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ACCESS TO SANITATION AND SAFE WATER:
GLOBAL PARTNERSHIPS AND LOCAL ACTIONS

An investigation into linkages between tenure and urban sanitation development

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Demand-responsive sanitation acknowledges the need for sanitation development to be household-centred rather than technology focused. However, these strategies (such as social marketing) have a fundamental assumption that the end user has a universal freedom of choice. In view of the proliferation of informal and rental accommodation in low-income settlements of developing countries, this assumption may obscure reality. In this context, inter and intra-household members may enjoy a range of freedoms and access to sanitation resources. In considering the diversity of the urban poor, this ongoing study seeks to examine how the critical differences in tenure status and associated property rights relate to an individual's access to improved sanitation infrastructure.

Introduction

Getting sanitation right is an elusive task. In an attempt to go 'back to basics' this paper seeks to unpack urban sanitation and its conceptual elements. The global sanitation deficit is widely acknowledged amongst practitioners, academics and politicians alike. Although it is widely accepted that sanitation is fundamental to safeguarding public health (Wagner and Lanoix 1958, Esrey *et al*. 1985, Esrey *et al*. 1996, Moraes *et al.* 2003), the social taboo of human excreta often prevents open discussion at both community and the political level (Jenkins and Sugden 2006). In sub-Saharan Africa, the realities of urbanisation are stressing infrastructural and institutional capacity where growing informal settlements are characterised by unplanned construction, poverty, lack of formal tenure, inappropriate land and inadequate basic services (UN-HABITAT 2003).

This paper describes an ongoing study into the relationship between tenure status and access to improved sanitation infrastructure in an urban African context. These factors feature as indicators of progress towards the MDG7 targets 10 (access to sanitation) and 11 *(improving the lives of slum dwellers)* and both are criteria applied in defining slums (*idem*.). The argument of this study is that tenure status and sanitation access are closely linked hence unpacking their correlation is critical in accelerating progress towards their associated targets of MDG7.

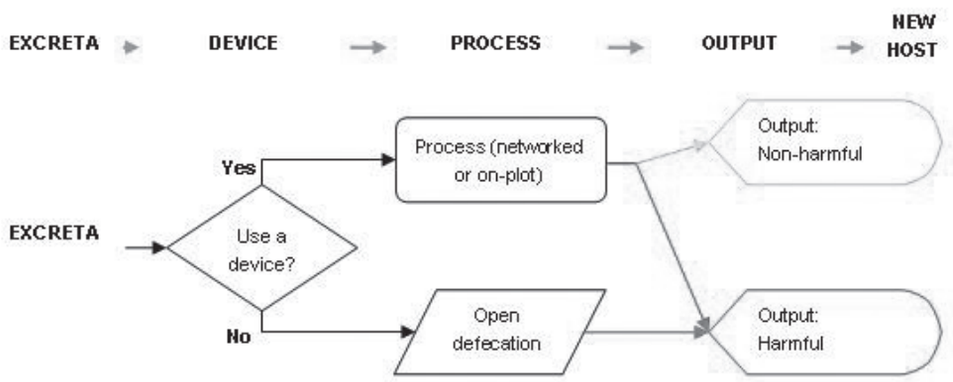

Figure 1. The sanitation system

Source: Author's own

The sanitation system

Sanitation at the fundamental level refers to the safe disposal of human excreta to prevent pathogens reaching a new host. Wagner & Lanoix's (1958) F-diagram conceptualised sanitation as a system of barriers to the faecal-oral transmission route rather than any individual product (Cairncross 1992). The sanitation system is comprised of a device, or method for safely containing human excreta, a process for rendering the excreta safe and an appropriate re-entry procedure back to the environment (see figure 1). Importantly however, the first stage of the sanitation process also involves a human decision requiring sanitation interventions to be socially sensitive. The processing stage encompasses the multitude of ways that involve the transport and decomposition of excreta, which may involve multiple or no cycles. These are prescribed by the choice of networked or on-plot technologies.

In high density urban areas, the route from excreta disposal to re-entering the environment can be very condensed. Using the model of the sanitation system, this section will review various approaches to sanitation for urban settlements.

The first element of the sanitation process is the use, or not, of a device to contain human excreta. Community Led Total Sanitation (CLTS) explicitly targets this point. Although successes have been reported in rural Bangladesh (Kar and Pasteur 2005), the appropriateness of CLTS in the urban setting is questionable due to the high loading of latrines and urban community dynamics. In addition, CLTS uses the absence of open defecation as the indicator of success thus neglecting the subsequent stages of the sanitation system which are essential in high density areas. More widely promoted for the urban context is social marketing (SM) (Budds *et al.* 2002) which encourages households to install, maintain and use improved latrines over basic systems, or open defecation, through awareness schemes. SM is based upon the assumption that an awareness of the benefits of improved sanitation will translate to household investment in sanitation technologies and changed behaviour in the target population. Paradoxically, advocating sanitation from a health perspective runs into the tension that whilst there is good evidence linking behaviour and health (Boot and Cairncross 1993, Fewtrell *et al.* 2005), health benefits remain a poor motivator for behavioural change (Cairncross 2003). A key challenge of these demand-led approaches is understanding the external social, environmental and economic forces which influence decision making at the household and intra-household level (Beall and Kanji 1999, Budds *et al.* 2001, Hardoy *et al*. 2001).

The 'processing' stage of sanitation can be conceived as cycles of removal and decomposition of excreta, prescribed by networked or on-plot technologies. The debate surrounding sanitation technology choice for high density contexts deliberates between conventional engineering and appropriate technology solutions. Sanitation technologies are often ranked in incremental levels of service provision which in developmental monitoring and policy discourse are classified as 'improved' or 'unimproved' (United Nations 2000). In reality however, many unimproved options remain widely-used (i.e. open-defecation, the manual emptying of pit-latrines and bucket sanitation). Whilst on-site sanitation may provide an alternative to networked systems (Cotton and Saywell 1998), operation and maintenance mechanisms are often sidelined which are the critical elements of long term user satisfaction & sustained use (Jenkins and Sugden 2006). Without appropriate and affordable pit-emptying services, excreta is likely to be periodically disposed or flushed back into the immediate environment (Eales and Schaub-Jones 2005, Jenkins and Sugden 2006) thus undermining many of the health benefits of using a device and sanitation process. The nature of high density informal areas has led to arguments that the public latrine may be a more appropriate option (Wegelin-Schuringa and Kodo 1997) where some initiatives demonstrating well managed community toilets have proved successful (Burra *et al.* 2003). This challenges the MDG classification of public latrines as unimproved sanitation (United Nations 2000) as success becomes a question of careful management rather than technology choice.

The final stage of the sanitation system is the process whereby human waste is returned to the environment, ideally in a non-harmful state. It is at this stage where sanitation becomes a public good and incorporates the conflicting interests, responsibilities and capacities of household, community and municipal domains. Interfacing between these different domains can be problematic as there is most often a mismatch between the supply of an appropriate service to the demands of the actors in that domain (IWA 2006). The Sanitation 21 philosophy aims to bridge the gaps across the domains of the city through an improved understanding of the external factors driving decision making at each levels (*idem*.).

Tenure status and invisible populations

The second factor of analysis in this study is tenure status. UN-Habitat see a lack of secure tenure as an increasing concern in development as it inhibits investment in housing, undermines planning and development, acts as a social barrier and prevents good governance (UN-HABITAT 1999). Much of the population

growth in African cities is found in slums. In 2001, 71.9 percent of the urban population lived in slum areas (UN-HABITAT 2003). Slums are often seen to be 'invisible' to municipal authorities, where the institutional frameworks impede service provision to many informal settlements (Almansi *et al.* 2003). Tenure is one of the defining factors of a slum and is a contentious and complex issue. Its definition is embedded in historical and cultural interpretations, encompassing both formal and informal conventions. Different tenure systems can coexist simultaneously involving complex relationships of informal and formal rights (Payne 2002) therefore there is a need to go beyond the basic classifications of informal and formal, or tenant and landlord, to discuss tenure appropriately in urban Africa. Due to its complexity measuring tenure in itself is problematic therefore, it is often measured in terms of 'tenure security' to encompass its multifaceted nature. Tenure security refers to the right to effective protection by the state against forced evictions (UN-HABITAT 2006). Conventional wisdom suggests that the poor will invest if they have a guaranteed (de jure) security against eviction (Jimenez 1984, de Soto 2000) whereas others argue that a perception of (de facto) tenure security can suffice (Almansi *et al.* 2003). Payne (2002) advocates that achieving incremental improvements in property rights is a more effective way of improving tenure security than attempting to change the tenure status itself (Rakodi 1995, Payne 2002).

Payne uses a classification system to describe how tenure status and property rights link to tenure security of a given locality (see figure 2). The prevalence of different tenure groups (denoted by column width on the x-axis) is ranked against the (de facto) security of tenure available to those typologies (y axis). Property rights held in each tenure typology are examined thus highlighting where removing a barrier to property rights may significantly improve tenure security for a specific group (Payne 2002: 5-13).

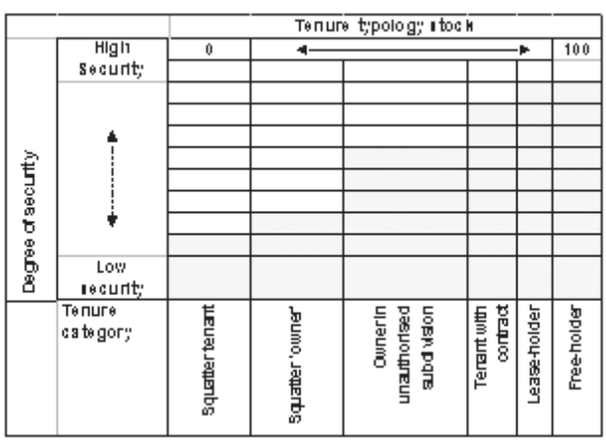

Figure 2. Tenure typologies and degree of security

Source: simplified for illustration purposes from Payne 2002: 7

Considering urban residents in this way may be relevant to sanitation as tenure is perceived as a barrier to individual participation and investment in sanitation infrastructure (Budds *et al.* 2001, Hardoy *et al.* 2001, Eales and Schaub-Jones 2005). It is evident that a landowner compared to a squatter tenant is likely to have very different priorities and agency at each stage of the sanitation system (Gilbert *et al.* 2006). This study therefore seeks to address these diverse perspectives across tenure typologies in the aim to unlocking sanitation provision for all urban residents.

The research design

Aims and objectives

This research seeks to test the hypothesis that tenure typologies and access and sustained use of sanitation systems of the urban poor are closely related. To achieve this, the key objectives of the study are:

1. To characterise the scope of tenure typologies and existing sanitation systems in selected Dakar urban settlements.
2. To evaluate the extent that tenure is a factor in (a) access to improved sanitation; (b) sustained use of facilities; and (c) associated hygiene behaviours.

3. To explore the practicalities of managing sanitation infrastructure across the tenancy spectrum.
4. To examine the role of stakeholders in sanitation provision across the tenancy spectrum.

The location of the field work

Sub-Saharan Africa was chosen as the geographical area of the research to reflect the projected demographic and urban sanitation trends. The criteria for selection was a large city (population size >2 million), no recent history of conflict or instability and including a wide range of tenure typologies in a similar setting. Dakar was selected from a shortlist due to its positive trends in sanitation coverage and a continued policy focus on slum upgrading.

Methods

A mixed methods approach is applied in the study, where possible, using triangulation to strengthen findings and explore diverse perceptions (Cohen *et al.* 2000, Laws 2003, Olson 2004). The first stage of the research will be to categorise the tenure typologies and associated property rights (see Payne 2002) in various urban settlements of Dakar using observation, transect walks and an administered questionnaire survey. In addition, the existing sanitation systems will be categorised in terms of access, sustained use and associated hygiene behaviours (Boot and Cairncross 1993). Participatory tools including pocket voting may also be used to gain deeper insight in sensitive topic areas (*idem.*). Descriptive statistics will explore the significance of relationships addressing the first two objectives at this stage. The second stage of the research will be qualitative investigation into the issues surrounding the relationships which will be informed by the results of stage one.

Sanitation discourse talks of targeting sanitation at the lowest appropriate level, meaning the household unit which is commonly used as the unit of analysis. However as mentioned previously, both tenure typologies and sanitation access may differ on an intra-household level, which would be obscured if data was collected on an aggregate household level (Beall and Kanji 1999). For example, a household comprising of family members and tenants in a low-income area of Kumasi Ghana, only the landlord and core family were permitted to use the 'household' latrine, other members of the household relied upon public toilets or open defecation (personal observation 2006). An alternative option is to collect data on the intra-household level comparing social rather than physical groupings. At this level the data risks becoming too embed in the details thus the study aims to gather data at an intra-household level whilst retaining household level information such that differences can be explored. This methodological complexity however does raise important questions regarding the validity of existing sanitation coverage figures and the assumptions therein.

Final comments

Far too often sanitation interventions fail to reach their target populations and full objectives, resulting in lost investment and failed infrastructure. Much of the sanitation discourse today remains entrenched in conventional thinking, little of which is relevant to the unplanned, densely populated settlements which are most in need. Urbanisation and slum growth is a phenomenon which is set to continue therefore it is time to take a realistic look at the social, environmental and economic factors which influence decisions surrounding urban sanitation systems.

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