

## Water For People Market System Development Update

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### Introduction

Water For People firmly believes that market systems development (MSD) and the growth of commercially-viable sanitation businesses are the foundation for building sustainable, scalable, sanitation services in low- and middle-income countries. Our MSD approach to sanitation is rooted in the vision that no one is too poor to have safe and dignified sanitation, and we work towards this goal by building market systems of public & private sector actors and correcting market failures. True market systems do not depend upon single enterprises but create a sustainable ecosystem of market actors such that if one fails, several others exist to pick up the slack. Within our MSD approach, we identify strategic partnerships with current and potential market actors and work to influence them. This can look like training & capacity building, advocacy, business development services (BDS), innovation and R&D, or a slew of other activities. There is no one-size-fits-all program to building sanitation markets, but always our role empowers local actors and identifies the most strategic points to invest an international NGO.

The Bill & Melinda Gates Foundation (BMGF) awarded a grant to Water For People from 2010 to June 2015 provided our first real opportunity to put MSD theory into practice and to fully immerse in growing and strengthening the usually very weak and fragmented sanitation markets within the nine countries in which Water For People operates.

The MSD approach depends on adaptive management, an in-depth understanding of the market, and steering the market from behind by making specific, targeted interventions. This requires flexibility, light decision-making structures, a willingness to take risks, usually a high degree of uncertainty, and the inability to accurately predict outcomes — not an attractive proposition to many target-pressured donors – but one Water For People firmly believes is the only way forward to move significant populations up the sanitation ladder and achieve SDG 6.

Water For People has maintained its commitment to this strategy, even as funding hasn't always aligned. For instance, in June 2015 at the close of the BMGF grant, we leveraged unrestricted funds, as well as the learnings and investments from our work together over the past 5 years, to move full-speed ahead on MSD initiatives. There was regrettably less money, which meant that many great market opportunities were left unexplored, but the key sanitation activities continued to be supported, nurtured, and grown. As one mechanism to continue viable activities and promising solutions, we leveraged other sources of funding and have revived a small internal grant application process that we've branded as the "Shitovation Fund." It allows Water For People to seed Country Programs with small, flexible funding for innovative sanitation solutions that can rapidly scale to achieve our Global Sanitation Strategy targets.

In 2020, we feel the results justify our confidence in the approach and want to demonstrate the value of MSD and how to achieve sustainable and growing impact by taking a road less travelled.

## Sanitation Programs Operating at Scale

During 2010-2015, BMGF supported approximately 23 new MSD sanitation initiatives. Of these, 10 initiatives have continued to grow and scale, four initiatives produced important learnings that directly resulted in new MSD activities, and nine initiatives were abandoned. Water For People considers this ‘success rate’ of 43% of new MSD initiatives that succeeded impressively high, given the complex nature of market systems and risk associated with new business models. During the five-year grant period, Water For People reported in 2015 that 18,273 households were reached with toilet construction or pit emptying services. In 2019 alone, Water For People’s sanitation initiatives resulted in 92,013 households reached with toilet construction or pit emptying services.

Today, Water For People supports 59 active MSD sanitation initiatives across the nine country programs. Of note, 10 of our 11 most advanced sanitation MSD initiatives globally grew directly out of the activities seeded by the BMGF grant. This aligns with the 2018 USAID-funded WASH Partnerships and Learning for Sustainability (WASH PaLS) desk review on market-based sanitation<sup>1</sup> which concluded that market-based approaches generally take four to six years to reach initial phases of scale.

Through 10 years of developing an organizational approach to sanitation MSD, Water For People has invaluable learnings and experience that allow us to scale programs more rapidly and ‘fail faster.’ For example, we abandoned 14 initiatives and developed 18 brand new opportunities in 2020.

For a MSD program to scale, the first important barrier to overcome in MSD is to initiate businesses or income streams that can continue without Water For People support. The second, perhaps more difficult, barrier is whether the number of businesses continues to grow, removing the dependency on a small number of providers. This step is indicated by the loss of control over the growth and development process; although we can still influence decisions, our voice is diminished, and government and private sector actors must take over the driver’s seat. These two key steps form the basis of our definition of ‘scale.’ Each of the six MSD sanitation programs listed below have overcome these three barriers and reached the scale stage.

### **1. Pit emptying and fecal sludge fuel briquette production in Kampala, Uganda**

With initial support from Water For People, there are now 23 profitable gulper emptying businesses operating in Kampala, each employing an average of five people and emptying an estimated 2,000 barrels (200 litre in volume) per year, with an average annual revenue of US\$16,216. In 2020, the estimated market size is 10,000 customers per year who will hire one of these private service providers to empty their pit. Kampala Capital City Authority (KCCA) is regulating the process through a business association, the Gulpers Association of Uganda (GAU), and all the gulping businesses must subscribe to this association to operate in the city. The GAU creates business linkages and training support for the gulpers. The GAU was also established to work with KCCA to set standards for pit emptying and provide a platform for easy regulation and signing of service level agreements with KCCA. Though now a complex market system in Kampala where Water For People does not sit in the

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<sup>1</sup> USAID. 2018. “Scaling Market-Based Sanitation: Desk Review on Market-based Rural Sanitation Development Programs, Washington, DC., USAID Water, Sanitation, and Hygiene Partnerships and Learning for Sustainability (WASHPaLS) Project, pg. 55.

[globalwaters.org/sites/default/files/Scaling%20Market%20Based%20Sanitation%20JUNE2018.pdf](https://globalwaters.org/sites/default/files/Scaling%20Market%20Based%20Sanitation%20JUNE2018.pdf)

driver's seat, Water For People was instrumental to the initial set up and continued professionalization of the industry over the last decade. We are widely recognized as the primary instigator and ongoing 'trusted supporter' to key local actors. In 2020, Water For People in Kampala continues in this role within the Kampala City-Wide Inclusive Sanitation program by supporting KCCA in healthy regulatory practices, expanding to new low-income areas of the city, further professionalizing the GAU, sparking technological innovation to increase process efficiency, and supporting entrepreneurs to access credit.

Over the years, market forces have gradually led to a reduction in the cost of pit emptying to the household, currently at US\$8 per barrel. The gulper businesses have acquired loans to purchase their own trucks and expand their businesses within the Kampala metropolitan area and in the districts found in the outskirts of Kampala.

The number of pit-emptying entrepreneurs continues to grow from about three entrepreneurs in 2013 to 23 currently. This growth has been possible through the 'parent tree' model where former employees in a business are attracted to the potential income from the now-proven market opportunity. Seeing that the business has overcome critical barriers that typically face sanitation markets, such as lack of formality and poor perceptions of the industry, former employees are motivated to open up their own businesses. In partnership with KCCA and the German Cooperation for International Cooperation GmbH (GIZ), Water For People fabricated two mobile transfer tanks with a 200-liter loading trough and seven m<sup>3</sup> capacity. These tanks benefit primarily informal settlements and parishes where entrepreneurs have the opportunity to serve many clients that can only afford to remove one or two barrels (50 to 100 gallons) from their household toilet pit at a time. The use and visibility of the mobile transfer tank also encourages collection and has resulted in the reduction in price for pit latrine sludge to be emptied from US\$8 to \$5.40 per barrel.

In addition, Water For People developed infrastructure and a management model for the new fecal sludge dumping site at the Lubigi wastewater treatment plant in Kampala. Water For People is piloting the manufacture of fuel briquettes using fecal sludge dumped by the pit-emptying enterprises at the Lubigi treatment plant. The briquettes are marketed to Kampala households and businesses to build a circular economy for fecal sludge and generate additional revenue streams for urban sanitation improvements.

## **2. Pit emptying in Blantyre, Malawi**

In Blantyre, Water For People undertook similar activities described above in Kampala to formalize the local fecal sludge management (FSM) market. There are now 16 profitable pit-emptying businesses operating professionally in Blantyre, each employing an average of five people and emptying an estimated 1,800 pits per year in the city's 21 low-income (peri-urban) areas, generating an estimated average US\$5,250 of revenue per business. The Shit Flow Diagram for Blantyre estimates a \$1.7 million business opportunity, indicating significant potential for market growth of the pit emptying industry. The city government is regulating the process through a Water For People-initiated trade association, the Pit Emptiers Association (PEA), similar to the Gulpers Association of Uganda. Over the years, market forces have gradually led to a reduction in the cost of pit emptying to the household, which currently costs around US\$9.30 per barrel. The PEA has also helped to reduce the cost of regulation for the city officials and provides a forum where the pit emptiers can negotiate with the government on issues related to policies and the enabling environment.

### **3. Latrine building in Bihar, India**

Water For People initiated the process of promoting latrine building by developing a network of small concrete ring providers, focusing initially on a small area in Bihar. Using US\$34,000 from the Foundation grant in 2012, the India Country Program kickstarted an innovation to the supply chain in India, which developed into the Points-of-Purchase (POPs) network of latrine component suppliers. Through 2019, this initiative had impacted over 200,000 people and leveraged over US\$6M of household investment in sanitation. By 2019, over 100 small businesses were operating and responsible for supplying latrine components for over 30,000 toilets. The approach was replicated by Population Services International (PSI) and estimated to have built over 220,000 toilets.

### **4. Latrine building in rural Rwanda**

In rural Rwanda, Water For People piloted a business model to connect households with quality, affordable latrine construction and credit access, while incentivizing a masons' association to grow their business. In that rural district, the small enterprises generated sales of 600 toilets per year after BMGF and Water For People's support ended in 2015, which has led to approximately US\$320,000 of additional independent sales over five years. The association of masons obtains an average profit margin of US\$37 per latrine constructed, collectively earning US\$22,340 annually. These results attracted the attention of the Isuku Iwacu project, funded by USAID and led by SNV, with Water For People as a sub-grantee.

To scale this model to households without the initial capital to pay for latrine construction and/or upgrades, the Isuku Iwacu project signed an agreement with Association of Microfinance in Rwanda (AMIR), an umbrella of microfinance institutions. AMIR developed a sanitation loan product and enrolled interested Savings and Credit Co-operatives (SACCOs). Since its inception in January 2020, the model has scaled to 74 SACCOs who have signed acceptance forms to include a sanitation loan product in their portfolio.

In 2019, the Rwandan Imihigo system for government performance scorecards was leveraged to encourage universal coverage of household sanitation. The Isuku Iwacu project's target is 84,000 sanitation loans, with maximum loans at Frw 100,000 (US\$106) each. The government is now in the process of replication, with the expectation that 100 SACCOs across eight of Rwanda's 30 districts will offer a sanitation loan product, with a view of nationwide expansion and linkages to the Imihigo system.

### **5. Design innovation for affordable toilets: SaTo Pans**

Water For People supported LIXIL to bring the manufacture of SaTo Pans to Uganda via a partnership with Nice House of Plastics, who now produce and sell approximately 63,000 SaTo Pans per year with a market value of US\$196,000. Water For People has partnered with LIXIL and Nice House of Plastics to establish a distribution system of 120 retailers, firmly establishing the product within markets across the country. As market penetration is low in rural districts, Water for People is working with LIXIL to develop new strategies to open up this market using action research. Since the success of SaTo products across Uganda, Water For People has assisted importation and setting up local supply chains in Rwanda, Malawi, and most recently, Perú.

## 6. Sanitation, microfinance, and loans in Latin America to improve household sanitation

Water For People's Sustainable Sanitation Program in Latin America promotes market-based mechanisms, supply chain development and demand triggering for sanitation products and services. This year, the program will result in 7,700 new or improved toilets primarily generated from Nicaragua (45%), Honduras (26%) and Perú (23%). Between 2015 and February 2020, Water For People's continued investment in sanitation MSD in the region (US\$1.4M) has unlocked more than \$8.6 million via household investments into sanitation products and services.

To improve the sanitation supply chain, Water For People in Latin America is: 1) linking manufacturers of biodigesters with wholesalers and local hardware shops, 2) identifying and training local masons on technologies (i.e. sanitation biodigesters) and marketing to the population at the bottom of the pyramid (BOP), 3) connecting masons with local hardware shops, 4) linking microfinance institutions (MFIs) with the stakeholders above, and 5) leveraging public finance to drive more household and public sector investment into sanitation. In addition, to trigger demand for sanitation, Water For People is training MFIs on microeconomics of sustainable sanitation in rural areas and decentralized sanitation technologies. We are working with MFIs to design marketing plans for loans to BOP rural consumers, assisting farmers associations to link sustainable sanitation with sustainable farming practices, and using innovative marketing approaches to find the most effective way to increase household demand for sanitation products and services.

In Guatemala, with a small Shitovation grant, Water For People has developed a locally made cement biodigester that will compete with the high-end Rotoplas biodigesters but at less than half the cost to households. We are currently bringing this technology to market, which is expected to greatly open up the market for other aspirational on-site sanitation solutions.

### Way Forward

Water For People's initial sanitation MSD initiatives, supported by BMGF, has resulted in significant, lasting impacts, including viable businesses, jobs created, investments from the local private sector, public sector, and households, and the permanent improvement of the sanitation delivery systems for some of the lowest income settings. The POPs initiative in Bihar, India alone has leveraged more than \$6 million in household investment. In 2020, Water For People began measuring the return on investment for each sanitation MSD initiative, which ranges between US\$5-50 for every \$1 spent. We feel that this is a very good investment of time, effort and resources and would like to accelerate the process.

Partnership with local government has been the cornerstone of Water For People's approach to both water and sanitation systems strengthening for the last decade. As the importance of government partnership is increasingly recognized in the sector, Water For People feels we have the experience needed to help governments strengthen their capacity, support local businesses, and move into the driver's seat of developing the market and managing city-wide inclusive services. One of the biggest challenges to overcome in the path towards healthy market systems is to nurture innovation led by local actors, yet the need for technical innovation often prohibits the growth of markets to mature to this level. Therefore, Water For People still sees a role for external actors to engage in technology development, and we have a proven track record in not only developing technologies in pit emptying, transportation, waste treatment



and fecal sludge reuse, and toilet substructure/slab/superstructure design, but also in bringing these technologies to market.

As Water For People has gained experience in sanitation MSD, opportunities are increasing for the established models described above to scale to additional geographic areas for greater impact. Moreover, we have new models in the pipeline being tested and readied to scale up.

We see great potential in continuing to scale:

- Support to municipal governments to invest in sanitation MSD to develop reliable, financially-viable sanitation services in non-sewered areas across East Africa and India.
- Financially-viable, inclusive business models for shared slum sanitation in urban India.
- When invited, working with governments on FSM MSD throughout urban areas in East Africa, combining the development of pit-emptying enterprises with efficient, modular decentralized treatment and reuse facilities
- Technology development in low-cost desludging pumps, modular and cost-effective sludge treatment and reuse units, and household toilet technologies
- Access to improved household sanitation through enhanced market development for affordable, aspirational toilets and financial inclusion
- Public-Private Partnership models to develop sustainable services for wastewater and fecal sludge treatment in Latin America

Water For People firmly believes that increased emphasis and investment into these MSD approaches are critical, and can have a catalytic effect on the growth of safe non-sewered sanitation systems. After 10 years of learning-by-doing, we are developing more robust, targeted, and grounded methodologies to pass skills and approaches on to governments and other actors within the sector to scale the widespread use of safely managed, sustainable sanitation services.