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**TRANSFORMATION TOWARDS SUSTAINABLE
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**Formally engaging the private sector for fecal sludge
management services: experiences from six African cities**

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In 2013, the Bill and Melinda Gates Foundation (BMGF), together with the UK Department for International Development launched the Partnership Cities Project, which aimed to support city authorities in developing onsite sanitation services and demonstrate approaches to formalize and regulate private sector participation (PSP) in service delivery. In Sub-Saharan Africa, six grantees were supported to develop urban onsite sanitation service across the sanitation value chain. This paper presents the findings from a review of these projects. Lessons indicate that projects succeeded in improving onsite sanitation services at city-level through the development of much needed infrastructure, and formalizing PSP through PPP contracts and licensing. Projects also demonstrated approaches to regulating onsite services, including through call centers and strengthening legal frameworks. As a result, city authorities have become better equipped for addressing the challenges of urban sanitation services. However further research is needed to establish services' sustainability and pro-poor outcomes.

Introduction

In sub-Saharan Africa (SSA), over 300 million people use unimproved sanitation facilities (JMP 2017). The rapid pace of urbanization experienced across the continent poses a challenge to urban authorities, who often struggle to match the rate of cities' expansion with adequate services. The extent of networked, and often poorly performing sewerage services, is very limited, with only around 9% of SSA's urban population benefiting from sewerage services (JMP 2017).

Despite its prevalence, onsite sanitation is often deemed in sector policy to be a 'private' rather than a 'public' good. Households are therefore expected to invest in their own facilities, often with limited attention from governments on associated services, especially in informal settlements, such as emptying, transport and treatment of fecal sludge (FS). Another common challenge is that governments in some countries do not consider pit toilets to be an acceptable solution for urban areas (WSP 2013). Fecal Sludge Management (FSM) is characterized by unregulated private operators, poor quality services, particularly for low-income areas, and a lack of investment in infrastructure across the sanitation value chain (Ingallinella et al, 2002).

In 2013, the Bill & Melinda Gates Foundation (BMGF) and the Department for International Development of the UK Government (DfID) launched the Partnership Cities Project. This project sought to find solutions to sustainable onsite sanitation services, aiming to support investments in infrastructure, build partnerships between key actors at city-level, and showcase new service delivery models. The Project aimed to develop private sector participation (PSP) through contractual arrangements between private entities and the relevant service authority (in most cases these were municipalities or utilities, i.e. in Senegal it was ONAS) at different segments of the sanitation value chain. As of December 2017, the Partnership contributed to funding a total of 11 FSM initiatives in SSA and South Asia. In SSA, the Partnership was implemented in six cities: Accra (Ghana), Dakar (Senegal), Blantyre (Malawi), Durban (South Africa), Freetown (Sierra Leone) and Kampala (Uganda). Another partnership on the same principles was implemented in 2 other cities through the Water and Sanitation for the Urban Poor (WSUP) in Kisumu, Kenya and Lusaka, Zambia.

This paper presents the findings from a rapid review of the six BMGF/DfID-funded projects implemented in SSA but also with reference to the three WSUP implemented activities, with a focus on experiences of engaging and contracting the private sector for FSM services. This paper also assesses some of the outcomes with regards to sustainable and inclusive service provision and extracts broader lessons for future project and Public-Private Partnership (PPP) design for onsite sanitation services. The review was based on secondary data review and stakeholder interviews for each of the six cities, together with site visits¹ by one of the three review team consultants.

The FSM context in the six cities

The six projects in SSA were implemented against the backdrop of different city (and country) contexts that influenced their design as well as their outcomes. The cities are a mixture of higher income contexts (Durban) and those that sit within some of the world's poorest countries (Blantyre and Freetown). Low socio-economic development is also mirrored by low public-sector capacity. FSM was a major issue in all of the cities, although receiving limited attention from public authorities. The percentage of the population accessing networked sewerage services ranged from 57% in Durban, 10–30% in Dakar, Accra, Blantyre and Kampala, and down to just 1% in Freetown. Low income households often could not access safe emptying services, due to various physical and financial barriers. Unhygienic manual emptying services were widespread. Few cities had treatment facilities specifically designed to receive FS, and those that did were in varying states of disrepair. Despite these widespread challenges, FSM was given limited attention by politicians and was often chronically under-resourced in terms of public expenditure. The service authorities (generally municipal authorities, except for Dakar) had varying degrees of involvement in direct and indirect FSM service provision along the sanitation value chain.

In most cities, onsite sanitation emptying services were predominantly provided by private entities. Private service providers included individuals, registered and unregistered companies delivering emptying and transport services, as well as public toilets services. Private emptying services were either mechanized (vacuum trucks), or manual services. Common challenges in emptying service delivery included poor road infrastructure, poor assets conditions (requiring frequent repairs) and limited private sector access to finance to upgrade equipment or scale-up services.

Overview of project components in the six cities

The table below provides a summary of the key project focus areas for each city.

City	Main project focus areas
Accra	Developing a Joint Venture for the production and marketing for a FS-derived product
Blantyre	Establishing PPPs for public toilet management, operation of emptying equipment, and for FS treatment and valorization sites
Dakar	Concession contract for rehabilitating and operating FSTPs, strengthening supply and demand for emptying services, and services regulation
Durban	Developing emptying services for Ecosan toilets, PPP for management of a FS treatment and valorization plant
Freetown	Strengthening capacity of private emptying services, building demand and regulation
Kampala	Strengthening the capacity of private emptying services and regulation

Efforts made to build foundations for conducive private sector participation

The projects embedded activities to build the foundations for sustainable PSP and PPPs in onsite sanitation services. Efforts to build public sector capacity for PSP and PPPs varied. Examples included:

- Undertaking studies to build the evidence-base to plan for and outsource FSM services: These studies have been a catalyst in providing data on which to plan and budget and in raising FSM issues onto the

sector agenda. Stakeholder exchange visits also helped raise understanding and engagement of city stakeholders on FSM issues.

- Hosting workshops to bring public and private sector stakeholders together, to strengthen dialogue and trust and increase technical capacity (e.g. training on FSM standards).

However, aside from Freetown, few projects deliberately sought to strengthen the service authority's capacity in areas relating to their role in potential PPPs in FSM, including issues such as procurement, contract management, monitoring and enforcement.

Projects also developed standards for urban sanitation services as part of efforts to improve regulation and increase operators' accountability. However, the extent to which these standards are adopted and enforced varies in practice. In some cities, service authorities adopted a gradual approach to standards enforcement: for example, in Freetown and Kampala, the city authorities decided to develop trust with private sector operators, before progressively formalizing relations into operating licenses.

Two projects focused on public toilets (Blantyre and Freetown), with Blantyre getting to the stage of contracting out the management of refurbished toilets to the private sector. In Blantyre grant funds were used to rehabilitate and construct toilets to a standard which customers would be willing to pay for. Consultations were undertaken with communities and local leaders to increase customer willingness to pay and political acceptance of privately-run, pay-for-use toilets.

The '*emptyability*' of domestic toilets is a challenge in some areas and projects took different approaches to overcome this. Apart from issues of access and design of the toilet, some households use the pit latrine as a solid waste dumping place. Media awareness campaigns were used in three of the cities to inform customers of the problems of putting solid waste into pits. In addition, in Blantyre, local masons were trained on construction of (emptyable) toilets. However there has been relatively limited engagement in strengthening sanitary inspections and building control inspections to enforce toilet standards, or indeed to provide technical guidance to households on toilet designs.

Efforts were made to support the growth of emptying and transport businesses through trainings, introduction of appropriate technologies, Business Development Support (BDS) and facilitating access to credit. In Dakar, a loan guarantee fund for truck operators was established. In Freetown, BDS was provided to truck operators to increase their creditworthiness and help with their loan applications. However, in some cases, as in Blantyre and Freetown, access to credit remains a challenge. Other types of support emerged: in Blantyre, a leasing model was adopted for the operation of a small toilet emptying facility. In Kampala, BDS is helping private operators to reach the requirements of public procurement, to enable PPPs in future. Call centers were also established in Dakar, Kampala and Freetown. Such call centers were established with the aim to ease customer access to service providers, reduce costs through competition, and allow service authorities to track the quality of services. In Kampala and Dakar, customer prices through the call center fell by 10-20%, although in Dakar only 10% of emptying services were requested through the call center.

Durban is the only city fully subsidizing emptying services. The municipality contracted emptying services for 50,000 Urine Diversion Toilets (UDTs) installed in low-income areas. Whilst this is a clear example of targeted public funding for pro-poor FSM services, it is based on a legal framework which guarantees the right to free basic services, which is often lacking in other countries.

Projects also invested in treatment and re-use technologies. In Accra, the grantee led the construction of a FSTP with the capacity to produce 500 tons of FS-based compost and supported the design and roll-out of a marketing strategy for these by-products. In Dakar, the project included the rehabilitation of three FSTP under a concession agreement with a private operator, as well as the introduction of an innovative treatment and valorization technology (the Omni Processor). Finally, in Durban, eThekweni aimed to use the Black Soldier Fly (BSF) technology to transform waste into useful end-products. As of October 2017, the concession to rehabilitate and manage the existing FSTPs in Dakar was ongoing, whilst the waste conversion processes in Accra and Durban had just started operating.

Progress and experiences in contracting the private sector

Contracts with the private sector have been awarded in Accra, Blantyre, Dakar and Durban. Whilst the contract for the FSTP in Dakar and the toilet emptying contract in Durban had been running for some time prior to the review, the contracts for treatment and re-use in Durban and Accra had just started. Contracts for public toilet management and the lease of toilet emptying equipment in Blantyre were recently signed, but had not started.

A range of PPP models were introduced in the cities. Five out of seven contracts tendered the management of public infrastructure through management, lease, or concession models. The project in Accra opted for a joint venture model, whereby the assets are jointly owned by the private and public sectors. The Durban emptying contract was a service contract, providing services using their own assets against the municipality's payment. This contract transferred the least risk (since all remuneration came from transfers from eThekweni), while by contrast the contracts in Accra and Dakar transferred the largest share of risk to the private sector, since operators were fully in charge of all operations and maintenance costs and expected to be remunerated through tariffs and FS bi-product sales. Grant and public funds were used to 'de-risk' contracts through funding the initial capital investments to establish treatment facilities or construct public toilets.

Contracts were awarded either based on open tenders or through negotiated procedures. The procurement periods were generally lengthy (seven to 11 months), reflecting the need for protracted negotiations and the innovative nature of these contracts both for the public and private sectors.

Overall assessment: inclusiveness, sustainability, leverage and partnerships

Many of the initiatives are still in their early stages, therefore it is too early to assess the improvements brought about by the PSP and PPPs. Data is also sometimes lacking, which calls for improving project monitoring systems in the future.

Preliminary results indicate that contracts for treatment services have contributed to increasing service levels. In Dakar there has been considerable increases in volumes of FS being delivered to the treatment facilities, suggesting a decrease in illegal disposal. In Accra, where the FSTP started operations a few months ago, 100% of sludge delivered is effectively treated. In Durban the emptying contractor has emptied around 12,000 household toilets.

There is good potential for the initiatives to improve service levels for containment, emptying and transport, although such improvements will be partially dependent on the adoption and enforcement of standards, which is not yet guaranteed. Projects in Freetown, Kampala and Dakar aim to increase the access to (and affordability of) vacuum truck services and improve the quality of such services. Blantyre and Freetown have introduced technologies (such as the Mobile Desludging Unit - MDU, and Gulper) with the aim of improving the quality of emptying services in hard to reach locations. Factors that have contributed to improving service levels across the value chain include:

- Capital investments in infrastructure by the public sector;
- Operational efficiencies brought in by the private sector. In Dakar, the company was able to increase overall net profits by 236% four years after the contract start; and
- Clear outputs as laid out in contracts, forming the basis for remuneration, such as in Durban.

Aside from Durban, there is limited evidence that services developed have benefited poor households directly. As projects did not seek to capture their specific results in developing inclusive services, the review had limited data on outcomes on poor households to analyze. Only two contracts (Blantyre MDU lease, and Durban UDT emptying) sought to develop services specifically tailored to the needs of the poor. Whilst most projects primarily sought to improve vacuum truck emptying services, few projects included efforts to research and build on services that currently target poor areas. Freetown is an exception, where manual pit emptiers were supported to provide higher quality of services in their communities; however the lack of public infrastructure (transfer stations) undermines these efforts for service improvements.

Where contracts have got successfully underway, they have enabled the development of a sustainable approach to urban sanitation service provision, although a more robust financial assessment would be required to assert sustainability. Private sector appetite for further contracts with service authorities, in Accra and Dakar especially, indicate that FSTPs can generate attractive revenues. However, it is premature to review sustainability of the various initiatives at this early stage.

There has been limited leverage of private investments for capital costs of public infrastructure to date. However, the private sector in Accra and Dakar are carrying substantial risk and have contributed working capital. It is anticipated however that once the business models are 'proven' there would be replication with greater private sector investments in future.

Key lessons learned

The BMGF/DfID Partnership Cities Project has demonstrated that the private sector can be successfully attracted to deliver urban onsite sanitation services under PPP arrangements with service authorities.

Experiences from these six cities show that opportunities in onsite sanitation services can attract well-organized Small and Medium Enterprises (SMEs), able to deliver services in a professional and efficient manner. Key ingredients of success include:

- A clear rationale for PPPs and early engagement with potential service providers;
- Careful contract preparation to identify the optimum legal arrangement and risk allocation between contracting parties;
- Flexible procurement arrangements that can be workable with local procurement procedures, which can adapt to the capacity of potential service providers and can address some innovative aspects of sanitation services to be provided.

However, whether services that are contracted lead to direct benefits for the poor remains to be demonstrated. More evidence needs to be gathered and tracked to assess the potential of PPPs to benefit poor urban households. As such, projects seeking to improve services for the poor should embed baseline studies on the situation of services for poor households, establish specific pro-poor targets and identify adequate contractual mechanisms (e.g. financial incentives, clustering service areas of different income levels, etc.) to incentivize the extension of services to poor households. There needs to be clear intentions, which are set out in the contracts, to include servicing low-income areas.

In cities which have limited experience in PPPs, service authorities require specific support to help them take on their roles as a client, enforcer and enabler. Many of the city councils undertook direct service provision before the projects, and shifting to a role of encouraging and regulating private sector services requires new skills, and a clear strategic direction change by the city authorities. Such new roles of the city authorities should be clearly communicated through the sector, including to private entities. The authorities will need to ensure they themselves are clear on issues such as pro-poor service delivery, procurement modalities that enable PPPs in their legal and procurement frameworks, etc.

Introducing PPPs takes time, and foundations need to be laid to ensure they will be viable. The ‘readiness’ of the context is key for PPPs and many actions may be needed to get the sector to a stage where PPPs can be implemented and be viable in the first place. This includes for example getting the private sector to a capacity at which they can take on PPPs; ensuring the public sector has appropriate frameworks to procure and enforce PPPs; and building customer demand to ensure PPP viability.

Beyond contract award, ongoing, cost-effective support to private operators is key for supporting the viability of PPPs. For example, support in demand creation, ensuring availability of enabling infrastructure (such as transfer stations, accessible treatment facilities, etc), or enforcing against alternatives (such as open defecation, illegal sludge dumping, or poor quality emptying services). As public financing for FSM is limited, there is a need to review the cost effectiveness of various actions to support FSM services and find innovative low-cost means to provide such support, to ensure the best targeting of limited resources.

Establishing standards for service levels is an important step, although PSP initiatives should also consider how to ensure standards are monitored and enforced. Such enforcement is key to the viability of private sector viability in FSM; models reliant on top-down enforcement can be augmented by innovative approaches and by community accountability and feedback mechanisms.

Political commitment to ensure FSM services to the poor is not necessarily guaranteed and needs to be strengthened. FSM is often given less political attention than other urban services such as solid waste and the fact that poor communities often reside in informal or ‘illegal’ settlements can be a barrier to service authorities’ engagement. There is a need for governments to consider the public health benefits of investing in on-site sanitation services, to consider the in-equalities of focusing government subsidies only for sewerage services and not for on-site services, and to identify effective means to incentivize services for the poor.

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Notes

This paper presents the findings from the synthesis report of the study, titled *Engaging with the Private Sector for Urban Onsite Sanitation Services: Lessons from six sub-Saharan African cities. January 2018.*

¹ In-country visits, including field visits and stakeholder interviews, were undertaken in five of the six cities. Dakar was excluded as it was deemed by BMGF that there was adequate existing documentation to allow the review to be desk-based.

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