

Researchers

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Timeline

2010-2012

Sample Size

3,240 households in 81 villages

Research Implemented by IPA

Yes

Demand for Rainwater Harvesting Devices in Uganda

Abstract

Accessing safe drinking water is a major challenge in many developing countries. In order to improve access to safe drinking water, Relief International (RI) has developed a rainwater storage device (RSD), which consists of a rubber bag approximately 1.5m across and 1.5m tall when full. Researchers are evaluating this new technology in Kamwenge district in Uganda.

Policy Issue

In many developing countries, poor access to safe drinking is an acute problem, with both health and social repercussions. Lack of safe water for drinking, bathing, and other household tasks is the primary cause of diarrheal diseases, which account for 15 percent of deaths among children under five years of age.[1] Poor access to water also entails large time costs associated with gathering water. In some parts of Africa, women spend up to eight hours per day collecting water. New technologies, such as rainwater storage devices, could improve access to safe drinking water and decrease the time needed for water collection. However, such new technologies are only useful to the extent that they are affordable and acceptable to the intended beneficiaries. Before any large investments are made in the development and distribution of a technology, it is necessary to determine the potential size of the market, the most effective marketing strategies to promote adoption, and the potential impacts it could have on the lives of the poor.

Context of the Evaluation

In order to improve access to safe drinking water, Relief International (RI) has developed a rainwater storage device (RSD), which consists of a rubber bag approximately 1.5m across and 1.5m tall when full. The bag is held up by a simple earthen foundation and is fed by a series of gutters. It can hold up to 1000 liters of water, which is estimated to meet the basic needs of a family of five for ten days.

Researchers are evaluating this new technology in Kamwenge district in Uganda. Residents of Kamwenge are particularly likely to benefit from a rainwater storage device, as the district receives substantial rainfall during the two rainy seasons – the first and smaller of the two lasts from the end of February to the end of April, while the second and longer season lasts from mid-September to the beginning of December.

Details of the Intervention

This study will assess the demand for rainwater storage devices and determine potential marketing strategies. Specifically, researchers will randomly vary the incentives and marketing conditions associated with the sale of rainwater storage devices to different households. Researchers will experimentally vary the price for the device by offering discount vouchers to random subsets of households.

Researchers will also randomly apply two different marketing schemes across villages. In the first scheme, a product ambassador will be chosen from each village and given training and materials to promote the device within the village. In the second marketing scheme, the first household within each village that purchases the device at full price will receive free installation. Both marketing schemes are intended to increase locally available information about the device and promote take-up by others in the village.

The intervention will be implemented in two distinct waves spread 6 months apart, in order to study the importance of information transmission in generating demand for the new technology. For instance, it may be the case that second-wave households would have had some indirect experience with the new technology through their friends who adopted in the first wave, affecting their likelihood of adoption. The two-wave strategy also creates the opportunity to examine whether the overall level of demand changes once society becomes more familiar with the product and its price is anchored.

A follow-up survey will measure women's participation in the workforce, child school attendance, and changes in household economic activity among adopters and non-adopters.

Results and Policy Lessons

Results forthcoming.

Sources

1. World Health Organization (WHO). World Health Statistics
2011. http://www.who.int/whosis/whostat/EN_WHS2011_Full.pdf

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