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Adoption of Sustainable Land Use Practices in Africa: Opportunities and Challenges

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Abstract

Due to the breakdown of the traditional farming systems resulting from shortening of traditional fallow periods and use of marginal lands in southern African region, one of the greatest challenges is to identify appropriate agricultural approaches that help to increase food production for the increasing human population at a minimum cost to the natural resource base. A number of sustainable land use systems (SLUS) have been developed or promoted in the region in response to this challenge. The systems developed include conservation agriculture, integrated soil fertility management technologies and "fertiliser tree" systems. The biophysical feasibility of these land use systems has been well established and their benefits from economic, ecological and environmental perspectives have been well documented. While a few cases of success stories have been recorded in some locations, farmer adoption of these sustainable land use systems has generally lagged behind biophysical and technological achievements that have been attained in such systems thereby reducing their potential impacts. In this paper, we synthesized key SLUS that have been developed or promoted in southern Africa, assessed their level of uptake by farmers, and identified major drivers and constraints that affect wider diffusion and adoption of the systems. The analysis revealed that technological characteristics of SLUS are important but not exclusive condition for sustained widespread adoption of the systems in smallholder farming communities in the region. Cases of success stories were recorded where the SLUS have been targeted to appropriate farming communities and disseminated within appropriate supportive policies. The widespread adoption of SLUS is nonetheless constrained by several challenges that were grouped into four broad categories: household-specific constraints (*e.g.* age, resource endowment), institutional and policy constraints (property rights, agricultural policies), geographic and spatial factors (access to market), and information factors (awareness, training). Specific actions needed to address these challenges are formulated as the way forward.

Keywords: Adoption, agroforestry, conservation agriculture, organic agriculture, southern Africa, sustainable agriculture

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