Reviewing Sanitation in Uganda to Reach Sustainable **Development Goals**

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MAIN MESSAGES

- Low household incomes constrain investment in sanitation improvement. Targeted subsidy options, therefore, should be carefully considered to support universal access to services.
- Funding to local governments needs to be increased, to enable them to fulfil their sanitation mandate.
- Community mobilisation programs should be expanded with sustained follow-ups, to stimulate demand for improved sanitation, to all districts.
- A major investment program is needed, along with ongoing funding support, to improve schools' sanitation.
- Investment is needed to improve sludge and wastewater treatment capacity in urban areas.
- A comprehensive and integrated national capacity building program that gives emphasis to supporting implementation by local government of its sanitation responsibilities needs to be developed.

Introduction

This policy note draws upon information collated during a diagnostic study report to assist the Government of Uganda (GoU) to make a comprehensive review of the state of household and institutional sanitation in rural and urban areas, and assess the barriers and drivers of improvement of sanitation in the country. The ultimate objective of the assignment is to define possible measures to reach the national objectives of meeting the Sustainable Development Goals (SDGs).

The diagnostic study identified several areas of compromised effectiveness of government spending on sanitation. Underfunding can result in wasteful



expenditure where funds are inadequate to achieve the stated aims, and investment in stand-alone infrastructure can be wasted where the supporting service linkages are not in place. Given the scale of competing demands for limited public funds, it is vital to target investments strategically to deliver the benefits required efficiently and effectively.

The research for the diagnostic study was conducted between September 2016 and February 2017. Preliminary findings and an interim report were presented to the National Sanitation Working Group (NSWG) on January 25, 2017. A draft of this report was presented to the NSWG on March 30, 2017, and comments were incorporated into a revised report.

Good sanitation matters for many reasons, but particularly for human dignity, public health, and environmental protection, especially water. Poor sanitation

entrenches the cycle of poverty and disease (for instance, cholera, typhoid, stunting, lowered immunity to malaria, tuberculosis and human immunodeficiency virus [HIV] arising from worm infestations), slows development, entrenches slums, as well as makes cities less attractive places to work, live, and invest in. Girls not completing their schooling because of inadequate provision for menstrual hygiene management is also a consequence of poor sanitation. Conversely, better sanitation practices play a significant role in driving improvements in people's standards of living and quality of life, and ensuring those improvements can be sustained into the future.

To date, the GoU has given strong emphasis to **eradicating open defecation**, and to encouraging people to invest in safe containment systems. Grant funding, to local governments to support community-led total

sanitation (CLTS) and home improvement campaigns, is spurring sanitation improvement on a significant scale. But as the pace of urbanization picks up in the country and the scale and density of urban settlements rise, local authorities and the ministries that support and service these areas will need to give greater attention to **safe management of wastes** beyond the on-site facilities of individual users.

The SDGs shift the sanitation sector's goal posts significantly. The sanitation targets go well beyond a measurement of how many people have access to an adequate toilet (coverage) and define outcomes in terms of safe management of human wastes across the whole service chain, from containment, through emptying and transport to treatment and final

MAP 1. Major Towns Where Research Was Conducted for this Assessment

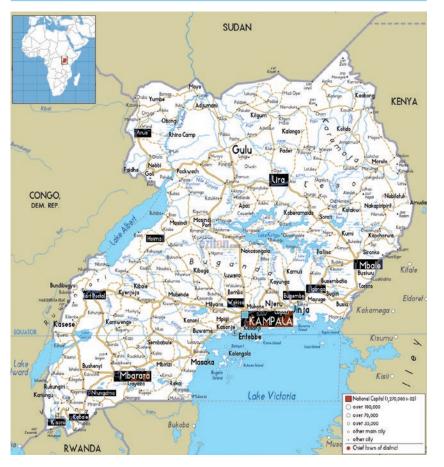


FIGURE 1. The Entire Service Chain



Note: Beyond household toilet facilities, the concept of a wider chain of sanitation services shows the scope of the Sustainable Development Goals to which Uganda has committed itself. Where there is room to contain waste on-site and cover and close an old pit when it is full, the service chain beyond containment is not relevant. But even in small rural growth centers there is now growing demand for services and infrastructure to preempt open dumping of sludge. Open dumping is tantamount to open defecation on a vast scale, and frequently results in severe water pollution.

disposal or reuse, and in all settlement contexts along the rural-urban continuum. What the Millennium Development Goals regarded as *improved* sanitation is now considered just *basic* sanitation if there is no proper management of waste beyond the toilet (UNICEF/WHO 2015). The SDGs will also require tracking of how much wastewater is treated safely. The targets set call for safe sanitation for all by 2030, giving particular attention to the needs of women and girls. This requires a more extensive focus on how best to ensure no one is left behind.

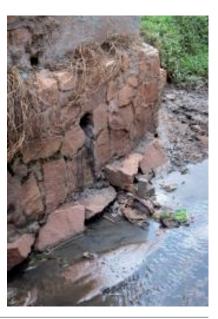
Tackling the implications of the SDGs requires a far-reaching change in thinking that will need to go

beyond an emphasis on mobilizing households to increase toilet coverage and adopt practices that enhance their health and hygiene, to a recognition of the broader systems that support (or undermine) safe management of wastes across the full-service chain. In Uganda where more than 90 percent of the population relies on on-site facilities, and where the supporting services for emptying, transporting, and treatment are poorly developed, far too much sludge ends up in the environment, with a wide range of serious impacts on public health, water quality, and environmental pollution.

Sanitation improvement in Uganda is being supported by an extremely wide range of initiatives. Most Ugandans







Sludge discharged directly to drainage channels in Kampala. These pictures were taken in several locations and are representative of any of a growing number of towns, notably Mukono, Wakiso, and Masaka.

live in rural settlements, and the clear majority of sanitation improvement initiatives focus on building household demand in rural villages for sanitation and hygiene improvement through awareness and sensitization campaigns that promote good hygiene, practical home improvements, and an end to open defecation. Sanitation promotion is just as important in urban areas, but is not being addressed beyond limited nongovernmental organization (NGO)-led projects.

There is little understanding of the scope of the service chain for on-site sanitation, and the need to develop safe and affordable services for desludging and sludge treatment. There is a clear need to make significant additional investments across the service delivery chain in all villages, towns, and cities. Interventions need to identify and address each possible source of sanitation-relation pollution, and include promotion of responsible sanitation practices, enforcement of relevant laws, and the creation of infrastructure where needed. The uniqueness of context, practices, and outcomes requires that prioritization occurs at a local level. Grand plans that do not take adequate account of the local context will be inefficient, or even fail.

Progress Remains Disappointing: New Approaches Needed

A wide range of sanitation improvement activities are under way across Uganda which tackle various aspects of the country's challenges. The Ministry of Water and Environment's (MoWE) 2016 Sector Performance Review presents evidence of a wide range of positive developments:

Despite this, there is concern among sector roleplayers that Uganda's progress in achieving improved sanitation is inadequate, in as far as the interventions being undertaken are not "moving the needle." The international Joint Monitoring Programme (JMP) that tracks and reports the performance of countries against the Millennium Development Goals (MDGs), reported "little or no progress" in Uganda towards achieving the sanitation MDGs (UNICEF/WHO 2015). Many current hygiene practices continue to put people at risk of exposure to disease-causing pathogens.

The role of households in achieving sanitation improvement remains decisive as they will remain the primary agents of change. But tackling safe management of wastes beyond containment requires far greater engagement by public authorities, primarily local governments. This will have significant implications for the quantum of funds required and the strategies to be adopted if Uganda wishes to achieve the improvements that it has signed up for. A realignment of sector activities and resources is needed to achieve the required progress against the new performance indicators Uganda will be measured against.

Key Sanitation Sector Developments

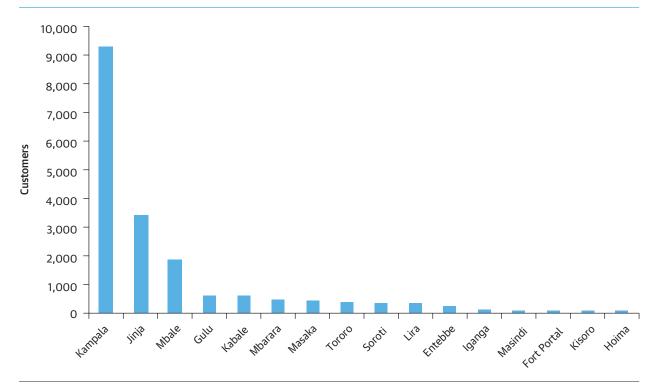
Rural Sanitation Improvement

Uganda's largest sanitation initiatives currently are community (community-led total sanitation) and home improvement campaigns led by district health and water officials, supported by village health teams. Many are delivering good results with very



Mbarara District has one of the most effective community-led total sanitation programs in the country. It combines the eradication of open defecation with integrated home improvement. This voluntary sanitation activist has upgraded both her toilet and her kitchen.

FIGURE 2. Extent of Sewered Sanitation in Uganda



Source: The National Water and Sewerage Corporation.

Note: The number of customers connected to sewered systems around the country is very low. Due to the reluctance of customers to connect to the systems, there is not much planned in the way of extensions to the existing networks.

modest spending. The Ministry of Health (MoH) budgets on the basis of an assumed cost of U Sh 1.6 million (US\$440) per village, but based on the outcome of District Investment Planning initiatives in the Northern region, districts maintain that a more realistic figure of three times that amount, U Sh 4.7 million (US\$1,295) is required per village to achieve lasting impacts, even with volunteers. The challenge, however, is how to sustain the gains and prevent backsliding.

Areas having the greatest success in achieving and sustaining ODF status tend to be in areas where median rural household incomes are higher than the national average, where local household toilet coverage before the intervention was above 65 percent, and where a combination of mobilization and support approaches are used. The stance of local leaders is pivotal in

serving as good role-models for behavior, for motivating change, and for being willing to take a hard line against those who persist with anti-social behaviors.

Urban Sanitation Initiatives

Urban settlements have accelerated rapidly over the past two decades, and more attention is now being given to the challenges they pose. There are fewer than 10,000 sewer connections in Kampala, serving less than 10 percent of the capital's night-time population; a far smaller number is served in 15 smaller towns where sewer networks were developed, in some cases, more than four decades ago. There are significant challenges for sanitation improvement, but a growing number of partners are supporting town administrations to explore options, develop improvement plans, and test innovations.



The new sludge drying beds in Ntungamo, dedicated to fecal sludge deliveries.

Most urban sanitation initiatives are currently focused on Kampala, where the Kampala Capital City Authority (KCCA) is working with a number of partners to tackle sanitation challenges that are compounded by extensive settlements in swampy areas and flood plains. A range of initiatives aim to expand access to improved sanitation facilities, and address fecal sludge management across the service chain. Approaches being developed in the KCCA are not necessarily replicable in smaller centers where local government capacity is more limited, populations are poorer, and where affordability constraints mean that formal sector desludging services providers cater primarily to institutional and commercial customers.



Covered drying beds at the NWSC's Lubigi works, where the NWSC produces compost for sale to market gardeners and farmers.

Universal inclusion requires greater attention to pro-poor approaches that may not be commercially viable. Private sector operators are motivated by a desire for profit, and they are unlikely to offer safe sanitation service in markets where there is no viable trading proposition. Additional public funding is needed to address public health and safety, and to ensure a clean living environment.

Sanitation Supply Chain Development

Several NGOs have given particular emphasis to developing the supply chain for sanitation goods and services to meet household demand. One illustration of progress is that over 20,000 Satopans, or "flappers," have been sold through over 350 hardware outlets nationally. This simple easy-to-clean plastic pan with a counter-weighted flap at the base, provides a barrier to flies and odors and offers a simple route to achieving improved sanitation at relatively low cost.

WASH loans: WASH loans have been suggested as a way of assisting poor households to build or improve their facilities or invest in lined pits to enable emptying. Many options are currently available: individual loans from institutions such as Postbank, or savings and credit cooperatives (SACCOs), or through groups lending by Postbank to SACCOs.

Semi-mechanized pit emptiers: Water for People has trained a number of would-be entrepreneurs to enter the gulping business, but the attrition rate is high. There are now five entrepreneurs offering such services in Kampala using Gulpers and other equipment. However, simply securing a trading license constitutes a significant barrier to entering formal sector markets. Only two of the five have trading licenses. The cost—U Sh 475,000 per year—is significant, but the greater challenge is assembling the requisite paper trail of audited financial statements and other documents. There is an evident need to offer guidance and support to those who know limited English, and those who are not aware of the benefits of having a trading license.





Abandoned toilets in a school near Lira.

BOX 1. Innovation to Support Better Fecal Sludge Management

An NGO, Water for People, is pioneering innovation in several areas to support better fecal sludge management. In the Northern Region it has worked with local and international partners in an attempt to develop viable service chains to small scale sludge treatment works in Lira and Kitgum. In Lira it has recruited, trained, and supported local youths to develop a small manual sludge emptying business using a Gulper, and provided a pedal tricycle to haul filled barrels to a small treatment site 10 km west of the town. Construction of small sludge treatment works on this scale may well provide more affordable options to increasing the number of safe sludge disposal sites nationally, rather than the more capital intensive works evident in Ntungamo and Buwama.



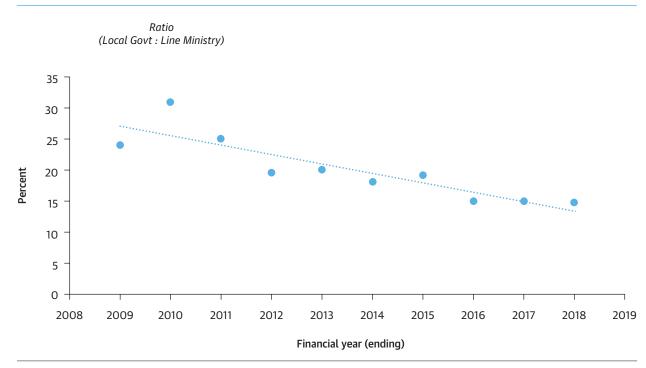
A small sludge treatement plant developed by an NGO, Water for People, outside Lira.

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BOX 1. Innovation to Support Better Fecal Sludge Management (continued)

In an impressive commitment to addressing the need for commercial viability, Water for People has invested in equipment to make charcoal briquettes from the dried sludge, to generate a revenue stream to offset the costs of treatment. However, converting latent demand for pit emptying services into a viable enterprise requires a certain minimum scale of operation and achievable, practically implementable operational tasks.

FIGURE 3. Funding of Local Government



Source: MoFPED.

Institutional Sanitation

Schools: The provision of sanitation facilities in schools requires priority attention. There are nearly 9 million pupils in over 18,000 primary schools in the country and 86 percent of these are in public/government-aided schools. Because children spend a significant amount of time in and around their schools, the state of school sanitation facilities has a significant impact on their wellbeing, and provides important opportunities for entrenching life-long attitudes and behaviors.

Schools sanitation is a primary focus of most WASH NGOs, and construction of school latrines is supported by a wide range of NGOs and faith-based organizations.

Sanitation for Refugee Settlements

There are a growing number of refugee settlements in northern, western and south-western Uganda, but the biggest are in the north. In March 2017 an estimated 2,800 people were arriving in Uganda each day from South Sudan.

Providing adequate sanitation in a context of rapid arrival of displaced people can be extremely challenging, and the risk of disease outbreaks can be high. Providing safe alternatives to open defectation is the priority.

The Diagnostic and Challenges

While statements are made at high level about the importance of sanitation, this importance is not reflected in budget allocations. Advancing sanitation improvement systematically and sustainably requires a fundamental shift from reliance on externally-funded project-based approaches, to a sustained focus on sanitation by local governments, with dedicated funding from central government to address their sanitation mandate on an ongoing basis. Without the enabling environment that this funding backbone will provide, the impacts of externally-driven sanitation projects will continue to be short-lived.

It seems there is a view in national government that sanitation does not warrant additional resourcing, that it is a personal responsibility of households, and all that is needed is promotion through CLTS. There is little awareness of just how meager the available resources are and how thinly they are spread, relative to the challenge. Data presented in the 2016 MoWE Sector Performance Report suggest that total sector spending on sanitation improvement in 2015/16 by government, development partners, and CSOs for both hardware and software was well below US\$10 million, with sector partners beyond government contributing the bulk of those funds. This reality helps to explain why so few sanitation initiatives are more than finite projects. The lack of adequate funding for sanitation by local government represents a massive inefficiency for the government as a whole.

Three main factors seem to be holding back Uganda's progress in achieving sanitation improvement:

• Low median household incomes, which constrain investment in sanitation improvement, particularly

in the absence of programs designed to stimulate demand for sanitation.

- Chronic underfunding of local governments which, in turn, severely limits their ability to drive sanitation improvement campaigns, develop and operate public toilets, enforce compliance with the law, and develop facilities for safe sludge management. Local governments are the critical implementation agencies for driving sanitation improvement, but are severely underresourced.
- A shift in the government's spending priorities away from water and sanitation, as well as health and education, in favor of investment in sectors that will stimulate economic growth and the attainment of middle income country status.

These points have been made repeatedly in various studies. They remain fundamentally relevant. The current rate of progress in the sector reflects what can be achieved with this quantum of funding. The sector is currently stuck in **a low-level equilibrium**, and prospects for achieving different sanitation outcomes with the same resources are limited.

Some additional key themes that arise from the diagnostic are:

- Household incomes fundamentally shape what is possible. The challenge is how to mobilize ordinary citizens to undertake the improvements and changes that sector role-players regard as necessary. Structurally, improvement in the sector relies heavily on investment by individual households, and progress is constrained by modest aggregate household incomes. The cost of replication without external funding is greater than households are willing or able to fund and, thus, motivation and momentum is lost.
- Inadequate sanitation funding leaves local authorities dependent on the projects of external partners.
 Achieving the level of desired improvement required calls for a change in the roles of local governments,

the Ministry of Local Government, and the quantum of funds available to local governments. Districts rely on central government transfers for well over 90 percent of their income. Compounding their financial constraints is the fact that budget transfers are not being revised to keep pace with population increases. Some districts receive funds from development partners to run specific programs around sanitation or HIV prevention—but with the withdrawal of key partners, even these sources of funding are reducing.

- Market-driven approaches are necessary but not sufficient. Approaches that encourage the private sector to provide sanitation services on a commercial basis are proving valuable in expanding the range of service options available to those who can afford them. The number of formal service providers offering desludging is growing steadily. However, universal service coverage—which requires greater attention to pro-poor approaches that may not be commercially viable—cannot be addressed solely through purely commercial models run by entrepreneurs.
- Neglect of sanitation is resulting in a severe disease burden, with high curative health costs and lost productivity. Cholera, typhoid, dysentery, and diarrhea are well known consequences of poor sanitation. Less widely recognized is the importance of good sanitation in combatting stunting in children. Poor health affects school performance in childhood years, as well as job prospects and life-long earning potential in later years.
- Poor sanitation is compromising Uganda's schools and education goals. Children spend a significant amount of time in and around their schools, and the state of school sanitation facilities has a significant impact on their wellbeing. It provides important opportunities for entrenching life-long attitudes and behavior. Yet the dire state of sanitation facilities in many schools—dysfunctional or dirty toilets,

- absent handwashing facilities, no soap, dry taps, unsafe water supplies (MoES 2016)—compromises the school environment and exposes learners to several health risks. The MoES now requires new school toilets to be lined, to enable emptying. But only 17 percent of the schools surveyed in the mapping exercise had ever been emptied (MoES 2016) due to a lack of safe emptying options, or because the school was unable to raise the funds required. Universal Primary Education and School Facilities Grants are inadequate to support decent school sanitation.
- Regulation in line with the law is underresourced and inadequately supported by political leaders. Uganda has excellent public health legislation with the scope to achieve good sanitation, but enforcement is comprised by weak penalties, a shortage of health inspectors able to focus on sanitation-related regulation, and interventions by politicians who allegedly do not want their voters alienated. One area requiring urgent attention is regulation of landlords, who are being allowed to externalize the costs of providing no, or poor-quality, toilet facilities to their tenants. Sanitation promotion campaigns will increasingly need to target landlords specifically, and engage local and national political leaders, to enforce existing health and building regulations more assertively.
- The sanitation sector needs a leader. It is generally understood that the Ministry of Health is the sector leader for sanitation in Uganda, but sector policy and legal documents do not specify this clearly. Sanitation needs an overall leader with the mandate and authority to call other role-players to account. It is, therefore, important that sector leadership is assigned formally, with policy documents and legislation stating clearly which ministry takes the lead on sanitation, what its role and obligations are as leader, and what the roles and obligations of other ministries are concerning sanitation in Uganda. This clarification is particularly

necessary in the light of the SDGs, as coordination and collaboration is needed across a wide range of role-players.

Recommendations

The recommendations and action plan outline interventions that should form part of an ongoing program. The proposals are informed by representative sector costing benchmarks, but are not costed in detail.

Achieving safely managed sanitation across the entire service chain will require concerted effort on all fronts. At present the levels of investment are pitifully low, with the bulk of district sanitation funding coming from the Uganda Sanitation Fund, and reaching only a minority of districts.

There is a clear need to make significant additional investments across the service delivery chain in all villages, towns, and cities. These increased investments need to be mainstreamed into the day-to-day activities of all actors and role-players to sustain improved performance over the long term, and provide a conducive environment for individual projects.

Interventions need to identify and address each possible source of sanitation-related pollution, and include promotion of responsible sanitation practices, enforcement of relevant laws, and the creation of infrastructure where needed. Each settlement has different challenges, requiring different types and combinations of interventions. The uniqueness of context, practices, and outcomes requires that prioritization occurs at a local level. Grand plans that do not take adequate account of the local context will be inefficient, or even fail.

These recommendations outline interventions that should form part of an ongoing program. Certain elements of each initiative may be implemented on a project basis, but there needs to be a commitment from all

role-players to longer term and sustained engagement. The job will never be finished.

Sanitation improvement needs to be addressed at a senior strategic level within the government, in view of its wide-ranging impacts on the citizens and economy of Uganda. It is recommended that the Office of the Prime Minister (OPM), responsible for coordinating the activities of all ministries, takes an active role in giving strategic direction to the sector, working in conjunction with the National Sanitation Working Group. The aim would be to set the direction, develop strategy, and allocate resources in a way that takes account of national priorities and aspirations, beyond the operational level of the various ministries. The most important role for the OPM, in collaboration with the Ministry of Finance, Planning and Economic Development (MoFPED), is to ensure that the national budget provision for sanitation is increased steadily to enable each government role-player in the sector to fulfil its mandate. In turn, the respective ministries with a sanitation mandate should lobby the OPM and MoFPED actively for sector funding. Each ministry should be able to articulate their funding needs for activities and outcomes, prioritized on the basis of evidence from monitoring and research.

In addition to improved coordination by OPM, the sector should focus on:

- Strengthening the sector policy environment:
 - Explore the feasibility of targeted subsidies to support universal access to affordable services across the service chain; and
 - Assess urban sanitation policy gaps.
- Measuring activities and performance in the sector:
 - Track sector expenditure through the "chart of accounts"; and
 - Select performance indicators can shed light on where interventions are needed.

- Developing infrastructure:
 - Develop additional regional sludge treatment capacity;
 - Refurbish and upgrade existing waste water treatment facilities; and
 - Expand and improve sewer networks to limit pollution
- Improving school sanitation facilities to support a healthy learning environment:
 - Ongoing investment in the building and maintenance of school latrines should be adequately funded on a continuous basis through the MoES.
- Using scheduled, co-funded emptying of facilities at schools and hospitals to provide viable business opportunities for pit emptiers beyond Kampala.
- Reducing OD through provision of additional public toilets.
- Promoting ongoing sanitation improvement:
 - Expand demand creation approaches to all districts, with funding support for annual follow-ups;
 and
 - Develop and implement sanitation promotion approaches relevant for urban residents.
- Enlisting financial support for local government's sanitation role:
 - Increase sanitation grant funding to local government;
 - Allocate increased funding to support complementary services that support sanitation improvement; and

- Make better decisions based on evidence from innovation and knowledge projects.
- Ensuring sector capacity development:
 - Build sector capacity to drive sanitation improvement across the service chain.

Action Plan and Cost Estimate

The sanitation sector in Uganda is diverse; there are many initiatives and actions being undertaken, and many contextual considerations that result in qualitative differences. It is not possible here to list each one of these and describe a course of action to achieve improvement. That is a task that must be executed at a local level by people who have deep knowledge of the specific contexts. The recommendations presented here attempt to begin a process of mobilizing the resources required for such local decision making and implementation.

The budget takes into consideration what may realistically be mobilized over a five-year period. The budgets have been deliberately structured as seed funding for an ongoing program of action rather than as standalone projects. It is, however, important to continually consider each of the interventions from the perspective of how they integrate into the existing system that is delivering service. This cost estimate has also given some consideration to what may be practically available in the way of additional resources that could be deployed.

The amounts presented represent the recommended investment in the first year of execution of the various programs. These amounts should be progressively increased over time, allocations should be adjusted to continually strengthen and broaden the initiatives. The development of initiatives should be based on feedback on the successes and failures that are observed.

TABLE 1. Action Plan and Cost Estimate

No	List of actions	Description	Category	Responsibility	Yearly cost estimate	
	List of actions				U Sh	US\$
1	The Office of the Prime Minister and Ministry of Finance Planning and Economic Development take responsibility for ensuring increased resource allocation to the sanitation sector	Sanitation is elevated to an issue of national importance.	Policy	OPM/MoFPED	Part of ongoing activities	Part of ongoing activities
2	Refurbish and upgrade existing WWTW and sludge receiving facilities	A design check and evaluation of performance of each existing facilities is carried out, and the need for upgrade and a program of refurbishment and upgrade is implemented based on priorities identified against the probability and consequence of ongoing pollution.	Technical/ financial	MWE/NWSC	22 billion	6 million
3	Build new WWTW and sludge handling facilities	New treatment facilities are constructed on the basis of prioritization and careful consideration of positioning and design to achieve maximum benefit for each investment.	Technical/ financial	MWE/NWSC	27.5 billion	7.5 million
4	Review policies and strategies applicable to sewered sanitation are revised	The existing policy provisions are revised to better align with the de facto sanitation practices in urban areas. Analysis focuses on the current lack of commercial viability and the real ability to enforce practices on residents, particularly the poor.	Policy	MWE/NWSC	1.1 billion	0.3 million
5	Expand and upgrade existing sewer networks	Extensions are made to existing networks based on expressed need, and capacity upgrades are implemented that are aligned to current overloading an anticipated demand.	Technical/ financial	NWSC	25.7 billion	7 million
6	Develop new sewer networks	New sewer networks (and possibly decentralized treatment facilities) are developed in areas where commercial viability could be realistically achieved.	Technical/ financial	NWSC	18.3 billion	5 million

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TABLE 1. continued

No	List of actions	Description	Category	Dosnonsibility	Yearly cost estimate	
	List of actions	Description		Responsibility	U Sh	US\$
7	Accelerate school toilet building programs	Additional resources are made available to build more toilets at those schools identified as priority.	Financial	MoES	16.5 billion	4.5 million
8	Subsidize the operation, maintenance and sludge management of school toilets	A subsidy program is designed and implemented to provide assistance to schools to enable them to effectively manage the functionality of toilets. This subsidy is applied in a manner that primarily supports schools in poorer and lesser resourced areas. This program is used to support the mergence of effective pit emptying service providers.	Financial/ operational	MoES/MoFPED	36.7 billion	10 million
9	Accelerate building of public toilets in urban areas and rural growth centers	Public toilets are built at a greater rate in areas where open defecation is problematic due to the lack of alternatives for day visitors.	Technical/ financial	LG/MWE	16.5 billion	4.5 million
10	Subsidize operation, maintenance, and sludge management at public toilets	The pricing of the service is reviewed and subsidized so as to not exclude the poor (User fees and subsidies).	Financial/ operational	LG/MoFPED	36.7 billion	10 million
11	Build roadside public toilets	Funds are made available for the building, O&M and sludge management of road side public toilets where open defecation is problematic due to the lack of alternatives for people traveling on national roads.	Technical/ financial	LG/MoFPED	16.5 billion	4.5 million
12	Scale up sanitation promotion to include the whole country	Additional funding is made available to expand the sanitation messaging (CLTS/HI/ODF+) program.	Financial/ operational	MoH/MoFPED/ DPs/NGOs	44 billion	12 million
13	Run ongoing media campaigns to encourage good sanitation behavior and practice	A long-term media campaign is developed and implemented to inform people of the benefits of improved sanitation practices and the actions that each individual and household can take to support such outcomes. The message is to include information on containment infrastructure, emptying and transport practices, and personal habits and behavior.	Financial/ operational	MoH/OPM/ MoFPED	11 billion	3 million

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TABLE 1. continued

No	List of actions	Description	Category	Responsibility	Yearly cost estimate	
					U Sh	US\$
14	Encourage innovation and research to strengthen sanitation	There is a need to continually support innovation, invention, and discovery within the sector. Breakthrough thinking, technology, and systems can make a big difference. This should be supported on an ongoing basis.	Technical	OPM/MoFPED/ DPs/NGOs	11 billion	3 million
15	Strengthen solid waste management	Additional funding is provided to local government (LG) so that they can more effectively manage the challenges created by the nexus of solid waste and fecal sludge management, especially where they overlap and the become indistinguishable from each other.	Financial/ operational	LG/MoFPED	25.4 billion	7 million
16	Review local government by-laws to improve alignment of solid waste and fecal sludge management	A review and amendment of the policies and legal provisions for these two, often overlapping, services.	Policy/legal	LG/MoH/MWE	1.1 billion	0.3 million
17	Improve stormwater systems	Areas where stormwater arrangements are adversely affecting sanitation outcomes are identified and addressed.	Technical/ financial	LG	25.4 billion	7 million
18	Subsidize fecal sludge management	Explore and implement subsidy mechanisms to improve safe handling of fecal sludge in containment, emptying, transport, and treatment implemented. A market-based approach will never reach every household. This should be approached with care so as to not result in irreversible perverse outcomes.	Financial/ operational	LG	36.7 billion	10 million
19	Develop spatial plans for urban settlements	At the root of many of the greatest sanitation challenges is the rapid unordered growth of settlements. The development of spatial plans in some of the most rapidly urbanizing areas should be supported as a first step in alleviating this problem.	Technical	LG	3.7 billion	1 million

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TABLE 1. continued

No	List of actions	Description	Category	Dogwoodibility	Yearly cost estimate	
				Responsibility	U Sh	US\$
20	Provide funding support to enable local authorities to play a more active role in monitoring sanitation practices and outcomes in urban areas. This will also include enforcement of the law, where appropriate.	Local government is at the coal face of achieving good sanitation outcomes. Their role in the management of solid waste and fecal sludge should be adequately funded to enable them to deploy the necessary human resources to achieve these objectives.	Financial	LG	18.3 billion	5 million
21	Build sector capacity to plan and manage sanitation improvement, especially in urban areas	Sanitation improvement requires the development of multi-disciplinary programs to equip urban managers and technical professionals address the diverse sanitation challenges posed by rapid urban settlement.	Policy/ technical/ operational	DLUDH/MWE/ MoH/DPs/NGOs	18.3 billion	5 million
22	Provide support for engagement on urban sanitation policy improvement between mayors, NLUDH, and relevant roleplayers	Provide supporting resources for dialogue on urban sanitation policy between mayors, NLUDH and relevant roleplayers, with facilitation by AMICAAL	Policy	DLUDH/MWE/ DPs/NGOs	1.5 billion	0.4 million
Total					400 billion	110 million

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