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Conservation Agriculture (CA) in Southern and Eastern Africa: A New Approach to Facilitate Adoption

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Abstract

Major rural areas in Eastern and Southern Africa are continuously affected by soil fertility decline due to inappropriate management of the natural resource base and the low inherent fertility of soils. Furthermore, an increasing depletion of soil organic matter on arable land has been observed during the last decades.

Conservation Agriculture (CA) has been tested for many years in the Americas and Australia. It has been proved to be an effective technology to counteract fertility deterioration. CA aims to minimise soil disturbance, maintains ground cover by keeping residues and crops on the soil surface, promotes crop rotations and, where appropriate, incorporates green manure cover crops into the system. Consequently, CA improves soil fertility and soil organic matter contents, minimises soil erosion, increases infiltration, maintains a higher soil water status during seasonal droughts, helps to decrease crop failures and therefore contributes to food security in rural areas.

While the land area cultivated under CA in the Americas and Australia is constantly growing, adoption was low in Southern Africa. A new CIMMYT project funded by the BMZ started in August 2004 as a whole experiment to find out the drivers that facilitate the adoption of CA in Eastern and Southern Africa. Components of this new project are: The development of innovation networks with multiple stakeholders (public, private, NGOs, universities etc.); community awareness and farmer training; participatory demonstrations and on-farm research; participatory machinery evaluation, modification and local manufacture; farmer experimentation and farmer-to-farmer exchange; change agent and researcher training; PhD studies (socio-economics and soil ecology) and medium-term trials to study the effects of CA on soil quality.

Keywords: Conservation agriculture, fertility decline, organic matter depletion, soil quality, Southern Africa