2010: A scoping survey of groundnut farmers in 2 districts in Malawi (n=248) and Tanzania reveals:

- Farmers perceive post-harvest of groundnut as highly labor demanding, being the major obstacle to production expansion for the lucrative and nutritious crop.
- In particular, shelling, lifting, and stripping were the top three processes of remarkable labor intensity and lifting also leads to yield losses due to quality problems.
- 85% of the interviewed households sell some groundnuts but mostly market individually.

2013-2015: Prototypes were developed, tested and refined with farmers in 32 villages:

- Ox-drawn lifter harvests an average of 0.4 ha/day compared with 0.1 ha/day using a hand-held hoe;
- Table-top stripper that removes 38 kg/hr of pods from groundnut plants compared with 12 kg/hr with hand stripping;
- Hand-cranked disc sheller is 24 times more efficient than hand shelling and lower amount of undamaged kernels. It is also expected to lead to lower aflatoxin incidence since it allows for shelling without soaking.

2017: Farmer-level demand functions were examined by eliciting willingness-to-pay, which was fed into the community-level return on investment (ROI). In the base scenario, when the farmer group size ranges 200-400, the single-season ROI ranges 1.66-4.32, 8.24-17.47, and 0.55-2.10 for the lifter, stripper, and sheller, respectively, indicating that purchasing and renting these tools to fellow farmers is a profitable business.

2017: 41% of the non-seed producer groups (7 out of 17) placed cash purchase orders for at least 1 of the 3 tools.

Informing practice and policy with evidence and analysis

Final performance data was submitted to the Malawi government as part of the registration process, which was finalized in 2016.

Integrate local and global research; Phased and emergent design & implementation

Avoid doing harm, gender

Promoting equity through investments that favor the disadvantaged and vulnerable

A survey of male and female farmers from 210 households in Malawi was performed in both 2014 and 2016 to assess perceptions of control in farmer decisions by gender. Results show that women perceive a higher level of control for groundnut than for other crops, although in general men perceive that women have less control than women perceive, and men also think that they have more control over groundnut than women. Increased commercialization of groundnut over the 2 year period did not negatively impact the women’s empowerment or workload. The use of the mechanized sheller in Zambia, however, showed that it reduced the the status of groundnut as a women’s crop, although the net gain of less drudgery and more income benefits the entire household, it is important to make sure women are included in mechanization training and activities.

Increased collective action

2013: CARENTH Investments bought 9,690 kg of groundnut from farmers in Malawi who organized collectively. The price of MK 275 per kg was higher by MK 35 as compared to the price outside this linkage.

Understand and respond to local contexts, knowledge & preferences

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