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“Management of land use systems for enhanced food security:  
conflicts, controversies and resolutions”

## Innovative Conservation Agriculture Approaches: Food Security and Climate Action through Soil and Water Conservation (INCAA)

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### Abstract

The crucial challenge for smallholder farmers in sub-Saharan Africa is feeding a growing population while preserving the natural resource base of the agricultural system. In future, this challenge will be exacerbated by soil degradation and climate change. Conservation Agriculture (CA) has been promoted as a strategy that can improve yields, soils and effective water use. CA thus has potential to increase the resilience of farming systems facing the mentioned challenges.

However, CA since its introduction in sub-Saharan Africa has not moved from the invention to the innovation stage: the CA innovation seen as a package is not meeting the farmers' needs, capabilities and opportunities. Overall, the attempt to transfer this innovation in a conventional linear way from science to farm has been disappointing.

The INCAA project is designed as an action research process aimed at targeting the challenging (and often missing) interfaces of science-driven technology and local realities in innovation systems. The overall objective of INCAA is to mentor and analyse a learning process that supports the innovation of CA in sub-Saharan Africa. The case studies of the project are Laikipia County, Kenya and Koumbia District, Burkina Faso. Building on the experiences of past projects, INCAA will (1) map benefits and adaptations of CA in innovation systems around the partner projects; (2) foster joined learning of stakeholders to test and validate CA tools; and (3) develop learning strategies for an innovation process towards CA including institutional and individual dimensions.

This project will start from those who take the final decision on the fate of CA - the farmers. By assessing how farmers have actually adapted and implemented CA, we can derive lessons on the benefits and losses related to such CA modes for all stakeholders involved in the agricultural system. This contribution will 1) introduce the overall conceptual, methodological and structural design of the project and 2) highlight its first preliminary results which so far show high influence of gender aspects towards the adoption decision process. Differing roles of and expectations towards men and women within the farming communities are often an invisible obstacle for further adoption of CA.

**Keywords:** Conservation agriculture, food security, gender aspects, innovation systems