



## PHILIPPINES: Can subsidized microloans increase toilet ownership and use for poor households?

To prevent the spread of harmful and deadly pathogens, households must be able to access and use a hygienic toilet. In many low-income countries, however, toilets that safely separate feces from human contact have not universally reached poor rural areas,

making them challenging and complex. Programs that rely on toilet construction for households haven't always been effective, especially in contexts where people aren't accustomed to using them. On the other hand, programs that aim to change practices and habits alone have faced challenges because many families simply don't have enough cash to afford a quality toilet. Even when the demand is there, the materials for toilets and the expertise to build them may not be readily available. Sanitation improvement programs need to address each of these important barriers to increase the adoption of hygienic toilets.

To overcome one of these barriers, the high cost to households for sanitation improvements, some socially-oriented microfinance institutions in the Philippines have begun offering households subsidized microloans for building a toilet, with small payments and low or zero interest. However, evidence is limited on the effectiveness of this approach on the adoption and use of improved sanitation among poor households.

The World Bank's Strategic Impact Evaluation Fund supported a randomized controlled trial from 2015-2018 to assess the extent to which subsidized microloans can enable households to build and use improved toilets. The loans, which carried zero interest, included toilet installation and were offered to poor beneficiaries who also received sanitation behavior change promotion as part of a social safety net program. The large financial subsidy led to modestly higher coverage of improved toilets, better toilet quality, and greater satisfaction, while the small subsidy did not improve access to improved sanitation. Among those who took out the subsidized loans, 59 percent already had improved toilets, which explains the limited effects on improved sanitation and open defecation. Overall, these findings suggest that subsidy programs hold promise, but need to be better targeted.

forcing many people to resort to open defecation. Fecal matter that is not properly contained can make its way into the household environment, where it comes into contact with surfaces and food and into drinking water sources, causing diseases such as typhoid and diarrhea, a leading cause of child deaths worldwide, as well as stunting in young children.

In the Philippines and other countries where improving sanitation is a challenge, policymakers and practitioners are seeking cost-effective approaches to increase coverage of improved toilets and eliminate open defecation. But fixing the problem is chal-



Source: Julian Doczi/ODI

## Context

Over the last two decades, improvements in sanitation in the Philippines have accompanied strong economic growth, investments in public health, and better wages and incomes. However, people living in rural areas continue to have much lower access to improved sanitation compared to those living in urban areas. In rural areas, 28 percent of households lack improved toilets, with 2 million people still defecating in the open and 4.5 million using unimproved facilities such as open pit latrines without cement slabs and multi-household latrines.

This shortfall in hygiene contributes to water contamination, high incidence of fecal and water-borne diseases, and poor child health, including high rates of stunted physical growth. In the Philippines, approximately 33 percent of children under age five are stunted, or too short for their age—a marker that is associated with lower cognitive development, productivity, and earnings, as well as higher intergenerational transmission of poverty.

The Philippines Department of Social Welfare and Development (DSWD), with the support of the World Bank, has been working to put an end to the practice of open defecation where improved toilet access and use remains limited. For this study, the research team partnered with DSWD and a socially-oriented microfinance institution to offer subsidized microloans to beneficiaries of a conditional cash transfer program known as the Pantawid Pamilyang Pilipino Program (4P). By working through this program, the research team was able to target some of the poorest households in the region with the microloans. Without a subsidy, an improved toilet offered through the microloan program would cost the equivalent of three-months' income of one house-

hold member on average. Through the social safety net program, beneficiaries are required to attend sessions that include sanitation promotion. All study communities also received a community-led total sanitation (CLTS) program, an approach that is widely used throughout the region which aims to change sanitation habits by facilitating community appraisals and open discussions of the harm of open defecation.

### What is an “improved toilet”?

An “improved” toilet or latrine is one that hygienically separates excreta from human contact. Examples include a flush/pour flush toilet that flows to a piped sewer system, septic tanks or pit latrines; ventilated improved pit latrines, composting toilets, or pit latrines with slabs. Improved toilets are those that are not shared with other households. “Unimproved” sanitation includes pit latrines without a slab or platform, hanging latrines or bucket latrines. Open defecation is defined as disposal of human feces in fields, forests, bushes, open bodies of water, beaches and other open spaces or with solid waste.

Source: WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene

### Rural sanitation in the study communities:

The baseline survey showed 42% of households had a flush latrine, with nearly all of these (99%) considered as “improved” according to the WHO/UNICEF Joint Monitoring Programme definition. A smaller share of households (15%) had non-flush latrines, and 87% of these were “improved”. The remaining 42% of baseline households did not have a latrine at home. In total at baseline, 55% of households had access to improved sanitation. Among households without a facility or an informal facility at baseline, 41% reported they did not want to make any improvements, while 30% said they wanted to build a superstructure

## Evaluation

Researchers designed a randomized controlled trial to evaluate the effectiveness of a combination of hardware and financial subsidies for encouraging adoption and use of ‘improved’ toilets.

The study took place in 190 communities (administrative units called barangays) from 2015–2018. The communities were randomly assigned to one of four groups. All groups received the community led total sanitation program and were part of the 4P program. In the first experimental group, beneficiaries of the 4P cash transfer program were offered a zero-interest loan for toilet

construction with a 50 percent discount (subsidy) on the total cost of the toilet. In the second group, beneficiaries were offered a loan with a 25 percent subsidy. The third group was assigned to receive support to take advantage of an existing hardware subsidies at the municipal and barangay level for improvements in sanitation. In practice, all groups received this support so researchers weren't able to measure the impact of hardware subsidies on sanitation adoption separately from the microloan options. The fourth group was the comparison group and received just the

community led total sanitation program. The study did not have a pure control group.

Following a baseline survey in 2015, all beneficiary households in the loan groups were invited to attend an orientation where the microfinance institution explained the subsidized loan package and the process for procuring a certified mason to construct a new latrine or upgrade an existing one. During the orientation, households learned about different latrines as well as repayment options, including that repayment could be done over either 23 or 46 weeks and that the interest on the loans was zero percent. There was no collateral required for the loan and there were no fees collected if households failed to pay their weekly installments on time. If households expressed interest in signing up for the loans, the micro-finance institution visited the household to confirm eligibility.

When the loan agreement was signed, the micro-finance institution provided the recipient half of the loan principal upfront, which was directly provided to the certified mason to begin construction. When latrine construction was completed, the micro-finance institution visited the household again to confirm the quality of the constructed latrine and then recommend releasing the remaining half to the mason. This verification process before releasing final payment was done to ensure high quality of constructed latrines. The household was then responsible for paying the remaining balance of the loan in weekly installments, ranging from 80 - 300 Pesos (USD \$1.50-\$5.70).

Researchers measured impacts with a follow-up survey that took place in 2018. A total of 2,849 study households were sampled for the follow-up survey, with a 95% response rate.



## Findings

### **Offering the large subsidized loan for toilet construction led to modest increases in improved sanitation.**

In the large subsidy group, households were 5 percentage points more likely to have an improved toilet after the intervention, compared with households who received behavior change communication alone. The small subsidy was not effective in improving access to improved sanitation. The study found that a large share of improvements were made in households who already had improved toilets at baseline.

### **Toilet quality and satisfaction were higher for households offered the large and the small subsidized sanitation loans compared to the households in the comparison group.**

Toilet quality was measured by the number of positive attributes or features of the toilet, such as a fully enclosed roof, walls, tiled floors, toilet seat and soap and water – features that enhance the usability, safety and security of toilets, making them more likely to be used, and likely contribute to greater satisfaction. Households who were offered the large subsidized loan had significantly higher toilet quality and higher sanitation service levels than households in the comparison group. Both subsidized loan groups were more likely to report satisfaction with their toilet than comparison households.

### **Neither subsidy intervention reduced reported open defecation.**

At baseline, 42 percent of households didn't have any toilet in their home and practiced open defecation, while 55 percent of households had access to improved sanitation. The majority of the households who took advantage of the subsidy offer were those in the latter category who then used the subsidy to further upgrade their toilet. Because of this, the net increase in access to improved sanitation was relatively low—just 5 percentage points in the large subsidy group and a statistically insignificant increase in small subsidy group—which explains the lack of impact on open defecation rates.

### **Although researchers could not measure the impact of hardware subsidies on adoption of improved sanitation, observational analysis shows that hardware subsidies largely failed to reach the neediest households.**

Among households who received a hardware subsidy during the intervention period, 49% of them already had improved sanitation before the intervention. Additionally, the quality of toilets constructed with the hardware subsidy was lower than that of the toilets built with the financial subsidy. As a result, these subsidies are likely not contributing to eliminating open

defecation or to increasing coverage of improved toilets. Given the high cost of these hardware subsidies—US\$ 206 on average per household—better targeting and quality assurance of latrine construction could help to improve the approach.

**The study found large increases in sanitation over time across all groups, meaning access to sanitation is improving in general.**

These increases could be due in part to the behavior change communication, to the cash transfer program (which may have enabled increased investments), the hardware subsidies that were provided in all study arms, general economic development, or a combination of these. The study design does not enable researchers to draw conclusions on the effectiveness of the behavior change communication for increasing adoption of improved toilets.

**Some households reduced household expenditure as a result of the loan.**

A potential adverse effect of offering loans is that households may reduce spending in other areas to pay back the principal, which could lead to negative consequences if spending in the areas of food and other essentials is constrained.

In this case, the study found that 18.6 percent of households in the small subsidy group and 9.7 percent of households in the large subsidy group that took out a loan with the purpose of making sanitation upgrades reported reducing household spending to meet the weekly payments. However, there was no evidence that households cut spending on food consumption or that households missed meals to make payments. Only a small portion (1-2 percent) of households reported using savings that were intended for another purpose to repay the sanitation loan.

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## Conclusion

The subsidized loan model tested in the Philippines, which included latrine installation and monitoring for quality, enabled those who took out the loans to build high quality toilets and improve existing ones, but largely missed the target of reaching those who lacked any improved sanitation facility and/or defecated in the open. Similarly, it appeared that the hardware subsidies—which are commonly used—reached only a portion of those who needed them and resulted in poor quality toilets, despite their high cost.

A quarter of all households in the Philippines still lack improved sanitation. Providing subsidies to households that already have improved sanitation is an inefficient use of scarce

resources. While researchers used a systematic listing of poor households to target interventions to those most likely to lack sanitation, the evaluation revealed that identifying households in need is challenging, yet this is a critical step to ensuring funds are well-spent and achieve public health goals. Further, while the large subsidy was successful in encouraging households to invest in sanitation, the small subsidy was less effective, showing that households are sensitive to price even when borrowing terms are attractive. Full subsidies, targeted to households without improved sanitation, will likely be necessary to reach the neediest households and make meaningful progress in reducing open defecation.

The Strategic Impact Evaluation Fund, part of the World Bank Group, supports and disseminates research evaluating the impact of development projects to help alleviate poverty. **The goal is to collect and build empirical evidence that can help governments and development organizations design and implement the most appropriate and effective policies for better educational, health, and job opportunities for people in low and middle income countries.** For more information about who we are and what we do, go to: <http://www.worldbank.org/sief>.

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