What has EPAR learned? Insights from Smallholders in Tanzania

- **Attitudes matter:** A farmer’s overall willingness to make changes and her level of worry about land and labor availability and weather were more significant predictors of fertilizer use than concerns about the cost of fertilizer (EPAR Brief No. 205).

- **Gender matters:** Plots with a female decision maker or shared decision making were more likely to be intercropped than plots where a male made the planting decision. (EPAR Brief No. 216)

- **Prices matter:** Rice received one of the highest per kilogram prices among priority crops. The median value of rice sold at the household level as well as labor productivity were the highest among priority crops. (EPAR Brief No. 188).

- **Yield gaps are relatively high:** Millet plots sustained pre-harvest losses (53%) more frequently than any other priority crop, primarily due to birds. Plots with 50th percentile yields (0.53 t/ha) produced about half of what 90th percentile plots yielded (1.07 t/ha). (EPAR Brief No. 224).

Sorghum & millet share several characteristics and are often grouped together in crop analysis and policy decisions. However, EPAR’s research using the Tanzania National Panel Survey (TZNPS) data reveals that only 1.4% of households surveyed in Tanzania actually cultivated both crops. In addition, sorghum and millet growers differed on average by input use, gender of household head, and proportion of households that sold their harvest.

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Why Attitudes Matter: Measuring Farmer Attitudes in Agricultural Development

EPAR compiled a two-page brief and presentation slides for the consulting firm TNS’s “Do Attitudes Matter?” forum in Nairobi in November 2012. We analyzed results from “Farmer Focus”, a BMGF-funded attitudinal survey piloted by TNS in Tanzania. Synthesizing survey data with literature related to risk and accord over household decision making in Vietnam, we drew out key themes for conference attendees.

This brief expanded on the statistical analysis in EPAR Brief No. 201, which explores the determinants of inorganic fertilizer use among smallholder farmers in Tanzania. Our analysis included both economic indicators of TZNPS survey data and attitudinal factors of Farmer Focus data.

According to the models, both datasets suggest that agricultural extension, years of education, and whether or not a household grows cash crops are significant, primary predictors of inorganic fertilizer use.

Farmer Focus measures reflecting willingness to take risks and relative willingness to adopt technologies, produced a slightly negative and significant effect overall. However, disaggregating by gender, the willingness to adopt and the willingness to take risks variables are unexpectedly negative predictors of inorganic fertilizer use for males, while strong and significant predictors for females. These results suggest the importance of attitudinal variables in farmer decision-making and the importance of looking at men and women separately.

Inclusion of attitudinal variables in program design acknowledges that beneficiaries of development initiatives are decision-makers and face “participation risks” when deciding whether to adopt a proposed intervention.

Agro-Environment Series (forthcoming)

EPAR is currently working on a series of literature reviews examining the environmental impacts of crop production systems in South Asia and Sub-Saharan Africa.

These briefs are intended to provide Program Officers with an understanding of key interactions between the crop at various production stages and its surrounding environment to usefully inform grant making. With the review of crop experts, the goal is to avoid poor practices and identify better methods and practices that are appropriate in smallholder contexts and have the potential to be taken to scale.