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"Resilience of agricultural systems against crises"

Adoption Potential of Conservation Agriculture in Sub-Saharan Africa

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Abstract

In a continent facing a fast increasing population, smallholder farming in Africa is exposed to double challenge: 1) to increase food production and, 2) to preserve natural resources. While conventional tillage-based agriculture has been held accountable for soil degradation, Conservation Agriculture (CA) based on minimal or no-tillage is increasingly seen as a promising alternative for highly productive and sustainable farming. Despite its potential, CA adoption rates in Africa, compared with other continents, have remained extremely low. While literature on adoption contraints is abundant, comprehensive, holistic frameworks and tools for explaining or predicting adoption are still lacking. In particular, such frameworks and tools could help in assessing systematically under which ecological, socio-economic and institutional conditions CA is best suited for smallholder farming in Africa and for its scaling up. The objective of this contribution therefore is to demonstrate how a newly developed Qualitative expert-based Assessment Tool (QAToCA) was applied in case studies across Malawi, Burkina Faso, and Zimbabwe; 1) to determine the Relative Adoption Potential (RAP) of CA, 2) to assess the institutional, agro-ecological, socio-economic and cultural influences on the RAP of CA, and 3) to determine the site-specific hindering and supporting factors to the RAP of CA for the different case studies. Results show that for the two south African case studies, Malawi has a high RAP for CA while Zimbabwe has a much lower potential. On the other hand the two case studies in south western and northern Burkina Faso both showed a relatively high adoption potential of CA. Major differences in adoption potential are explained by economic market incentives, prevailing institutional arrangements as well as some biophysical incentives.

Keywords: Adoption potential, Burkina Faso, conservation agriculture, Malawi, Zimbabwe

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