

Demand and Pricing Policy for Improved Storage Technology

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Is there Demand for Improved Storage among Farmers in India?

- Research shows that improved storage can help increase farmers' incomes
 - Reduced quality, quantity losses in stored grains; better market prices
- There is demand for improved storage technology
 - For improved storage (hermetic) bags, farmers are willing to pay three times the price of traditional jute bags (Rs. 25 vs. Rs. 8)
 - Farmers' WTP increases by 13% when given information about the detrimental health effects of consuming aflatoxin contaminated grains and how improved storage can help reduce contamination
- If hermetic bags are available in the market, will farmers who stand to benefit the most from improved storage adopt it?



Good technology does not necessarily mean high rate of adoption

- We know of many examples of beneficial technology remaining unadopted
- So what should we do to promote adoption of improved storage technology among farmers?
 - Research shows that “experience” with technology can help users understand the benefits of a new technology and increase overall adoption rates
 - A one-time subsidy may help farmers gain experience with technology, see the benefits and make a more informed choice about adoption



Does a one-time subsidy affect later demand for improved storage?

- We test whether providing a one-time subsidy increases later adoption of improved storage technology among farmers
 - We work with 4000 farmers in 80 villages in 5 districts of Bihar
 - Small farmers: 83% have less than 1 ha land and largely grow staples (rice, wheat or maize)
 - We provide farmers the opportunity to buy 50 kg hermetic bags at subsidized rates (subsidy ranging from 0 to 100% or no subsidy to free)
 - One year (or two agricultural seasons) later, we provide farmers another opportunity to buy hermetic bags



How does a one-time subsidy affect later demand for improved storage?

- Experience with technology increases demand
 - Farmers who had used improved storage for a year had 26% higher WTP for it as compared to farmers who were first-time buyers
- A one-time subsidy helped farmers gain experience
 - Subsidies made farmers more likely to buy improved storage, understand its benefits and increase their later WTP
 - We find that farmers who benefited the most from adopting improved storage had the lowest initial WTP for it – thus, a large initial subsidy was essential in making technology accessible to them
- However, a 100% subsidy reduced later demand
 - Farmers who received improved storage for free had significantly lower later WTP for it



Key Findings

- Improved storage technology can deliver large gains for smallholder farmers, if adopted
- There is existing demand for improved storage
 - Demand increases if farmers are given information about food safety (aflatoxin) issues
 - However, imported bags are expensive and the average WTP still covers only ~30% of the full market price
- Demand increases with experience and a large one-time subsidy helps farmers gain experience
 - Particularly the farmers who had low initial WTP but benefitted the most from adopting improved storage technology
- ... As long as the subsidy is not 100 percent!



Thank You



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