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POLICY BRIEF, JUNE 2013

Microfinance loans to increase sanitary latrine sales

Evidence from a randomized trial in rural Cambodia

Sales agent finalizing a latrine sale with a customer

Background

Improving sanitation is essential to decrease the massive health burden caused by diarrheal disease, which is responsible for more child deaths than HIV/AIDS, tuberculosis and malaria combined.[1] This problem is particularly pronounced in rural Cambodia, where 80% of households lack hygienic sanitation.[2] Poor rural sanitation accounts for 17% of all children under 5 deaths in Cambodia[3] and 448 million USD per year in lost productivity.[4]

Why do most rural Cambodians not use improved sanitation? How much are they willing to pay for sanitary latrines? Do cash constraints prevent investments in sanitation?

In 2012-13, iDE Cambodia partnered with IDinsight to answer these questions and inform the Sanitation Marketing Scale-Up project funded by the Bill & Melinda Gates Foundation and the Stone Family Foundation, with technical support from the Water and Sanitation Program of the World Bank. This brief describes the results of a randomized controlled trial testing the impact of offering MFI loans for latrines versus the current model of cash on delivery.

KEY FINDINGS

MFI loans increased latrine sales four-fold.
Rural households face significant liquidity constraints. Only 12% of non-latrine owners were willing to pay cash for a 50 USD latrine, while 50% purchased a latrine when a loan was offered.

MFI loans decreased marketing and sales cost per latrine by 70%. Increasing the number of latrines sold per village significantly spreads the fixed costs of transportation and marketing time across a larger number of sales, making MFI loans a highly cost-effective sanitation intervention.

MFI loans increased purchase rates at any price.
An increase in demand at all prices above 10 USD means an MFI loan can drive market penetration across price points and market segments.

EVALUATION DESIGN

Background

iDE's Sanitation Marketing Scale-Up program facilitates the market for rural sanitation by training small-scale concrete producers to make and market latrines in rural Cambodia.

Intervention

A full-time latrine sales team worked with VisionFund to offer loans (group liability, 12 month declining balance loan at 2.8% interest per month) for latrines in treatment villages.

Sample

Thirty representative villages were selected from Kampong Thom province. Fifty households that did not own a latrine in each village were selected at random to participate.

Methods

Randomized evaluation - villages were randomly assigned into 15 control (Cash on Delivery) and 15 treatment (MFI Loan) villages.

The study used the Becker-deGroot-Marschak (BDM) methodology, a pricing game that determines the exact amount each household is willing to pay for a sanitary latrine. Bids were binding, and winning respondents were required to purchase a latrine.

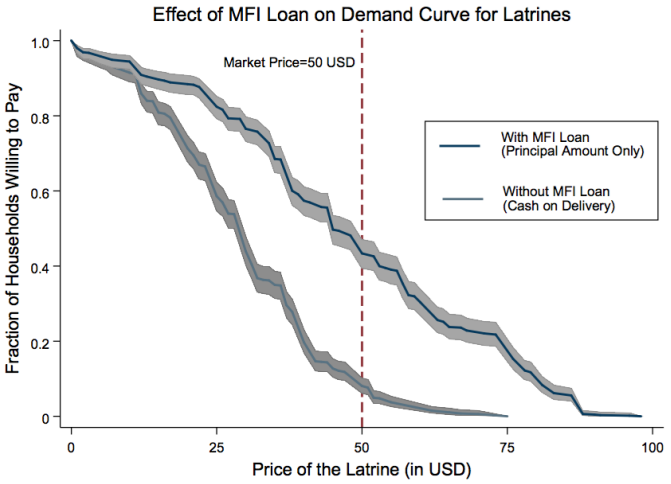
Timeframe

January 2013 - April 2013

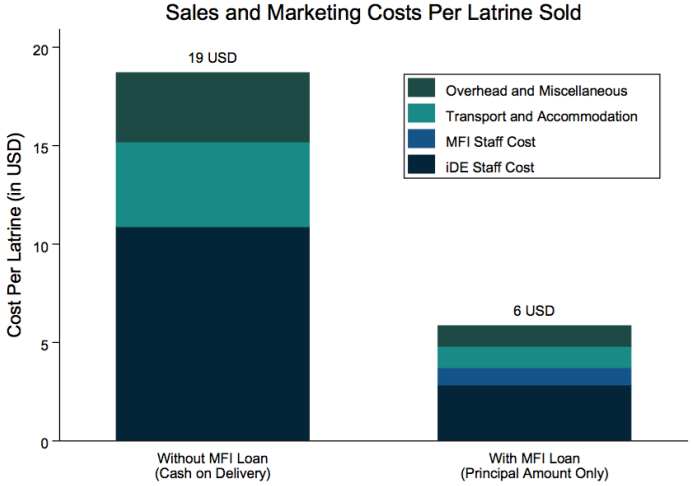
Results

Dramatic increase in latrine uptake due to financing »

Only 12% of households are willing to purchase a latrine at the market price of 50 USD when they have to pay cash on delivery, while 50% of households are willing to purchase when an MFI loan is offered. This fourfold increase in latrine uptake demonstrates that households face a significant cash constraint when purchasing latrines. Moreover, offering an MFI loan substantially increases uptake at all prices above 10 USD. In order to achieve a comparable increase in latrine uptake through subsidy, iDE would have to cover 44% of the cost (22 USD) per latrine, which would cost over 8,000,000 USD in subsidies to scale up in the 7 provinces in which iDE operates.[5]



Graph is based on 1384 observations from 30 villages in Kampong Thom province, Cambodia. Grey areas represent 95% confidence intervals. Standard errors were clustered at the village level.



« ***Financing decreases marketing and sales cost per latrine by 70%*** The large increase in latrine sales at each village meeting decreases the operational cost per latrine sold by 70% by spreading fixed costs such as travel and marketing time over more sales. Assuming a direct sales model similar to that employed in the study, the projected operational cost per latrine sold at scale decreases from 19 USD per latrine without financing to 6 USD per latrine with financing.[5] The "operational cost per latrine sold" refers to the cost of marketing and sales borne by iDE, and excludes the 50 USD cost of the latrine (which captures the latrine producers' construction costs, delivery costs, and profit).

Recommendations

1. ***Scale-up MFI loans for latrines in rural Cambodia.*** Key factors when considering external validity include existing levels of latrine ownership, a nascent rural sanitation market, limited financing for consumer products, and an experienced, flexible MFI partner.

2. ***Consider financing packages for other health enhancing products.*** Financing may also be a constraint for similarly priced products such as water filters or handwashing stations in areas with minimal access to credit.

3. ***Ensure that the MFI's operations are aligned with program needs.*** Key operational details for implementing sanitation financing include working with an MFI that can provide dedicated underwriters with on-site loan approval authority, and the underwriters should work closely with a professional latrine sales team.

References:

1. Progress on Drinking Water and Sanitation, WHO and UNICEF, 2012 Update.
2. Ibid.
3. 2008 WHO/UNICEF joint report.
4. Hutton G, Rodriguez UE, Napitupulu L, Thang P, Kov P. 2008. Economic impacts of sanitation in Southeast Asia. World Bank, Water and Sanitation Program.
5. Assumptions for subsidy and cost per latrine calculations can be found in the full report, available at http://www.idinsight.org/insights/wtp/

RIGOROUS IMPACT EVALUATION AS A PRACTICAL DECISION-MAKING TOOL

This study is an example of how randomized evaluations can be practical, affordable, and timely enough to be used as a decision making tool:

Client-Centered. The RCT was designed around iDE and VisionFund's operational constraints and focused specifically on answering their key question.

Affordable. Short, focused survey tools and sample sizes tailored to policy-relevant effect sizes ensured that the RCT was both affordable and informative.

Timely delivery of results. By focusing on an outcome indicator (purchase of latrines) that changed quickly, was easily observable, and was tightly linked with an ultimate outcome of interest (increased access to sanitation), actionable results were delivered to decision-makers within 3 months of starting the study.

Potential clients at a village sanitation meeting

About IDinsight
IDinsight provides managers and policymakers with decision-oriented, rigorous and cost-effective impact evaluations to improve their social impact.

About iDE
Founded in 1982, iDE creates income and livelihood opportunities for poor rural households across Asia, Africa and Latin America. iDE works in a range of sectors, including agriculture, water, sanitation and rural marketing.

Corresponding Author
Neil Buddy Shah, MD, MPA/ID
Founding Partner, IDinsight
neil.buddy.shah@idinsight.org