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MAXIMIZING THE BENEFITS FROM WATER AND ENVIRONMENTAL SANITATION

Why traditional approaches to on-site sanitation provision are failing poor households

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Towns and cities across Africa are growing fast and poor settlements are under increasing pressure. The numbers without adequate sanitation continue to grow. Health and hygiene education and social marketing aim to address this, persuading poor communities to change behaviours and invest in household-level sanitation. However, recent BPD work on 'sanitation partnerships' in five African cities highlighted two worrying issues. Firstly, many urban poor are tenants rather than owners, whose incentives to invest in sanitation are weak at best. Secondly, to the detriment of many poor communities, the emptying of latrines is often overlooked. This note discusses the impact of these two issues and goes on to propose how 'mapping the territory' and the linkages of a 'sanitation service' can help external agencies. We also suggest a short checklist for those working with on-site sanitation.

The urban African context

The challenge of providing sanitation in urban Africa is rapidly mounting (it comprises around 25% of the overall 'backlog' and absolute numbers without are rising fast) as urbanisation rates across Africa are significant. African cities are growing at an impressive speed thanks to migration from rural areas and high birth rates.

Often the majority of newcomers rent their accommodation (in Kisumu, Kenya, an estimated 82% of all housing is rented) – as pressures on housing rise fewer rural migrants are able to stay with urban relatives, and many rent from 'landlords' (both formal and informal) with whom they share little connection. Yet rental markets remain overwhelmingly unregulated. Much of this strain is being felt in poorer communities, both formally recognised and informal or "illegal" settlements.

Tackling the problem

In these towns and cities typically less than 30%, and often far fewer, citizens are connected to the sewerage network. The remainder live with on-site sanitation. As bucket latrines have been increasingly phased out, and septic tanks are costly, most poor households resort to some variety of pit latrines (traditional or 'improved'), defecating in the open, or the 'flying toilets' for which Kibera in Nairobi (Africa's largest slum) is famous.

In contrast to network sewerage (often a focus for policymaking) on-site sanitation concerns primarily household-level infrastructure, and is typically considered a household responsibility. Support from external actors is often very limited. Wider public health goals do prompt some interest from outside – this typically manifests itself in community health and hygiene education campaigns and programmes to promote the building or improvement of sanitation infrastructure.

Although various approaches have been tried over the years, the current vogue is in trying to promote households to invest in building or improving on-site sanitation facilities, such as pit latrines. Building or equipment subsidies are generally in decline, and methodologies like social marketing or the demand responsive approach are to the fore.

These approaches aim to raise awareness of the benefits of good sanitation infrastructure and practice, targeting individuals within poor communities and offering them some assistance (often technical, sometimes financial) to encourage construction of new or 'improved' latrines. Occasionally support caters to the 'supply side' as well, working with local masons and others to improve the product on offer to 'sanitation customers'.

Box 1. BPD research programme

In order to gain a better understanding of where partnerships fit in the debates around sanitation, BPD set out in 2004 to work with a series of sanitation-specific case studies. The first challenge was to find such partnerships, less easy than first supposed; eventually Dar es Salaam, Durban, Maputo, Maseru and Nairobi were chosen. The focus was on programmes and approaches relevant to on-site sanitation.

BPD is a not-for-profit organisation that promotes, supports and researches partnerships between different sectors (public, civil society and private) to provide water and sanitation to poor communities worldwide. It has been active since 1998 and has solid experience in its specialist niche of how best to structure, manage and evaluate collaborative relationships (partnerships) that provide services to poor communities (in both urban and rural settings). (See www.bpdws.org)

However, DRA and social marketing are less relevant to renters …

BPD's findings1 questioned how appropriate these approaches are to current trends in urban African. Both social marketing and demand responsive approaches rely on creating or reinforcing a desire at household level to invest in sanitation facilities. The problem comes when one considers the growing trend of 'rented' accommodation in poor urban settlements.2 The incentives for tenants, rather than 'owner-occupiers', to invest time and money in fixed infrastructure are much less strong. This should spring few surprises: by definition, tenants do not own the property they live on; they pay rent, and typically rely on the landlord to provide amenities like a latrine. The BPD study also suggested that landlords providing low rental accommodation often attach little importance to water and sanitation services and, where provided, facilities are generally rudimentary at best.

Lack of land tenure is a further complicating factor. Here fear of being forcibly removed and losing the investment further reduces the incentives of residents to invest in fixed and immobile infrastructure.

Box 2. What low-cost rental housing means for sanitation

In the cases BPD visited for its study there is a broad inverse correlation between the prevalence of low-cost rental accommodation and sanitation coverage. There is generally greater investment in sanitation facilities where people have secure tenure or own their houses, and owner-occupiers are more likely to invest in improvements.

Tenants living in low income rental accommodation may well want the same sanitation benefits as owner-occupiers, but their ability and desire to invest in fixed infrastructure is typically much lower.

In Lesotho there has been a large influx of people into Maseru in the last five years – the majority of these live in corrugated iron line housing (malaene) and pay short-term rental. Sanitation facilities are rudimentary, in sharp contrast to most owner-occupiers who, thanks to a government awareness and support campaign, have invested in sturdy VIPs.

In Dar es Salaam and in Kenya many of the respondents spoken to were renting a single room in a shared house and it was not uncommon to find fifty or more people sharing one pit latrine.

The results were that many tenants live in squalid surroundings, with little leverage, few acknowledged rights, and little incentive or ability to invest their own resources.
rural settings). (See www.bpdws.org)

These two factors have important implications for approaches aiming to increase sanitation coverage. Slum landlords often have little reason to provide more than a crude structure that must be shared. Neither tenants nor 'absentee landlords' are likely to be as responsive as owner-occupiers to external assistance. In a context of high tenancy, social marketing and other demand responsive approaches thus risk falling wide of the mark.

… furthermore, pit emptying needs to be part of the equation

Pit latrines (the most common infrastructure being 'promoted') generally evolved in a context of space and household-level responsibility. When the pit was full, the family would dig another pit, relocate or rebuild the top-structure, and close the old pit. However, thanks to significant densification in urban slums, there are now more people and more dwellings per plot; in many areas there is no longer space to bury the contents of a full pit on-site or build a replacement pit and latrine. As settlement densities rise in a finite area, households increasingly share facilities, and loading per latrine climbs. All too often informal settlement occurs on marginal land – in areas that are poorly drained, have a high water table or shallow rock; all of these factors contribute to pits filling more rapidly than the assumed seven to ten years. The waste must now be removed and taken away.

Mechanical emptying (often via a 6m3 vacuum truck), for which there is often a vibrant private market in wealthier parts of African cities, is often unaffordable or inappropriate; trucks cannot gain access to pits in poor communities as alleys have narrowed and the terrain worsened. Pit emptying in these circumstances becomes overwhelmingly a manual affair, with informal entrepreneurs relied upon to empty pits by hand. Historically the waste was buried 'on-plot' but high water tables and a lack of space make this increasingly difficult and in many instances the waste must be transported and dumped (sometimes into the sewer network, more often in the nearest stream). In coastal East Africa a further option is to wait for the rains, whereupon pits flood and can be 'flushed' with the waste being washed away in the floodwater or into local gulleys.

In a context of dense urban settlement, pit latrines have thus become a hybrid approach, neither a fully stand-alone decentralised system, nor a reticulated centralised system. They need to be serviced - irregularly and intermittently – to extract the waste and transport it away. Instead of waste transport by water to a central treatment facility, as in sewered systems, they require waste removal, transport and disposal by various means and involving various roleplayers (with parallels to solid waste).

Pit emptying, often ignored or underestimated by 'build and improve' sanitation programmes, thus needs to be considered an integral part of the equation. A 'sanitation service' would encompass: a) storage of waste; b) its removal and transport; and c) its final disposal and treatment.

A holistic 'sanitation service'

A rethink is required to achieve this goal of sanitation provision as a 'service' (such as we think of for water supply and for solid waste). Confining the 'service' to either infrastructure delivery (building or improving latrines) or maintenance (emptying them) is unhelpful: decisions about

the building have financial implications for emptying, while the reliability and cost of emptying can influence decisions about building (for instance low-cost small sized pit latrines would only work if emptying could be relied upon). Pit emptying is often at least as important to householders as the provision of a pit – particularly where the water table is high or in areas prone to flooding.

Yet the links between the two are often not made. It is common for social marketing campaigns to provide extensive information on construction approaches and costs, yet the requirements for ongoing maintenance are not addressed. Typically, the provider and policymaker concerned with building or improving latrines are different to those concerned with emptying them. Thus the many examples of 'non-joined-up-thinking' out there: the building of pits that cannot be emptied, or the promotion of infrastructure without due regard as to its ongoing maintenance needs. For a true and effective sanitation service, this disjoint needs to be addressed – with a better understanding of what an affordable and sustainable service is over time.

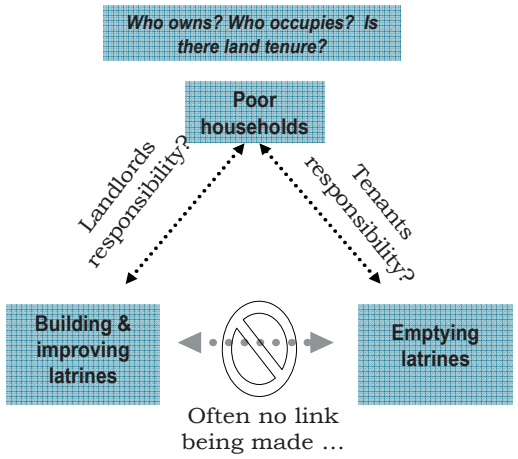

Figure 1.

A way forward?

The BPD research suggests two key steps to be taken when policies are being developed and programmes planned.

First of all we need to better assess the context in which on-site sanitation is relevant, and in particular understand the situation as regards tenancy and tenure.

Secondly we need to create better linkages between the building of latrines and their emptying.

'Mapping the territory'

At the household level, the first question to ask is who makes decisions about investments. In the case studies we often found that this person is a landlord while the actual 'user' is a tenant. Emptying is more usually the responsibility of the actual occupant, but the picture here becomes blurred once sanitation facilities are shared beyond the immediate household (as is the case in line-housing in Maseru, or for most of the pit latrines in Kibera). Men, women and children all have different attitudes and approaches to sanitation, which can vary widely depending upon the culture. Thus even the apparently simple term 'householder' can be confusing and even downright misleading.

We need also to understand the picture as concerns land tenure. While progress can and should be made in settlements where there is no land tenure, the disincentives for investment in fixed infrastructure pose a real challenge. Ascertaining the 'level of comfort' of existing residents is one first step (for instance, have they spontaneously invested in fixed

Box 3. A checklist for on-site sanitation

The work undertaken by BPD suggests the following checklist for those working on on-site sanitation in poor communities:

Is tenancy a major consideration?
Who is responsible for household level investment? If latrines are an option, who is responsible for their emptying? What incentives do householders face on either side of the equation?

Do policymakers on the building side dialogue with their counterparts on the emptying side?
If not, how can this be encouraged? Would an 'honest broker' help achieve this, and who could play this role?

Are providers on the building side the same as on the emptying side?
How is the market on each side of the equation structured? If they are different players how important is it that they speak to each other and how can we bring this about?

Are roles and responsibilities clear (from the perspective of planning, financing and communications)?
Do these aspects serve to link or delink the two halves of our 'sanitation service'? Are the stakeholders the same or different on either side of the equation?

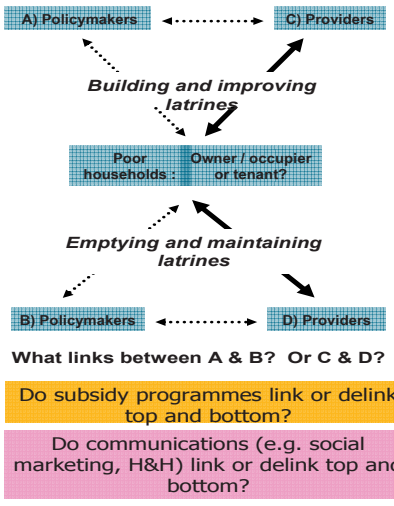

Figure 2. Mapping a 'sanitation service'.

infrastructure themselves?). Engaging policymakers on the issue is sometimes, but not always feasible. In particularly precarious contexts where encouraging significant 'own' investment is especially difficult, stepping back and looking holistically at the challenge may help. For instance it may be possible to bring about improvement in pit emptying, communal facilities, or hygiene practices, where appropriate measures are less hampered by the lack of land tenure.

Creating better linkages

The lack of linkages being made between strategies to build or improve pits and their eventual emptying is a concern. Acting on one side without addressing the other may in fact make some groups worse off, as well as spurning the opportunities for synergies. We need to understand better who is responsible for what; first at the household level itself and then amongst policymakers and service providers (in both the formal and informal sectors). Moreover, if we find that the players on either side of the equation are very different, then innovative strategies to link two sides may be worth developing. For instance a partnership approach between the different policymakers may ensure that policies and actions are at least complementary.

Another option is to see if landlords and tenants can be brought together, taking common action that benefits each. Working together may also help aggregate demand across a community. The latter is important as the disaggregated nature of demand (both geographically and through time) reduce economies of scale and raise already high transaction costs (for builders and emptiers alike) making sanitation even less 'affordable'.

Conclusions

The challenge of urban sanitation is alarming, but BPD's work in five African cities exposed some worrying trends. We observed that the challenges of providing urban sanitation are amplified in a context of insecure tenure and transient residents, and where relationships between landlords and tenants range between 'limited' and 'fraught'. For public authorities, the problems posed by low income tenancy arrangements often seem intractable; the relationship between landlord and tenant is private, but the consequences of inadequate sanitation frequently impact very publicly. Viewed pragmatically, where should primary responsibility for remediation lie – with landlords, or with government? Does the onus fall on the tenants themselves? Which organisations, if any, can straddle the divide? The target of sanitation improvement programmes may need to be re-assessed and ways found to reach out to landlords, rather than just owner-occupiers.

Moreover, it is not enough to promote provision of latrines and toilets; we need to acknowledge the lifecycle of on-site sanitation, and attend to the linkages and partnerships needed to sustain a usable toilet. Core questions around viable approaches to long-term pit maintenance need answering; a 'sanitation service' must be more holistic than just providing a facility in the first instance. For without closer attention to the challenges of human waste removal and disposal, support for expanded provision of on-site sanitation introduces as many problems as it solves.

References

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Note/s

This paper relies heavily on the BPD study referenced above and in particular trigger papers prepared by Kathy Eales for a discussion workshop in May 2005.

UN Habitat suggests that in several African countries tenancy rates are rising, a fact borne out in our five cases.

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