Conservation Agriculture and Smallholder Farmers in Eastern and Southern Africa – Leveraging Institutional Innovations and Policies for Sustainable Intensification and Food Security (CASFESA) Project

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CASFESA Project Overview

- Fund: EU-IFAD

- Implemented:
  - by CIMMYT
  - in three countries (Ethiopia, Kenya and Malawi)
  - in collaboration with National Agricultural Research Systems
    - EIAR
    - KARI
    - Department of Agricultural Research and Technical Services (DARTS)
Project Overview...

• **Time frame:**
  - Planned as 2.5 years project *(June 2012-December 2014)*
  - But, <1.5 years in the signed contract *(13 Sept. 2012- 31 Dec. 2013)*

• **Started on 01 June 2012** *(not to miss the cropping season in Ethiopia)*

• **Ultimate target beneficiaries:**
  - Resource poor smallholder farmers including women in maize based system.
Project Goal

- Increasing food security and incomes of resource-poor smallholder farmers
- Through pro-poor technological and institutional innovations
- Improve productivity
- Enhance the resilience and sustainability of cereal based mixed farming systems through CA-based technologies
Collaborations with other Projects

• **SIMLESA**
  - Sustainable intensification through Conservation Agriculture-based practices is a core objective in SIMLESA project
  - Same sites but CASFESA is at a wider scale (random treatment and control villages)

• **Enhancing Total Farm Productivity (IFAD) project**
  - Lessons learned from CA-based practices.
Approach: Randomized Control Trial (RTC)

• An experimental method to measure the effect of different interventions (institutional innovations, technologies, policies, etc.) on the treated group in comparison to the control group.

• Helps to reduce self-selection problem where the treatment and control groups are selected randomly.
Demonstration sites selection

- Maize based system
- Larger plots to accommodate 23m by 23m demo-plots per farmer.
Activities in Kenya/Embu
(Since January 2013)

• 172 villages were identified in the two districts
• 30 villages were randomly selected from 172
• 15 treatment and 15 control villages
• 2 volunteer farmer per treatment village
• A total of 30 farmers hosting the demonstration plots in 15 villages
Demonstration sites in Embu West and Embu East

- 15 villages
- 10 sub-locations
- 6 locations
- 5 divisions
- 2 districts
Design of Demonstration Plots

Make sure that:

- The design makes comparison easier.
- Comparable blocks lay on similar slope.
- Except the experimental technologies (herbicide, tillage and intercropping), the remaining inputs and management practices have to be the same on all blocks at a given demo-plot.
- The same:
  - Seed/seeding rate/date
  - Fertilizer rate/data
  - Hand weeding
  - Disease control, etc.
Design of Demonstration Plots (2)

- Conventional Tillage
  - Maize + Beans + Conventional Tillage
- Zero Tillage
  - Maize + Beans + Zero Tillage
- Intercropped
  - Sole maize
- Maize + Conventional Tillage
- Maize + Zero Tillage
Immediate activities

- Plot design and planting are done at the presence of field technicians from KARI and CIMMYT.
- Inputs (seed, fertilizer, herbicide, sprayer) will be delivered in March.
- Continuous field monitoring for weed management.
- Farmers’ field day will be organized at each village.
- Resource poor and women headed households are encouraged to attend the field days and adopt the technology.
Special thanks

- KARI-Embu
- DAOs
- DAEOs
- Volunteer farmers to host demo plots
- Others
Thanks!