1.0 Introduction

The African Conservation Tillage Network (ACT) web www.act-africa.org is a Pan-African not for profit organization built on and driven by the values and principles required to harness indigenous African energies, inspiration and commitment to lead and contribute to Africa’s own development. The thrust of ACT is to add value through strategic partnership in the identification, adaptation and scaling up of conservation agriculture principles and practices. ACT has received funding from FAO to implement a CA project in Tanzania. Part of this fund will be used to develop a CA investment Plan (Entrepreneurial Conservation Agriculture Services Provision to Medium and Smallholder Farmers Program).

A number of problems are affecting smallholder and medium farmers in Africa, including Tanzania. They include:

Declining food production per capita: Achieving food security and reducing poverty in the Africa has been a major challenge for both Governments and development agencies. Smallholder agriculture, mainly dominated by manual labour force provided by women, is the predominant form of farm organization in Africa. According to the Africa Human Development Report (2012), cereal production in sub-Saharan Africa has tripled since the early 1960s, rising from 38 million tonnes in 1961–1963 to 116 million tonnes in 2008–2010. The food production per capita is nevertheless declining in the region. When compared with other regions cereal output per capita fell 13% in sub-Saharan Africa while increasing 44% in Asia and 48% in South America. A similar picture emerges for other food groups. The main staples of SSA are unirrigated maize, cassava, millets, sorghum, yams, sweet potatoes, plantains and rice. There are many challenges that need to be overcome in order to improve food production per capita. Several factors have contributed to this unfortunate situation, including the vulnerability of countries of the region to climate change; the poor nature of soils in a number of zones; rapid population growth; low utilization of modern technologies to improve crop varieties, and poor implementation of policies.

Declining or low soil fertility: Large areas of sub-Saharan African soils are affected by various types of degradation, including fertility decline. Land degradation is an important global concern because of its adverse impacts on agricultural production, food security and the environment. Inappropriate land management further increases loss of productivity of resource poor farmers. This in turn affects their food security and livelihood. Persistent use of conventional farming practices based on extensive tillage, especially when combined with removal or in situ burning of crop residues, have magnified soil
erosion losses and the soil resource base has been steadily degraded. Consequently, yields are relatively low despite the high potential for improvement. As the main source of economic activity in SSA is the agricultural production, declining soil productivity means not only less food is grown but also that production of cash crops and income are endangered. Thus, rectifying land degradation and enhancing productivity through appropriate soil management and conservation can play a major role in achieving farm household food security and agricultural development.

**Poor access to value chain CA inputs and services by producers:** One of the major constraints to scaling out of CA is lack of availability and access to CA inputs and services including the ones for land preparation, planting, spraying, threshing, shelling and transportation by smallholder farmers hence leading to a decline in production and consequently farm output. (FAO, 2011). Smallholder farmers will be propelled faster towards mainstreaming CA practice if they have access to such implements and services as the jab-planters, herbicide sprayers, animal and tractor drawn direct–seeders, cover crop seed and other inputs. Incentives systems are required to support initial investments in equipment and inputs particularly for small-scale/ poor farmers. Despite several decades of significant investments in the sector, access to or usage of formal financial services remains low, particularly in Sub-Saharan Africa (SSA). According to the Microfinance Handbook of 2013, Tanzania still have low access to financial services (for example credit, deposit avenues, insurance, money transfers, and pension) within the sub-Saharan region. More than half of the population (56%) is excluded from the financial system – from formal, semi-formal and informal financial institutions. Only 12% of population in Tanzania have access to financial services from commercial banks. Access to financial services including credit by smallholders can promote the uptake of CA and also lead to thriving local economies. Agricultural production is typically a risky business. Farmers face a variety of price, yield, and resource risks, which make their incomes unstable from year to year. In many cases farmers are also confronted by the risk of catastrophe. Crop and livestock may be destroyed by natural hazards such as hurricanes, floods, fire, and drought. The farmer or his family can also be disabled by accidents, sickness, or death. Crop insurance can lessen the risk of farmers’ exposure to external shocks (Meinzen-Dick et al., 2004). A system approach in crop insurance is needed incorporating a public-private partnership between the government, the farmers and the insurance industry.

**What business models to kick-start and sustain adoption of mechanised CA?** Government supported schemes for provision of mechanisation services to smallholder farmers in the form of mechanisation farm centres, rural development centres, or subsidised tractors for villages have failed. Yet, we have privately financed, owned and operated grain milling machines in almost every village in Tanzania. Given the small farm sizes (typically 2 ha) of smallholder farmers and high acquisition costs of farm machinery, the farmer-ownership model, whereby individual farmers are targeted and supported to own and use farm machinery can be declared obsolete. Entrepreneurial CA service provision by traders and farmers for farmers holds promise for smallholder farmers to access a range of small-scale farm machinery services. Beside the CA services (direct seeding, herbicide application, combine harvesting and straw/stover spreading) other services include irrigation water pumping, threshing, shelling and farm transportation have the ability to diversify incomes and create profitability. But where do we start and which are the proven or best-bet business models that can light the spark to create the massive CA adoption desired?

**Poor market led capacity of producers and farmer organisations:** Farmer organisations are important communities of practice (FOCoP) in addressing the market constraints. The market constraints faced
by producers (farmers) include lack of information on market requirements, limited skills and knowledge of improved agricultural technologies, limited reliable and knowledgeable rural input suppliers for genuine inputs, lack of organised and strong farmer groups, financial constraints, limited participation of farmers in the marketing chain and inefficient and costly transport systems. Farmer organizations play an important role in tackling the systemic causes of poverty, because they give farmers—men and women—a legitimate voice in shaping pro-poor rural policies. By articulating farmers’ interests to public and private institutions, farmer organizations encourage those institutions to tailor their strategies, products, and services to farmers’ needs. Agricultural producers who are organized into farmer’s organizations (cooperatives or producers’ associations) have greater access to resources and inputs needed in producing and marketing their produce. This allows them to buy their agricultural inputs and sell their produce collectively, transport it in bulk, etc. for more efficient operations and larger returns to scale. Being organized into farmer groups will also give them stronger bargaining power to command better prices for their produce. The project will use innovative ways of using farmer organizations community of practice (FOCoP) at different levels and related trade associations as entry points towards expanding the supply base and developing farmer-friendly crop value chains. A critical intervention will therefore involve investing in strengthening these organizations and associations and their affiliates to be able to provide technical and commercial services to their members and serve as credible partners to banks, traders, processors, input dealers, and other actors along the value chain.

**Limited awareness and sensitization among producers (farmers), private sector and policy makers on CA and its potential:** Limited awareness of CA and its potential benefits is cited as one of the causes of producers or farmers poor uptake and scaling up of CA in SSA. CA is not fully mainstreamed into respective rural development policies, programmes and strategies or implemented due to the lack of awareness among policy makers and stakeholders about the technology benefits. It is evident from a number of studies that climate information and forecasts are important in ensuring farmers appropriate engagement in agricultural production. The mechanisms to produce and disseminate information on the weather are however weak. The data and information produced and disseminated by meteorological institutions are highly aggregated and global in outlook, and do not address the specific needs of localized agro-ecological zones. Both proven traditional and ICT based methods will be employed to raise awareness and sensitise farmers, the public and private sector to scale out the farmer valued CA technologies in the project countries. The methods used by farmers, policy makers, private sector and other stakeholders to access and sensitise on CA, climate forecasts, market information and agricultural technologies in a realistic time are such as village meetings, extension services, and ICT methods including internet, mobile phones, emails, community radio and TV.

### 2.0 The purpose

The main purpose of the contract is to develop a project proposal that will operationalise the First Africa Congress on Conservation Agriculture delegates’ declaration to have 25 million farmers in Africa practice and benefit from Conservation Agriculture by 2025 from the Tanzanian perspective. The products will be developed in the backdrop of the ACT strategic plan at [http://bit.ly/1GKOMTQ](http://bit.ly/1GKOMTQ) and particularly the six interlinked thematic areas of focus.
ACT is seeking the services of an agribusiness consultant with expertise in conservation agriculture and mechanisation to study the status of entrepreneurship, conservation agriculture and mechanization in the hot-spot adoption areas of CA in Tanzania. The study will be guided by the following objectives:

**Objectives:**

1. Define the extent to which CA has been adopted in Tanzania, status and challenges towards wide-scope and massive adoption by millions of farmers in the next few years.
2. Expound the market pull (as opposed to technology push) opportunities and innovations that could be engaged to benefit entrepreneurs and investors (including farmers) as a vehicle to scale out adoption of conservation agriculture for sustainable production intensification.
3. Create a detailed understanding of status of mechanization for enhanced CA adoption in terms of technological, industrial and institutional support to access and adoption of appropriate mechanization services by smallholder farmers.
4. Make recommendations regarding best-bet and farmer-typology sensitive business models to use in scaling-up CA among medium and smallholder farmers in Tanzania.
5. Define the strategic and validated public-private partnerships and how they could be coordinated to deliver services to smallholder and medium scale farmers as per the proposed models (in 4 above).

Specifically, the consultant, under supervision of the ACT East and Horn of Africa Coordinator in close consultation with the ACT Executive Secretary, will undertake the following:

1. Acknowledge receipt of the call for consultancy services and express interest to tender by due date.
2. Develop and present to ACT the consultancy implementation methodology, work plan and budget.
3. Conduct literature review and field surveys geared to substantiating key hypothesis as to how smallholder conservation agriculture should be mechanized and up scaled.
4. Develop a full project proposal for Tanzania, with the buy-in of key public and private sector stakeholders titled: *Entrepreneurial Conservation Agriculture Services Provision to Medium and Smallholder Farmers in Tanzania*.
5. Present and defend the proposed interventions to a multi-discipline CA stakeholders’ forum – supported by visual/audio aids including a Brochure “Investors Forum: *Entrepreneurial Conservation Agriculture Services Provision to Medium and Smallholder Farmers Program*”.
6. Produce and submit a brief consultancy report.

**3.0 Deliverables and Outputs**

Deliverables should reflect the objectives above. Specifically:

I. Develop and present to ACT the consultancy implementation methodology, work plan and budget – by 10th April 2015.

II. Develop a full project proposal for Tanzania, titled: *Entrepreneurial Conservation Agriculture Services Provision to Medium and Smallholder Farmers in Tanzania* – By 30th July 2015 (Annex 1).


IV. Produce and submit a brief consultancy report - By 30th July 2015.
V. Participate in Investors forum – First or second week of August 2015

4.0 Nature of Consultancy

This will be a short term consultancy to be undertaken in and outside the ACT Dar Es Salaam office. ACT will provide the consultant with access to required ACT information, literature, contacts of host persons/institutions to work with for undertaking the work. The Consultant will also be required to share and agree with ACT any additional people or organisations to be met. The consultant will be expected to work within the stipulated duration and submit the desired products of the documentary and final report to the organization.

5.0 Period of assignment

The contract period is from 1st April 2015 - 15th August 2015. The Consultant is expected to complete this assignment by 15th August 2015. The following milestones are anticipated:

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<th>SNo.</th>
<th>Activity Description</th>
<th>Due Date</th>
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<tr>
<td>1</td>
<td>Expression of Interest to tender to ACT</td>
<td>1st April 2015</td>
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<td>2</td>
<td>Presentation of consultancy proposal – for shortlisted consultants</td>
<td>10th April 2015</td>
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<td>3</td>
<td>Signing of consultancy contract</td>
<td>15th April 2015</td>
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<td>4</td>
<td>Literature review, field work</td>
<td>15 April – 15 May</td>
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<td>5</td>
<td>Develop the full project proposal</td>
<td>18th May – 18 June</td>
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<td>6</td>
<td>Presentation of finding and proposed interventions to ACT</td>
<td>19th June 2015</td>
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<td>7</td>
<td>Presentation of full project proposal to investors forum</td>
<td>6th August 2015</td>
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<td>Incorporation of feedback and submission of final report</td>
<td>15th August 2015</td>
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6.0 Competencies

The ideal candidate should have proven combination of experience in Project Proposal Development, Agricultural Business, Mechanisation as well as Agriculture and Rural Development. The candidate must demonstrate possession of research and survey skills. The candidate should have an excellent command of written and spoken English.

7.0 Qualification & Experience

- Advanced Degree in Agribusiness, Agronomy, Mechanisation and Project Development from recognized institutions
- Work experience of more than 10 years in key areas
- Excellence in the English language, both written and oral is required.
- Current CV of the applicant is attached.

8.0 Evaluation Method

Assigning the Consultant and evaluating the performance is the responsibility of African Conservation Tillage Network. ACT will conclude a contract and evaluate performance of the Consultant on the basis of agreed upon terms of reference.
9.0 How to apply

Interested consultants or consulting firms are requested to submit their Expression of Interest by 1\textsuperscript{st} April 2015 and consultancy proposals (technical and financial) to the appended email by 10\textsuperscript{th} April 2015. The consultant will be selected on the basis of their proven experience, qualifications and ability to deliver a quality product in time and in efficient manner.

Email: info.tz@act-africa.org