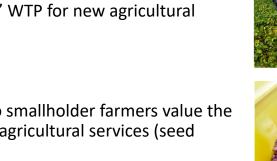
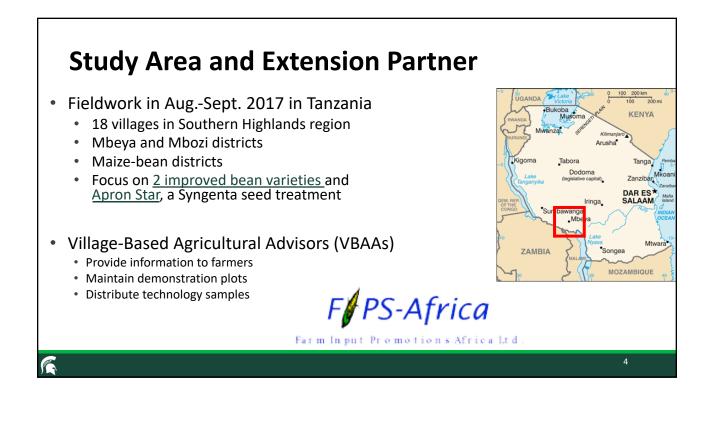
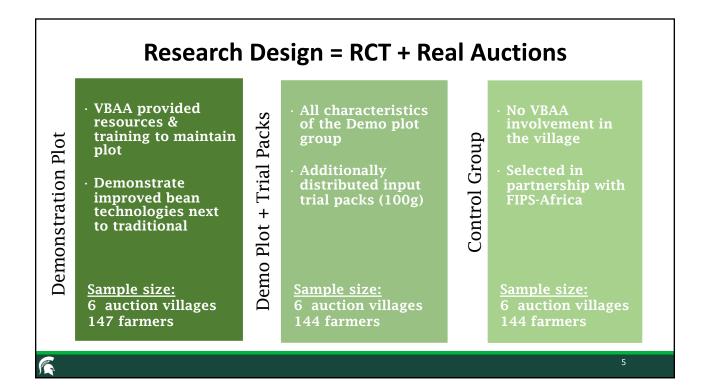


Research questions:

- 1. How do NGO lead-farmer extension programs influence farmers' WTP for new agricultural technologies?
- 2. To what extent do smallholder farmers value the provision of local agricultural services (seed treatment)?







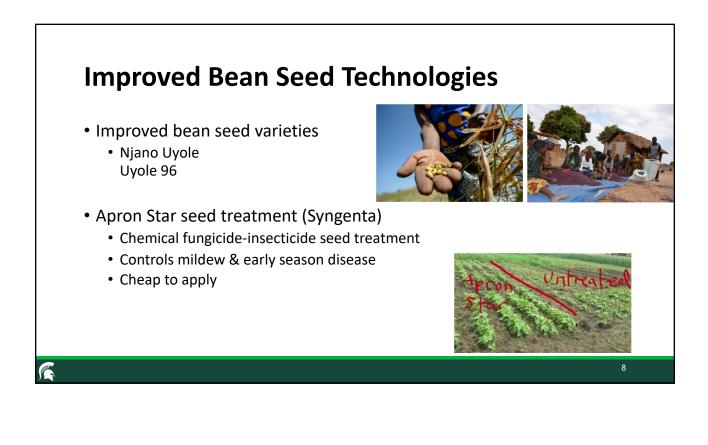
How do VBAA activities affect farmers' WTP for improved bean seed technologies?

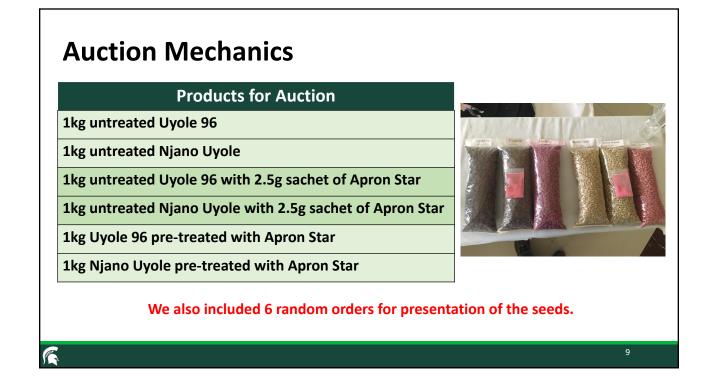
- Treatment status has a direct impact on information flows:
 - **Demonstration plot** -> learning from others
 - Demonstration plot + trial packs -> learning from others & learning-by-doing
 - Control group -> no targeted information

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 Assuming the technologies are profitable, we might <u>expect farmers</u> <u>exposed to a demonstration plot and trial packs to exhibit a higher</u> <u>WTP for the improved technologies</u>

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Empirical Strategy

• Dependent Variable:

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- Willingness-to-Pay of farmer *i* for product *j*
- Empirical Model (OLS with wild cluster bootstrapping)

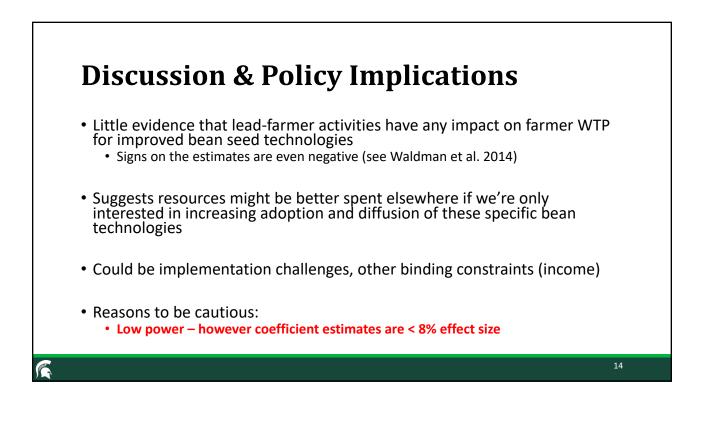
$$WTP_{ij} = \alpha + \text{Treat}_{ij}\beta + Z_j\gamma + X_i\delta + \epsilon_{ij}$$

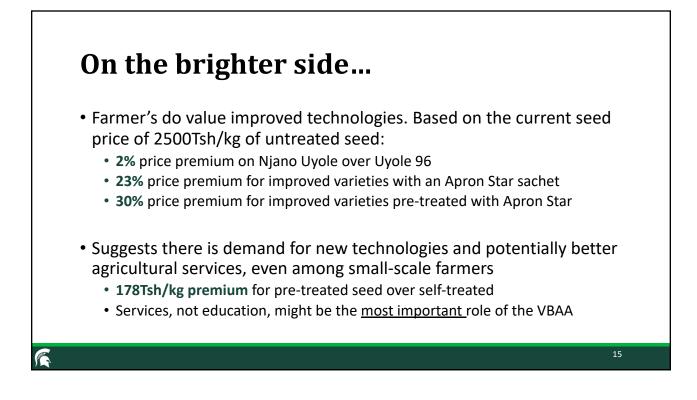
- **Treat**_{ii} is the vector of VBAA treatment status (control as baseline)
- Z_j is the vector of product attributes (variety, self-treat, pre-treated seed)
- \mathbf{X}_i is the vector of demographic/geographic characteristics and auction order controls

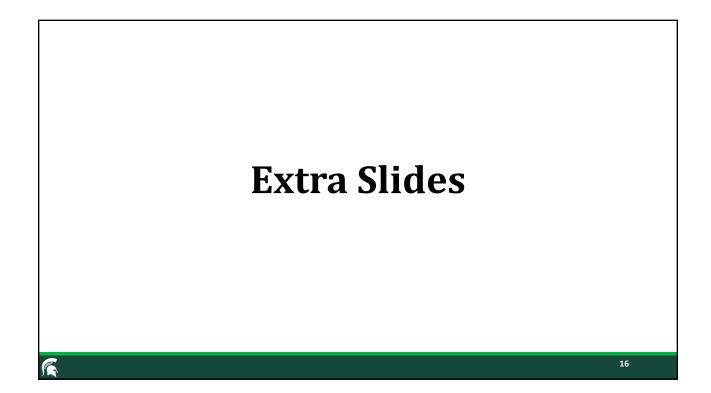
Effect o	of Treatment o	DN WIP	at village level. ***, **, * repre 5%, and 10% levels, respecti	
		(1)	(2)	-
	Demonstration Plot Only	-65.91	-104.06	
		[0.820]	[0.682]	
	Demo Plot + Trial Packs	-161.58	-147.08	
		[0.576]	[0.549]	
	Njano Uyole Variety	42.15*	42.15*	
		[0.092]	[0.092]	
	Apron Star Sachet	574.25***	574.25***	
		[0.000]	[0.000]	
	Pre-treated Seed	752.92***	752.92***	
		[0.000]	[0.000]	
	Mbozi District		377.18**	
			[0.030]	
	Education Level		46.94***	
			[0.009]	
	Observations	2610	2610	
				11

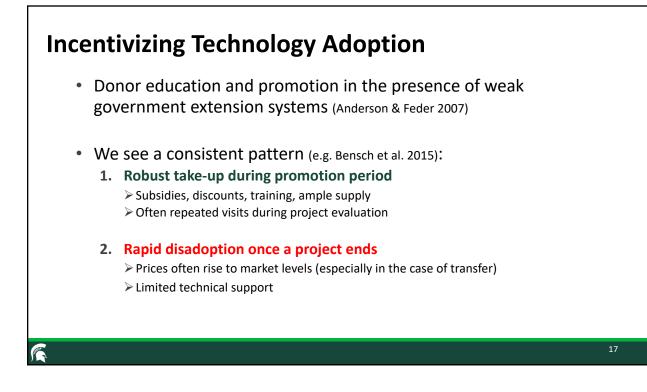
Effect o	of Treatment of	on WTP	at village level. ***, **, * repres	
		(1)	(2)	
	Demonstration Plot Only	(1) -65.91	(2) -104.06	
	Demonstration Flot Only	[0.820]	[0.682]	
	Demo Plot + Trial Packs	-161.58	-147.08	
		[0.576]	[0.549]	
	Njano Uyole Variety	42.15*	42.15*	
		[0.092]	[0.092]	
	Apron Star Sachet	574.25***	574.25***	
	Pre-treated Seed	[0.000] 752.92***	[0.000] 752.92***	
		[0.000]	[0.000]	
	Mbozi District		377.18**	
			[0.030]	
	Education Level		46.94***	
			[0.009]	
	Observations	2610	2610	

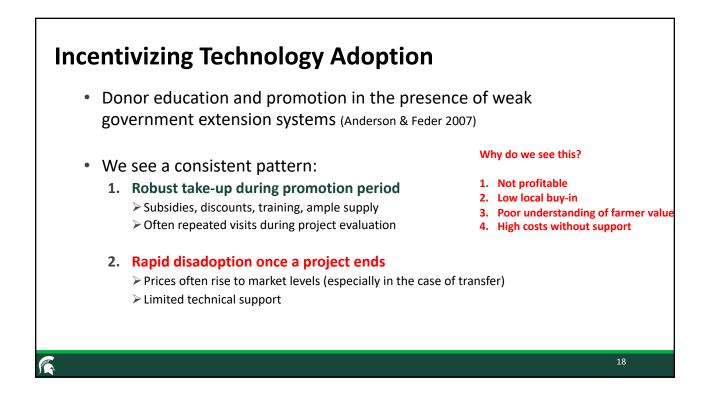
Effect of Treatment of	nn WTD a	Vild-cluster p-values in brack t village level. ***, **, * repre %, and 10% levels, respectiv	
	(1) -65.91	(2) -104.06	
Demonstration Plot Only Demo Plot + Trial Packs	-03.91 [0.820] -161.58	-104.08 [0.682] -147.08	
Njano Uyole Variety	[0.576] 42.15*	[0.549] 42.15*	
Apron Star Sachet	[0.092] 574.25***	[0.092] 574.25***	
Pre-treated Seed	[0.000] 752.92*** [0.000]	[0.000] 752.92*** [0.000]	
Mbozi District	[0.000]	377.18** [0.030]	
Education Level		46.94*** [0.009]	
Observations	2610	2610	
			13

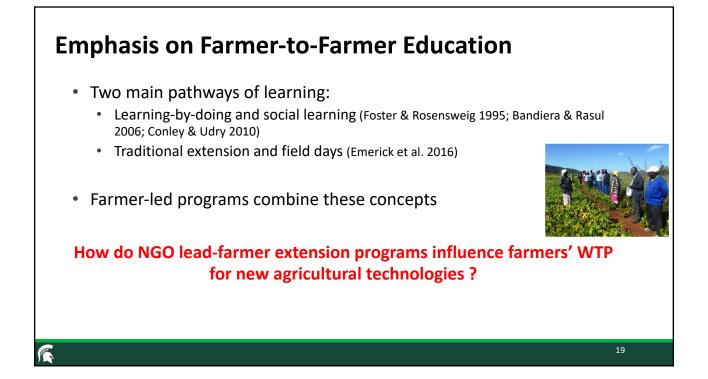












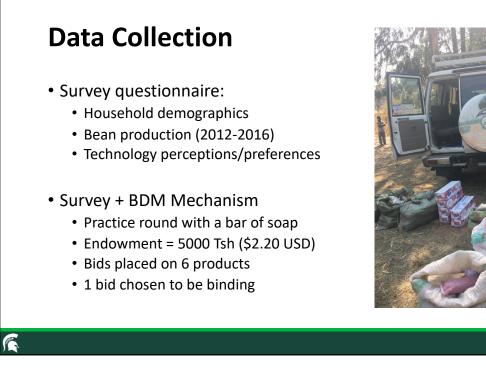
Random Sampling Process

- Villages
 - Randomly sampled 6 treatment villages per district
 - Conditional on VBAA compliance
 - Selected 6 control villages
- Farmers
 - Used village rosters to identify bean-growing households
 - Village chairperson, extension agent, and VBAA assisted
 - Sampled 25 farmers (with replacement) per village

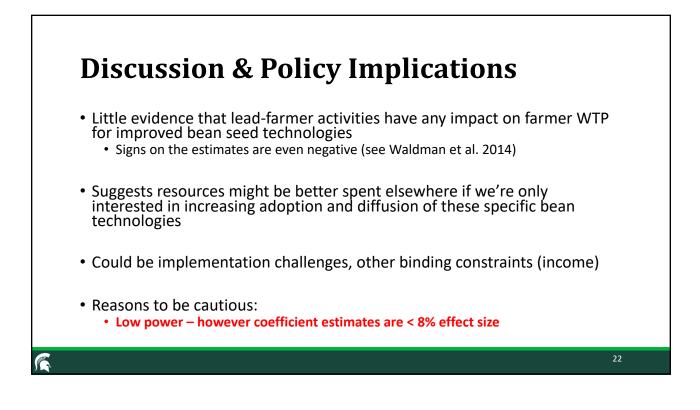


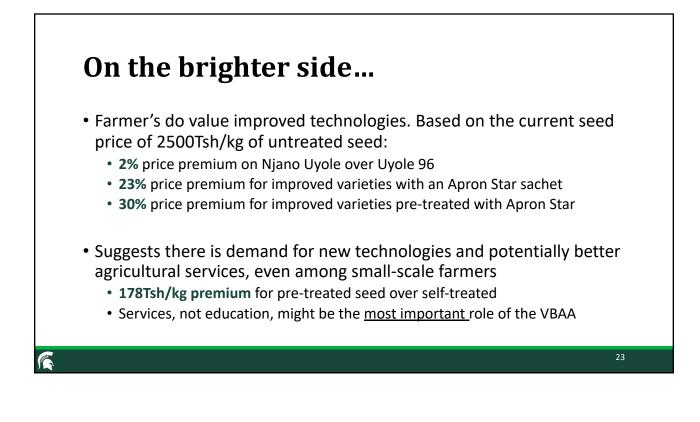


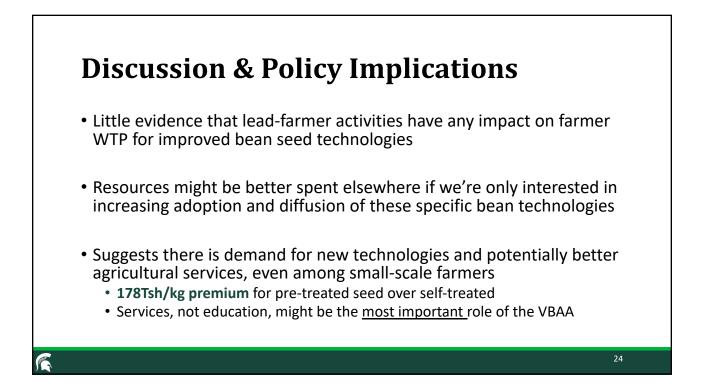
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Acknowledgements

This study was made possible by the generous support of the American People provided to the Feed the Future Innovation Lab for Sustainable Intensification [grant number AID-OAA-L-14-00006] through the United States Agency for International Development (USAID). This work was also supported by the US Department of Agriculture (USDA) National Institute of Food and Agriculture and Michigan AgBioResearch [project number MICL02501]. Additional support was provided by CGIAR Research Program on Policies, Institutions, and Markets (PIM). The contents are the sole responsibility of the authors and do not necessarily reflect the views of USAID, USDA, the United States Government, Michigan AgBioResearch, or CGIAR/PIM.

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25