

Microfinance for sanitation: what is needed to move to scale?

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The sanitation sector is gradually realizing that the effectiveness of approaches such as Community-Led Total Sanitation (CLTS) is limited by inadequate access to finance. Households are not able to construct durable facilities and sanitation services are unable to develop so as to respond to demand. At the same time, there is fierce competition among microfinance services providers that is pushing institutions towards more remote customers and to offer innovative products. In addition, the rise of mobile banking and digital finance has lifted many poor people out of financial exclusion. These factors have created a nexus between microfinance and sanitation with high growth potential. However, the sanitation microfinance market remains small to date. Since 2010, the SHARE research consortium has investigated global experiences and lessons for using microfinance to develop sanitation services. A SHARE action-research in Tanzania triggered selected financial institutions to offer financial products for sanitation and generated lessons for scaling up sanitation microfinance. This article presents the findings from the SHARE research, in the context of broader developments in the microfinance markets and key findings from other donor-led initiatives.

Keywords: sanitation, marketing, microfinance, entrepreneurs

IN 2010, THE SANITATION AND HYGIENE AND APPLIED RESEARCH FOR EQUITY (SHARE) consortium initiated a research programme on sanitation microfinance funded by the UK Department for International Development (DFID). Microfinance is usually associated with funding income-generating activities for small-scale entrepreneurs, not with taps and toilets. The research was launched to explore whether microfinance can play a role to support access to improved sanitation. The term 'sanitation microfinance' was used as a shorthand throughout the research to refer to the provision of microfinance to either households or small businesses so as to enable them to invest in sanitation services.

This 4-year research programme consisted of three distinct phases. The first phase, carried out in 2010, was a desk-based review that mapped out global experiences with sanitation microfinance. It identified that the most significant experiences were taking

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place in India. During the second phase, field visits were carried out in Tamil Nadu in southern India to extract lessons from existing experience and in Tanzania, to explore whether there was a potential to develop sanitation microfinance in such a market. Both India and Tanzania were focus countries for the SHARE research programme and had very different levels of experience with respect to sanitation microfinance. It therefore appeared useful to extract lessons from the India experience and evaluate the applicability of these lessons to the Tanzanian context.

A third phase was designed as an action-research project. Its primary objectives were to identify how financial institutions could be fostered so that they would provide financial services for sanitation: this action-research was conducted in Tanzania from December 2013 to January 2015. Key questions the action-research sought to address through 'learning by doing' included: Are financial institutions (FIs) interested in sanitation? What type of assistance do they need in order to make the jump? Where FIs are providing loans, how is that helping to increase access to improved sanitation?

This article presents findings from this action-research on sanitation microfinance in the broader context of the gradual development of sanitation microfinance over recent years. It starts by evaluating why microfinance can play a role in helping households invest in improved sanitation or sanitation entrepreneurs buy critical equipment. The paper then evaluates the current state of the market, and highlights potential reasons that have limited its development so far. Key findings of the action-research are presented before proposing potential avenues for scaling-up recent efforts.

How microfinance can support sanitation

Households are expected to make the bulk of investments to increase access to improved sanitation, particularly in countries where on-site sanitation predominates, i.e. the vast majority of countries in sub-Saharan Africa (SSA). A scoping study on municipal finance for sanitation in 16 cities in SSA revealed that, on average, only 13 per cent of these cities' population is connected to the sewerage network (Trémolet et al., 2013). In Asia as well, there are reports of between 75 and 90 per cent on-site sanitation coverage in places such as Vietnam and Sri Lanka (AECOM and Sandec, 2010).

The investments expected from households are considerable. For example, AMCOW-WSP (2010b) estimated that the annual capital expenditure requirement for Tanzania to meet the Millennium Development Goals (MDGs) was US\$55 m for urban sanitation, with households having to make a contribution of \$38.5 m per year, or 70 per cent of the total.

Helping households to cover such costs is of paramount importance to boost an increase in sanitation coverage. Various government-led attempts to prompt households to invest in sanitation have been met with mixed success, either because they are not effective (a commonly cited example is that of hardware subsidies and government-constructed toilets being used as chicken coops) or because they

lead to households building facilities that are neither improved nor durable. For example, CLTS (community-led total sanitation) approaches to sanitation-demand promotion tend to trigger investment in relatively poorly constructed toilets that are prone to collapse and need to be frequently rebuilt (Plan, 2014).

Mobilizing the funds to invest in durable and improved sanitation solutions is clearly a significant hurdle for households, however. Evidence for this 'financing hurdle' was provided through a randomized controlled experiment conducted in the context of a WSP-run project in Indonesia. According to the research, 'the main obstacle to constructing a toilet reported by households was the cost' and 'credit constraints limited households' ability to build a toilet' (Cameron et al., 2013). A study conducted in Dar es Salaam (Tanzania) in 2009 found that the minimum cost of constructing a latrine reached 82 per cent of a poor household's annual income (Trémolet and Binder, 2013).

Access to microfinance can ease the investment burden and prompt households to invest, as it enables them to spread the costs of paying for the facility over a longer period of time, as set out in Box 1. It can enable households to upgrade to improved latrines, with higher quality material. Microfinance can also help service providers across the value chain of sanitation facilities and services to buy equipment (for building or emptying latrines) and material. Demand promotion activities are increasingly combined with activities to strengthen suppliers of sanitation solutions so as to rapidly scale-up sanitation coverage, particularly in urban areas.

Box 1 What is microfinance?

Microfinance has been practised for many years in different forms. Microfinance often refers to financial services for low-income people offered by different financial institutions. It first became prominent in development circles in the 1970s in Bangladesh, with small loans for income-generating activities with only minimal collateral requirements and at lower interest rates than those available through traditional lenders. They can do this by seeking other forms of collateral or making group-loans, in which group members guarantee each other. Initially, microfinance institutions (MFIs) with a good knowledge of local communities were providing such loans, as they had a better ability to manage underlying risks and keep costs down. Over time, microfinance has evolved to include a broad range of financial services to poor people, including loans, savings, insurance, and payments. The entities providing such services now include MFIs (for profit or non-profit), but also traditional banks, SACCOs (savings and credit cooperatives), and solidarity lending groups, such as self-help groups (SHGs), which are very prevalent in India.

Microfinance is no longer seen as the 'miracle cure' that would enable small businesses to blossom and development to take off, however. This rapidly growing market first went through a funding crisis in India in 2010 (Trémolet and Kumar, 2013), which shook the confidence of microfinance organizations and investors in microfinance around the world. Confidence in the ability of microfinance to 'lift people out of poverty' also dwindled following the publication of several academic papers reporting mixed impacts from microfinance (Banerjee et al., 2013; Roodman, 2011). In recent years, microfinance offerings have become much more diverse, to fund basic needs and essential services (such as housing) or to allow people to gain all types of micro-insurance, for their health, life, or crops.

Yet, sanitation microfinance experiences are still few and far between

Based on a growing set of evidence, fostering microfinance for sanitation therefore seems like an obvious policy measure that should be adopted, either as part of a broader package of interventions to develop sanitation services or as a stand-alone solution, when limited access to finance is the only significant hurdle left to overcome in order for households to invest.

The first phase of the SHARE research undertook to identify existing experiences with sanitation microfinance. Trémolet (2010) found that the 'market' had not really provided these types of financing solutions without some type of external stimulus or policy interventions. As Trémolet (2012a) stated, the lack of access to finance is one significant market failure in sanitation markets that should be addressed, depending on the context.

The desk review largely relied on a previous study (Mehta, 2008), which found evidence of microfinance being used in a number of countries for sanitation. The report, commissioned by the Bill & Melinda Gates Foundation, found that general-purpose loans contracted from MFIs acting in India and in a few African countries (including Benin, Zambia, and Uganda) were increasingly used for water and sanitation activities. Mehta estimated the potential size of the water and sanitation microfinance market at about \$12 bn in loans between 2004 and 2015, with 125 million potential borrowers, and concluded that sanitation microfinance had huge growth potential.

Other studies also highlight experiences with microfinance for sanitation, especially in countries where such schemes were part of a wider national campaign for increasing access to sanitation. Trémolet et al. (2010) found that the World Bank-financed Three Cities Sanitation Project in Vietnam included an initial working capital of \$3 m for a Sanitation Revolving Fund (SRF). The SRF provided small loans (\$145) at partially subsidized rates to low-income and poor households to build a septic tank, a urine diverting/composting latrine, or a sewer connection. Initially managed by the Women's Union, a countrywide microfinance organization, the \$3 m working capital for the revolving fund revolved more than twice during the first phase of the project (2001 to 2004). Combined with demand generation and hygiene promotion activities, the SRF helped around 200,000 households to build sanitation facilities over the course of seven years. The revolving fund mechanism allowed leveraging household investment by a factor of up to 25 times the amount of public funds spent. Repayment rates were extremely high (almost 100 per cent). This pilot approach has since been scaled up, via other World Bank-funded projects or through the Vietnam Bank for Social Policy (VSBP).

The literature review confirmed that existing experiences had remained limited and had failed to scale up, except in a few countries. The next phase of the SHARE research entailed identifying the determinant factors of success and failure for sanitation microfinance in India and Tanzania.

Understanding constraints limiting the development of the market

A number of potential constraints limit the development of the sanitation micro-finance market. These constraints are not insurmountable, however. Some of these constraints are evolving rapidly in the context of broader market developments or can be addressed through targeted intervention, including raising awareness among FIs of the potential of the sanitation market.

One obvious constraint is that many households may not have access to financial services at all, let alone to finance sanitation investments. Households that are extremely poor or destitute (i.e. with a daily income below \$1 a day) seldom have access to formal microfinance services. In Tanzania, for example, there are still 27 per cent of the population who do not have access to any form of financial services (FSDT Tanzania, 2014). People may be deprived of financial services because they live on the remote ends of the geographic, as well as socio-economic, spectrum.

The expansion of mobile phone technology is rapidly changing this in some countries. As the costs of mobile phone technology have fallen, mobile banking innovation has begun to spread across and within poor countries. In Kenya, the leading cell phone company, Safaricom, has realized this potential by launching M-PESA, an SMS-based money transfer system that allows individuals to deposit, send, and withdraw funds using their cell phone. The system is low cost and registration requires only a Kenyan identification card or passport. The system is easily accessible for the poorest. Borrowers only need to provide a Kenyan identification card or passport and to make a minimal deposit (£1), with no obligations to have previously borrowed as part of a lending scheme. By 2012, after a little more than 4 years of operation, M-PESA had 17 million customers, accounting for approximately 70 per cent of Kenya's adult population (Trémolet, 2012b). The spread of mobile services means that banking and microfinance services are becoming more accessible and financial inclusion is growing.

Microfinance organizations may be unaware of the sanitation market, because they are focused on their 'core business' (i.e. income-generating activities). Sanitation loans are not income-generating as such, and are therefore seen as riskier for micro-finance service providers. The latter are seldom familiar with the sanitation sectors and the magnitude of needs, despite their 'social' mandate and their self-proclaimed mission to reduce the roots of poverty. For example, in Tanzania, a survey of micro-finance institutions (including MFIs and commercial banks) conducted as part of the SHARE research showed that a small number of financial institutions had considered lending for water and sanitation investments and that even fewer were aware of the magnitude of the investment needs at household level and of the potential benefits from investment in sanitation.

Even though sanitation loans are not directly income generating, they can be income enhancing. Helping households invest in water and sanitation facilities can generate a stream of benefits for those households (through a reduction in the number of days lost to illness and in medical expenses and an increase in productivity), which can in turn boost their revenues and give them the ability to repay

the loan (in the micro-credit example). Such an ability to repay was confirmed in the Indian case, where a growing number of women are willingly taking on loans to build toilets and repayment rates are high.

Households taking on a water or sanitation loan need to demonstrate their ability to repay the loan from existing sources of income. As a result, a water or sanitation loan would typically not be the first loan that a household would take on, but the second or third loan. From an MFI's point of view, this can be a good way to remain 'engaged' with their customer base and to provide a mix of financial services on an ongoing basis.

Finally, there are also constraints on the sanitation sector side. Most sanitation practitioners have little to no experience with microfinance. This can result in mistrust related to what is seen as 'exorbitant' interest rates. Moreover, although some sanitation NGOs have tried to reach out to MFIs, NGOs often lack understanding of what is required from a financial institution's perspective to make sanitation 'bankable'. This lack of familiarity and understanding between the financial and sanitation sector particularly affects the development of sanitation enterprises, such as latrine emptying.

Similar situations have also limited the development of microfinance for other 'social sectors' or 'access to basic services', such as for housing loans or the purchase of solar panels. Donors have shown more willingness to get involved to change this state of affairs, as in the field of 'clean energy' (as part of the global climate change agenda). They have helped with the development of a number of programmes that combine microfinance and targeted subsidies in those areas. But donors' involvement in similar activities for sanitation has remained somewhat limited so far. A survey of European Union donors found that most were focused on lending at national level to public actors (including ministries and public utilities) and were more rarely dealing with local governments, water and sanitation (WATSAN) small-scale service providers, or microfinance institutions. Only a handful of EU funders supported the establishment of specific programmes that channelled funding for small providers – such as the Dutch Ministry of Foreign Affairs (DGIS) funding the FINISH programme in India. Others, like the Agence Française de Développement (AFD), are increasingly interested in channelling funds for developing sanitation microfinance. Some reasons for this limited involvement include a lack of familiarity with microfinance on the side of donors active in the WASH sector.

Changing MFIs' perceptions: the SHARE action-research

Based on this review of experience and identification of challenges, Trémolet Consulting, a consultancy specialized in finance and economics of water services, in association with MicroSave Consulting Ltd, a microfinance and financial inclusion specialist based in Kenya, undertook a one-year action-research in Tanzania with funding from SHARE. Tanzania was selected for several reasons: it is a country where there was limited experience with sanitation microfinance, yet there were

significant needs in terms of expanding sanitation access. The research also provided the opportunity to build on previous contacts and interest identified during the case study process. WaterAid Tanzania acted as host agency for the fieldwork and the sanitation microfinance working group.

The action-research was carried out in Tanzania between December 2013 and January 2015. The objective of the research was to support the development of a sanitation microfinance market in Tanzania, where there had only been limited experience despite significant needs for upgrading from basic to improved sanitation. In so doing, the action-research in Tanzania sought to document the 'nuts and bolts' of fostering sanitation microfinance in a challenging market. Tanzania recently experienced a surge in access to financial services, reaching 57.4 per cent of the population according to FSDT Tanzania (2014). However, stringent regulation on MFIs (also known as non-banking financial institutions) limits the types of products they can offer. For example, MFIs cannot offer savings products. Typically, MFIs in Tanzania provide working capital loans with short maturity periods, usually 6 to 12 months. The joint liability model also hinders the development of diversified loan products since fellow group members need to be guaranteed that the borrower will make the repayments from the proceeds of the income-generating activity. As such, consumption loans are implicitly discouraged.

The action-research involved the provision of smart subsidies to selected local research partners. These included MFIs with no previous involvement in sanitation and NGOs that had been offering financing for sanitation, housing, or water investments. Organizations had to formally apply in order to receive training on market research and financial product development with a particular focus on understanding sanitation markets. They were first sensitized to the issues during a workshop in WaterAid's offices in Dar es Salaam, in which the opportunities linked to sanitation microfinance and the objectives of the action-research were presented. Most institutions that attended the workshop and received the training were small FIs, looking to diversify their offerings. Eight institutions took part in the initial training on market research, with a specific focus on sanitation. The three institutions that had demonstrated most willingness to develop sanitation financing products were selected to receive hands-on support with product development and testing over the course of the following year.

The action-research also helped establish a sanitation microfinance working group, gathering representatives from both the financial and sanitation sectors to discuss the opportunities of sanitation microfinance. The working group met three times over the course of one year, and attracted a total of 40 representatives from various institutions, including international organizations, sanitation practitioners, and FIs as well as representatives from the local government.

As a result of these activities, all three partners initiated or significantly improved their activities in the area of sanitation microfinance, as set out in Trémolet et al. (2015), which presents the research design and findings in a comprehensive manner. ECLOF-Tanzania, a small MFI with a social mission, developed a specific financial product for sanitation, USAFI (which means 'cleanliness'), which was launched as a pilot in November 2014.

Another MFI, Tujijenge-Tanzania, opted to provide lending capital to sanitation enterprises using their standard business loan. The research was instrumental in making them aware of the existence of financial needs of such sanitation enterprises, however. As of December 2014, the MFI had disbursed TZS15 m (£1,845) to a sanitation enterprise (which also offers solid waste services) and another TZS15 m (£5,537) for a group of plastic waste processors' enterprises (Trémolet et al., 2015).

One NGO, CCI, had been providing financial services for sanitation prior to the action-research, with funding support from Homeless International (now REALL). CCI was managing a 'Jenga' fund, which received contributions from members of urban poor federations and which could be accessed by federation members for housing or sanitation loans. However, CCI's lending scheme was severely affected by low repayment rates. Many federation members perceived the loan as a grant and were not incentivized to repay. Following the training received, CCI opted to shift its lending approach and to adopt microfinance principles, such as the use of a dedicated credit officer for managing the loans. As of December 2014, the NGO had provided five loans for sanitation under this new approach.

These results show that some MFIs are indeed interested in venturing into sanitation. However, in Tanzania, they tended to be smaller ones, more socially minded, and looking for a niche position in an increasingly competitive micro-finance market. Reaching out to these institutions requires substantial effort, as they are usually not the most visible ones in the market place, by contrast with larger MFIs with wide-ranging international networks, such as FINCA, Acción, and the like. Another finding, which concurs with Water.org's experience in India with the NGO Guardian, is that NGOs wanting to be involved in this area can only do so in a sustainable manner if they clearly separate their 'NGO activities' from their micro-finance activities, so as to establish a client-customer relationship that will induce higher repayment rates.

Overall, the action-research showed that the approach based on smart subsidies alone can work well for building capacity for sanitation microfinance. However, the scaling up of these activities will require substantial support over time, both in terms of continuous smart subsidies, and favourable regulatory regimes, and also in terms of making capital available to financial institutions (with a social mission) for lending to 'social sectors'.

In countries like Tanzania, regulation could be introduced to make it mandatory for commercial banks to on-lend to MFIs for social investments, including sanitation. In India, for example, the Central Bank identified certain priority lending sectors, to which financial institutions need to offer a certain proportion of their lending (largely through MFI channels). This can be critical for the MFIs interested in sanitation, which are typically small and under-capitalized, and therefore need to be very careful in terms of allocating their scarce lending capital to different sectors.

Alternatively, to make more commercial funds available for sanitation, lines of credit may be provided by funders to large commercial banks for on-lending to MFIs for sanitation. For example, the Agence Française de Développement (AFD) granted a €30 m credit line to expand and improve drinking water systems in small and medium-sized cities in six provinces of the Mekong Delta, Vietnam. The financing

took the form of a loan to the state, to on-lend to the Vietnam Development Bank, which then assigned loans for local water companies. Such schemes have yet to be applied to the sanitation sector, however. Such credit lines should ease the process for MFIs and retail commercial banks to obtain funding for water and potentially sanitation-related activities. The building of such a set-up requires time and effort to mobilize potential funders and build MFIs' capacity to receive such financing, however, including to improve their monitoring and evaluation framework.

Finally, building the sanitation microfinance market will also require a strong sector dynamic. A working group that can act as focal point for the government, international organizations, and practitioners interested in this market can contribute to fostering this dynamic.

A rapidly evolving sector

Since the research project was first conceived in 2010, the sanitation microfinance sector has evolved substantially, with more experiences as well as better documentation of such experiences. Interest in sanitation microfinance has undeniably been growing, which means that it is possible to draw from a broader set of experiences to extract lessons. A number of NGOs and specific programmes have taken it upon themselves to address those challenges, either on a pilot basis or at scale – and lessons from these experiences are now accumulating. However, most of the interest so far has been focused on the provision of 'toilet loans', i.e. credit offered to households for investing in improved toilets.

In India, sanitation microfinance has been growing steadily, with the support of international organizations such as Water.org and the FINISH programme, an initiative funded by the Dutch Government to increase sanitation coverage in India via micro-credit. In 2011, the SHARE research identified at least 146,000 sanitation loans, which had been made in the previous years and had enabled some 730,000 people to build household sanitation facilities (Trémolet and Kumar, 2013). The research also found that repayment rates were consistently very high (above 98 per cent and frequently at 100 per cent) for the experiences reviewed. A range of institutions was providing these loans, including NGOs and MFIs. In several cases, many lending organizations started off as an NGO before initiating the process of turning into an MFI or creating a separate institution for lending only. Recent reports from FINISH indicate that over 300,000 toilets have been built via the programme, which facilitates access to finance in addition to offering support to masons and carrying out demand promotion campaigns.

In Cambodia, the use of microfinance in rural sanitation programmes has been shown to dramatically improve results of broader sanitation campaigns, as it increased the 'strike rate' of sanitation marketing officers (as discussed in Box 2).

During the last five years, some countries, such as Ghana, have also adopted microfinance as a key component of their sanitation policy (and have assigned funds to do so) but have so far been unable to turn this into an 'actionable' model for large-scale implementation.

Box 2 How microfinance can increase willingness-to-pay and reduce operating costs

iDE is an NGO which has been involved in sanitation marketing in South-east Asia since 2003. In Cambodia, from 2009 to 2011, iDE implemented the Sanitation Marketing Pilot Project, funded by USAID Cambodia MSMU Project and WSP. The pilot project facilitated the market for rural sanitation by training small-scale artisans in the production and sale of sanitary latrines. As a result of this intervention, 17,424 unsubsidized pour-flush sanitary latrines were purchased by rural households in 11 districts of Cambodia.

Research design. In a bid to scale-up the programme, the NGO designed a research agenda to understand the triggers and barriers to the uptake of latrines by households (an initiative known as Sanitation Marketing Scale Up, SMSU). To that end, iDE Cambodia partnered with IDInsight, a consultancy specialized in field experiments, to gather evidence for programme design. The research was conducted using multiple methodologies, including a randomized controlled trial (RCT). The research randomly selected 30 villages to serve as study sample. These villages were then randomly assigned to one of two groups: cash on delivery (i.e. the latrine is paid for upfront, upon delivery of the product) or financing (i.e. financing solutions are offered to households to span repayment over a period of time). These financing solutions were offered in partnership with VisionFund Cambodia. The MFI worked closely with the latrine sales team to ensure seamless coordination between sales and the approval of latrine loans.

Findings. The RCT showed that only 12 per cent of non-latrine owners were willing to buy a latrine for the market price of \$50 with cash on delivery, but 50 per cent of non-latrine owners were willing to purchase a latrine at market price when offered a loan to finance the purchase. Due to significantly higher volumes of sales, offering financing solutions decreased operational costs per latrine by up to 70 per cent (as a significant portion of these operating costs are related to marketing costs).

Lessons. The major implication of this study for programme design is that offering microfinance loans for latrines can dramatically increase uptake of latrines, while also making distribution significantly cheaper per latrine sold. The research paper concluded that 'large-scale efforts to offer financing packages for latrines should therefore be aggressively pursued in rural Cambodia'.

Source: iDE (2014) and Shah et al. (2013)

Even though it is still small, the field of sanitation microfinance has become much better documented as more organizations that are actively involved in sanitation microfinance have started documenting and extracting lessons from their experience. For example, based on its experience in India and Kenya, Water.org recently released a toolkit, prepared in collaboration with microfinance specialists MicroSave, targeted at financial institutions (Water.org and MicroSave, 2014). Water.org provides what they refer to as 'smart subsidies', which are handed out to selected NGOs and MFIs in the form of training and technical assistance, so that they are better equipped to provide financial services for sanitation. In India, Water.org supported a number of organizations and contributed to the creation of Guardian, an offshoot of the NGO Gramalaya, which was hailed as the first MFI strictly focused on water and sanitation. This approach, which seeks to build sustainable sanitation microfinance markets, has a great leveraging potential. According to Trémolet and Kumar (2013), for Water.org,

providing support to Guardian, a partner MFI in Water.org programme in India, has proven to be a very cost-effective way of boosting sanitation, thanks to a

high leverage ratio. This means that each USD brought in by Water.org as a public funder leveraged approximately USD 16 in commercial funding.

Trémolet and Kumar (2013) also found that this approach enabled the provision of at least 10,673 'toilet loans' in the space of three years.

Another organization that tested and documented approaches to stimulate sanitation microfinance is Water for People, which has been implementing the 'Sanitation as a Business' (SaaB) programme. Under this programme, the NGO stimulated the development of sanitation microfinance in seven countries using different approaches. The NGO partnered with a range of institutions (NGOs, community-based organizations, MFIs, SACCOs, commercial banks) and tested various approaches including: providing technical and operational support (in Bolivia, Peru, and Rwanda); providing a \$20,000 guarantee to a commercial bank in Malawi; seed funding of \$130,000 (in India); and soft loans and donations (in Guatemala). As of December 2013, Water for People had facilitated the disbursement of 6,783 loans, but 95 per cent of those were provided in India and only 211 of them in Malawi. Based on these experiences, Water for People produced a guidance document for using microfinance for sanitation. The document does not provide a 'one-size-fits-all' approach and recognizes that specific contexts call for different approaches. For example, although the use of a guarantee in Malawi to stimulate the disbursement of sanitation loans was not enough to stimulate the FIs' engagement in sanitation, it proved more successful in India. One recommendation for building microfinance for sanitation as a self-sufficient market stood out: the international or local 'sanitation NGO' should be as invisible as possible to end-users of financial services so that loans are effectively repaid, and not considered as grants (Water for People, 2013).

Emerging lessons from global experience with microfinance

A number of lessons have emerged from this global experience on how to address the sanitation microfinance market failures and on how support for microfinance can be incorporated into broader sanitation programmes. A few of these lessons are summarized below. There is not a one-size-fits-all approach, so each organization or country-level platform needs to try to test different approaches and adopt a careful step-by-step approach for understanding the market, understanding where to intervene, and defining where external intervention is needed (Trémolet and Mansour, 2015).

Incorporate microfinance into broader sanitation programmes

The type of public intervention to stimulate the demand-side will depend on whether demand for sanitation has already been established and whether access to finance has been identified as the main hurdle for accessing sanitation. Microfinance for sanitation can only take off where there is an established demand for sanitation services or when it is closely coordinated with efforts to stimulate demand for sanitation.

Actively stimulate demand for sanitation facilities and services

Microfinance for sanitation should leverage existing sanitation programmes that seek to raise awareness and stimulate demand for improved sanitation facilities and services. To be most effective, it is necessary to explain the advantages of sanitation microfinance by estimating, together with the household, the potential savings they can realize from accessing improved sanitation, in terms of reductions in health care costs or increased productive time (from not having to care for sick relatives or for oneself), and weighing those benefits against the costs of investment (including financing costs) and operating costs over time.

Identify the institutions willing to develop sanitation microfinance

Not all financial institutions are interested in diversifying services to include sanitation financing. There should be deliberate efforts to identify and support willing institutions. Experience shows that financial institutions with strong social missions are relatively more inclined to adopt sanitation finance. However, these also tend to be smaller, with less available capital, and more in need of organizational support.

Actively engage and support sanitation financing institutions

It is generally preferable to attract and train financial institutions (including microfinance institutions, commercial banks, or NGOs with a strong microfinance track record) so that they start offering water and sanitation financial 'products', rather than train NGOs to provide such financial assistance. This support to financial institutions can be achieved through the provision of smart subsidies (i.e. training, capacity building) (Trémolet and Kumar, 2013). In addition, these financial institutions should be matched up with sanitation sector organizations (such as NGOs) so as to coordinate actions related to sanitation promotion, design of affordable solutions, and support to sanitation service providers.

Encourage the development of a learning culture on sanitation microfinance

Actors that need to get involved to ensure the development of an active sanitation microfinance market are numerous and diverse. They will inevitably have a lot to learn, internally, but also from each other on an ongoing basis, so as to ensure that lessons on what works are continuously shared. Learning platforms, such as the sanitation microfinance working group in Tanzania, should be established and supported by external agents, at least initially until they become self-sustaining.

Future research needs

As experience with sanitation microfinance continues to grow, research should continue in this field, particularly to better understand the impact of such loans on the demand-side. In particular, we need to understand who contracts such loans

and what is the impact of microfinance on customers: who benefits from microfinance and who does not? Can microfinance ease the investment burden for poor households, or is it benefiting the higher earners? Are the poorest households included or excluded? Even if they are excluded, does that mean that more public funds are freed up to subsidize the poorest to help them gain access to sanitation? What impact does a toilet loan have on households' revenues? Are they poorer as a result or can they recoup their investment over time as toilets' 'income-enhancing' properties start to materialize? A more thorough understanding of the factors influencing demand for sanitation microfinance could also provide the basis for developing this market further. These are all areas where one or several RCTs would be welcome.

On the supply side, it will be necessary to understand whether the sanitation finance products/institutions make business sense to the suppliers. Financial institutions are more likely to continue providing services if the sub-sector contributes positively to the bottom line.

Additional action-research projects should be designed to assess how facilitating access to microfinance and mesofinance can, in conjunction with other activities, contribute to the development of sustainable sanitation services. This will be particularly important as we move towards the Sustainable Development Goals, which are likely to emphasize the whole sanitation value chain.

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