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“Development on the margin”

CA2Africa: Conservation Agriculture in Africa: Analyzing and Foreseeing its Impact - Comprehending its Adoption

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Abstract

Conservation Agriculture (CA) is increasingly promoted in Africa as an alternative for coping with the need to increase food production on the basis of more sustainable farming practices. CA is specifically seen as a way to address the problems of soil degradation resulting from agricultural practices that deplete the organic matter and nutrient content of the soil. It aims at higher crop yields and lower production costs. Yet, success with adopting CA on farms in Africa has been limited.

‘Conservation Agriculture to Africa’ (CA2Africa) is a European Commission-funded project (www.ca2africa.eu) seeking to understand why CA techniques have not been adopted widely throughout Africa. The objective of the project is to examine the agronomic, agro-ecological, socio-economic and institutional conditions that determine success or failure of CA. It brings together the major research players involved with CA in Africa to share, assess and learn together with practitioners from past and ongoing experiences on CA in five regions across Africa on the basis of selected case studies: Eastern Africa (Kenya/Tanzania); Southern Africa (Zimbabwe/Malawi/Zambia); Western Africa (Burkina-Faso/Benin); Northern Africa (Morocco/Tunisia) and Madagascar.

CA is analysed and understood using a conceptual framework that distinguishes three scales of analysis: field, farm/village and regional scale. The relative importance of the different determinants of adoption operating at each scale is determined for each case study and guides the assessments and type of analysis.

From a biophysical, technical point of view, crop/soil models are used to assess the performance of CA at field scale. At farm and village scales, trade-offs in the allocation of

resources become important in determining how CA may fit into a given agro-ecosystem. Trade-off analysis is done using bio-economic household models. At a regional scale, a qualitative expert assessment tool kit has been developed to determine the specific regional socio-economic, cultural and institutional settings that determine adoption of CA.

This contribution will present the overall project philosophy, its conceptual and methodological approaches as well as results from testing selected modelling tools for selected case studies across Africa. These results show the importance of different driving forces and inhibiting forces for CA adoption.

Keywords: Adoption studies, bio-economic modelling, biophysical modelling, conservation agriculture, innovation systems