How Africa RISING Post-harvest technologies are transforming lives in Tanzania

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Introduction

Smallholder farmers throughout East and Southern Africa have for a long time suffered damaging food losses because of postharvest challenges that subject harvested produce to biotic and abiotic vagaries. Africa-RISING validated and disseminated low-cost postharvest technologies for grains (Figure 1) to help farmers secure their produce during preparation for storage and storage itself, and ensure nutritional improvement.

Improved postharvest technologies introduced in Tanzania: (1) mechanized maize sheller; (2) collapsible drier case; (3) hermetic storage bags.

Statistics

Districts	Villages	Direct beneficiaries	Indirect beneficiaries (by interacting with direct beneficiaries or at trade fairs)
7	34	2,292	27,200

Women, men, and youth empowered

1) Community storage for better bargaining power.

2) Youth empowered with skills to backstop mechanization.

Nutrition Improvement

3) Small-scale maize processors trained on micronutrient fortification.

4) Community trained on enrichment of local dishes with protein using soybean.

5) Households trained on micronutrient enrichment of diets using vegetables.

Thinking Business

6) Farmers storing longer for food security and to cash in when prices improve; youth providing services for income.

Acknowledgments.

Entrepreneurship: The voice of an upcoming agripreneur — A success story

Abel Michael (27) from Seloto village, Babati district was involved during the technology validation stages since 2013, and had the opportunity to learn the three postharvest technologies from the programs research activities. Armed with the technologies, he has his eyes set on doing business.

Africa RISING set up experiments in my homestead. They demonstrated how to use a diesel-powered maize sheller, collapsible drier case (CDC), and hermetic bags. For me the hermetic bags were the most interesting. The new bags performed very well; they stopped damage by insects. I have been using the bags for the last four years; the same set of bags. In July last year, I stored maize in 13 of these bags and in 34 ordinary bags which I treated with insecticide (*Shumba*). The technology is good!

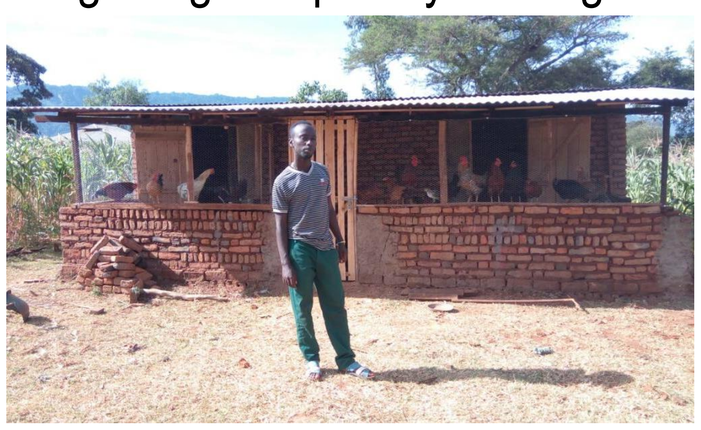
Benefits

1. I use the bags to store maize for home consumption. This is good for health because I don't have to apply insecticides. Many other farmers in this village use these bags to store maize for home use.
2. I think it is possible to negotiate for higher price if one has stored many bags together. Although the market does not distinguish between maize store in the air-tight bags and that stored with insecticides, I have seen that some buyers started paying higher prices but the margin is still low; about 2000 TZS per 100 Kg bag.

Challenges

1. Rodents are a challenge for starters. I apply rodenticide at strategic points in the store. I am also keen on storage hygiene and this has worked for me.
2. I find the technology expensive for storing large quantities of grain for sale because one needs more space. There is also the need to empty the bags which is extra labor, and I have to buy ordinary bags for this or the buyer has to come with own bags and charge.
3. Drying the maize to safe storage moisture presents some challenge. The CDC is helpful, but I rely on a subjective method to be able to assess dryness. This is somewhat risky.
4. Availability of the bags is a challenge. We only have one supplier in Seloto and all nearby villages depend on him. But I also see this as an opportunity to venture into, when I get sufficient capital.

Integrating with poultry farming to earn more!



Abel was among the first adopters of poultry management technologies introduced by Africa RISING project. He was exposed to the mother demos and developed interest. Initially he possessed 10 local chicken. After the training offered by Africa RISING, he has grown his stock to 65 chicken, mainly for egg production.

In September 2017, Africa RISING in collaboration with farmers, designed a poultry house structure suitable for local rural areas. Abel became the first implementer of the design at his own cost (see Photo). This gives him an opportunity to keeping more chicken. He still needs more exposure on poultry value chain as he has drawn an interest on producing day-old chicks for sale to other farmers in neighbouring villages .