptake and Spread of CA in Africa

The importance and role of CA in sustainable agricultural growth and development has been clearly documented and can, therefore, be considered as the most appropriate entry point in transforming agricultural production and sustainable land management in the African continent. However, the adoption and spread of CA in Africa has been slow due to the challenges and constraints outlined above. Addressing these challenges and constraints requires interventions at higher levels to ensure development of appropriate policies and regulatory frameworks to support adaptation, adoption, scaling up and mainstreaming of CA and attract the private sector to invest and develop CA supportive businesses around agricultural commodity value chains for domestic and export markets.

Some of the major changes, developments and commitments in the context within
which ACT operates that support the need for enhanced uptake and spread of CA in Africa so as to contribute significantly to enhanced agricultural productivity, sustainable land management and environmental conservation for improved livelihoods, wealth creation and economic growth in Africa include:

(i) **The need to support the CAADP Results Framework** - that provides a solid presentation of the agriculture development agenda in terms of goals, priorities, strategies and targets as well as mechanisms to respond to emerging issues including climate change, globalized food and energy systems, Africa’s population growth and urban migration trends, nutrition and improvements in governance.

(ii) **The need to support the attainment of the 2030 Agenda for Sustainable Development** - as described by the 17 Sustainable Development Goals (SDGs) that provide the African countries new opportunities for collaboration at the national, regional and global levels.

(iii) **The need to support the increased call to cope with climate change** - in which the African continent is expected to be among the most negatively affected by this change. Application of the CA principles and practices can play a significant role in the adaptation and mitigation of climate change.

(iv) **The need to support the increased call to turn the existing knowledge into action** - which is based on the fact that knowledge is not lacking but what is lacking is the will and commitment to turn this knowledge into practices/action to bringing “more benefits to more people more quickly”.

(v) **The need to support the Integration of regional value chain approach to sustainable agricultural transformation** - in line with the recent Malabo Declaration designed to transform the agricultural sector from subsistence to a commercial and profitable business enterprise.

(vi) **The need to support the increased call for recognition of the role of women and youth in the agricultural transformation agenda** - so as to ensure substantial increases in agricultural productivity, value addition and income generation, employment creation, reduced losses and wastage, improved food quality and safety, and better food and nutrition security particularly at the household level.

(vii) **The need to support the increasing private sector contribution to agricultural development** - through creation of enabling environment for the private sector to realize its full potential contribution to economic development through effective engagement in market-driven agricultural research, extension and education.

(viii) **The need to support the attainment of the dual goals of food security and environmental sustainability** - through broadening of sustainable management of landscapes/natural resources for multiple purposes with tradeoffs and synergies between conservation and productive uses.

2.3 **Calls for a Continental CA Supportive Network**

(a) ACT is operating in an increasingly competitive and congested institutional landscape, with both competitive and collaborative pressures. At the apex are the continental bodies from which it may derive both mandate and show some level of accountability. At the national level, ACT works in partnership with the national agricultural research, extension and education systems. Some of these national systems have evolved differently over time leading to uneven growth and sophistication in different countries. At the international level there is the CGIAR which has launched its 2016-2030 Strategy and Results Framework to respond and contribute
directly to the achievement of the SDGs among other things. Given this crowded field, therefore, there is a need for ACT to identify its clear niche and mandate vis a vis that of these national, regional, continental and international technical and policy institutions and establish appropriate partnerships and collaborations. In doing this, ACT will need to assess the new opportunities and challenges brought about by the changing institutional landscape and the extent to which it is likely to complement, duplicate or complicate ACT’s work.

(b) The ACT network has been identified by its stakeholders and partners as the body that should undertake the critical role of intervening at the continental level in the African sustainable development agenda. However, in order to enable the Network to perform this role effectively, the stakeholders and partners have raised the need for the Network to reposition itself strategically as the pan African body charged with the responsibility of spearheading, coordinating and catalysing the promotion of CA principles and practices to enhance agricultural productivity, sustainable land management and environmental conservation for improved livelihoods, wealth creation and economic growth in Africa. This Network reorientation and repositioning has also been recognized by its current strategic plan for the period 2013-2022 (ACT, 2012) and has been given impetus by the stakeholders and partners during some of the recent key consultative forums organized by the Network.

(c) In aligning itself to the guiding policies and plans at the national, regional and global levels, the Network formulated an inspiring Vision “To be a premier network of excellence in promoting sustainable agriculture and ecosystem management for improved livelihoods and wealth creation in Africa”. The Network Mission statement that expresses the Network’s fundamental purpose and business is “To enhance agricultural productivity, sustainable land management and environmental conservation through promotion of Conservation Agriculture principles and practices in Africa.” The Network Vision and Mission statements confirm the Network’s commitment to the national, regional and global policies and priorities aimed at creating sustainable economic development through agriculture and meeting the Sustainable Development Goals that are aimed at reducing poverty and eradicating hunger.

3.0 PROGRAMME STRATEGIC FOCUS

3.1 Programme Goal and Purpose

(a) **Programme Goal:** Enhanced CA contribution to inclusive agricultural transformation and sustained growth for improved wealth creation, food and nutrition security, environmental sustainability and economic growth.

(b) **Programme Purpose:** Supported, facilitated and coordinated adaptation, adoption, scaling up and mainstreaming of conservation agriculture and mechanization for increased and sustained market responsive agricultural production, productivity and competitiveness.

3.2 Programme Strategic Transformation and Growth Areas of Focus and Outputs

(a) The priority areas of intervention required to deal comprehensively with the ACT reorientation and repositioning and the critical challenges and constraints limiting adaptation,
adoption, scaling up and mainstreaming of CA in Africa have been rationalized and grouped into six broad strategic transformation and growth areas of focus (Figure 3.1). The six areas of focus to be implemented in this programme and their respective outputs include the following:

(i) **Strategic Network Visioning and Repositioning:** Repositioned continental CA network performing higher level facilitative, supportive, coordination and advocacy role in the adaptation, adoption, scaling up and mainstreaming of conservation agriculture and mechanization to enhance inclusive agricultural transformation and sustained growth in Africa.

(ii) **Strengthening CA Capacity at Systemic, Organizational and Individual Levels:** Supported and coordinated identification and strengthening of CA capacities and competencies at systemic, organizational and individual levels to support effective adaptation, adoption, scaling up and mainstreaming of CA systems and land management in Africa.

(iii) **Advocating Formulation of CA Supportive Evidence-Based Policies and Regulatory Frameworks:** Advocated, supported and coordinated review, formulation and implementation of CA supportive evidence-based policies and regulatory frameworks for adaptation, adoption, scaling and up mainstreaming of CA in Africa.

(iv) **Packaging and scaling up CA Technologies, Innovations and Practices:** Supported and coordinated identification, analysis, packaging and scaling up of proven best-bet CA technologies, innovations and practices (TIPs) for different farming systems in Africa.

(v) **Supporting CA Entrepreneurship and Business Development:** Advocated, supported and coordinated establishment and implementation of private sector-driven small and medium scale farmers CA equipment and inputs supply and value chain entrepreneurship and businesses to support scaling up of CA in Africa.

(vi) **Establishing Integrated CA Knowledge and Information Management System:** Supported, facilitated and coordinated establishment and operationalization of integrated CA knowledge and information management system to support inclusive agricultural transformation and sustained growth.

(b) The broad strategic transformation and growth areas of focus are the critical areas in which the repositioned ACT will need to transform and grow in capacity and competency so as to position itself strategically to contribute significantly to inclusive and broad-based agricultural transformation and sustained growth of the African agriculture. To do this, the Network will need to institute appropriate transformation and growth measures in these areas of focus designed to improve its effectiveness and efficiency in service delivery. In order to be effective in bringing about the desired change, the transformation and growth process shall be carried out in a structured framework capable of addressing the obvious and less obvious factors of transformation and change. Figure 3.2 shows the programme logic and impact pathway.

(c) In order to address the past slow spread of CA in African caused partly by short term project-based interventions implemented in an ad hoc manner, this programme has been designed to change this by moving from Business-As-Usual to Business-Un-Usual that entails promotion of uptake and spread of CA in a comprehensive/holistic and systematic manner capable of building baselines to guide future interventions. In this new approach, the intervention strategies required to deliver each strategic transformation and growth area of focus/output have been, as much as possible, formulated in a structured and sequential framework guided by sequential steps/questions that include (i) What is the current status?; (ii) What are the constraining factors?; (iii) What are the available solutions to the constraining
factors?; (iv) What needs to be done to implement the required solutions to resolve the constraining factors?; (v) What needs to be done to ensure sustainability?; and (vi) What needs to be done to track the progress in resolving the constraining factors?

Figure 3.1: Relating CA areas of focus to inclusive agricultural transformation and sustained growth.
CONTRIBUTION TO THE REALIZATION OF THE PROGRAMME GOAL/IMPACT
Enhanced CA contribution to inclusive agricultural transformation and sustained growth for improved wealth creation, food and nutrition security, environmental sustainability and economic growth.

ACHIEVEMENT OF THE PROGRAMME PURPOSE/OUTCOME
Supported, facilitated and coordinated adaptation, adoption, scaling up and mainstreaming of conservation agriculture and mechanization for increased and sustained market responsive agricultural production, productivity and competitiveness.

PRODUCTION OF SUFFICIENT OUTPUTS/RESULTS REQUIRED TO ACHIEVE THE PROGRAMME PURPOSE

CONDUCT OF NECESSARY AND SUFFICIENT ACTIVITIES REQUIRED TO ATTAIN THE PROGRAMME OUTPUTS/RESULTS

AVAILABILITY OF SUFFICIENT INPUTS/RESOURCES AND EFFICIENT MANAGEMENT OF THE PROGRAMME

Figure 3.2: The Programme logic and impact pathway.
3.3 Expected Benefits and Beneficiaries

(a) This programme shall be implemented in 12 African Countries drawn from (i) Eastern Africa (Ethiopia, Kenya, Tanzania and Uganda); (ii) Southern Africa (Malawi, Zambia and Zimbabwe); (iii) Western Africa (Burkina Faso, Ghana and Niger); and (iv) Northern Africa (Tunisia and Morocco). The ultimate beneficiaries for this programme outcome will, therefore, be 6 million smallholder (women, men and youth) farmers in the rural areas in these 12 African Countries. The lessons and experiences learned from this programme shall be extended to other countries in different sub regions of Africa.

(b) Considering the need to ensure effective participation in the uptake and spread of CA for increased and sustained market responsive agricultural production (output), productivity (efficiency) and competitiveness, the programme activities will target all the key stakeholders in the adaptation, adoption, scaling up and mainstreaming of CA process. Some of these key stakeholders shall include 25 regional agricultural universities/colleges capacitated to operate as CA Centres of Excellence (CA-CoEs); establishment of at least one dedicated regional CA Centre of Excellence; established and functional partnerships and collaborations with regional economic communities (RECs), relevant sub regional organisations (SROs), CGIAR centres and international organizations; five Communities of Practices (CoPs) comprising researchers and academia, CA equipment manufacturers and suppliers, CA farmers and their organizations, developers and disseminators of CA, and youths and women in agriculture.

(c) In this approach, therefore, all the key stakeholders in the adaptation, adoption, scaling up and mainstreaming of CA process shall be able to see what is in for them so as to ensure effective participation by all. More specifically, therefore, the expected benefits and beneficiaries for this programme shall include, but not limited to the following:

(i) Smallholder farmers increasing yields and incomes due to availability of suitable TIPs and cheaper CA equipment for timely planting and weed management.
(ii) Local entrepreneurs, especially the youth, establishing businesses to fabricate cheaper CA equipment.
(iii) Medium scale tractor based service providers increasing profitability by providing timely planting and weed management.
(iv) Entrepreneurs providing niche CA animal traction, mechanized farm power for CA equipment and operations and other services commercially.
(v) Agro dealers increasing profitability by stocking and selling lager volumes of improved CA inputs including CA equipment spares, cover crop seeds, commercial crop seeds, fertilisers among others.
(vi) Banks linked and increasing business portfolio by providing affordable and accessible credit to farmers.
(vii) Insurance companies linked and increasing business portfolio by offering insurance cover to CA farmers, agro dealers and local entrepreneurs.
(viii) Agro-based companies accessing sufficient raw materials, guaranteeing markets for farmer’s produce and providing inputs on credit.
(ix) Equipment dealers increasing profitability by selling lager volumes to farmers and service
providers.

(x) Researchers having a wider research agenda to work on to address CA related challenges.

(xi) Extension staff having well packaged CA TIPs to disseminate to farmers and other CA practitioners.

(xii) Universities, colleges and other training institutions widening their curriculum leading to increased student enrolment.

(xiii) Policymakers improving their capacity and formulating better evidence-based policies and frameworks.

(xiv) Women farmers having more time for non-farming activities due to reduced labour calendar.

(xv) Mobil phone companies increasing profit by communicating agricultural and market information through short message services (SMS).

(xvi) Smallholder farmers benefiting from their participation in national, regional and global value chains.

3.4 Expected Impact

The expected overall impact for this programme is “Enhanced CA contribution to inclusive agricultural transformation and sustained growth for improved wealth creation, food and nutrition security, environmental sustainability and economic growth”. This overall programme impact will be realized through attainment of economic, social and environmental impact as outlined below.

(a) Economic Impact

The main beneficiaries of this programme outcome will be producers/farmers and entrepreneurs engaged in CA transformation and production intensification. The programme activities will lead to lowering of cost of production, increase in output and diffuse technologies that will increase the efficiency in the supply and value chains, all contributing to increased income and return to investment. Adoption of CA in the different agro ecological conditions will provide opportunities for enterprise development and diversification in products and services creating job opportunities for the unemployed especially the youth within communities adopting CA systems. Communities where CA-based activities will be carried out will stimulate monetary investments by small and medium scale entrepreneurs. The transport business will benefit by delivering crop products to the market. Similarly the demands for inputs and associate machinery and implements will trigger the private sector interest for the provision of input and services. Articulation of clear business cases for integrated systems and value chains will significantly ease market entry by the private sector. Once markets are successfully established, small and medium scale farmers will be able to independently link into the value chains, and SME opportunities generated for men, women and youth. It is hoped that the emergence of small and medium industries will spur opportunities for employment leading to improvement in the economic aspects of livelihoods of the target communities.

(b) Social Impact
Adopting CA will lead to reduced labour requirement for some farming operation especially for crop establishment and weeding. This spare time is expected to lead to improved home life especially where a woman farmer must also take care of children. Due to improved cropping system diversity, there will be improvement in household nutrition. With increased production, the food security situation is expected to improve at the household, community and country level. Enhanced production of diversified foods will help improve the health status of the resource poor households in the target countries, the urban areas and those areas prone to food insecurity in the region. Women, men and youth will play critical roles in CA assisted production and in processing and marketing activities along the value chains both in the rural and urban systems. It is hoped that the emergence of small and medium industries will spur opportunities for employment leading to improvement in the social aspects of livelihoods of the target communities. CA adoption process for smallholders involves group training and action, group level demand for services and value chain activities and farmer-to-farmer dissemination, all of which is expected to strengthen social capital and social relations within and between households and in the community.

(c) Environmental impact

There are a number of on-farm environmental benefits that occur from the adoption of CA systems. The key benefit is that there is a significant reduction in runoff and soil erosion. This is due to improvement in water infiltration which also improves soil moisture retention and storage as well as crop-water relationships through improved water use efficiency, greater water productivity, and reduction in irrigation water requirement for irrigated crops. Over time, CA systems will lead to improved soil organic matter content which enhances soil health, productivity potential and soil biodiversity, leading to improved soil moisture holding capacity and drainage. Improved soil moisture will be expected to lead to lowering of the impact of drought and climate change and improvement in nutrient response. Adoption of CA will also be expected to lead to reduction of greenhouse gas emissions of all the three gases - CO₂, CH₄ and N₂O. Where mechanized farm power is used, CA will be expected to significantly reduce fossil fuel requirement, thus further reducing CO₂ emissions. At the farm level and landscape level, adoption and spread of CA will lead to improved water quantity and quality, stream flows and groundwater recharge at the catchment level so that wells remain wet for longer and streams and rivers will not dry up quickly. Also, with reduction in runoff and soil erosion, risks of floods will be reduced and local water reservoirs will remain free of sediments and other pollutants that are carried in runoff water. Due to these environmental benefits, as well as greater yield stability and resilience to biotic and abiotic stresses, and for its lower greenhouse gas emissions, adoption of CA will become a key central part of climate smart agriculture.

4.0 PROGRAMME OUTPUTS AND THEIR STRATEGIC INTERVENTIONS

4.1 Repositioned Continental CA Supportive Network
The intervention strategies that shall deliver this strategic transformation and growth area of focus output include (i) Carry out retooling and rebranding of ACT network to perform the role of a continental umbrella body in the promotion of conservation agriculture and sustainable agricultural mechanization in African; (ii) Develop and implement network management strategic instruments to strengthen the network effectiveness, efficiency and sustainability; (iii) Identify and establish strategic partnerships and collaborations with the relevant national, sub regional, regional, continental and international organizations; (iv) Advocate, support and coordinate development and implementation of continental and country-specific strategic and policy frameworks to guide the promotion of conservation agriculture and sustainable agricultural mechanization in Africa; and (v) Develop and implement network monitoring and evaluation system for tracking the uptake, spread and impact of conservation agriculture and sustainable agricultural mechanization in Africa.

4.2 Strengthened CA Capacity at Systemic, Organizational and Individual Levels

The intervention strategies that shall deliver this strategic transformation and growth area of focus output include (i) Support and facilitate the identification and analysis of different CA stakeholder categories at the systemic, organizational and individual levels and their roles in the adaptation, adoption, scaling up and mainstreaming of CA; (ii) Support and facilitate the assessment of capacity needs of the different CA stakeholder categories at the systemic, organizational and individual levels to enable them perform their roles in adaptation, adoption, scaling up and mainstreaming of CA; (iii) Support, facilitate and coordinate establishment of regional CA Centres of Excellence to provide quality and targeted CA training to all degree levels; (iv) Support and facilitate the development and implementation of CA curriculum, including staff capacity, in agricultural universities, middle-level training colleges, vocational centres and institutions; (v) Support and facilitate the development of targeted capacity strengthening material packages and systems to address identified capacity needs for different CA stakeholder categories at the systemic, organizational and individual levels; (vi) Organize and support the formulation and implementation of comprehensive and targeted capacity strengthening action plans for different CA stakeholder categories at the systemic, organizational and individual levels; and (vii) Support and coordinate the monitoring, evaluation and lesson learning of capacity strengthening for different CA stakeholder categories at the systemic, organizational and individual levels.

4.3 Advocated Formulation of CA Supportive Evidence-Based Policies and Regulatory Frameworks

The intervention strategies that shall deliver this strategic transformation and growth area of focus output include (i) Advocate, support and monitor the review and analysis of the current status of CA adaptation, adoption, scaling and up mainstreaming in Africa and identify the critical CA issues that require policy interventions and institutional support; (ii) Advocate, support and monitor the review and analysis of the current status of policy environment to identify CA gaps in policies and regulatory frameworks; (iii) Support, facilitate and monitor the collection, analysis, documentation and sharing of CA systems data and information required for formulation of
evidence-based policies and regulatory frameworks; (iv) Advocate support and monitor the formulation and implementation of policies and regulatory frameworks to guide adaptation, adoption, scaling and up mainstreaming of CA systems in Africa; and (v) Support and coordinate the monitoring, evaluation and lesson learning on the review, development and implementation of supportive evidence-based policies and regulatory frameworks for adaptation, adoption, scaling and up mainstreaming of CA systems in Africa.

4.4 Packaged and Scaled Up CA Systems Technologies, Innovations and Practices

The intervention strategies that shall deliver this strategic transformation and growth area of focus output include (i) Support, facilitate and coordinate the identification and documentation of CA-specific and CA-associated TIPs for different farming systems in Africa and globally; (ii) Organize, facilitate and coordinate the description and prioritization of the proven best-bet CA-specific and CA-associated TIPs for different farming systems in different sub regions of Africa; (iii) Support, facilitate and coordinate the review and analysis of the current national extension systems to identify the extent to which they incorporate CA principles and practices to facilitate development of appropriate mechanisms for mainstreaming CA in the extension and development systems; (iv) Support, facilitate and coordinate the establishment of effective and functional collaborations and partnerships with international, continental, sub regional and national research and development organizations to address priority CA technological gaps and socio-cultural-economic barriers; (v) Organize, facilitate and coordinate the packaging of the scalable proven priority best-bet CA-specific and CA-associated TIPs in user friendly formats for different farming systems in different sub regions of Africa; (vi) Organize, facilitate and coordinate the sharing and promotion of uptake and widespread utilization of the proven priority best-bet CA-specific and CA-associated TIPs for different farming systems using innovative approaches, models and pathways; (vii) Support, facilitate and coordinate systematic identification, analysis, packaging and sharing of successful case studies of economic impact of CA systems as practiced by different farmers and practitioners in different localities and farming systems; and (viii) Support and coordinate the monitoring, evaluation and lesson learning on the uptake, utilization and spread of the proven priority best-bet CA-specific and CA-associated TIPs for different farming systems.

4.5 Advocated and Supported CA Entrepreneurship and Business Development

The intervention strategies that shall deliver this strategic transformation and growth area of focus output include (i) Support, facilitate and coordinate review, analysis and documentation of the current status of smallholder CA equipment, machinery and inputs availability and accessibility in different sub regions of Africa; (ii) Support and facilitate the analysis of the smallholder CA equipment, machinery and inputs supply chain including the identification of key actors, their roles and constraints facing each category of actors; (iv) Advocate, support and monitor the establishment of private sector-driven smallholder CA equipment, machinery and inputs supply chain businesses and entrepreneurship; (v) Support, facilitate and monitor the accessibility and utilization of CA equipment, machinery and inputs by smallholder CA practitioners from the established private sector-driven businesses and entrepreneurship; and
(vi) Support and coordinate the monitoring and evaluation of the availability and accessibility of smallholder CA equipment, machinery and inputs and the success of the supply chain businesses and entrepreneurship.

4.6 Established Integrated CA Knowledge and Information Management System

The intervention strategies that shall deliver this strategic transformation and growth area of focus output include (i) Support, facilitate and coordinate the review, analysis and documentation of the current status of CA knowledge and information management at the national, sub regional, regional and continental levels; (ii) Support, facilitate and coordinate the review, analysis and documentation of the different CA stakeholder categories and their CA knowledge and information requirements; (iii) Support, facilitate and coordinate regular development and sharing of knowledge and information products to meet the identified requirements of the different CA stakeholder categories; (iv) Support, facilitate and coordinate the establishment and utilization of different pathways and channels for communicating CA knowledge products and services to different stakeholder categories; (v) Support, facilitate and coordinate the establishment and operationalization of one-stop web-based portal with sufficient e-platforms supported by user-friendly cutting edge ICT to facilitate effective and efficient sharing and access to CA data, information and knowledge; and (vi) Support and coordinate the monitoring, evaluation and continued improvement of the integrated regional CA knowledge and information management system.

5.0 PROGRAMME IMPLEMENTATION AND MANAGEMENT ARRANGEMENTS

5.1 Programme Work Planning and Implementation

(a) The work planning and implementation for this programme shall use the cascaded nesting approach for better outcome mapping and impact orientation. The implementation of the programme shall incorporate joint planning and participation by all the participating partners so as to ensure that multiple views, needs and concerns in implementing different activities at different levels are taken into account and negotiated. This approach shall ensure that all implementing partners know exactly what is expected of them; all programme outputs and outcomes are met; all costs and milestones are in-line with the budgets and the provided timeline; and any deviation is immediately communicated and addressed. This shall entail preparation and approval of partner-differentiated work plans and budgets.

(b) The implementation of the programme shall be through nationally, sub regionally and regionally coordinated projects. The regional projects shall be prepared along the broad programme strategic transformation and growth areas of focus. Cross regional and organizational synthesis, networking and sharing of lessons learned shall be used to improve the value of the findings. Under-pinning the programme and its implementation are also several crosscutting issues that have been recognized nationally, regionally and globally and may invariably affect and influence the implementation of the programme. In view of this,
commitment has been made to address these crosscutting issues during the implementation of the programme projects/activities. This commitment draws on and aligns the programme with the on-going initiatives of other relevant national, sub regional and regional organizations.

(c) The overall programme result framework provides the Objectively Verifiable Indicators (OVIs) by 2021 that shall form the basis for formulating staged individual strategic transformation and growth areas of focus/outputs OVIs in a cascaded nesting approach. In this regard, therefore, the overall programme result framework shall be cascaded down to the individual strategic transformation and growth areas of focus. Similarly, the overall programme operational plan shall guide the preparation of detailed implementation work plans to be carried out under each strategic transformation and growth area of focus in a cascaded nesting approach.

5.2 Implementation Partnership Arrangements

(a) In order to facilitate effective implementation and delivery of the programme outputs, outcomes and impact, a suitable partnership strategy shall be prepared in collaboration with other participating partners during the initial stage of the programme. The main purpose of this partnership strategy will be to guide the formation and management of strategic partnerships between different partners to implement different aspects of the programme. The partnerships shall be based on mutually agreed objectives, pursued through a shared understanding of the most rational division of labour and resources based on the respective comparative advantages of each partner. These partnerships shall be specific, time bound and shall focus on the implementation of specific activities described in the programme document.

(b) This partnership approach shall be expected to facilitate the establishment of flexible alliances and innovation platforms that can allow the formation of temporary teams drawn from different partner organizations. The formation of such temporary teams would be expected to ensure the availability of a critical mass of professionals with the right expertise and disciplinary mix to provide the required capacities and competencies for effective implementation of the programme. In order to ensure mutual trust and commitment, the programme partner organizations shall be drawn from the relevant Farmer groups and organizations; National public departments and institutions; Private sector and civil society organizations; Non-governmental organizations, Regional and sub-regional organizations; National extension departments; National and international research organizations; Financial and insurance institutions; and Agro dealers and farm machineries/equipment suppliers among others.

5.3 Gender Consideration, Risks Mitigation and Sustainability

(a) Gender Consideration: In agricultural production, gender roles and relationships play a key role in determining the workloads, use of resources and sharing of benefits. In this regard, the programme will prioritize interventions/activities with potential to catalyze change in the direction of greater gender equity at all stages in the programme planning and implementation. The programme will identify and promote appropriate gender sensitive CA TIPs that will be promoted and scaled up using gender sensitive approaches. By levelling the playing field for
women, men and youth in CA, the planned interventions/activities will make significant contributions towards promoting gender equity a key component in ensuring inclusive agricultural transformation and sustained growth.

(b) **Risks Mitigation:** The risks for a continental programme such as this one are many particularly if one or more of the participating partners are unable to play their roles for extended period of time. The major risks which could undermine the implementation and success of this programme may occur in the strategic areas of policy, institutional, socio-economic and climatic/natural causes. The risks that are likely to confront the programme have, therefore, been carefully evaluated and appropriate risk mitigation measures have been internalized into the programme design.

(c) **Sustainability of programme benefits:** Sustainability has been defined as “the continuation of benefits after major assistance has been completed”. The factors that affect the flow of sustainable benefits from a programme such as this one may occur in the areas of government and donor policies; local participation and ownership; management and organization; financial availability; awareness and capacity building; technology suitability; social, gender and culture; environment; and external political and economic factors. This programme design and implementation arrangements has inbuilt mechanisms for ensuring sustainability in these broad areas.

5.4 **Programme Management Arrangements**

(a) This programme shall be managed and coordinated by the African Conservation Tillage Network. The ACT Executive Secretary (ES), shall, therefore, be expected to report directly to the implementing partners and collaborators, development partners and other key stakeholders on all technical, financial and procurement matters connected with the programme management and implementation. In particular, the ES will be responsible for the overall programme strategy by ensuring that all implementing parties know exactly what is expected of them; all programme outputs and outcomes are met; all costs and milestones are in-line with the budgets and the provided timeline; and any deviation is immediately communicated and addressed. The ES shall be expected to setup a fully functional Programme Coordination Unit charged with the day-to-day management of the programme and a Programme Advisory Committee, with suitable representation, to provide guidance on the overall management and implementation of the programme as well as approving of annual work plans and budgets.

(b) Communication is a major component of any successful programme. Without effective communication, key stakeholders in a programme may miss out on vital information and may not understand why change is needed. In this regard, the programme shall develop and operationalize a programme communication strategy designed to ensure effective ongoing commitment and support by all key stakeholders for all aspects of the programme. The preparation of the communication strategy shall entail determining the communication objectives (*What we want to achieve*); determining the communication messages (*What we want to tell*); determining the audience (*Who we want to tell it to*); identifying the communication
channels (*How we want to tell it to them*); and establishing effective monitoring, evaluation and learning plan (*How we will measure progress and success*) among other aspects needed to ensure effective communication.

(c) The programme total budgetary requirement is 10,400,000 Euros over a four year programme period of which a total of 10,000,000 Euros is requested as a grant from Development Partners. The remaining total of 400,000 Euros will be provided by the African Conservation Tillage Network (ACT) and the implementing/participating partners as matching funds. The matching funds shall be largely in the form of staff and infrastructure costs. The requested financial support shall be used to finance implementation of intervention strategies/activities designed to deliver the programme outputs that include (i) Repositioned Continental CA Supportive Network; (ii) Strengthened CA Capacity at Systemic, Organizational and Individual Levels; (iii) Advocated Formulation of CA Supportive Evidence-Based Policies and Regulatory Frameworks; (iv) Packaged and Scaled Up CA Systems Technologies, Innovations and Practices; (v) Advocated and Supported CA Entrepreneurship and Business Development; and (vi) Established Integrated CA Knowledge and Information Management System.

5.5 Programme Monitoring, Evaluation and Reporting

(a) The programme shall be tracked using a participatory monitoring, evaluation and reporting system that shall include the use of (i) internal monitoring to track progress and effectiveness in the implementation of the programme in terms of inputs, activities, processes and outputs; (ii) external evaluations to measure the intermediate and final outcomes of the programme interventions; (iii) tracking of gender considerations to ensure capture of gender disaggregated data and analysis; and (iv) efficient programme reporting system designed to ensure coherence of actions being undertaken by the several implementing partners. The programme monitoring, evaluation and reporting shall be guided by the staged objectively verifiable indicators outlined in the programme result framework and the key performance indicators to be outlined in the programme projects and implementation work plans.

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