



RECENT DEVELOPMENTS IN CONSERVATION AGRICULTURE IN THE SADC REGION



1. The Basic Principles of Conservation Agriculture

Over the years, conservation agriculture (CA) has been promoted in Southern Africa, as a tool to circumvent the multiple challenges affecting crop production, soil fertility, environmental degradation and sustainable productivity. Conservation Agriculture is an approach to managing agro-ecosystems for improved and sustained productivity. It also enhances the resource base and protects the environment. Due to its ability to mitigate the impact of drought and other moisture stress situations on crops, CA is viewed as an important disaster risk reduction and resilience building practice in dry land cropping systems. CA is based on the practice of three production approaches or principles by a farmer, namely:

- i. Continuous minimum mechanical soil disturbance.
- ii. Permanent organic soil cover.
- iii. Diversification of crop species grown in sequence and/or associations.

Minimum mechanical disturbance of the soil is adopted in conservation agriculture for purposes of avoiding the negative impacts that are associated with conventional tillage. 'Zero tillage' or 'controlled tillage' is adopted, and involves restricting the tillage practice to only the essential ones such as seeding.

Retention of adequate levels of crop residues on the soil surface protects the soil from wind erosion and direct heat from the sun. Both water run-off and soil evaporation are significantly reduced when the soil surface is under continuous cover.

Use of crop rotations in conservation agriculture prevents overexploitation of nutrients, while moderating the negative impacts of weeds, diseases and pests. It is also an effective method of

maintaining and recharging the fertility of the soil, especially when leguminous crops are part of the rotation system.

2. Regional Collaboration in Conservation Agriculture

In order to improve the regional coordination, linkages, out-scaling and information flow in the region, the Conservation Agriculture Regional Working Group (CARWG) was established in 2007 by different organizations with an interest in CA. The CARWG is a group of regional institutions interested in promoting conservation agriculture in order to assist farmers in Southern Africa to increase yields and sustainably utilize natural resources for agricultural production. In 2013, the Centre for Coordination of Agricultural Research and Development for Southern Africa (CCARDESA) and the CARWG Secretariat (FAO) collaborated on fostering activities dealing with CA in the region.

The CARWG has had good success in the region since its formation. There has been a lot of information shared among the institutions through the CARWG. This includes lessons and experiences of different organisations and the challenges and opportunities of out-scaling conservation agriculture in the region. CCARDESA is part of the CARWG and has provided resources and technical expertise to support the out-scaling of conservation agriculture in the region.

3. Crunching the numbers

The large number of institutions involved in conservation agriculture has also led to large variations in the interpretation of the practice as well as the attributes that define a CA farmer. The CARWG has grappled with this matter for a long time.



Currently different numbers of farmers are being reported by different organisations for the same geographical units such as countries. This has made it difficult to compare and report the spread and the social, economic and environmental impacts of conservation agriculture using one standard approach.

FAO and CCARDESA are working towards standardizing approaches and methodologies in the collection and reporting information on CA adopters. The goal is to harmonize the collection and presentation of accurate data and information on the number of farmers practicing and adopting CA in southern Africa. This would contribute to better monitoring of the spread of the practice among farmers in the region.

On this basis, five countries (Malawi, Swaziland, Lesotho, Zambia and Zimbabwe) have provided revised figures of farmers who have adopted conservation agriculture in Southern Africa. The selection of countries was based on the significant amount of small holder farmers practicing conservation agriculture in the region.

Estimated number of Farmers Practising CA in the Selected Countries

COUNTRY	FARMERS
Lesotho	16,579
Malawi	191,484
Swaziland	9,575
Zambia	134,000
Zimbabwe	121,300
TOTAL	472,938

4. Points of Convergence

Through the CARWG, the region has developed and agreed on a standard tool for collection of data relating to conservation agriculture. The data collection tool is based on a set of guidelines and definitions such as:

- i. Definition of conservation agriculture
- ii. Criteria for classification of farmers practicing conservation agriculture,
- iii. Type of cropping,
- iv. Size of land,
- v. Equipment utilized for each crop and gender roles with regard to CA activities.

In order to arrive at common definitions and 'correct' counts of farmers practicing conservation agriculture, the region has agreed on the following definitions and categories of farmers:

- i. **Conservation Agriculture Farmer:** A farmer practicing all three principles of conservation agriculture
- ii. **Minimum Tillage Farmer:** A farmer practicing minimum soil disturbance only.
- iii. **Conservation Tillage farmer:** A farmer practicing minimum soil disturbance + soil cover or crop rotation.

5. Issues to deal with in the short to medium term

The collaboration between CCARDESA and FAO will focus on:

- i. Promoting further efforts in the adoption of conservation agriculture and part of the climate smart agricultural approach to sustainable production.

- ii. Consolidating the acceptance of the agreed definition of Conservation Agriculture and its dissemination to farmers and stakeholders.
- iii. Assisting countries to collect and report accurate data about the number of farmers practising conservation agriculture in Southern Africa.
- iv. Monitor the spread of CA among countries in the region.

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CCARDESA Secretariat
 Red Brick Building Ground Floor
 Plot 4701 Station Exit Road
 Private Bag 00357, Gaborone, Botswana
 Tel: +267 391 4997. Fax: +67 316 7211
 Website: www.ccardesa.org