



Surveyor interviewing household who built a hygiene latrine

THRIVE
NETWORKS

Evidence-Based International Development at Scale

Results-based Financing to Increase Sanitation Adoption in Rural Vietnam: Evidence from a randomized trial in Vietnam

BACKGROUND

The 2015 update report from the WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation showed in stark terms how the developing world has lagged behind in moving towards the Millennium Development Target for improved sanitation. The sad fact is that 2.4 billion people still lack proper sanitation facilities. Even more concerning is the failure of most sanitation programs to reach the poor, especially in rural areas. While there have been extensive efforts to increase latrine uptake in rural Vietnam, Cambodia, and Lao PDR, the three most recent JMP Progress Reports highlighted how low-income groups lagged far behind wealthier households in terms of sanitation access.

In 2007, Thrive Networks began pioneering the design and implementation of Output-Based Aid approaches to rural water supply and sanitation in Vietnam. Since 2012, a program called Community Hygiene Output-Based Aid (CHOBA), funded by the Bill & Melinda Gates Foundation, has scaled up Thrive Networks' sanitation activities significantly in both Vietnam and Cambodia—reaching more than 150,000 poor households or around 0.6 million people.

The CHOBA model's distinguishing features are its use of: (i) consumer rebates (CR) paid to poor and near-poor households after they install new sanitary toilet facilities and (ii) conditional cash transfers (CCT) made to commune project management boards (local authorities and promoters) upon the achievement of pre-determined targets for sanitation coverage (the percentage of households that have sanitary toilets).

As such, the program presented the opportunity to examine the efficacy of these incentives—i.e. are the incentives effective in encouraging sanitation uptake amongst targeted communities? To explore this crucial question, Thrive Networks partnered with Mekong Development Research Institute (MDRI) to conduct a randomized controlled trial evaluation of the key CHOBA incentives: the consumer rebate and the CCT to communes.

About results-based financing in water and sanitation

WHAT IS OBA?

Improved water supply and sanitation result in community-wide environmental health benefits. Public financing is a crucial avenue to stimulate the delivery of these services; historically, however, the provision of public subsidies has been poorly managed. Results-based financing (RBF) is an approach to financing basic services that is becoming increasingly popular. One type of RBF known as Output-Based Aid (OBA) tends to be utilized to design financial rebate schemes that incentivize service providers to target poor customers or poor areas. OBA is well known as a method for improving the delivery of basic services (e.g. water supply, electricity) when the users are not able to pay the full cost of access to service and where performance-based subsidies to complement or replace user fees are justified properly.

Key Findings

- The consumer rebate was highly effective in encouraging poor households to upgrade from basic to hygienic latrines (especially septic tanks).
- The conditional cash transfers to communes were less effective in incentivizing local governments to encourage the construction of hygienic latrines.
- There appear to be measurable and significant “neighborhood effects” whereby non-poor households are encouraged to install hygienic latrines when their poor neighbors do so.
- Although the Women’s Union is undertaking various other activities to promote hygiene and sanitation, its fieldworkers appears to have been much more effective in their outreach under the CHOBA program.
- The percentage of households making soap and/or detergent available for hand washing increased significantly as did self-reported hand washing with soap.



Evaluation Design

IMPLEMENTATION BACKGROUND

The CHOBA program is designed to influence households at critical stages of their decision making process by:

1. Carrying out an ongoing sanitation education campaign
2. Arranging trainings for local masons and engaging local suppliers
3. Facilitating beneficiaries’ access to loans and other sources of financing for latrine construction
4. Disbursing the consumer rebates to poor households that have installed sanitary latrines
5. Disbursing the CCT rewards to commune project management boards (local authorities and promoters) upon the achievement of 30% increase in sanitation coverage or reaching 95% coverage

INTERVENTION

Provincial Women’s Unions in two provinces undertook different CHOBA interventions between July 2012 and December 2014.

SAMPLE

131 representative communes were selected from two provinces, Hai Duong (in northern Vietnam) and Tien Giang (in the Mekong Delta in the south). 18 to 21 households in each commune were selected randomly.

TREATMENT

The communes were assigned to one of four treatment groups (with 31 to 34 communes in each arm):

- Standard (household rebate and CCT rewards)
- Household rebate only
- CCT reward to communes only
- Control (none of the CHOBA interventions)

TIMEFRAME

July 2012 - June 2015

SURVEY METHODOLOGY

The study conducted three household surveys (baseline, midterm and end line) to provide descriptive data analysis and an in-depth economic analysis of important indicators to explore the correlation between the project interventions and changes in targeted households’ sanitation uptake and sanitation behaviors.

Each of the three surveys interviewed the same households and, to the extent possible, the same individuals, which enabled the researchers to accurately track changes due to project interventions.

Results

The data from the end line survey in Vietnam is still being analyzed. For the initial analysis, the researchers used a fixed-effects regression using CHOBA panel data:

$$Y_{ict} = \beta_0 + \beta_1 Standard_{ct} + \beta_2 Rebate_{ct} + \beta_3 CCT_{ct} + X_{ict}\beta_4 + G_t\beta_5 + u_{ic} + v_{ict}$$

Where:

Y_{ict} is the ownership of latrines of household i in commune c in year t .

X_{ict} is a vector of control variables, and G_t are year dummies.

The fixed-effects regression eliminates the time-invariant unobserved variables u_{ic} .

THE RESULTS ARE SUMMARIZED IN THE TABLE BELOW

	Having Septic-Tank Latrines	Having Hygienic Latrines (Reported By Household)
Standard (Rebate + CCT)	0.1231***	0.0862***
	(0.0265)	(0.0271)
Rebate only	0.0764***	0.0712***
	(0.0257)	(0.0267)
CCT only	0.0168	0.0156
	(0.0246)	(0.0258)
Control variables	Yes	Yes
Observations	5973	5973
Number of HHs	1991	1991

The consumer rebate under CHOBA has a highly significant impact on the ownership of hygienic latrines and, especially, septic tanks. It is noteworthy that the increase in ownership of hygienic latrines/septic tanks in the CCT areas compared to the control communes is small and non-significant. In short, of the two major incentive programs under CHOBA, the consumer rebate is the more powerful, while the CCT payments to communes are much less effective.

The key objective of CHOBA is to reach the poorest 40% of the rural population. The research team has not yet completed the analysis of the program’s distributional effects. However, CHOBA’s M&E system covers about half a million poor and non-poor households in the eight provinces where CHOBA is being implemented.

The M&E data clearly indicates that poor households have built latrines at a much more rapid rate than non-poor households (see Figure 1). The M&E data also shows that for each dollar in program costs (program administration, rebates and CCT), the households have invested eight dollars of their own resources in building hygienic latrines.

Figure 1

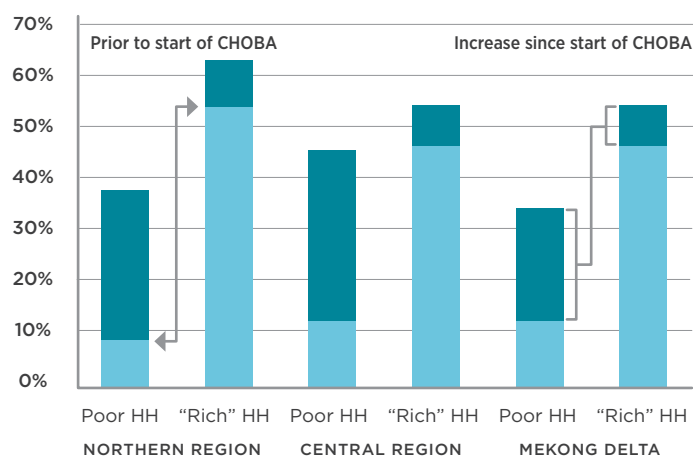


Figure 1: Percent of households owning hygienic latrines after two years of CHOBA implementation

Related Research in Cambodia

Sanitation marketing (SanMark) programs (implemented primarily by WaterSHED and iDE) have been successful in Cambodia. However, there are indications that these programs primarily reach non-poor households. Thus, there is interest in identifying strategies to integrate consumer subsidies (along the CHOBA model) into sanitation marketing programs to accelerate the uptake of sanitation especially among the rural poor. Encouraged by its development partners in Cambodia, Thrive Networks has joined forces with the Water and Sanitation Program (WSP) of the World Bank to analyze **whether sanitation marketing combined with small, targeted consumer rebates increases sanitation coverage among the poor and non-poor.**

Implementation constraints made it impossible for this study to be conducted as a randomized controlled trial. Instead, it is being implemented as an ex-post evaluation, with three categories of villages selected after an elaborate matching process: 40 villages where only CHOBA has been implemented have been matched with 40 villages where a SanMark program has been implemented and with 40 villages where both CHOBA and SanMark programs have been implemented. A Knowledge - Attitude - Practice type of survey is being implemented in August and September 2015 and the results are expected to be available by the end of 2015.

Related Research in Lao PDR

The World Bank's WSP is assisting the Lao government in implementing a community-led total sanitation (CLTS) program. A key challenge in CLTS programs is to get low-income households to build sustainable hygienic latrines. Can small, targeted OBA-type consumer rebates help encourage the poor to build and use proper latrines? A related question is whether CCT rewards to village sanitation committees function as effective incentives for the village to become open defecation free (ODF).

Thrive Networks is collaborating with WSP in conducting a randomized controlled trial research study, structured along the lines of the Vietnam study. Since the sanitation program in the treatment communes is just starting (summer of 2015), the results are not expected until the end of 2016 or early 2017.



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Thrive Networks is an international NGO pioneering evidence-based programs and technologies in health, water and sanitation, and education for underserved populations in Asia and Africa.