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Service Level Agreements for Inclusive Urban Sanitation Services

Lessons from a Global Review

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Note: The photos showcased in this report are from field visits conducted during the course of the project.

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Introduction

In 2013, BMGF/DFID initiated a partnership to promote private sector participation in non-networked sanitation and improve capabilities of sanitation service authorities to govern these partnerships. Targeted cities were expected to have a clear mandate to provide urban services for all, including for the non-networked poor; and interest to develop and test models to engage the private sector in a coordinated, formal manner through structured service-level agreements (SLAs), as a form of public-private partnerships, to ensure the delivery of equitable, sustainable sanitation services at a city level.

Thirteen cities (six in Sub-Saharan Africa, seven in South Asia) with demonstrated evidence of long term commitment to improving sanitation service outcomes were selected to benefit from this opportunity. In August 2017, BMGF/DFID commissioned a rapid cross-regional review of the outcomes of this partnership portfolio and identified lessons which can be applied to future projects and in cities' future investments in sanitation services. This report documents key lessons from this partnership portfolio regarding the engagement of private partners through structured SLAs in the delivery of inclusive and sustainable urban sanitation services.

Key Lessons from BMGF/DFID Partnership Portfolio

The regional reviews generated valuable lessons on engaging with the private sector for the delivery of inclusive and sustainable urban sanitation services. This included areas such as the rationale for private sector engagement, desired features in an enabling environment, experiences during contract development and implementation and achievement of project outcomes in terms of improved service delivery, inclusiveness and sustainability.

As most city partnerships are in their early stages of engaging the private sector in onsite sanitation services, more time is needed to draw out full lessons from these approaches and their effectiveness in improving sanitation outcomes. Some emerging lessons from the cross-regional portfolio include:

- Private sector can be attracted to deliver onsite sanitation services at scale under PPPs. But the conditions under which private sector can yield better value for money in comparison to public provision or can complement public funding remains to be proven. Enabling factors for private sector engagement will include – a clear rationale for PPP; early engagement with potential service providers; improved public sector capacities to structure and execute balanced PPPs and undertake the necessary due diligence for this purpose; concessions relative to the economic viability of projects and guaranteed revenue streams; flexible procurement processes to allow for emerging private sector capacities; optimum risk allocation and flexible contract design that allows for fair and balanced renegotiations if necessary; improved regulations that are critical for project viability

- Engaging the private sector in unproven and uncertain markets such as onsite sanitation services can be challenging. This can be addressed by engaging the private sector right from the PPP design stage, an particularly in designing a framework of shared risk. Grant funding and public sector investments in capital infrastructure will continue to play an important role in overcoming these challenges and creating

opportunities for private sector participation in onsite sanitation

- Cities need to adopt a flexible approach to procurement, both in structuring the PPP and in the selection of private partners owing to the innovative nature of onsite sanitation services and capacity limitations among the public and private sectors

- There is a continued need to support the public and private sectors to develop the enabling environment for PPPs. This will involve channeling efforts towards – establishing regulatory and service standard framework, building private sector capacities to win public contracts, building public sector mind-set and capacities to shift from the role of service provider to one of a service enabler and regulator. Fostering trust between both parties is also integral to the development of successful PPPs

- The role of the public sector in advancing progress in this sector is important even after engaging the private sector for service provision. Active engagement of the public sector is needed in - contract management, monitoring and enforcement, addressing service inequities, assuming ownership of environmental monitoring, and supporting service components that impact business viability

- Public sector will need to continue subsidizing onsite sanitation services till such time that private engagement models evolve and mature. Public sector can also tend to have expectations from the PPP on onsite sanitation services, which will need to be actively managed

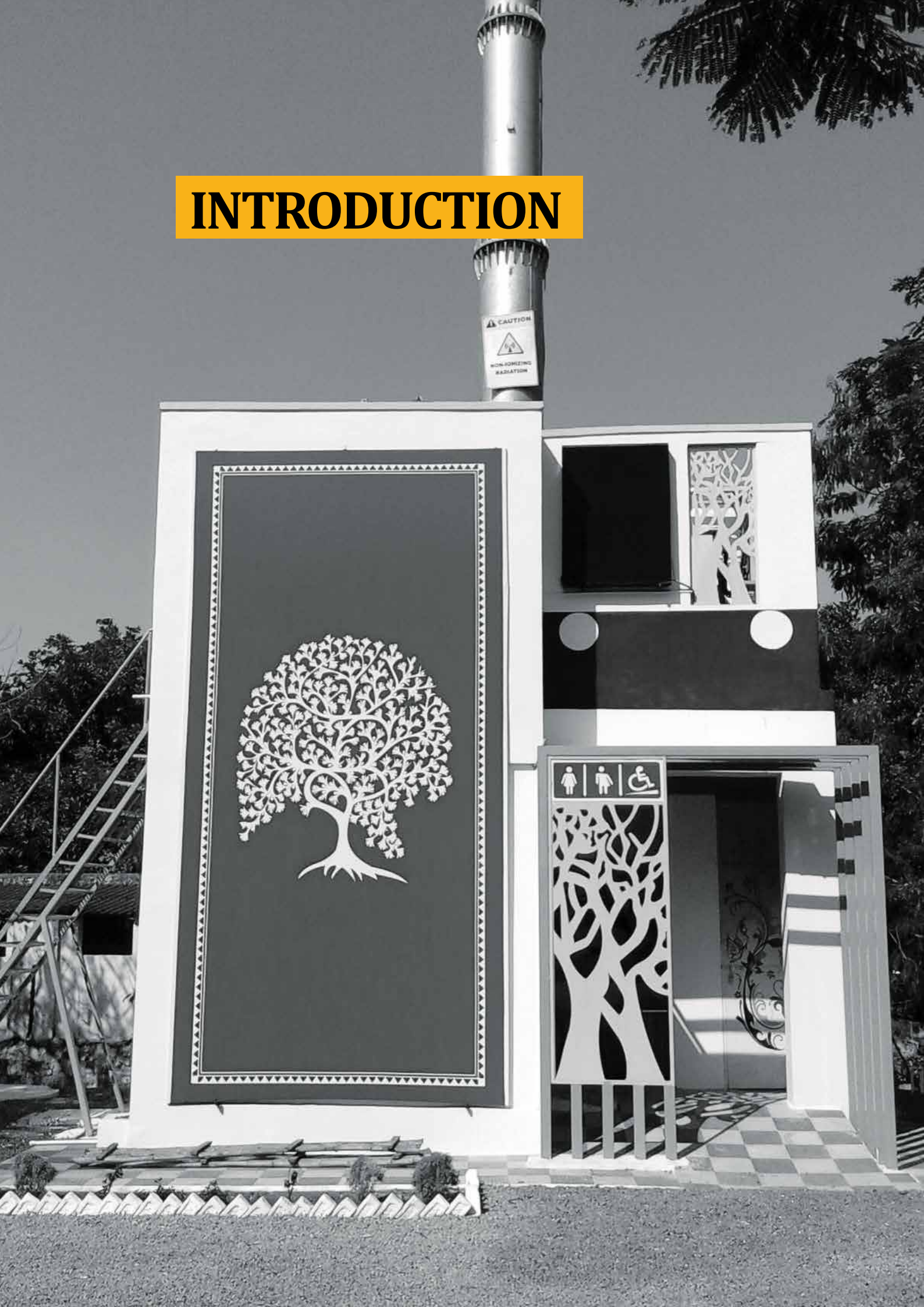
- The conditions under which private sector participation brings direct benefits to the poor remains to be proven. More efforts must be taken to understand this market segment to identify sustainable service solutions for these groups. Public sector needs to play an active role, both to understand the service needs of the poor and to evolve alternative public policy solutions and financing frameworks where private engagement does not seem feasible

- To what extent private sector participation under PPPs can lead to sustainable services at scale remains to be seen. Although there are some positive institutional actions on this front, some threats to the complex issue of sustainability remain. Periodic reviews of institutional changes and PPP contract management are needed to draw out full lessons relating to the provision of onsite sanitation services and long-term sustainability of positive outcomes

Acronyms

BMGF	–	Bill and Melinda Gates Foundation
BOO	–	Build Operate Own
BOT	–	Build Operate Transfer
CEPT	–	Centre for Environment Planning and Technology
DFID	–	United Kingdom Department for International Development
FS	–	Fecal Sludge
FSM	–	Fecal Sludge Management
FSTP	–	Fecal Sludge Treatment Plant
GIS	–	Geographical Information System
GPS	–	Global Positioning System
HH	–	Household
IFMR	–	Institute for Financial Management and Research
JMP	–	Joint Monitoring Program
MoU	–	Memorandum of Understanding
NGO	–	Non-Governmental Organizations
O&M	–	Operations and Maintenance
OSS	–	Onsite Sanitation Services
PPP	–	Public-Private Partnership
PSP	–	Private Sector Participation
SDG	–	Sustainable Development Goals
SLA	–	Service Level Agreement
STS	–	Secondary Transfer Stations
SWM	–	Solid Waste Management
ToR	–	Terms of Reference
UN	–	United Nations
WASH	–	Water supply, Sanitation and Hygiene

INTRODUCTION



Background and Objectives

Globally, an estimated 2.8 billion people (38 per cent of the global population) and a quarter (29 per cent) of the urban population use onsite sanitation systems. In urban areas of developing countries, onsite sanitation systems[1], such as septic tanks or improved latrines, are the predominant forms of sanitation (WHO/ UNICEF-JMP, 2017). Onsite systems need to be safely managed to protect public health and the environment. This is defined as "excreta which is either disposed of in situ or emptied, transported, and treated off-site" (WHO/UNICEF-JMP, 2017). By this definition, conservatively 4.5 billion people lacked safely managed sanitation services in 2015, with at least 1.7 billion of these living in urban areas.

Sustainable Development Goal (SDG) six includes an explicit target to "ensure, by 2030, access to adequate and equitable sanitation and hygiene for all and end open defecation". Progress on this target is measured by the proportions of populations using safely managed sanitation services. Services for onsite sanitation, however, are primarily delivered through an unregulated, uncoordinated open market context that does not address health or environmental safety.

Provision of affordable safe sanitation services in urban areas presents an important policy challenge. This challenge is exacerbated in developing countries where sanitation service gaps are acute, where, historically, the provision of safely managed services has not been prioritised from a policy or public investment standpoint, and where urban populations are growing rapidly. In this context, cities, which ultimately carry service provision mandates, tend to have insufficient technical expertise, institutional capacities or funding allocations.

To address this challenge, the Bill and Melinda Gates Foundation (BMGF) and the UK Department of International Development (DFID) initiated a partnership in 2013, based on a shared vision of universal use of sustainable sanitation services. The partnership was designed to promote a public authority based citywide sanitation service that could be advanced with the support of well-managed private sector providers. Historically, the public sector has engaged the private sector in the provision of basic services, such as water and sanitation. Development practice tells us that private agencies can be effectively engaged to deliver urban service outcomes, such as access, quality and price. The 'public good' nature of basic services, however, requires that a public agency retains a strong market coordinating and accountability role.

The BMGF/DFID partnership aimed to:

- Model well-designed public-private partnerships (PPP) as a viable mode of service delivery in onsite sanitation.
- Improve capabilities of the public sector to design and establish and govern these partnerships.

For this, 12 cities (five in Sub-Saharan Africa and seven in South Asia) were selected with demonstrated commitment to improving sanitation service outcomes on a citywide scale, and included non-networked and poor households. Over two project phases, public agencies and partner consultant organizations in these cities were expected to: assess the enabling environment for private sector engagement; identify and structure sanitation projects outside the realm of conventional sewer systems that were appropriate for PPPs (e.g. construction and maintenance of public toilets, provision of pit/tank emptying and transport services, provision of waste treatment/reuse); and to build capabilities within service authorities. With

[1] Where excreta are stored on-site in pits or tanks

Globally,

4.5 billion

people lack access to safely managed sanitation services

Of these,

1.7 billion

live in urban areas

technical assistance, service authorities were expected to engage private sector operators using performance-based contracts or service level agreements (SLA) governed and based on monitored performance measures linked to various urban sanitation services.

In 2017, BMGF and DFID commissioned a rapid review of the progress and outcomes of this portfolio, with the primary aim of identifying lessons within each project that can be applied in future projects and future investments. The review was particularly designed to analyse the extent to which projects contributed to the development and effective implementation of SLAs and helped leverage other investments in urban sanitation in the city.

This report draws on the cross-regional portfolio review to present a summary of lessons about the rationale, the use of and limits of SLAs in onsite sanitation service delivery. The remaining report is organised into the following chapters:

Chapter 2 sets out the lessons regarding the components and role of an enabling environment in advancing public-private partnerships in onsite sanitation services.

Chapter 3 addresses the lessons from the various stages in contract development and implementation with particular focus on procurement processes, performance obligations, risk management, and performance monitoring.

Chapter 4 delineates the lessons based on early evidence around the sustainability of project actions and performance with respect to private sector engagement in onsite sanitation services.

Chapter 5 is a summary of broader implications and overall lessons for the future.

Terminology
Throughout this report, a number of key terms are used to refer to sanitation services and PSP

Public-Private Partnerships (PPP):

According to the World Bank, PPP is “a long-term contract between a private party and a government entity for providing a public asset or service, in which the private party bears significant risk and management responsibility and remuneration is linked to performance”. (https://pppknowledgelab.org)

Private Sector Participation (PSP):

Participation of private sector actors (individuals or enterprises, both formal and informal) in public service delivery. PSP can “naturally occur or be brokered through PPP agreements”.

Service Level Agreements (SLA):

These refer to contractual arrangements between public authority and private sector organizations. In the 2014 guidance note on SLAs for onsite sanitation services prepared by Castalia Ltd for BMGF/DFID, SLAs are defined as contractual arrangements that tie the disbursement of public funds to the private contractor and to the achievement of specified outputs or service levels.

modalities. Underlying definitions of these key terms are proposed in Annexure 1. We also make a distinction between SLAs and licensing, where SLAs refer to a contract between the private and public sector and licensing does not require a contract, and is applicable to both public and private service providers. This report focuses specifically on lessons learned during the development and management of SLAs or PPPs.

The Annexes referenced throughout the document are presented at the end of the report.

Annexure 2 presents an overview of the project portfolio supported under this partnership.

The different city and country contexts influenced each project's design, progress and outcomes. City contexts are varied in terms of income, population, size, and institutional arrangements. There were broad similarities in terms of the high rates of urbanization (aside from Durban) and the prevalence of informal, high-density settlements. At project inception, sanitation profiles were broadly similar across most cities (aside from

Durban which exhibited better readiness for PPPs at the time of project design) and were characterised by the following:

- Absence or low coverage of networked services (aside from Durban which had 57% networked coverage)
- High prevalence of onsite sanitation systems, including a mix of septic tanks and pits;
- Prevalence of open defecation in some cities (Indian cities)
- Technically deficient, environmentally unsafe containment (e.g. septic tanks being connected to open drains, technical standards not being followed during construction)
- Poor access to mechanised emptying services;
- prevalence of manual emptying practices in some cities and its preference over mechanised emptying owing to considerations, such as cost and ease of access
- Access challenges for mechanised emptying in terms of hard-to-reach areas and hard-to-desludge pits
- Unsafe desludging practices such as manual emptying and illegal dumping with limited regard for health, environment and worker safety
- Absence of treatment services in most cities
- Non-operational or limited capacity of treatment facilities to operate at city-scale (or were not designed for fecal sludge but rather for sewerage).

For private sector engagement to be effective, the institutional environment must have certain characteristics and capacities, including:

Appropriate Policy and Regulatory Frameworks

Effective Monitoring and Enforcement of Service Obligations

Institutional Capabilities to Structure and Manage Partnerships

Strong Forward and Backward Linkages along the Sanitation Value Chain

Figure 1: Characteristics of Institutional Environment

Baseline assessments of readiness for SLAs/PPPs suggest that a number of these preconditions needed to be developed in all project cities.
All cities had institutional mandates for service provision, with designated service authorities responsible for the provision of onsite sanitation services. However, this mandate was generally not supported by a strong enabling environment. Some common challenges included:

- Diffused accountability and weak regulatory oversight in provision of services
- Low prioritization of onsite sanitation services from the standpoint of public policy or public investments
- Gaps in legal and regulatory instruments governing onsite sanitation services across the value chain
- Underdeveloped or absent policies for engaging the private sector in providing onsite sanitation services (primarily cities in South Asia)
- Poor asset conditions and financing challenges for upgrading or procurement of new assets
- Lack of experience in formal, performance-based contracting arrangements between public and private sectors leading to weak public-sector capacities to contract out and regulate services
- Weak private sector capacities to execute contracts at city-scale
- Relative lack of trust and dialogue between some of the private operators and the service authority (most cities in Sub-Saharan Africa and in India)

In summary, the readiness of project cities to engage the private sector through well-structured PPPs/SLAs was limited at the project baseline.

Relevant PPP Stage*

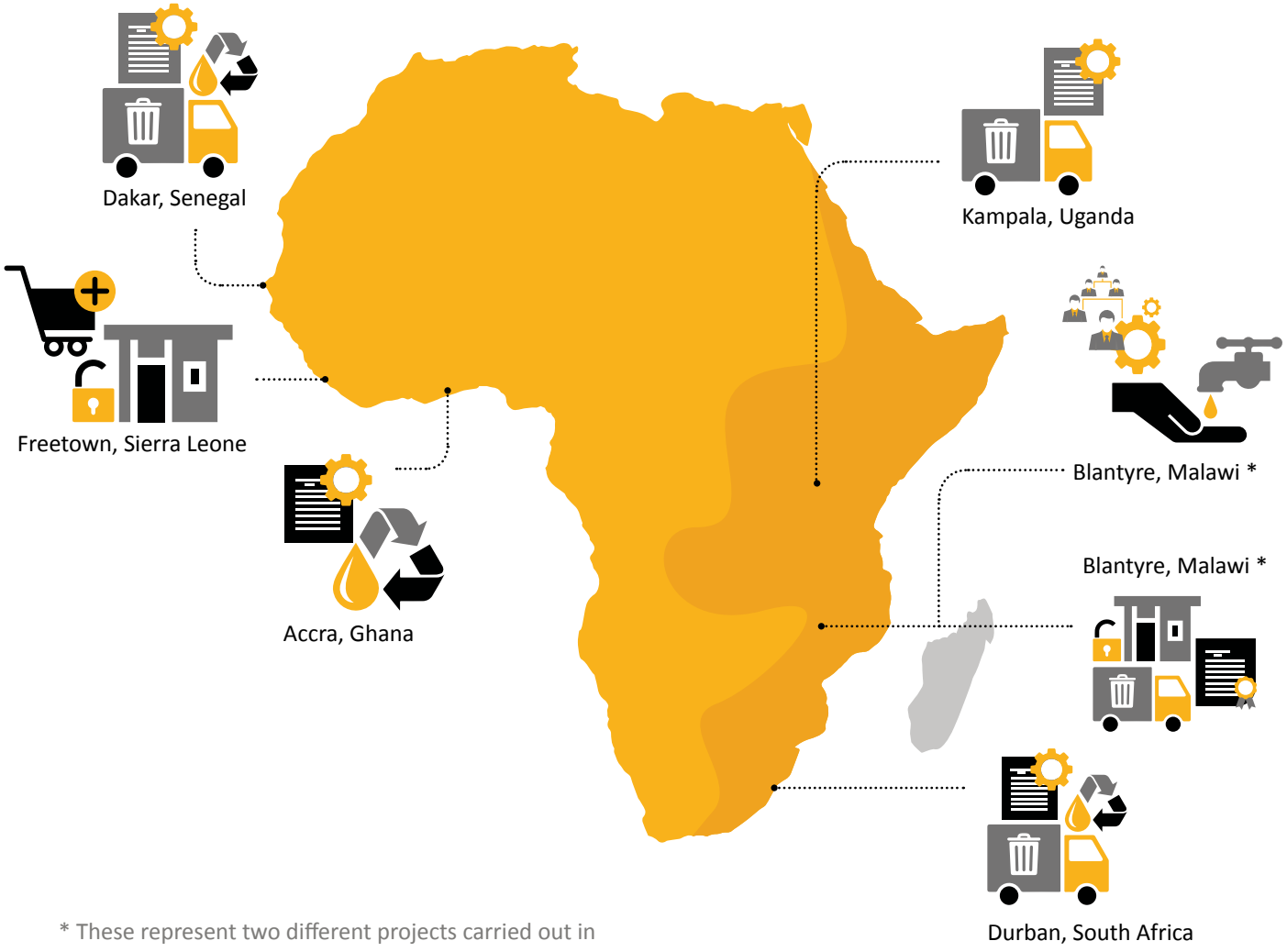
- Project structuring
- Contract Award
- Contract management
- Procurement

Sanitation Value Chain

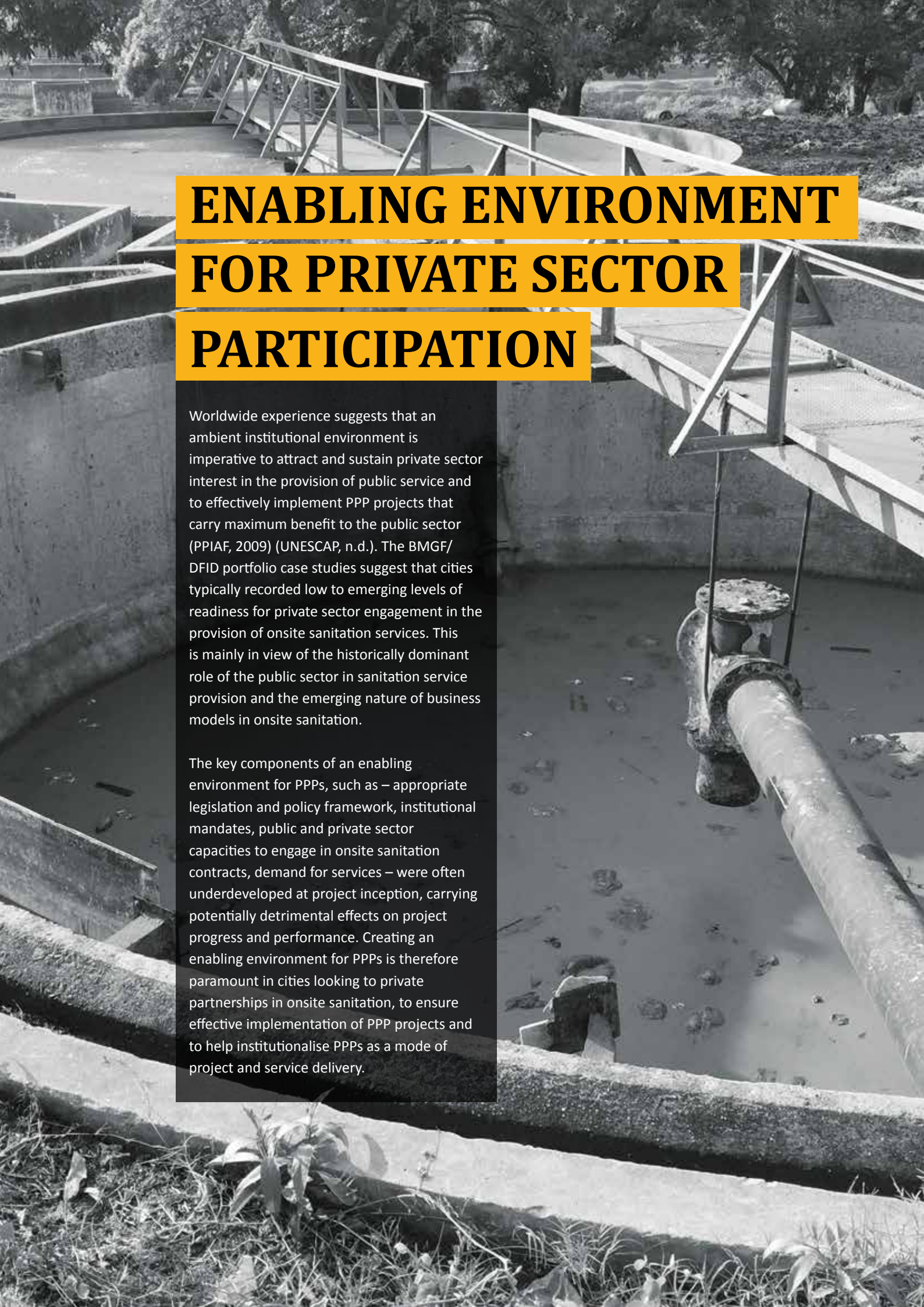
- Access (Public Toilets)
- Emptying & Transport
- Treatment & End-use
- Treatment and reuse

* These stages also correspond to the stages of a PPP represented in Figure 3, on Page 29

Current Scenario: Sanitation Service-Level Agreements



* These represent two different projects carried out in Blantyre, details of which can be found in Annexure 4



ENABLING ENVIRONMENT FOR PRIVATE SECTOR PARTICIPATION

Worldwide experience suggests that an ambient institutional environment is imperative to attract and sustain private sector interest in the provision of public service and to effectively implement PPP projects that carry maximum benefit to the public sector (PPIAF, 2009) (UNESCAP, n.d.). The BMGF/ DFID portfolio case studies suggest that cities typically recorded low to emerging levels of readiness for private sector engagement in the provision of onsite sanitation services. This is mainly in view of the historically dominant role of the public sector in sanitation service provision and the emerging nature of business models in onsite sanitation.

The key components of an enabling environment for PPPs, such as – appropriate legislation and policy framework, institutional mandates, public and private sector capacities to engage in onsite sanitation contracts, demand for services – were often underdeveloped at project inception, carrying potentially detrimental effects on project progress and performance. Creating an enabling environment for PPPs is therefore paramount in cities looking to private partnerships in onsite sanitation, to ensure effective implementation of PPP projects and to help institutionalise PPPs as a mode of project and service delivery.

This section discusses select components of an enabling environment for PPPs in onsite sanitation and related experiences from case studies, with particular focus on - rationale for private sector engagement; presence of political leadership and commitment, appropriate regulations, standards, and guidelines; adequacy of public and private sector capacities to effectively deliver onsite sanitation services; and presence of demand for onsite sanitation services.

Rationale for Private Sector Engagement

Fundamental to an enabling environment for PPPs is the presence of a well-articulated rationale for private participation. This involves the expression of a statement of benefits that private participation is expected to bring. A mature rationale requires the public sector to take into consideration various factors, such as its need for private capital, potential for service delivery benefits, and value for money that can be accrued through private participation. Case studies suggest that the overarching rationale across regions for private sector engagement was mainly guided by limitations in technical and financial resources within the public sector to scale-up onsite sanitation services and an emergent understanding of commercial approaches to delivering these services. Based on experiences from other sectors, it was anticipated that the private sector would bridge existing limitations in onsite sanitation services through stated benefits of market knowledge and expertise, commercial orientation, operational efficiency, and capital investments. Although business models in onsite sanitation were emergent and innovative in nature, city examples indicated that the private sector already played a role in the delivery of these services (particularly in the delivery of public toilets and emptying/transport services), albeit in an informal, piecemeal, and for the most part, in an unregulated manner. It was therefore expected that the market knowledge and technical expertise thus accrued could yield tangible benefits under a formalised approach to service delivery. Across all project cities, this understanding of business viability and potential advantages guided the selection and structuring of projects for private sector engagement.

That said, a rationale becomes defensible when public sector comparators or value for money assessments are employed to assess the extent to which private engagement might be preferred over the traditional public sector provision of infrastructure or services. Case studies indicated no evidence of such assessments being undertaken by the public sector to establish a case for PPPs. The assumptions around improved economic benefits, service levels and environmental outcomes from private participation were therefore untested and anecdotal.

A rationale that reflects the commonality of purpose among key stakeholder constituencies can not only lead to partnerships in projects across common areas of interest, but also help to manage expectations in stakeholder constituencies during the course of the partnerships. Case studies suggest that formal PPP engagements through signed agreements developed in a few cities reflected this shared vision and also the intent to secure the performance of both parties involved in a manner that avoids unrealistic expectations (all Bangladesh cities). These agreements provide a basis for evaluating project performance and adjustment of strategies where needed.

Public Sector constraints

Public sector constraints

- Inadequate public finances for developing onsite sanitation service infrastructure (desludging trucks, treatment plants, testing equipment)
- Lack of technical expertise, particularly in construction and maintenance of treatment facilities
- Limited manpower and related capacities to deliver services at desirable scale/quality
- Lack of efficiency measures and motivations

Potential benefits from Private Sector Participation

Potential benefits from Private Sector Participation

- Potential to supplement limited public sector capacities
- Technical expertise, specifically in the construction/maintenance of treatment facilities
- Business expertise, particularly in the marketing and sale of fecal sludge (FS)-based products and scale-up of emptying services
- Potential for improved service benefits (access and quality; improved customer response times in emptying services; reduction of illegal dumping of sludge)
- Potential for efficiency gains and longer-term value for money
- Access to private capital (for construction/upgradation of public toilets and treatment facilities, purchase of deslugding trucks)

Potential Risk from Private Sector Participation

Potential risks from Private Sector Participation

- High commercial structuring costs, given nascent stages of onsite sanitation service models
- Challenges in accessing external finance owing to innovative, unproven nature of sanitation business models
- (Un)willingness of the private sector to accept major risks as project viability is yet to be established, particularly in treatment operations without reuse potential or uncertain market for FS-based products
- Unsatisfactory performance of private sector
- Continuous role of public sector even after entering into a PPP

Risk Mitigation Opportunities through SLAs

Risk mitigation opportunities through SLAs

- Potential to link payments to performance
- Potential to build in incentives and penalties to uphold performance obligations
- Potential to incentivise services for the poor
- Potential to embed clear monitoring/reporting/enforcement mechanisms to ensure private sector accountability to contractual terms and conditions
- Favorable contractual terms to mitigate business risks and incentivise private sector to engage and innovate in onsite sanitation services

Figure 2: Rationale for PPPs/SLAs in Onsite Sanitation Services

Ensuring political leadership and commitment

Public sector commitment is the translation of the rationale for the private engagement into institutional acceptance and official support for private partnerships. This can be evidenced through the sustained and tangible institutional actions that reflect this support and help mainstream PPPs as a mode of service delivery. In addition to signalling a broad acceptance of and willingness to pursue PPPs, political buy-in is important because it can help to overcome political and administrative hurdles in the identification, structuring, bidding and awarding of PPP projects. To a broad extent, it can dispel perceived risks around public sector commitment to the contractual terms and conditions, and related decisions; enable a favourable investment climate for private engagement; and improve the level of trust and collaboration between the contracting parties.

Enabling Environment

Essential

- Well-articulated rationale for PPPs in OSS can help clarify expectations among contracting partners and provide basis forassessing PPP performance
- Leadership and ownership by local governments can dispel risks and enable a favourable investment climate for private sector
- Appropriate regulatory frameworks, product/service standards and accountability mechanisms are necessary to safeguard areas of public interest such as environmental quality and service pricing
- Improving public and private sector capacities can reduce bottlenecks across all stages of development and management of PPPs

Avoid

- Unrealistic expectations from the PPP, in terms of rapid service improvements or financial sustainability
- Limiting the role of public sector in the post-award contract management phase
- Embarking on PPPs/SLA without ensuring an acceptable level of institutional readiness to structure, deliver and manage projects.

Case studies underscore the importance of the official endorsement of PPPs, particularly in contexts where the public sector has traditionally played a dominant role in service provision and initiating PPPs required significant deviation from this status quo, such as in the case of Bangladesh. In most cities, a positive political environment and support from political and executive leadership were important enabling factors in raising the profile of onsite sanitation within the overall service delivery mandate of cities. These factors also helped in eliciting private sector interest in a domain in which business viability was yet to be proven and in advancing the conceptualisation and roll-out of PPP projects in onsite sanitation services. Positive institutional actions on this front have included fast-tracking administrative approvals for PPPs, sanctioning public land for the construction of public assets such as FSTP, public toilets for operation by the private sector and willingness to lease public assets under terms favorable to the private sector. Other city examples suggest that an unfavourable political context and cautious political leadership can slow down meaningful progress in private engagement. Political will is not also static and city examples suggest that changing political and administrative leadership can lead to shifting priorities in terms of private engagement.

Developing regulations, standards and guidelines

The private sector generally has limited economic incentive to uphold environmental or product safety or to ensure equitable pricing structures in the delivery of public infrastructure and services or to service the poor. The presence of appropriate regulatory frameworks, product and service standards, and related monitoring and enforcement mechanisms indicate institutional readiness for regulatory oversight to safeguard areas of public interest. This therefore makes it a robust enabling environment for the private sector to engage in public services.

In the delivery of onsite sanitation services, an enabling environment must be characterized by the presence of the following:

- Technical guidelines for the design/ construction/maintenance of containment (storage vaults/pits/septic tanks)
- Licensing frameworks for providers engaged in emptying and transport
- Licensing guidelines and regulations for FS-use products
- Safety regulations governing labour safety during repairs, maintenance, desludging (manual/mechanical emptying)
- Service standards for operations and maintenance of public toilets
- Standard operating procedures for desludging and transport
- Technical standards for the design and construction of treatment plants
- Environmental regulations governing the safe emptying and transport and treatment/ discharge standards
- Technical standards for the reuse of treated effluent waste (WHO, 1992) (Groom, Halpern, & Ehrhardt, 2006) (Chowdhry & Kone, 2012) (Blackett & et.al, 2015)

The enabling environment for governing SLAs/ PPPs in onsite sanitation also requires appropriate mechanisms for provider oversight and enforcement at all stages of the sanitation value chain. Across project cities, several institutional preconditions for SLAs/PPPs in onsite sanitation were missing at project inception, while a few were developed during the project period. At the end of the project term however, significant progress had been made in many cities. Technical guidelines for the design/construction/ maintenance of onsite sanitation infrastructure were present in project cities in the corresponding value chain components undertaken by the city; licensing frameworks were developed for the emptiers, where applicable; labor safety guidelines were developed for providers engaged in emptying and transport services; standard operating procedures were developed for providers engaged in all components of the sanitation value chain; and discharge guidelines were developed for treatment plant operations.

Guidelines were embedded within contracts governing PSPs across project cities to ensure provider accountability. However, proposed monitoring mechanisms and approaches varied across cities and value chain components. There were strong efforts to develop technology-based monitoring approaches (e.g GPS tracking of vacuum trucks in at least six project cities). The robustness of these mechanisms is discussed in chapter 3.

The design and formalization of standards, guidelines and monitoring mechanisms does not imply the automatic implementation of those tools. City experiences suggest significant work, time, training and even organizational change are necessary if formal institutions need

to become implemented programs and norms. Weak implementation of rules and enforcement undermine market demand and incentives for providers to engage in the sector meaningfully and safely.

Sub-optimal enforcement or the absence of enforcement was a challenge along the entire value chain in almost every city. For example, although every city had building codes for domestic and commercial buildings, there was no meaningful level of enforcement, particularly at the household level, on the technical quality of containment or frequencies of desludging. This gap has important implications for the environment and, importantly, on the demand for emptying services and corresponding financial viability of service providers. Similarly, enforcement against open defecation was needed for public toilets to be viable, and improved emptying services were only commercially viable if the unregulated (cheaper) competition such as manual emptying was eliminated. From a contractual standpoint, enforcement at the provider level needed improvement – for instance, treated effluents discharged into the environment were not adequately monitored and related contractual responsibilities were not enforced; providers of public sanitation facilities were not penalised for contractual violations in terms of service quality; safety norms for sanitary workers had limited acceptance from workers or providers and were therefore difficult to enforce. On the treatment side, licensing frameworks for FS-based compost remained to be developed across project cities. Delays on this front could limit market acceptance of these products and raise questions around their proposed viability and the continued interest of private providers.

While robust private engagement requires price discovery through free market competition, economic regulation is also necessary to tie service providers to addressing equity and public good goals. It is important to enable a reasonable cost of service to households and ensure that service inequalities are not perpetuated by private or non-state actors commissioned for onsite sanitation service delivery. Contracts governing PSPs acting as the binding legal and regulatory instrument to ensure desired levels of service delivery need to be structured to adhere to prescribed tariff structures and explicitly target service delivery to vulnerable populations, such as those residing in urban slums. Across project cities, these elements are embedded at varying levels - some city examples obligate contracted operators to adhere to predefined tariff structures in sanitation service delivery and other obligate operators to extend subsidized services to low income households.Operators were remunerated in several ways, including regulated tariff/fee payments by users/household (e.g. regulated user fees on public toilets in Blantyre, Warangal; regulated tariff on emptying services in Bangladesh cities, Blantyre) and from taxes collected by service authority (e.g. payments for emptying services in Wai, Sinnar, DurbaneThekwini); cross-subsidizing pro-poor and services (e.g. emptying services in Durban-eThekwini, Faridpur, Jhenaidah, Kushtia). City experiences on this front are further discussed in chapter 3.

Developing public sector capacities

Wider PSP experiences suggest that the public sector needs strong in-house capacities to independently conceptualise, structure and govern these partnerships (UNST, 1997) (PPIAF/ World Bank, 2016) (IDB, 2017).

The presence of appropriate administrative and technical capacities within the public sector can help to ensure that appropriate PPPs are identified based on-an understanding of the comparative value for money; well-defined and balanced

Public sector capacities

Essential

- Ability to define technical requirements for construction and maintenance of onsite sanitation infrastructure
- Ability to assess technical feasibility of proposals and technical capabilities of bidders to fulfil project requirements
- Capacities to structure contract scope, risks, financing streams and contractual roles and responsibilities
- Capacities for contract management and provider oversight

Private sector capacities

Essential

- Relevant technical expertise to develop sanitation infrastructure based on contractually agreed-upon technical parameters
- Capacities and experience in the assessment of critical aspects such as demand, project feasibility, and risks
- Organisational capacities to execute contracts as scope agreed upon.

scope of service; clarified financing streams and bankability of contracts appropriate assessment of risks and allocations across contracting parties; procurement and governance of contracts in a fair and transparent manner; effective monitoring and enforcement of contractual obligations; fair and efficient resolution of disputes; effective assessment of contract benefits and contributions; and the lowering of costs of PPPs in the long run. Developing PSPs in the absence of relevant institutional capacities could not only undermine the level of interest, competition and investment from private actors, but also compromise on the mandate from the public sector to deliver public goods at optimal value for money.

In pursuing PSPs in onsite sanitation, relevant public sector capacities would involve technical expertise to: specify desired technical requirements in the creation and maintenance of onsite sanitation infrastructure, such as treatment plants and containment facilities; assess technical capabilities of bidders to fulfil project requirements and technical feasibility of proposals; and supervise provider adherence to technical guidelines and plans in the creation and operation of sanitation infrastructure. In addition, the public sector must possess administrative capacities to:

- Structure the contract scope and key risks in a manner that maximises project benefits while allowing for the emerging nature of onsite sanitation business models and the need for the private sector to engage and innovate in this space
- Structure financing streams such that contract bankability is improved, private investment is attracted and potential for cost recovery is explored even in value chain segments where this is difficult at present
- Undertake fair and transparent procurement processes to enhance private sector interest and competition in this relatively evolving sector
- Structure roles and responsibilities and govern projects in a manner that signals a commitment to engaging with the private sector in a fair, amicable and consultative manner during the contract period.

Building private sector capacities

Contract sizes in onsite sanitation services are likely to be low relative to the transaction costs that will be incurred by private sector. Therefore, the potential for engaging international private players who may have necessary technical expertise is also likely to be low. Technical expertise is particularly needed for construction of treatment facilities but these were lacking in the local private sector. In the BMGF/DFID project cities, these challenges were addressed with support from the grantees. Various efforts were taken to help the private sector grow, including trainings, technology transfer, business development and facilitating access to credit. Trainings covered areas such as worker safety, operations and maintenances of services in all value chain segments, BDS in business modelling, business and proposal development. In Dakar, efforts were made to engage local banks to extend loans for onsite sanitation businesses and loan guarantees were explored to increase access to private capital.

In most cities, efforts were also taken to build an active dialogue between public and private stakeholders to improve collaboration on onsite sanitation services. Prior to this engagement, onsite sanitation services were relatively 'underground' or informal and unregulated businesses in a number of cities (e.g emptying and transport services in Bangladesh and Sub-Saharan Africa). Efforts to convene and increase the dialogue between public and private actors helped manage the balance of power between these contracting parties.

Building customer demand for onsite sanitation services

In PPP arrangements where financial remuneration for the private operator hinges on project revenues, a major risk relates to market certainty and adequacy of demand. Higher exposure to market uncertainty denotes a higher degree of operating risk, a risk that is usually transferred to the private sector within PPP arrangements. Where markets are uncertain, private partners expect concessions and guarantees from the public sector to offset this risk.

City examples suggest that there is a low demand for onsite sanitation services, particularly for emptying and transport services (all cities aside from Durban), and a low willingness to pay for public toilets (Blantyre). In these cities, there is broader recognition among the public sector that supporting demand creation is integral to ensure PPP viability. Accordingly, most project cities (aside from Durban) have focused on implementing citywide sanitation marketing and behaviour change campaigns to increase customer awareness and demand for onsite sanitation services. In a few cities, private operators are also contractually obligated to support city-wide demand generation activities. That said, city examples also suggest that while promotional strategies could hold merit, particularly in contexts where awareness is poor and information flow is weak, their stand-alone potential to generate demand at rates necessary for business viability may not be clearly understood. To this end, public sector in most instances have sought to mitigate demand risk and support private operations through contractual concessions and grants. Other actions have included phased enforcement of technical standards in containment in order to increase demand for emptying services.

CONTRACT DEVELOPMENT AND MANAGEMENT

Upon identification of potential service areas for private sector engagement, the development of PPPs/SLAs led by the public sector usually takes place through various stages. These include structuring the project through appropriate due diligence activities; procurement, which involves developing the bidding terms and conditions that define the qualifying criteria for bidders, prequalification and evaluation of bids, and preparation of draft contracts; selection of the bidding agency who will be awarded the project, and technical support for their management. It also comprises contract management which includes supporting project implementation, providing oversight, and dispute resolution (PPIAF/WBG).

The BMGF/DFID portfolio cities are at varied stages in the development and implementation of PPPs/SLAs. At the time of the review, 10 out of the 13 cities had awarded contracts across various the sanitation value chain segment; two cities were in the process of structuring their projects while one was ready for procuring private operators for service provision (Annexure 2). At project inception, a checklist of principles to follow was developed to provide guidance for cities in procuring PPPs/SLAs in onsite sanitation (Annexure 3). This section discusses city experiences across PPP/SLA stages as well as key features in contract design and implementation.

Project Selection

Selection of a project for PPPs, usually on the basic of the value for money principles

Project Structuring

Undertake appropriate due diligence and feasbility activities to ensure successful project implementation

Procurement

Bid process and development of contracts, selection of bidding agency who will be awarded the project

Contract Management

Contract oversight and enforcement and management of partnership

Figure 3: Development Stages in Public-Private Partnerships

Structuring PPP projects

In the overall PPP and SLA development process, this project structuring stage takes place only when a project has been identified for private sector engagement to enable the public sector with an in-depth understanding of various project dimensions, such as technology to be used; the geographic and service scope in terms of location and population groups to be served; the desired service levels and corresponding demand and user willingness to pay for the same. The aim of PPP structuring is to leverage this information to clarify a contract's feasibility, economic and commercial viability and overall value for money as well as to identify any technical or financial risks that may impact project outcomes and allocate them between the contracting parties appropriately (PPIAF/World Bank) (Vandenberg, 2015) (Marques De Sa, 2017).

In the delivery of onsite sanitations services, broad activities at this stage remain the same across the sanitation value chain but need to be adapted to the service scope and context of each value chain component. For instance, project structuring for the containment and treatment services would involve assessing appropriate technical designs for on-site containment (pit/septic tanks) and treatment plants; land availability for the construction of these facilities; site conditions and locational and catchment characteristics that may influence technical designs; availability of support infrastructure, such as water and electricity; factors affecting operations and maintenance, such as manpower requirements; and the presence of legal backup for enforcement. For emptying and transport services, this would include assessing the availability of and financing of service infrastructure, such as desludging trucks.

Contract Development

Essential

- Undertake market assessment for service segments being considered for a PPP
- Clarify revenue streams for the private sector
- Develop incentives for the private sector to drive improved service delivery
- Identify, allocate and manage risks between contracting partners in a fair and balanced manner, with enough flexibility to accommodate adjustments, if any.
- Explore variations in service models, concession approaches and financing structures depending on project context

Avoid

- Compromising on project preparatory/ due diligence activities
- Replicating service or financing models without comprehensive understanding of service context
- Elaborate service standards and ambitious monitoring plans that may render it infeasible to monitor and enforce contractual obligations

Considering that onsite sanitation ecosystems are often underdeveloped, common activities across all value chain components would include:

Assessing the nature of markets for each of these services including the reuse of FS-based products

Mobilizing the private sector with requisite capabilities or evaluating innovative service models in the absence of an established private sector

Identifying potential concessions that may be desired by the private sector

Assessing economic feasibility including demand and revenue-expenditure estimations and potential sources of revenue

Assessing potential areas of risk and identifying the party best suited to manage them

Identifying critical areas for monitoring and enforcement.

Figure 4: Project structuring activities across the value chain

In the BMGF/DFID portfolio cities, project structuring led to the emergence of varied service models (e.g. linking up different components of the sanitation value chain, formalizing existing structures where the private sector was absent, emptying services based on a schedule or by demand); variable concession approaches and financing structures for the same value chain components (e.g. emptying services undertaken by leasing out public assets or with assets purchased through private finance, revenue sources for emptying services including tariffs from users or performance-based payments from service authorities). The private sector was tasked with financing operations and minor maintenance in all project cities. However, the risk appetite of the private sector for capital investments, such as treatment plants, desludging trucks and public sanitation facilities varied across cities. These were primarily funded through grant sources in most cities and to a lesser extent through public and private funds. In all cities, although public land was made available for the construction of treatment plants and public sanitation facilities, there was political and public resistance for the construction of secondary transfer stations.

In all cities, due diligence activities were led by the public sector with technical and financial support from the grantees. The types of project preparation activities varied across cities but broadly included:

- commissioned studies to assess demand
- technical feasibility
- appropriate policy/legal and institutional frameworks for the PPP
- market soundings for mapping private sector
- capacity-building activities targeting the public and private sector for effective contractual engagement.

In almost all project cities, baseline data limitations around service context (e.g. containment characteristics, distance to empty, service costs) hindered the ability to undertake rigorous due diligence in structuring projects that reflect a stronger potential for economic feasibility, business viability and longer-term sustainability. However, ongoing projects are gathering service-level data on key technical and financial parameters, which can help overcome existing data limitations and contribute to more rigorous and reliable project structuring in the longer term.

Considering the limited experience in engaging private sector in onsite sanitation services, this stage was instrumental in developing an early understanding of potential risks within projects and how risk sharing principles could be applied in structuring the PPP. Risk management is discussed further later in this chapter (Risk management).

Procurement processes

Once project structuring is complete, the public sector needs to select an appropriate private partner to undertake the project responsibilities. The success of a PPP hinges on the correct selection of a private partner who has the right qualifications in terms of technical expertise as well as the ability to achieve efficiency gains and deliver on the expected value for money. Therefore, procurement, which involves soliciting proposals from the private sector and selection based on relevant technical and financial bid criteria, is a critical stage in the development of a PPP/SLA. In most countries, procurement takes place through an open tendering process to ensure a fair and competitive selection and is usually guided by general public procurement rules or specific PPP procurement rules. Countries that have more experience in developing PPPs are likely to have special legal instruments concerning PPPs and have a more formalised and standardised PPP procurement process. However, irrespective of PPP experience, public sector commitment to transparent and competitive procurement processes can go a long way in building a partnership based on mutual trust between the public and private sectors (Quium, 2008) (PPIAF/World Bank, 2016).

Procurement processes for onsite sanitation services would be broadly similar to other sectors. The process, led by the public sector, typically involves steps, such as:

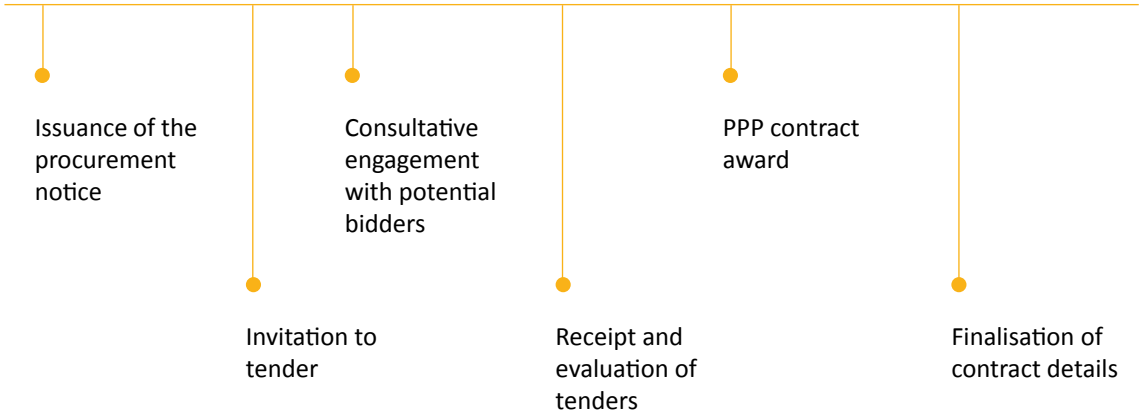


Figure 5: Procurement Process for Onsite Sanitation Services

That said, onsite sanitation is also characterised by limited public sector experience in developing PPPs and insufficient competition due to weak private sector interest and capacities. The relative inexperience of the public sector in this service area creates some limitations or additional steps for private sector engagement. These include a need to build more capacity among informal or SME providers, need to build knowledge on the sector among businesses in other adjacent sectors, and deeper engagement with the private sector in pre-bid meetings so as to improve project structuring and develop contractual terms in a manner that minimises risks and uncertainty for both contracting parties.

Accordingly, a standard, one-size-fits-all PPP procurement model that can be applied uniformly across country contexts may be premature for onsite sanitation contracts. This is evidenced in the BMGF/DFID portfolio cities, where the public sector in some cities invited bidders with an open tendering process to compete based on their technical capacities and financial bids (e.g. Wai, Warangal, Dakar, Durban (emptying services), Blantyre), and used these to assess the proposal's value for money. In other cities where private sector capacities were weak or service delivery required innovation (e.g. all Bangladesh cities, Accra, Durban), the procurement process itself was often transparent (e.g. advertised in local newspapers), but involved open negotiations with potential bidders to establish scope and boundaries of the partnership. The variable appetite from the private sector to bid for onsite sanitation contracts is also evidenced in the number of bids that ranged from zero to over 10 across cities. Bidder profile included NGOs and pure private players whose technical qualifications often barely met the bid evaluation criteria.

As a result, Kampala and Bangladesh cities needed to focus heavily on BDS prior to considering PPPs. Across all cities, the procurement process was characterised by delays and challenges for reasons including the need to develop public and private sector capacities, political delays, lengthy due diligence and contract negotiations, and the innovative nature of business models requiring additional time for contract structuring.

Issues in procurement and potential mitigation approaches

Table 1: Issues in procurement and potential mitigation approaches

Broad issues in procurement	Some mitigation approaches across project cities
Inexperience of public sector in service area	• Capacity building activities to improve knowledge and skills for managing services and for development of PPPs (all cities) • Technical assistance during project structuring (e.g. support to feasibility studies, other due diligence activities) (all cities) • Technical assistance in bid preparation, contract negotiations, development and management (all cities)
Lack of private actors in onsite sanitation services (fewer bids)	• Outreach to potential private actors, including actors from related sectors such as SWM, building maintenance (Bangladesh cities) • Incentives to participate (e.g. potential for leasing public assets – Bangladesh cities, all Africa cities except eThekwini emptying PPP) • Relaxation of qualifying criteria for service engagement (Bangladesh cities)
Limited experience of private sector	• Formalisation of existing informal or SME providers (Faridpur) • Third-party technical assistance in contract negotiations (all cities) • Capacity building activities focused on skills needed for service delivery and business management (Bangladesh cities, Kampala)

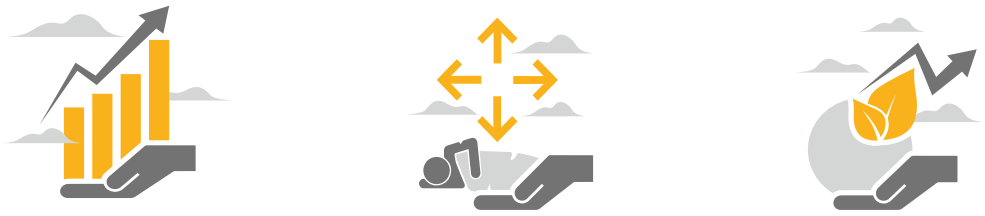
Low risk appetite in private sector for participation in onsite sanitation projects	• Low risk appetite in private sector for participation in onsite sanitation projects
	• Use of incentives
	  • Potential to lease public assets (all Bangladesh cities, all Africa cities except eThekwini emptying PPP)
	  • Favourable lease terms to support innovation and strengthening of business model (all cities except Wai)
	  • Potential for bundling of services to improve project viability (Khulna, Jhenaidah)
	  • Scheduled services (emptying) against guaranteed payments (Wai, Sinnar)

Contract design and implementation

A PPP contract (or SLA) is central to the partnership, and contracts must therefore be designed to offer a reasonable level of clarity and certainty around contractual obligations and boundaries of interaction between the public and private sectors. This section discusses select areas of PPP contract design in the BMGF/DFID portfolio cities and the corresponding experiences from project implementation.

Performance obligations

PPP contracts must clearly specify performance expectations from the private sector in terms of service levels and standards to be met. They include quantifiable performance measures to enable the assessment of project progress and provider performance. In contrast to traditional contracts that measured performance on the basis of inputs (e.g. resources used to build sanitation infrastructure), performance orientation in PPP contracts (or SLA) is at the output and outcome levels. The main performance dimensions in onsite sanitation services relate to service and environmental outcomes. PPP contracts in onsite sanitation would need to define these dimensions depending on the type of service and infrastructure that is being procured through the contract. Related performance measures could include for instance, quality of treated effluents, volume of sludge collected/disposed/treated, number of households/users served, number of customer complaints received, and response time to customer complaints.



Improving service levels

Extending pro-poor services

Improving environmental outcomes

Figure 6: Performance Obligations in Contract Design & Implementation

Improving service levels

All cities that are further along in the contract development and award phases have defined performance requirements or service levels in terms of access and quality. Across all cities, service levels are defined based on the sanitation value chain component (e.g. emptying services – number of households served or volume of sludge disposed at the treatment plant; containment services – footfall (access) or number of customer complaints (quality); treatment services (volume of sludge treated). Some contracts include performance targets that are linked to these two service dimensions. While SLAs require that service levels are defined at the output level so as to enable performance measurement which can in turn be linked to payments, the extent to which SLAs/PPP contracts in project cities define service levels at the output level is variable. A number of cities also include process-oriented measures to define service levels (Blantyre emptying contract, all SLAs in South Asia cities).

Contract Management

Essential

- Identify performance dimensions and measures that can act as indicators of project success
- Allocate appropriate resources in terms of finances and manpower to operationalise contract monitoring plans
- Build public sector capacities for effective monitoring and enforcement
- Ensure active monitoring and management of project risks
- Exhibit flexibility and willingness to engage private providers in a consultative manner with respect to contractual deviations

Avoid

- Monitoring strategies that are not cost-effective and are difficult for the public sector to execute
- Expectations of strict adherence of private sector to performance obligations without structured governance and enforcement mechanisms

Since implementation experiences from the portfolio is limited at this time, there is inadequate data on actual improvements to date on service access and quality. Preliminary results from cities that have some implementation experience (Accra, Dakar, Durban, Faridpur, Warangal) suggest that the SLAs/PPPs are contributing to improved service levels. For instance, positive results from emptying services suggesting increasing access (Faridpur, Durban), fewer reported instances of illegal dumping owing to improved emptying and treatment services (Faridpur, Dakar), increasing volume of sludge treated by treatment services (Dakar), and increased coverage of public sanitation facilities which will likely improve the use of public toilets and reduce open defecation (Warangal). While not entirely operationalised through the contracts, additional initiatives, such as customer awareness activities, online demand management systems, and call centres/service desk support and emptying protocols are all indicative of customer responsiveness and service quality orientation and bolster the potential of the PPP/SLA to meet and exceed the performance requirements outlined in the contract.

SLA literature suggests that contracts are designed to link provider performance (in terms of service levels achieved) to at least a part of their payments. In most cities, there was a general disconnect between the service levels/ standards as defined in the contract and the basis of provider payment. Wai and Sinnar were the exceptions where adherence to certain contractually-defined service levels formed the basis of provider payment (emptying contracts in these cities require providers to be paid in proportion to the number of target households served as per agreed upon service standards). Most other contracts are designed to use both monetary and non-monetary incentives and penalties to encourage improved performance and achievement of service levels (monetary penalty to be levied based on customer complaints around service quality in public toilets contracts in Warangal; contract termination clauses linked to non-adherence to service levels/ standards in all cities).

Extending pro-poor services

The overall goals of the BMGF/DFID partnership portfolio suggest a pro-poor orientation and specific aims to achieve service inclusiveness through PPP/SLA arrangements. Baseline service data from most cities also underscores sanitation service gaps among low income groups to be acute. Wider PPP experience suggests that for PPPs/SLAs to effectively address the service requirements of this population segment, it is important that contract design identifies and explicitly targets at-risk populations and includes appropriate incentives for the private sector to serve this segment.

Across the BMGF/DFID portfolio cities, there is limited evidence to suggest that services have benefited the poor directly. In Bangladesh cities, the PPP contract for emptying services targets the urban poor by design, through variable tariff structures, with lower tariffs for households in low-income areas seeking to avail of emptying services. To what extent this subsidy approach allows the poor to access private services on demand is yet to be understood. In Blantyre, the contract for emptying services attempts to benefit the poor by design, by setting a ceiling tariff in an expectation this price cap would encourage the lessee to service lower-income areas. However, the price caps may not necessarily incentivise the operator to go to poorer areas where service provision is a challenge owing to poorer access conditions. Durban is another city where the contract for emptying services is designed to serve the poor. Here, the municipality is fully subsidizing the costs of service provision, specifically paying the service provider to collect from poor households.

PPP contracts in other cities do not contain explicit provisions for the poor; the assumption in a few contracts that the poor will be served by default need not necessarily lead to a sustainable or permanent solution for access challenges faced by the them. In Warangal, services under the public toilet contracts are designed to reach general population and therefore assumed to serve the poor as well although these toilets are not necessarily located near low income areas. In Wai and Sinnar, community toilets accessed by the urban poor are kept outside the service scope of PPP contracts in emptying services because private providers are reluctant to cater to this service segment. In these cities, service for the poor continues to be handled by the public sector. Low income areas in most cities continue to report poor service quality, thus underscoring the need for targeted measures that help shift the status quo.

That said, overall city experiences also suggest that the poor are likely to opt for manual emptying services over mechanised emptying for various reasons. Further, challenges were also reported in providing mechanised services in certain underdeveloped, low income areas, mainly involving access (hard-to-reach areas), availability of electricity at required capacities to operate desludging equipment, and hard-to-desludge pits. Some cities were experimenting with gulpers in these sites but there appears to be room for improvement in terms of performance (Blantyre, Freetown, Kampala, Faridpur). Service cost for extended improved emptying services to these areas is likely to be an inhibiting factor. Low sludge volumes from pit emptying and size of mobile desludgers can render it commercially less viable to transport the waste across town in small volumes, in comparison to vacuum trucks. Some cities sought to address this challenge by exploring possibility for transfer stations, but these efforts were stalled (Freetown, Khulna).

Overall, a broad assessment from these cities is that efforts to understand this market segment or identify sustainable service solutions for these groups need to be improved; clear incentives are needed for the private partners to serve the poor; and enforcement capacities within the public sector need to be strengthened.

Improving environmental outcomes

Sanitation services carry clear implications for public health and environmental quality. PPP contracts must specify what is expected from the private sector to safeguard these public goods. Across all cities, PPP contracts define the environmental obligations of the private sector corresponding to the sanitation value chain component. For instance, containment contracts define environmental obligations in terms of the adherence of containment infrastructure to prescribed environmental standards and periodicity in desludging; emptying contracts define these in terms of safe transport and disposal; and treatment contracts define them in terms of quality compliance of treated effluents to discharge standards. PPP contracts in a number of cities include performance measures relating to these obligations.

Regulatory service level and environmental-related obligations are likely to have positive implications on environmental quality. For instance, most PPP contracts penalise emptying providers if sludge is not disposed at the treatment site. All cities already report reduced instances of illegal dumping of fecal sludge. But the effectiveness of PPP contracts hinges on the active monitoring and enforcement of these performance obligations. For instance, on treatment contracts, while construction of treatment plants is a positive step, most cities are yet to operationalise environmental monitoring (water/soil quality) in a systematic manner but the actual environmental impacts of these services are unclear. Building the capacity of service authorities to measure and monitor effluent discharge quality for FSTPs is integral to the achievement of positive environmental impacts. Containment issues are yet to be addressed across cities, so actual environmental improvements may not be significant in areas where emptying services are extended on-demand.

Risk management

PPPs in infrastructure are inherently risky as they are usually long-term and can be influenced by uncertainties or future conditions which cannot always be predicted at the time of contract development (PPIAF/World Bank, 2016). But wider PPP experience in infrastructure projects also suggest that underassessment of risks at the project planning stage and subsequent under-management over the project life cycle are major reasons for the time and cost overruns and economic losses experienced in projects. PPP contracts can be designed to be adaptable to the future, but it is important that they are guided early on by forward-looking frameworks that anticipate the uncertainty and key risks that projects are likely to be exposed to over their life cycle and enable equitable risk allocation between contracting parties (IBRD/IDA/World Bank, 2012).

As noted earlier, PPP approaches in onsite sanitation are relatively new and there is limited project level experience that can inform how best to assess, allocate, and translate these risks into contract structures. The BMGF/DFID portfolio cities are pioneering efforts in this direction, contributing to knowledge around uncertainties and potential risks in onsite sanitation vis-à-vis PPPs (Table 2). Case studies suggest that most contracts in onsite sanitation services are not necessarily long-term unlike other infrastructure sectors with larger average transaction sizes (contract duration was less than 3 years in all contracts, with the exception of Blantyre public toilets and emptying services contracts (5 years), Durban-eThekwini treatment contract (5 years), Durban-ONAS treatment contract (7 years), Warangal public toilet contracts (6-30 years)). But risk categories emerging within these contract contexts are broadly similar to risks that are commonly identified within PPP projects in other infrastructure sectors.

Table 2: Risk Categories and Mitigation Approaches

Risk category	Some mitigating approaches in PPPs developed in BMGF/DFID project cities
Demand & Tariff risk	• Phased enforcement around containment (service authority in Jhenaidah has proposed to enforce adherence to containment standards by households/commercial/public buildings so as to increase demand for emptying services under emptying contract) • Guaranteed demand through scheduled emptying services (Wai, Sinnar) • Public awareness strategies to be pursued by contracting parties • Establishing customer call centers
Performance risk	• Defining service levels and targets (all contracts) • Linking payments to performance (contracts for emptying services in Wai, Sinnar) • Use of incentives and penalties tied to performance
Environmental risk	• Imposing provider obligations around prescribed environmental guidelines and regulations • Technology-based monitoring mechanisms (most emptying contracts require installation of GPS trackers on vacuum trucks to monitor that waste is transported only to approved disposal locations) • Use of incentives and penalties linked to environmental impacts (contract for treatment services in Faridpur includes monetary incentives for emptying service providers to dump waste only at treatment site; most contracts for treatment services include contract termination clauses associated with poor effluent discharge quality; emptying contracts include these clauses for poor disposal practices such as illegal dumping; public toilet contracts in Warangal include monetary penalties for non-adherence to service standards)
Performance risk	• Guaranteed revenue streams to provider • Use of escrow accounts that provider can draw in case of payment delays by service authority (contracts for emptying services in Wai, Sinnar)
Regulatory risk	• Partnership support in securing regulatory approvals (private partners in treatment services in Faridpur and Kushtia receive support from service authorities for obtaining national regulatory clearances for FS-based products)
Asset risk	• Imposing provider obligations around prescribed asset O&M guidelines • Willingness of service authority to share responsibilities towards assets maintenance/rehabilitation (lease contracts for emptying services in Faridpur allocate responsibility for high value asset repairs/maintenance costs to service authority; contract for treatment services in Accra allows joint ownership of asset by contracting parties although private operator was not responsible for initial capex but only omex)

Considering that business models in this sector are innovative and yet to be proven, the risk is skewed to the public sector in some cities, particularly in treatment services, as capital investments are borne by the service authority (mainly with grant support), and the private partner has limited incentives to perform in a timely manner (high in Durban where public sector has borne capex and is also paying the private provider for treatment services; lesser extent in Bangladesh cities where public sector has borne capex but requires private sector to meet omex through sale of FS-based products). In the instances where private sector remuneration hinges on user fees, tariffs or sale of reuse products, the risks borne by the private sector are commercial in nature – shifting demand for services in containment and emptying (public toilet contracts in Warangal and Blantyre, emptying service contracts in Faridpur, Jhenaidah and Blantyre) or markets for sludge-based products (treatment services contracts in Faridpur, Kushtia, Jhenaidah, Accra), adequacy of tariff structures or other revenues, challenges in the collection of payments and willingness to pay for improved services (Blantyre public toilets contract). Across cities, PPP contracts present different levels of commercial risk allocation between the public and private sectors.

Performance risk is addressed by linking performance to payments in two instances, and in most others, through the use of incentives and penalties. Environmental risk is also managed through the use of incentives and penalties. In both instances, the effectiveness in managing these risks depends on the robustness of the monitoring and enforcement mechanisms. Regulatory risk, particularly in the context of treatment and reuse services, is significant. Within some project contexts, licensing frameworks for the sale of sludge-based products were absent, carrying implications on the ability to market these products. The continued risk appetite of the private operator in case of regulatory delays is unclear.

Pro-poor services

Essential

- Contract design must identify and explicitly target at-risk populations
- Appropriate incentives must exist for the private sector to serve this segment
- Public sector needs to take efforts to understand service needs of this segment
- Public sector has a continued role in ensuring pro-poor services, particularly in contexts where private engagement does not seem feasible

Sustainability

Essential

- Public sector must assume continued role in advancing OSS agenda
- Favourable institutional actions such as building internal capacities for improved service delivery and governance
- Earmarking/ ring-fencing appropriate resources
- Building private sector capacities for service provision

Contract management, Performance monitoring

Post the awarding of a contract, its management through the project lifetime remains the key responsibility of the public sector. This involves the monitoring and enforcing of the PPP contract obligations and managing the relationship between the contracting parties. A contract management structure is usually set up within the public sector for this purpose and monitoring is limited to the performance measures established in the contract.

The BMGF/DFID portfolio cities are at varying stages of implementing these structures for contract management. Among cities that are further along in project implementation, public sector officials lead contract management in some cities, while others are actively supported by grantees. A few cities have developed monitoring plans but these have not been implemented yet in a systematic manner. Cities have adopted a number of innovative initiatives for monitoring, including GPS vehicle trackers, online applications, invoice-based monitoring, self-reporting by providers, call centers and service desks. However, city examples suggest that adequate resources have not been committed for operationalising these initiatives nor have capacities of service authorities for enforcement been strengthened. Top-down public sector enforcement was a challenge in weak governance and low public sector capacity contexts. Market enforcement by competing service providers or the general public appeared more likely to be effective in these contexts.

In summary, while the monitoring initiatives indicate the commitment of the public sector to improving service performance, their effectiveness depends on the extent to which they are operationalised for monitoring contractually agreed-upon performance obligations and the enforcement of related incentives, penalty and termination clauses. This requires the public sector to commit appropriate resources for the management and monitoring of contracts; pursuance of cost-effective monitoring strategies; and follow-through on enforcement to ensure that the performance risk transferred to the private sector is fully realised. These measures will allow service authorities to effectively transfer their responsibility and corresponding accountability for the provision of sanitation services to the private partner under the PPP contract.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SUSTAINABILITY AND LEVERAGING INVESTMENTS

The sustainability of PPPs can be defined as whether services and benefits of the partnership continue under the arrangement as intended. Achieving this over the long term requires a consistent commitment from both the public and private sectors to the partnership and flexibility in the execution of the PPP. Sustainability could be impacted by incomplete project structuring or contract design as well as by other future factors which were not predicted or managed at the time of contract design. The willingness of contracting parties to be flexible and fair in dealing with change can go a long way in ensuring the sustainability of these partnerships.

While these elements of sustainability are also applicable to PPPs in onsite sanitation services, it must be recognised that prioritization of onsite sanitation in public policy is still emerging in several countries. As a result, the markers of sustainability in onsite sanitation must also include the role of the public sector in moving the onsite sanitation agenda forward. This can be evidenced through the commitment of the public sector to prioritise onsite sanitation within their overall service delivery mandate; mainstreaming institutional actions necessary to improve progress and positive outcomes in onsite sanitation services (e.g. building internal capacities, strengthening service supply, improving regulation); and earmarking appropriate resources (financial and manpower) to ensure continued progress.

Within the BMGF/DFID portfolio cities, PPP approaches in onsite sanitation are in their infancy, with the enabling environment still evolving. Evidence and lessons on actual sustainability are therefore yet to emerge. However, city experiences suggest that several elements in the enabling environment bode well for sustainability – improved institutional awareness around onsite sanitation issues; stated commitment from the public sector to improve policies, programmes and investments in onsite sanitation; improving public and private sector capacities to address service requirements; and improving understanding of business and service models in onsite sanitation. That said, city experiences also point to some risks to sustainability – poor containment practices and lack of appropriate solutions to tackle them; uncertainty around the commercial viability of FS-based compost, further hampered by an absence of licensing regulations; inability to ring-fence revenues for onsite sanitation services and higher dependence on grants for service and support infrastructure.

Sustainability is a complex issue and calls for a closer review of institutional change and PPP contract management to draw out full lessons relating to the provision of onsite sanitation services. Of particular interest will be whether contracts can operate well in the absence of external "brokering", a function currently handled by grantees or city councils.

Markers of Sustainability

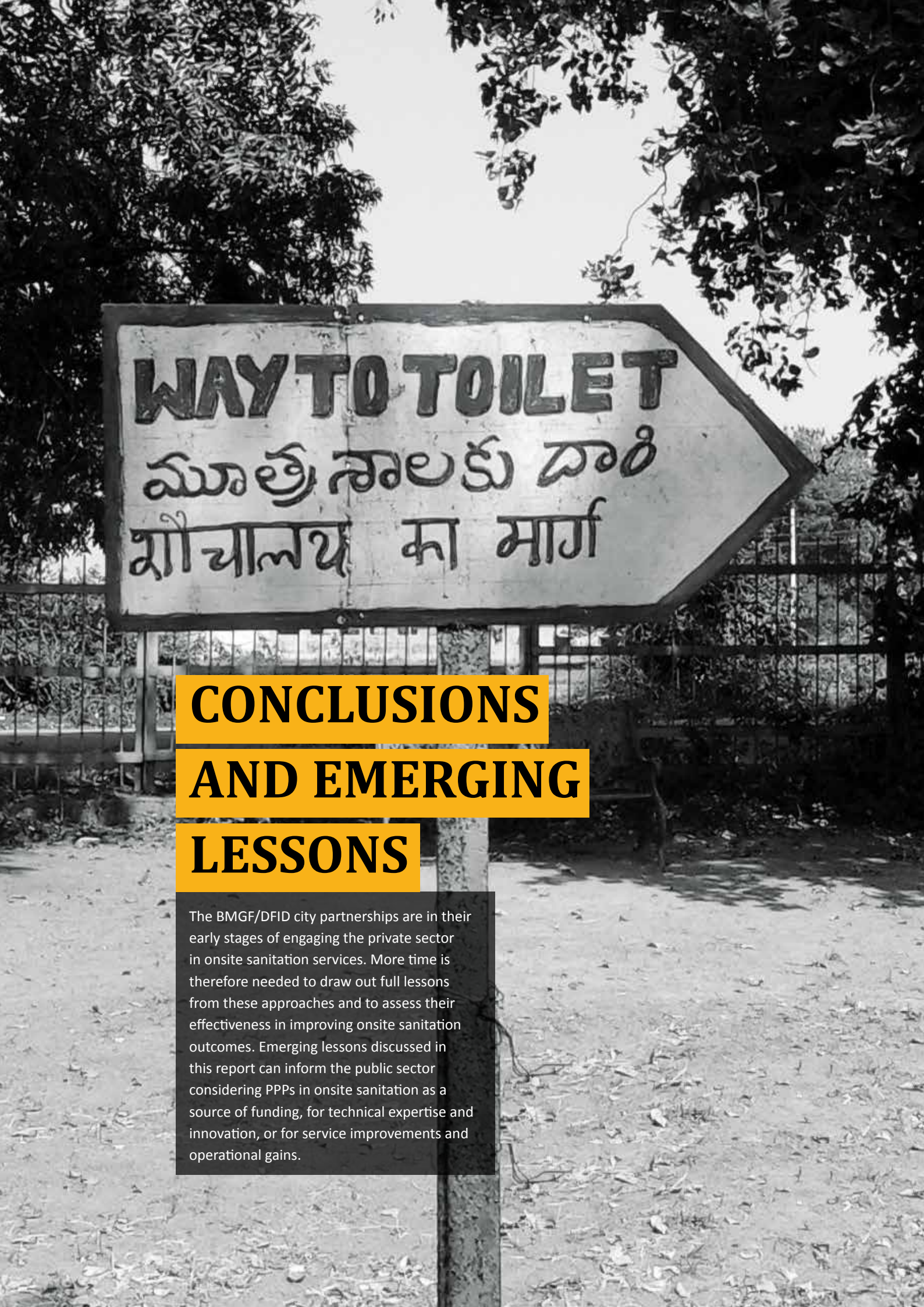
- Better institutional awareness of sanitation;
- Defined committment from public sector to scale up policies;
- Programmes & investments in onsite sanitation;
- Enhancing public & private sector capacities to address service requirements;
- Greater understanding of business and service models in onsite sanitation.

Risks to Sustainability

- Poor containment practices; lack of appropriate solutions;
- Ambiguous commercial viability of reuse products (accentuated by absence of licensing regulations);
- Inability to face ring-fence revenue for onsite sanitation services
- Dependence on grants for service and support infrastructure

Figure 7: Markers of Sustainability

Case examples also suggest varied experiences towards investments in onsite sanitation services – there are positive examples of building on BMGF/DFID-funded projects to lever investments from public sector, national governments and other development partners (Sinnar Municipal Council used city budgets for FSTP construction; Accra's line ministry contributed to capex on FSTP; Freetown leveraged ADB grant funding for capex at its FSTP). Nevertheless, there were limited examples of leveraging private investments for capital costs on onsite sanitation infrastructure (aside from - private partner investments in FSTP rehabilitation costs in Dakar; private partner financing of capital costs for public toilets in Warangal; private partner investments in vacuum trucks in Wai and Sinnar). In all cities, private investments have been leveraged for working capital and operating expenditure. Key barriers to private investments included lack of proven business models and related challenges in accessing credit.



CONCLUSIONS AND EMERGING LESSONS

The BMGF/DFID city partnerships are in their early stages of engaging the private sector in onsite sanitation services. More time is therefore needed to draw out full lessons from these approaches and to assess their effectiveness in improving onsite sanitation outcomes. Emerging lessons discussed in this report can inform the public sector considering PPPs in onsite sanitation as a source of funding, for technical expertise and innovation, or for service improvements and operational gains.

City experiences suggest that the private sector can be attracted to deliver onsite sanitation services at scale under PPPs. But the conditions under which it can yield better value for money in comparison to public provision or can complement public funding remains to be proven. Considering that service models in onsite sanitation services are emerging and innovative in nature, the enabling factors for private sector engagement will include:

- A clear rationale for PPP
- Early engagement with potential service providers
- Improved public sector capacities to structure and execute balanced PPPs while undertaking the necessary due diligence for this purpose
- Concessions relative to the economic viability of projects and guaranteed revenue streams
- Flexible procurement processes to allow for emerging private sector capacities
- Optimum risk allocation and flexible contract design that allows for fair and balanced renegotiations if necessary
- Improved regulations that are critical for project viability (e.g. product licensing, containment standards).

That said, city experiences also indicate the challenges in engaging the private sector in unproven and uncertain markets. One way to address this challenge is by engaging the private sector right from the PPP design stage, and particularly in designing a framework of shared risk. Grant funding and public sector investments in capital infrastructure will continue to play an important role in overcoming these challenges and creating opportunities for private sector participation in onsite sanitation.

The innovative nature of this sub-sector coupled with capacity limitations among the public and private sector require that cities adopt a flexible approach to procurement in terms of structuring the PPP as well in the selection of private partners.

City experiences also suggest a continued need to support the public and private sector to develop the enabling environment for PPPs. This will involve channelling efforts towards – establishing regulatory and service standard framework, building private sector capacities to win public contracts, building public sector mind-set and capacities to shift from the role of a service provider to one of a service enabler and regulator. The time and resources needed for strengthening the enabling environment will depend on the baseline readiness of cities to engage in PPPs.

An important observation across a few project cities that have advanced PPP development is that there is a higher public sector willingness and commitment to engage private providers in a consultative, fair and amicable manner to structure contractual terms, including risks, roles and responsibilities, relative to doing the work directly (Bangladesh cities, Wai). In Bangladesh, there is also due institutional recognition of the fact that PPPs in onsite sanitation are in the early stages and must therefore be viewed as a collective learning opportunity for the public and private sector rather than a rigid framework for imposing service levels. Fostering trust between both parties is therefore integral to the development of successful PPPs.

The role of the public sector in advancing progress in this sector is important even after engaging the private sector for service provision. Active engagement of the public sector is needed in:

- Contract management
- Monitoring and enforcement of service obligations
- Addressing service inequities
- Assuming ownership of environmental monitoring
- Axtending support in service components that impact business viability.

Case examples from low-income contexts suggest an unrealistic expectation from the public sector that PPPs are a 'silver bullet' that can help shift the burden of onsite sanitation service provision to the private sector and potentially generate revenues for the public sector in the process. This underscores the need to temper expectations of the public sector from the PPP and the need for public sector to continue subsidizing onsite sanitation services and allow to allow inclusive business models to evolve and mature.

The conditions under which private sector participation brings direct benefits to the poor remains to be proven. Experiences from the current portfolio of projects underline the need for PPP design to explicitly identify and target the poor and marginalised, which could otherwise be left behind in the process. More efforts must be taken to understand this market segment and identify sustainable service solutions for these groups. To this end, the public sector needs to play a more active role, both to understand the service needs of the poor and to evolve alternative public policy solutions and financing frameworks where private engagement does not seem feasible.

To what extent private sector participation under PPPs can lead to sustainable services at scale remains to be seen. Although there are some positive institutional actions on this front, some threats to the complex issue of sustainability remain. Periodic reviews of institutional changes and PPP contract management are needed to draw out the full lessons relating to the provision of onsite sanitation services and long-term sustainability of positive outcomes.

Annexure 1 Key Terminology

Sanitation Value Chain	
Sanitation services	Provision of facilities and services for the safe disposal of human urine and faeces. In order for urine and faeces to be adequately disposed off, a number of services may be required, including containment; emptying and transport; treatment; disposal; reuse. Each of these services can be referred to as a segment of the sanitation value chain
Containment	Collection and storage of excreta, usually in the form of self-provision by households investing in own systems
Emptying and transport	Removing fecal sludge where septic tanks and latrines are full
Treatment	Process either takes place on-site as with some septic tanks or offsite, when sludge is transported to a Fecal Sludge Treatment Plant (FSTP)
Disposal	Disposal in the environment, which can be safe or unsafe, depending on the level of treatment that occurs previously
Reuse	Services that enable waste streams being converted into valuable resources, such as fertiliser, charcoal or biogas
Private sector engagement	
Public-Private Partnerships (PPP)	This report uses the World Bank definition of a PPP: PPP is “a long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility and remuneration is linked to performance”. (https://pppknowledgelab.org) This definition supposes that a PPP can be brokered for the management of existing public assets or for new assets. They can be brokered with private operators already operating in the markets (but previously under no legally binding agreement with the public authority). For example, to increase service levels provided or with contractors which were not previously involved in the specific market segment.
Private Sector Participation (PSP)	Participation of private sector actors (individuals or enterprises, both formal and informal) in service delivery. PSP can “naturally occur” or be brokered through PPP agreements
Service Level Agreements (SLA)	These refer to contractual arrangements between the public authority and private sector organizations. A consultancy company called Castalia was engaged by BMGF/DFID to develop guidance notes on SLAs for onsite sanitation services which aimed to provide support to the grantees. In the 2014 guidance note, Castalia defines SLAs as contractual arrangements that tie the disbursement of public funds to the private contractor and to the achievement of specified outputs or service levels.
Licensing	Licensing is an authorization granted by the public authority to a private (or public) operator to perform a specific economic activity under specified conditions. For example, for urban onsite sanitation services, such conditions can include the requirement of emptying service providers to use designated disposal sites. In many cities in SSA, however, urban onsite sanitation service providers operate informally and without any license specifically binding them to service standards. Licensing is not a contractual arrangement since the private operator remains free to withdraw from the provision of services.

Source: Engaging with the Private Sector for Urban Onsite Sanitation Services: Lessons from six Sub-Saharan Africa Cities, Aguaconsult, 2018

Annexure 2 BMGF/DFID City Partnerships Portfolio Profile

City	Area (sq.km.)	Population (mill.)	Grantee	City partner	SLA focus area	SLA stage during review
Faridpur (Bangladesh)	22.36	0.13	Practical Action	Faridpur Paurashava	Emptying & Transport, Treatment & Reuse	Contract management
Khulna (Bangladesh)	45.65	1.50	Practical Action	Khulna City Corporation	Emptying & Transport, Treatment & Reuse	Project structuring
Jhenaidah (Bangladesh)	32.40	0.16	SNV Netherlands Dev. Org.	Jhenaidah Paurashava	Emptying & Transport, Treatment & Reuse	Contract award/ management
Kushtia (Bangladesh)	27.80	0.24	SNV Netherlands Dev. Org	Kushtia Paurashava	Treatment & Reuse	Contract award/ management
Wai (India)	3.60	0.03	CEPT University	Wai Municipal Council	Emptying & Transport	Contract award
Sinnar (India)	3.60	20.03	CEPT University	Wai Municipal Council	Emptying & Transport	Contract award/ management
Warangal (India)	472.00	0.80	ASCI	Warangal Municipal Corporation	Access (Public Toilets)	Contract award/ management
Accra (Ghana)	87.8	0.30	IWMI	TREND, TMA	Treatment and reuse	Contract management
Blantyre (Malawi)	228	1.10	WASTE	BCC	Access (Public Toilets), Emptying, transport	Contract award/ management
Blantyre (Malawi)	228	1.10	WASTE	BCC	Treatment and reuse	Project structuring
Dakar (Senegal)	83	1.03	ONAS	IPA, EDE,WSA	Emptying, transport treatment and reuse	Contract management
Durban (South Africa)	225.91	3.50	eThekwini	University of KwaZulu-Natal; Khanyisa Projects	Emptying, transport treatment and reuse	Contract management
Freetown (Sierra Leone)	81.48	1.06	GOAL	FCC, WSUP Advisory	Access (Public Toilets)	Procurement
Kampala (Uganda)	176	1.5	KCCA	n/a	Emptying & Transport	Contract management

Annexure 3 Checklist for Procuring SLAs for Urban Sanitation

Designing the contract	
Project governance structure created. Key agencies involved.	
Project team created with relevant skills (economic, technical, legal, financial, public health, community liaison)	
Outcome identified (the public policy goal)	
Output identified (the service we are buying, expressed as a service and not a facility)	
Likely technical option identified	
Stakeholders consulted about desired outcome, output and service levels	
Service levels defined (quality and quantity)	
System to measure actual performance against each service level defined	
Monitoring arrangement is credible to both parties	
Penalties or performance incentives linked to each service level	
Cost of output estimated	
Payment structure identified (who will pay and how they will pay)	
Key risks identified and allocated (including demand, payment, asset condition)	
Dispute resolution mechanism identified (with escalation through levels)	
Termination provisions agreed	
Contract drafted	
Procuring the service provider	
Experienced external transaction adviser engaged (if needed)	
Market soundings indicate bidder interest	
Government has obtained site, permits, etc. (if applicable)	
Qualification criteria (technical and financial) defined	
Expressions of interest reviewed and bidders meeting the pre-qualified qualification criteria	
Bid documents prepared:	
• Information memorandum	
• Output specifications	
• Instructions to bidders	
• Evaluation criteria	
• Draft contract	
Proposals evaluated and ranked based on evaluation criteria, with preferred bidder identified	
Contract signed with preferred bidder (or next-ranked bidder if negotiations with preferred bidder fail)	
Managing and enforcing the contract	
Contract management team created with relevant skills (emphasis on technical and legal), with some continuity in membership from the project team	
Processes established to monitor service provider performance using the monitoring mechanisms under the contract and against the service levels set out in the contract	
Contract management team follows contract management process	
Enforcement tools utilised as necessary with emphasis on maintaining the government-service provider relationship	

Source: Improving Sanitation Outcomes Through Service Level Agreements: A Guidance Note, Castalia Limited, 2014

Annexure 4 Contract Features in BMGF/ DFID City Partnerships Portfolio

Service authority	Service description	Contract type	Duration
Faridpur Paurashava	• Operation of desludging vehicles for on-demand emptying and disposal	Lease	2-year
Faridpur Paurashava	• Operation of treatment plant • Production and sale of FS-based compost	Concession (O&M)	2-year
Khulna City Corporation	• Operation of desludging vehicles towards on-demand emptying and disposal • Operation of treatment plant	Lease	TBD
Jhenaidah Paurashava	• Operation of desludging vehicles towards on-demand emptying and disposal • Operation of treatment plant	Lease	TBD
Kushtia Paurashava	• Operation of treatment plant (co-composting) and sale of compost	Concession	2-year
Wai Municipal Council	• Operation of desludging vehicles for scheduled emptying of household and institutional toilets and disposal at treatment site	Service contract	3-year
Warangal City Corporation	• Construction and operation of public toilets	DFBOT	6-30 year
TMA (Accra)	• Operations of the FSTP • Production of FS-based fertiliser	Joint Venture	Unspecified
Blantyre City Council	• Public toilets management	Lease* (SLA)	5-year

Asset ownership	Asset responsibilities	Operator remuneration	Payment from operator to service authority
Public	• Shared between private operator and service authority	Tariff	Fixed lease fees
Public	• Shared between private operator and service authority	Sales of FS-based compost	No payment
Public	TBD	Tariff from emptying	Fixed lease fees
Public	TBD	Tariff from emptying	Fixed lease fees
Public	Unclear	Sales of FS-based compost	Fixed lease fees
Private	N/A	Fixed payment by service authority based on achievement against emptying service targets	No payment
Public		Tariff	No payment
Public and private	• Equally shared between JVL and TMA	Tariffs (tipping fees) Sales of FS-based compost	50% of profits after initial private working capital recovered
Public	• Capex and CapManEx financed by grant funding • Operator required to invest in adding 5m3 tank within 3 months of contract signature, and is able to choose to upgrade facility at their own costs (agreed with BCC) • Operator responsible for full O&M costs and works (including major repairs)	Tariffs	Fixed lease fees

Service authority	Service description	Contract type	Duration
Blantyre City Council	• Mobile Desludging Unit operations	Lease* (SLA)	2-year
ONAS (Dakar)	• Operations of three FSTP	Concession	5-year
eThekwini (Durban)	• Emptying 50,000 UDTs	Service contract	Not specified
eThekwini -treatment plant operation	• Operations of FSTP for UDT waste	Management (SLA)	NA
Freetown City Council	• Public toilets management	Lease (SLA)	
Kampala Capital City Authority	• Emptying and transport services	N/A	

Asset ownership	Asset responsibilities	Operator remuneration	Payment from operator to service authority
Public	• Asset purchase by grant funding • Operator required to invest in a truck on which the MDU can be mounted • Operator required to pay full O&M costs including major repairs	Tariffs	Fixed lease fees
Public	• Private sector responsible for O&M costs, in addition to some rehabilitation activities specified in the contract; other responsibilities beyond those specified is unclear • Public sector responsibilities unclear	• Tariffs (tipping fees) • Sales of FS-based fertiliser	Lease and license fees (equivalent to 50% of operating revenues)
Private	N/A	Fixed payment by eThekwini based on number of UDTs emptied	N/A
Public	• Private sector responsible for the security of fixed/ movable assets required plant operations • Public sector responsible for the insurance of all fixed and movable assets required for plant operations	• Payment by eThekwini of a fixed gate fee (per ton of FS delivered) • Sale of FS-based compost	None
	• Responsibility for minor and major repairs rests with the operator/FCC respectively, although definition of 'major' is not specified.	Tariffs	Fixed lease fees
N/A	N/A	N/A	N/A

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