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Title: Catalyzing Energy Access Among the Ultra-Poor in Malawi

Households in Africa have lower rates of energy access than any other region in the world. Energy poverty among the ultra-poor presents a particularly vexing problem for policy makers due to lack of capital for investments in household energy. Our study uses baseline and midline data from an ongoing impact evaluation of a household energy intervention targeting the ultra-poor in Malawi. We leverage baseline data from 900 social cash transfer recipient households, and 2,671 better-off households to explain baseline differences in demand and supply-side determinants of energy poverty, and to understand the impact and spillover effect of an improved cookstove intervention targeting the ultra-poor.

Our analysis suggests that at baseline there are no significant differences in time spent or distance traveled to collect fuelwood between better-off and ultra-poor households. We observe statistically significant differences in fuel saving stove (FES) ownership (31.5% vs. 16.2%) and electricity access (11.3% and 3.6%) for better-off and ultra-poor households respectively at baseline.

We assessed the impact of FES distribution in SCTP households compared to the control. Take-up of FES stoves in Mulanje and Thyolo districts is 93% and 79% of households, respectively. Among household that adopted, the majority of the households (89%) were using the FES. In 11% of households (N=27) where the FES was accepted but not in use, because it broke (82%) or had been given away for free (7%).

Intent-to-treat and per-protocol levels (subset of FES users) were estimated. Treatment effects were not significant for time collecting fuelwood and time cooking and fuelwood consumption in the intent-to-treat analysis. Intervention households were associated with a marginal significant increase ($p=0.07$) in total biomass fuel use. However, analysis at per-protocol population suggests treatment households are not associated with any significant change in time use or fuel consumption compared to control households. The direction of the effects are interesting given that many of the FES users in the intervention group (90%) reported that the FES used less fuelwood and faster cooking. The increase in fuelwood use in the midline could be due to suppressed demand and/or increase food consumption from the cash transfer program.