Conservation Agriculture in the drier highlands of Central Kenya during the last 5 years- some observations from the field

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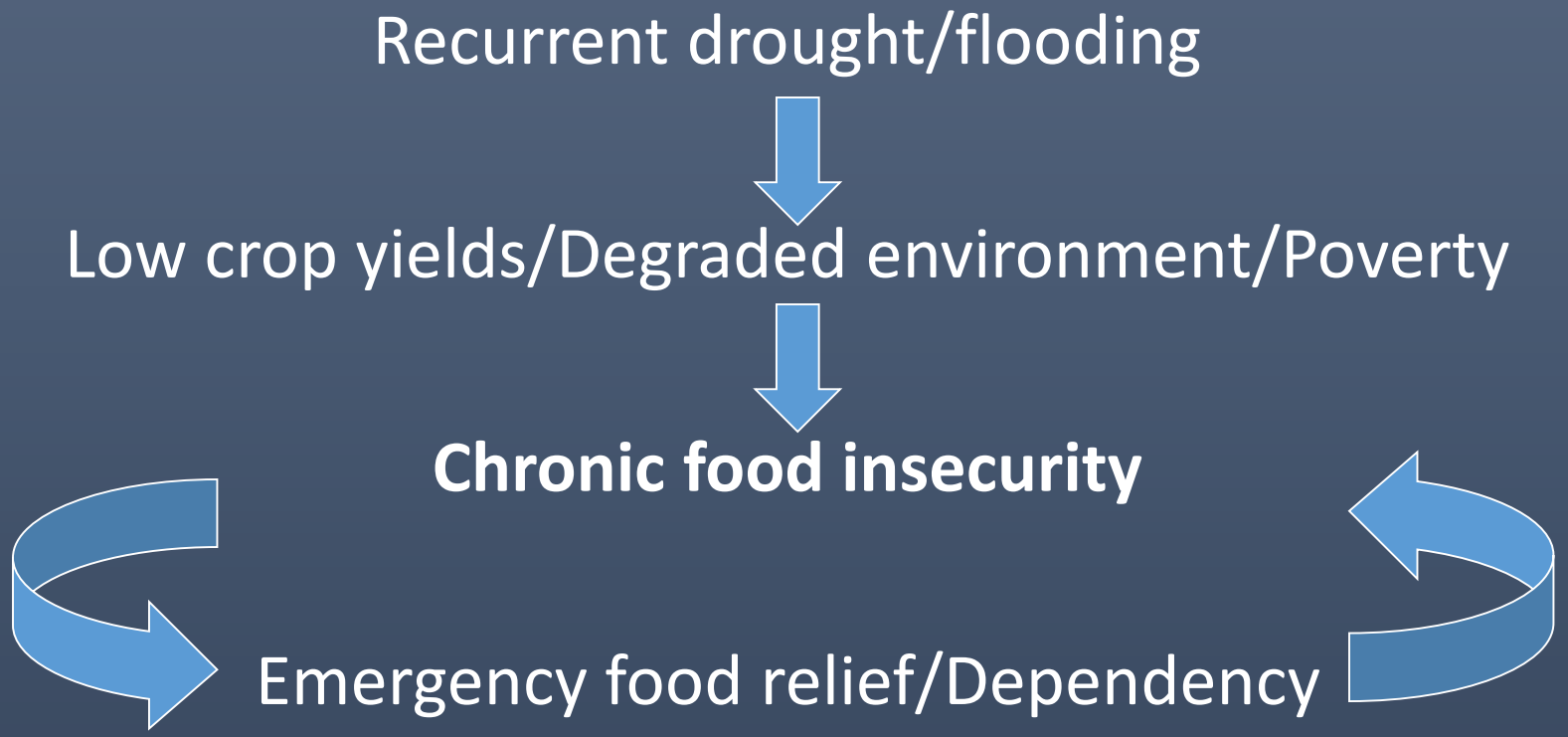
Current conditions

- Declining soil fertility
- Heavy tillage
- Changing weather patterns
- Drought/floods
- Declining yields
- Little to no fallow
- Lack of crop diversity
- Poor adherence to good agronomic practices

WHAT'S THE CHALLENGE?



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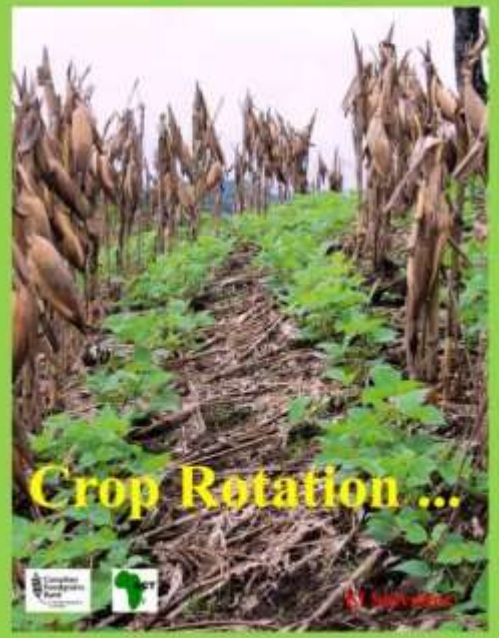
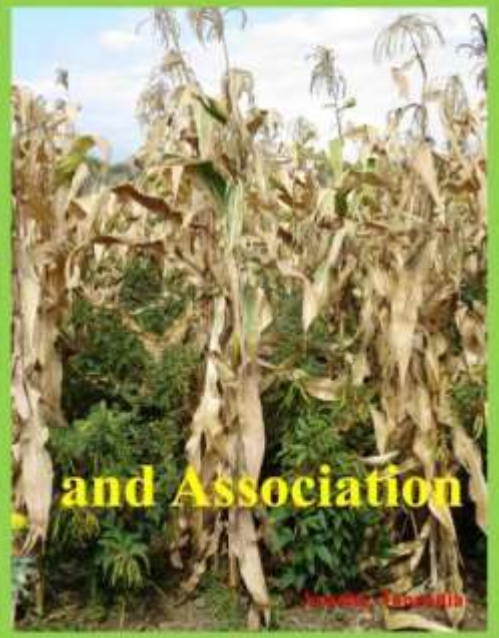
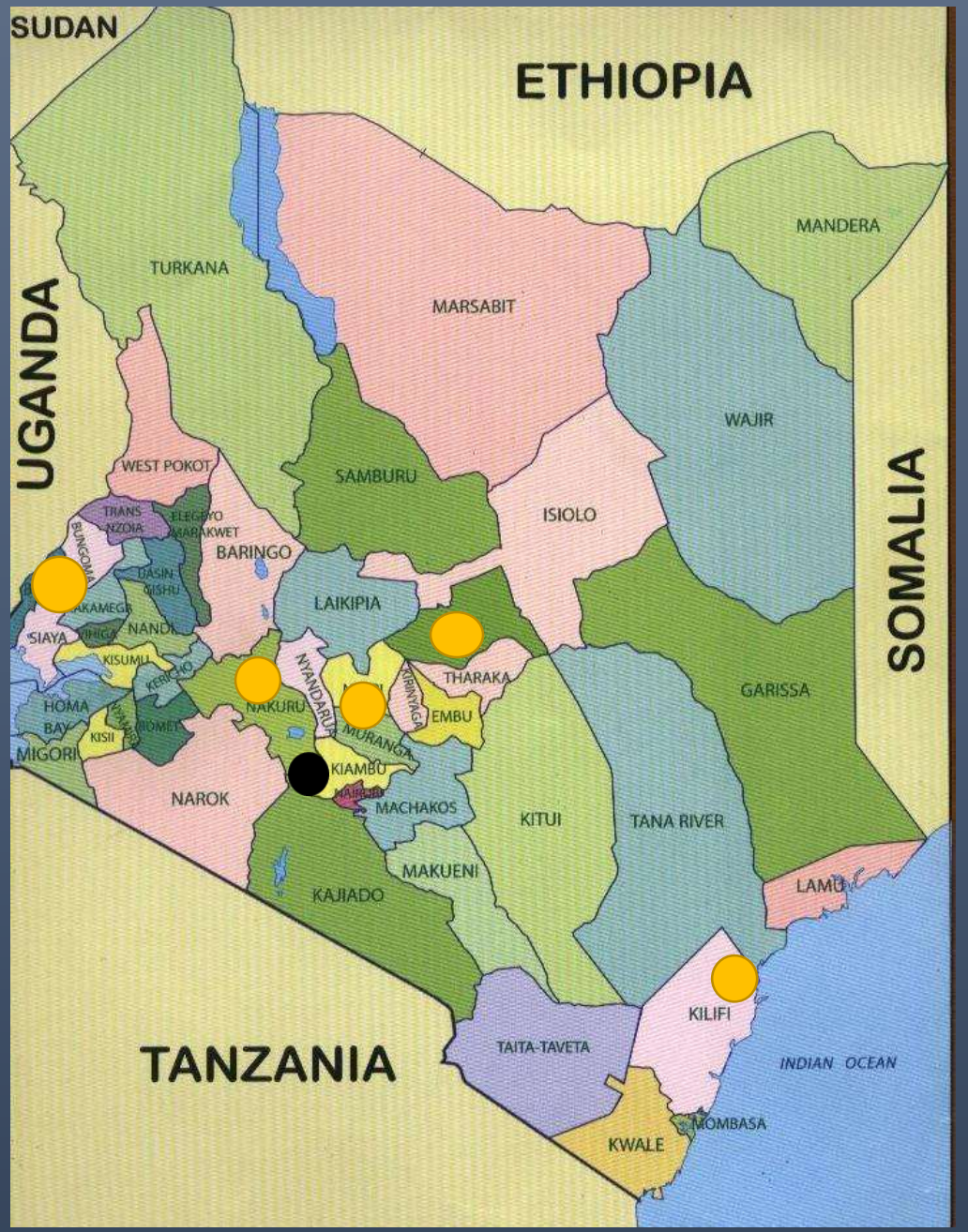




Current and near future World Renew “Conservation Agriculture” interventions in Kenya since 2012



Past

Current

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In Kenya, we partner with the Anglican Development Services (ADS) which is the relief and development arm of the Anglican Church of Kenya to implement community development programs including conservation agriculture.

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Champion Farmer Couple in Ndeiya, Limuru County, Central Kenya who experimented with growing potatoes in their **traditional** way (left) and using **CA methodology** (right)

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CA farmer plot in Muranga County, Central Kenya

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Cheers and Challenges observed in implementing CA programs in Kenya during the last 5 years

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Cheers:

- CA plots are most likely to produce some harvest especially in erratic rainfall seasons compared to conventional planted plots
- CA plots from observations produce overall a better yield and quality of crops than conventional plots especially in stressed rainfall situations
- CA can save time and farmers are able to use that time to do other things like raise animals, do value addition or even go for a temporary job
- CA uses local resources and is in general profitable (when combined with some form of irrigation) attracting youth back into farming
- When used with cover crop systems (especially lablab in Kenya), CA can provide sufficient ground cover and improve soil fertility over time

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Challenges:

- Adopting CA requires a behavior change- especially not tilling the soil and keeping ground covered all the time
- Mulch material needed for CA is a limiting factor in expanding CA plots - the mulch also often competes with animal feed in especially drier agro-pastoralist areas
- There is a lack of overall technical CA support available for expanding CA work in Kenya (equipment, research, advocacy, etc..)

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Key complimentary interventions and recommendations to CA:

- **Animal husbandry-** especially keeping indigenous poultry, goats, rabbits and bees
- **Green Manure/Cover Crops and agro-forestry** for increasing soil fertility and covering of soil
- **Water and irrigation-** accessing water for household and small plot irrigation for higher value crops (like vegetables and fruits)- especially amongst youth
- **Integrate nutritional and home economics** for greater awareness of nutritional value of crops grown and also for use in meals
- **Integrate VSLA programming** for savings and obtaining loans for purchase of agricultural inputs

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- **Post harvest management, value addition and marketing practices** for overall food security and better livelihoods
- **Documentation of success stories and challenges including ongoing research** to back-up policy formulation and advocacy initiatives in promoting CA
- **Farmer exchange visits** for learning by seeing and interactions between farmers
- **Formation of CA-innovation networks and platforms amongst key stakeholders** to share experiences, ideas, learning, and create synergy to foster dynamic interactions as viable CA
- **Community participation and ownership**- critical for long term impact, sustainability and community transformation

Farmer exposure visits and practical on-farm trainings have been important components in promoting CA in Kenya

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Integration of Green Manure and Cover Crop species that have been tested in Kenya according to their soil fertilizing potential and the elevation at which they are grown (courtesy Roland Bunch)

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Using home made compost and cover crops like Lablab bean increases soil cover and soil fertility

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Therefore……

- Start small plots and expand from there (eg. 20m X 20m)
- Adapt CA technology to local farming systems
- Pay attention to fertility needs of crops
- Don’t introduce too many things at once
- Identify good green manure/cover crops that benefit the soil that also people and animals can eat
- Use farmers to train other farmers
- Take into account the needs of livestock- not just crops

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Adapted from a Trip Report to the Makuyu CA program in Central Kenya by Neil Miller, January 2014

Rather than being a fixed technology to be adopted in blueprint-like fashion, CA should be seen as a set of sound agricultural principles and practices that can be applied either individually or together, based on resource availability and other factors. For this reason, farmers are encouraged to experiment with the methods and to evaluate the results for themselves.

http://conservationagriculture.mannlib.cornell.edu/pages/about ca/advantages.html

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