

Conservation Agriculture (CA) for Sustainable Agriculture and Rural Development (SARD)

Conservation agriculture (CA) has evolved as a term which represents an inter-acting and complimentary set of agricultural practices and concepts. Despite regional differences in the mix and emphasis of the different specific components making up CA practices and which depend on agro climatic zones, availability of farm power options, farming systems types, inputs, skills, etc., the three basic principles which are always present are:

- minimal soil disturbance (no-tillage/reduced tillage)
- permanent soil cover (cover crops) and associated
- suitable and diversified crop rotations/associations

While these three individual technologies are well known, it is their combination and the management of the combination that leads to new synergetic effects resulting in CA becoming more than just the sum of the individual practices.

How can conservation agriculture contribute to SARD?

In addition to fostering environmental sustainability through soil and water conservation, conservation agriculture can contribute to the social and economic pillars of SARD through:

- reducing the workload and time spent for agricultural production therefore enabling livelihood diversification and business development and freeing time for other activities such as education, family care, community development and political empowerment.
- stabilizing crop yields, especially through reducing drought sensitivity and dependence upon price-fluctuating purchased fertilizer inputs.
- increasing production and agricultural earnings.
- enhancing crop biodiversity and diversifying food intakes.
- fostering the development of secure livelihoods for other rural actors such as rural artisans and small entrepreneurs.

The “CA for SARD” project (GCP/RAF/390/GER-KEN/URT)

The “Conservation Agriculture for Sustainable Agriculture and Rural Development (CA for SARD)” project aims at facilitating and accelerating *the adoption of profitable conservation agriculture practices by small farmers in at least three districts of Tanzania and Kenya*. The project is being funded by the German Ministry of Agriculture and Consumer Protection (BMVEL). It is intended that this project build on ongoing CA pilot activities in both target



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countries. The long term outcome is to contribute to improved food security and rural livelihoods and to building a foundation for the expansion of conservation agriculture (CA) to contribute to SARD.

There are two main concepts embedded in the project document and its intended approach:

A. *The technical concept of conservation agriculture (CA) which combines the following:*

1. Minimal soil disturbance (reduced tillage, minimum tillage, direct planting)
2. Permanent soil cover with the crop itself or with the utilisation of cover crops, residues or mulch
3. Crop rotations/associations, through crop sequences, intercropping, relay cropping and/or mixed crops.

B. *The methodological concept of using participatory extension approaches to successfully introduce the CA concept.* FAO has had good experiences with farmer field schools (FFS) in both countries. FFSs emphasise farmer driven and farmer first methodologies. One of the challenges for the project is to combine this participatory methodology with a fairly clear technical farming concept. The project expects to operate in a total of 84 FFS in seven districts of the two countries. Approximately 2,000 farmers are currently directly involved in project activities.

A third issue of the CA for SARD project is the need to involve not only farmers, extension staff and researchers but also, and most importantly, the private sector. In the long run, the private sector rather than the project itself will need to insure that the necessary agricultural inputs and services, specialized CA tools (hand jab planters, direct seeders and knife rollers) and farm power will be available to farmers wishing to practice CA.

Major stakeholders

The Donor

The German Ministry of Agriculture and Consumer Protection (BMVEL) has provided the funds in order to implement a field oriented programme that should contribute to the SARD initiative. The project is also endorsed by the high level German Council for Sustainable Development.

Food and Agriculture Organization

Within FAO, the Agricultural and Food Engineering Technologies Service (AGST) of the Agricultural Support Systems Division (AGS), Agricultural Department is Lead Technical Unit of the CA-SARD project. The FAO Regional

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For more information

 [Access the Conservation Agriculture for SARD Kenya and Tanzania](#)

 [World Congress on Conservation Agriculture](#)

 [The German Ministry of Agriculture and Consumer Protection \(BMVEL\)](#)

 [Agricultural and Food Engineering Technologies Service \(AGST\)](#)

 [The African Conservation Tillage Network \(ACT\)](#)

 [The Ministry of Agriculture \(MOA\) in Kenya](#)

 [The Ministry of Agriculture and Food Security \(MAFS\) in Tanzania](#)

 [The Kenya Agricultural Research Institute \(KARI\) - Kenya](#)

 [The World Agro Forestry Centre \(ICRAF\)](#)

 [The SARD Initiative](#)

 [SustaiNet – Sustainable Agriculture Information Network](#)

 [Centre de coopération internationale en recherche agronomique](#)

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Office for Africa has been nominated to be the budget holder of this project. This is in line with FAO rules and regulations regarding the implementation of regional trust-fund projects in Africa. The ownership and responsibility for the national project activities rests with the FAO country offices in Nairobi and Dar Es Salaam.

[pour le developement \(CIRAD\)](#)

The African Conservation Tillage Network (ACT)

ACT has a technical regional coordination role in the “CA for SARD” project. ACT has taken on responsibilities in regional training on CA and implantation methodologies, in knowledge documentation and sharing as well as networking with other partners as listed below. The ACT is a voluntary association of people committed to sustainable agricultural productivity ‘designed’ to enhance capacities and abilities of stakeholders in facilitating the adaptation-adoption of conservation agriculture practices among small farmers in Africa.

The Ministry of Agriculture (MOA) in Kenya

In Kenya a National steering committee, chaired by Tom Boyo, Deputy Director of Ministry of Agriculture is overseeing the work of the National Coordinator (Pascal Kaumbutho) and the project field teams. The MOA of Kenya is closely backing up the field work of the CA-SARD project through its field officers, through the Rural Technology Development Centres and with support of the Kenya Agricultural Research Institute (KARI). The CA-SARD project, as it is perceived by the MOA of Kenya, has a role to contribute in better labour and farm power utilization. In the long term the MOA of Kenya expects to achieve increased food security in the project areas, a critical mass of trained farmers and extension workers and active and dynamic CA farmer field school groups in all project sites.

The Ministry of Agriculture and Food Security (MAFS) in Tanzania

The Ministry of Agriculture and Food Security (MAFS) of the United Republic of Tanzania envisages an agricultural sector by the year 2025 that is modernized, commercial, highly productive and profitable and uses natural resources in an overall sustainable manner and acts as a basis for inter-sectoral linkages. The MAFS is concerned with land degradation, poor soil fertility, low productivity and shortage of farm power. Mr Richard Shetto together with his team of the CA-SARD and FAO Technical Cooperation Programme

CA pilot project is perceived as playing a crucial role and to be one of a number of measures to address the above situation and to achieve the countries vision for its agricultural sector.

Researchers are expected to participate in farm trials to evaluate some of the technologies that are introduced through CA-SARD. Extension officers are to participate in establishing demonstration plots and farmer training through CA-farmer field schools (FFS). District planners are encouraged to prepare District Agricultural Development Plans that include CA activities.

The MAFS expects from the CA-SARD project:

- Tested technologies for up scaling in other districts
- FFS guidelines to enable MAFS to disseminate CA in other districts
- Selected pilot districts with strong CA adoption to enable MAFS to encourage other districts to purchase CA implements
- Strong farmers' group formation to evolve credit groups in order to access loans to purchase CA implements
- Guidelines for preparations of CA proposals at district level
- Suggestions for incorporation of CA issues in the agricultural policy.

The Selian Agricultural Research Institute (SARI) - Tanzania

SARI is one of the Governments research institutes in the Northern Zone of Tanzania based in Arusha. SARI is hosting the project coordination office in Tanzania. SARI has more than five years of experience in conducting field research on the impact of conservation tillage and cover crops on soil fertility and crop production in the Northern Zone of Tanzania. This work was supported by the German GTZ.

The Kenya Agricultural Research Institute (KARI) - Kenya

Likewise in Kenya, KARI is hosting CA for SARD project coordination office at the National Agricultural Research Laboratories in Nairobi.

The World Agroforestry Centre (ICRAF)

Within ICRAF, the Swedish SIDA funded Regional Land

Management Unit (RELMA), provides regional and continental support to the CA for SARD project. RELMA collaborates very closely with ACT and is one of the key supporters of the III World Congress on CA in Nairobi.

The SARD Initiative

The SARD Initiative was launched at WSSD as a multi-stakeholder umbrella framework designed to support the transition to people-centred sustainable agriculture and rural development and to strengthen participation in programme and policy development. FAO has the Task Manager responsibility for Agenda 21, Chapter 14 (SARD). One of the objectives of the SARD Initiative is to serve as a platform for exchange of good practices and resource materials. Its collaboration with the CA for SARD project aims at deriving lessons about the feasibility of CA for small and resource poor farmers.

SustaiNet – Sustainable Agriculture Information Network

The SustaiNet project is initiated by the German government's council for Sustainable Development. This is the same group that has endorsed the funding for the CA for SARD project. The overall objective of SustaiNet is to systematically evaluate, communicate and disseminate successful approaches and farming concepts for scaling up. Kenya and Tanzania are selected to be the two pilot countries for sub Saharan Africa. SustaiNet is – as CA-SARD – regionally coordinated by the African Conservation Tillage Network. This way identified successful or good agricultural practices and conservation agriculture practices are jointly analysed and lessons learnt from both projects can be synthesized and made available to the public. SustaiNet and CA-SARD have increased their field collaborations through the joint coordination by the ACT.

CIRAD – Centre de cooperation internationale en recherché agronomique pour le development

CIRAD is collaborating with the CA-SARD project, ICRAF, ACT and FAO in conducting case studies to verify the impact of conservation agriculture practices on the livelihoods and the natural resources management. This is an important contribution to the M&E process of the CA-SARD project.

