Reforming urban sanitation under decentralization: Cross-country learning for Kenya and beyond

Nathaniel Mason¹ | Charles Oyaya² | Julia Boulenouar³

¹Research Associate, Overseas Development Institute
²Executive Director, International Development Institute – Africa
³Principal Consultant, Aguaconsult Ltd.

Abstract
Motivation: Across the Global South, unclear institutional frameworks undermine progress in improving services. Often, ongoing decentralization reforms reduce clarity further. Policy professionals working on institutional reform lack comparative models.

Purpose: To identify key challenges for the institutional arrangements for urban sanitation in decentralizing contexts, in Kenya and elsewhere, and to propose possible responses.

Approach and methods: We use key informant interviews and literature review in a problem-driven analysis, drawing from three comparative case studies: South Africa, Indonesia and Tamil Nadu State. The analysis builds upon research on institutional effectiveness—co-operation, collaboration and co-ordination—rooted in game theory and elaborated in the 2017 World Development Report.

Findings: Three key problems in Kenya are identified: overlaps and competition around sector leadership at national and devolved levels; weak incentives for county governments to commit policy attention and finance, despite devolution; and limited regulatory oversight.

Policy implications: We identify a range of options for urban sanitation policy-makers: (a) to engage non-sectoral authorities in co-ordinating multi-sectoral issues across all levels of government; (b) to encourage political commitment to pro-poor sanitation services at decentralized levels; and (c) to use incentive-based and risk-based approaches to regulate decentralized entities and strengthen local capacity for monitoring and enforcement.

KEYWORDS
centralization, decentralization, governance, institutions, Kenya, sanitation, services, urban

1 INTRODUCTION: WHY DECENTRALIZATION MATTERS FOR URBAN SANITATION

Sanitation is essential for safe, liveable cities, yet under half of people living in urban areas worldwide are estimated to have access to a safely managed sanitation service—where excreta are safely disposed of in-situ or treated off-site—and 80 million urban residents still resort to open defecation (WHO...
MASON et al. & UNICEF, 2017). Institutional issues are widely regarded as impeding sanitation sector progress, including weak leadership, lack of clarity of roles and responsibilities, and inadequate recognition of and engagement with the informal mechanisms through which services are often provided (Mara, Lane, Scott, & Trouba, 2010; Mitlin, 2015).

At the same time, many countries have sought to improve service delivery outcomes through decentralization, including in urban areas (Resnick, 2014). Decentralization often reshapes the institutional arrangements in a country, with implications for individual sectors including sanitation. Theoretically, decentralization can assist service delivery through improved understanding of local needs and conditions, localization of decision-making powers, improved resourcing for implementation, and enhanced administrative performance (Conyers, 2007). In practice, empirical studies report mixed impacts (Cobos Muñoz, Merino Amador, Monzon Llamas, Martinez Hernandez, & Santos Sancho, 2017; Channa & Faguet, 2016; Ahmad, Devarajan, Khemani, & Shah, 2005). There is increasing recognition that decentralization does not automatically improve service delivery and outcomes depend on (a) the specifics of the decentralization project (its extent and form); (b) how these interact with wider factors including the political, social and economic context of the country and its constituent regions, and (c) the nature of the service being delivered (Conyers, 2007; Boex & Simatupang, 2015).

Despite clear intuitive linkages, there is limited comparative evidence on how and why decentralization matters for institutional performance in specific sectors. We seek to bridge the evidence gap, by analysing the links between decentralization and urban sanitation institutional reform across four countries. The central country, whose sanitation sector leaders are also a key audience for the research, is Kenya. Kenya is undergoing rapid decentralization while simultaneously rethinking its approach to urban sanitation. The other contexts are Indonesia, South Africa, and Tamil Nadu in India,1 which have all undertaken urban sanitation sector reforms during or immediately after decentralization.

In comparing between countries, the objective is not to offer a blueprint for reform. There is mounting evidence of the failure of institutional reform efforts, often externally driven, which apply rigid templates based on “best practice” examples (Andrews, Pritchett, & Woolcock, 2017; Wild, Booth, Cummings, Foresti, & Wales, 2015). Instead, the article aims:

- To present to stakeholders in the Kenyan government a range of options for tackling key institutional challenges for urban sanitation, based on what appears to have worked and not worked across different contexts and the reasons why.
- To provide a wider audience of sector specialists working inside and alongside government with a set of conceptual tools, for identifying sectoral institutional reform options in contexts affected by decentralization.

2 | METHOD: A PROBLEM-DRIVEN APPROACH

In line with recent work on governance and political economy in both the academic (Andrews et al., 2017; Andrews, Pritchett, & Woolcock, 2013) and practitioner domains (Harris, 2013; Poole, 2011; Fritz, Kaiser, & Levy, 2009) we adopt a problem-driven approach to the analysis, which increases the likelihood that findings will be operationally relevant. Practically, this means we focus on key

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1 A single Indian state is selected because the extent and form of decentralization to urban areas is largely at the discretion of individual states within India’s federal context.
challenges that Kenya’s urban sanitation leadership face, although these are sufficiently broad to resonate with policy-makers in many other contexts. We identified problems through a scoping exercise carried out in late 2017, involving a review of the policy and legislative frameworks for decentralization and urban sanitation in Kenya, and a set of interviews with 20 key informants from national and county-level government, utilities, development partners and non-governmental organizations (NGOs).

An analytical framework was developed to guide the problem identification and subsequent comparative analysis of the case studies. Based on a simple matrix, this allows core functions for service delivery to be mapped across different levels of government and service providers and users (Figure 1). The matrix is largely a descriptive tool, helping to map roles and responsibilities. It can nonetheless support identification of high-level institutional problems—for example gaps or duplication in key functions, or mismatch between the policy prescription and what is actually happening. It also serves to identify key institutional relationships for further investigation.

To explain why institutional problems arise in Kenya’s urban sanitation sector, and why and how they have been navigated (or not) in the case study countries, we make reference to three concepts with theoretical and empirical basis in game theory, deployed in recent governance analysis (World Bank, 2017b; Bartolini, 2013). Labelled “commitment,” “co-ordination” and “co-operation,” and described further in Table 1, these represent three core ways in which institutions can “ensure that rules and resources yield the desired development outcomes” (World Bank, 2017b, p. 53). Where problems rooted in commitment, co-ordination or co-operation arise, institutions, and the relationships underpinning them, often fail to deliver their expected benefits.

To ensure a degree of comparability, the case studies were selected through a two-stage screening process using quantitative and qualitative information on decentralization, urban sanitation access,

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**FIGURE 1** Mapping Service Delivery Functions Across Decentralized Governance Systems.

*Source: Adapted from preparatory political economy analysis studies undertaken in support of the World Bank WASH Poverty Diagnostics (World Bank, 2017a)*

2 The matrix was adapted from a framework prepared as part of preparatory analysis for the World Bank Water Supply, Sanitation, and Hygiene (WASH) Poverty Diagnostics project (World Bank, 2017a).
economic development and urbanization. Two key themes emerge from a brief comparison of the countries (Table 2). First, the comparison countries have generally performed better than Kenya in terms of increasing urban sanitation coverage and reducing slum population, despite urbanization. Second, they have made this progress even as decentralization unfolded.

It must be noted that the picture provided in Table 2 is, however, high-level. The sanitation access statistics are computed internationally, allowing for comparison, but obscure differences in the reality of services experienced in cities of different types and sizes, and by different groups of citizens—whether rich or poor, male or female, disabled or non-disabled. For example:

- In Indonesia, the gap in access to sanitation between the richest 60% and the poorest 40% of the urban population is 19 percentage points. An estimated 95% of faecal waste still makes its way into the nearby environment due to inadequate containment, emptying, disposal and treatment systems. This increases the risks for the 27% of the poorest two-fifths of urban Indonesians who drink unsafe groundwater (World Bank, 2017c).

- In Tamil Nadu, India, households are much more likely to lack a toilet on their own premises if they reside in smaller urban settlements (Town Panchayats) than if they live in the larger Municipalities or Municipal Corporations. While public policy prioritizes sewerage, on-site sanitation is more common, especially for those in smaller cities (TNUSSP, 2017).

- In South Africa, Mjoli (2015) found that “most municipalities studied did not make any provision for meeting the special sanitation needs of people with physical disabilities and other vulnerable groups. Provision of communal toilets for urban informal settlements also did not consider the needs of women and children from safety and security perspective” (Mjoli, 2015, p. 6).

Further details from the case studies under comparison are given in the analysis below, providing a more nuanced comparison for Kenya. These comparison case studies draw on documentary review and the views of 25 key informants, comprising representatives from government at different levels, researchers, civil society and donor organizations.3

| Concept     | Institutional function | Hypothetical example for urban sanitation |
|-------------|------------------------|------------------------------------------|
| Commitment  | Enabling trust that agreed rules will be followed by all parties into the future. | A voter voting for a politician on the basis of their commitment to improve sanitation services. |
| Co-ordination | Ensuring that different stakeholders have assurance that acting concurrently/in the same direction will secure greater benefit for them than not acting at all. | All parties in a faecal sludge management chain (users, emptying service providers, council operating treatment works) co-ordinating to ensure the system is financially viable. |
| Co-operation | Ensuring stakeholders are not put off acting together by others “free-riding,” i.e. capturing a benefit without contributing. | Pit-emptying providers co-operating to use municipal treatment works because no competitors can get away with dumping waste illegally. |

Source: Adapted from World Bank (2017b)

3Where interviews are a key source for findings contributions are coded as follows: Country (IN – India; ID – Indonesia; ZA – South Africa); plus general stakeholder type (NG – national government; IG – intermediate level government; LG – local government; R – research; N – NGO; C – consultant; DP – development partner).
### TABLE 2  Data on Decentralization, Urban Sanitation, Gross Domestic Product (GDP) and Urban Population for the Four Case Study Countries

|                      | Government Closeness Index Rank (of 182), generally 2005 | % of urban population with access to at least basic sanitation, 2000 | % of urban population with access to at least basic sanitation, 2015 | GDP per capita, PPP current (international dollars), 2000 | GDP per capita, PPP current (international dollars), 2015 | Urban population (% of total and in millions), 2000 | Urban population (% of total and in millions), 2015 | Percent of urban population living in slums, 2000 | Percent of urban population living in slums, 2015 |
|----------------------|------------------------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|
| Kenya                | 99th                                                       | 34%                                            | 35%                                            | 1,690                                           | 3,020                                           | 20% (6.3)                                        | 26% (12.1)                                       | 55%                                              | 66%                                              |
| India                | 68th                                                       | 50%                                            | 65%                                            | 1,978                                           | 6,127                                           | 28% (291.3)                                      | 33% (428.7)                                      | 42%                                              | 24%                                              |
| Indonesia            | 40th                                                       | 66%                                            | 77%                                            | 4,602                                           | 11,040                                          | 42% (88.9)                                       | 54% (138.7)                                      | 34%                                              | 22%                                              |
| South Africa         | 54th                                                       | 70%                                            | 75%                                            | 7,561                                           | 13,165                                          | 57% (25.5)                                       | 65% (35.6)                                       | 33%                                              | 23%                                              |

Source: The Government Closeness Index combines data for 182 countries “for most recent year of availability (mostly 2005)” on political, fiscal and administrative dimensions of decentralization and localization (Ivanyna & Shah, 2012, p. 6). Data on urban sanitation are from the World Health Organization and UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (n.d.). Basic sanitation is defined as “improved facilities” (those designed to hygienically separate excreta from human contact) that are not shared with other households. Data on GDP and urban and slum population are from the World Bank Open Data portal (World Bank, n.d.).
2.1 | Background: Decentralization in Kenya, Indonesia, South Africa and Tamil Nadu, India

The intent, form and extent of decentralization all vary in the case study contexts, with implications for service delivery including urban sanitation. For the most part, decentralization tends towards devolution (Table 3), usually seen as the fullest form of decentralization, and implying that transfer of responsibilities is matched by authority for decisions and resources for delivery (Resnick, 2014). Devolution also usually implies an objective of empowering citizens, by making local governments more accountable to them (Shah & Thompson, 2004) and even the sharing of powers between government and wider civil society (Hidayat, 2017; Cheema & Rondinelli (Eds.), 2007). However, there is considerable variation and nuance, and the extent to which power and responsibility are transferred to local level may vary in different areas: for example, administrative, fiscal and political dimensions.

Kenya’s 2010 constitution explicitly aims for devolution within a two-fold separation of powers between the national level and 47 counties. Kenya is not new to devolution: an initial decentralization to local councils under colonialism was followed by a broad pattern of recentralization from 1962 to 1999, and piecemeal decentralization from 1999 until the election crises of 2007, which provided the impetus for deeper constitutional reform (World Bank, 2011a, 2011b). Nor can the process be considered complete. Sanitation and water supply are among the key functions devolved to county level, along with considerable administrative, political and fiscal powers. The constitution and subsequent legislation, such as the Urban Areas and Cities Act 2011 and County Government Act 2012, provide for county governments to further decentralize their functions to lower tiers of government, including cities and towns.

In reality, decentralization below county level largely resembles delegation, i.e. some responsibility but limited independent powers, whereas prior to 2010, urban areas were run by elected local councils (Government of Kenya, 2010, 2011, 2012; Table 3). Implementation is lagging, with slow progress in establishing the new structures for urban local governments (city and municipality boards; town committees); and limited recognition of the specific needs of urbanized counties in revenue sharing arrangements. With the exception of Nairobi and Mombasa, which were designated as “city counties,” the immediate effect of devolution has therefore been the effective recentralization of power and authority away from urban local authorities, to counties (World Bank, 2016a).

Turning to the first of the three comparative examples, Indonesia decentralized rapidly from 1999, devolving significant powers and resources to the level of districts (over 500, comprising cities and the more rural regencies, which may nonetheless incorporate urban areas). Indonesia is a unitary state, and the intermediary level—comprising 34 provinces—receives a relatively minor role (Nasution, 2016; Shah & Thompson, 2004). Sanitation, as well as water supply, are largely district responsibilities (World Bank, 2017c).

In South Africa, the legacy of apartheid has shaped the more recent history of decentralization, including a need to democratize local government and deliver adequate basic services to all (Koelble & Siddle, 2014). Under the constitution’s “co-operative government” principles, power is shared between three spheres of government—the national level, the nine provinces and local government, which comprises eight metropolitan municipalities, 44 district municipalities and, below the latter, 205 district municipalities (South African Government, 2016). Responsibilities and resources for several key services, including sanitation and water, are devolved to the municipal level. One other important feature of South Africa’s context, for this study, is that there is no specific local government division for urban areas—the larger metropolitan municipalities and some local municipalities are predominantly urban; in other cases, large and small towns exist within largely rural local municipalities (Amusa & Magubu, 2016).
**Table 3** Extent and Form of Decentralization Across Administrative, Fiscal, Political Dimensions in the Four Countries

| Country        | Administrative | Fiscal | Political |
|----------------|----------------|--------|-----------|
| **Kenya**      | Devolved to intermediate level; delegation to city/town level: functions and powers of county government include sanitation and water services (Government of Kenya, 2010). Counties may further delegate functions to cities boards and town committees, or other service provision entities such as water services providers (Government of Kenya, 2011). | Devolved to intermediate level; moderately devolved to city/town level: Counties should receive transfers of at least 15% of national revenue; may borrow with national government guarantees (Government of Kenya, 2011); and have their own revenue-raising powers (e.g. property and entertainment taxes, though own-source revenue is limited beyond business and tourism hubs; Cheeseman, Lynch, & Willis, 2016). Below county level, city and municipality boards receive transfers and may borrow. They may raise revenue, but it is unclear how much they can retain (IEA, 2012). | Devolved to intermediate level; delegation to city/town level: direct elections for county governors and members of county assemblies (Government of Kenya, 2010). Political competition at county level is variable (Cheeseman et al., 2016). City and municipal boards/town committees are appointed/nominated rather than elected (IEA, 2012). |
| **India (Tamil Nadu)** | Extent of devolution dependent on size of urban local body (ULB): Chennai has greatest autonomy; state-level Municipal Administration and Water Supply Department sanctions projects and supports policy development in other Municipal Corporations and Municipalities (TNUSSP, 2017). | Extent of devolution dependent on size: urban local governments can borrow without federal or state guarantee if they meet specific criteria, and raise their own revenue at the discretion of state government (Ellis & Roberts, 2016). | Highly devolved: direct elections for ULB legislature and heads of municipal corporations and municipalities (though heads have been indirectly elected by legislature members at times). Competitive elections, but dominated by two regional parties since the 1970s (Wyatt, 2015). |
| **Indonesia**   | Moderately devolved: many functions fully devolved to district level; sanitation and water technically “concurrent” function between national and district level, which in practice leads to overlap (World Bank, 2017c). | Moderately devolved: Districts receive substantial transfers from national revenue, but have limited borrowing and revenue-raising powers (Nasution, 2016). | Highly devolved: direct elections for district legislatures and heads—the latter have considerable power, including over urban sanitation. Variable levels of political competition at local level (Sjahir, Kis-Katos, & Schulze, 2014). |
| **South Africa**| Highly devolved. Municipalities are responsible for sanitation functions and other core infrastructure services. National Department for Water and Sanitation has limited formal powers to intervene where performance is unsatisfactory (DWS, 2016). | Highly devolved in theory but in practice depends on size: well-evolved system of transfers; in practice only larger municipalities tend to be able to borrow privately and raise significant local revenue (Ajam, 2014). | Highly devolved but limited political competition: direct elections of municipal legislatures, who in turn elect municipal heads. However, one party is dominant in most municipalities (Cameron, 2014). |
India meanwhile has a federal structure under the 1949 constitution, which means the intermediate level of the 29 states wields significant power. Tamil Nadu, one of India’s most urbanized states, was one of the first to enact its own decentralization legislation. It has largely devolved core urban services including sanitation and water supply to its ULBs: 12 Corporations, 124 Municipalities, 528 Town Panchayats (TNUSSP, 2017). Larger urban areas generally have greater autonomy than smaller ones (Ellis & Roberts, 2016).

3 | FINDINGS

3.1 | Findings I: Key problems facing urban sanitation institutions in Kenya

The institutional framework for urban sanitation in Kenya is evolving rapidly. Sanitation is included as a basic human right in the Constitution (Government of Kenya, 2010) and the long-term national development strategy last revised in 2012, Vision 2030, includes a target for universal access to sanitation by 2030 (Government of Kenya, 2012). Sectoral policy has been reframed with the ambitious Kenya Environmental Sanitation and Hygiene Policy (KESHP) 2016–2030, launched in May 2016, giving clearer recognition of the need for non-sewered sanitation solutions for peri-urban areas, slums and small-to-medium sized urban centres (Ministry of Health, 2016a). A medium-term framework for implementing the policy has been published, the Kenya Environmental Sanitation Strategic Framework (KESSF) 2016–2020, with the expectation that county governments and urban authorities will develop and implement their own strategic plans for the sector (Ministry of Health, 2016b). Additionally, a draft National Environmental Health and Sanitation Bill is under development and prototype sanitation legislation for counties has been published (Ministry of Health, 2016c). Among the key institutional innovations emerging are a National Environmental Sanitation Coordination and Regulatory Authority (NESCRA) and dedicated National Sanitation Fund (NASF).

Government estimates of the required investment for urban sanitation are in the range USD 3.4–5.2 billion, in total to 2030. Public spending is thought to be inadequate, though uncertain due to the lack of a specific budget line. The Ministry of Health reports that annual public investment for both rural and urban sanitation is roughly 0.2% of GDP (Ministry of Health, 2016a), which would equate to around USD 0.1 billion in 2016.4 The largest urban sanitation programme with a pro-poor emphasis, Upscaling Basic Sanitation for the Urban Poor (UBSUP), has a total investment of EUR 18.4 million over seven years (2011–2018; approximately USD 0.003 billion per year) (Dubois, 2017).

Estimates suggest that access to basic sanitation has barely kept pace with urban population growth, hovering at just over a third of the population from 2000 to 2015 (Table 2; WHO & UNICEF, 2017). Estimates of access to sewerage vary but are likely to be under 20% of the urban population (Mansour et al., 2017), while less than 5% of sewage is thought to be properly treated (Ministry of Health, 2016a). The significant majority of urban Kenyans therefore resort to shared (42%), unimproved facilities (20%) or open defecation (3%), according to international estimates that are, once again, likely to conceal sub-national disparities (WHO & UNICEF, 2017). Estimates of access by wealth quintile (based on 2009 data) reveal that, while those in the poorest quintile suffer the most from poor services, less than a fifth of the middle wealth quintile, and less than half of moderately wealthy urban Kenyans, have access to a basic facility or better (Figure 2). In principle, therefore, the inconvenience and costs of coping with poor sanitation could command politicians’ attention since it affects the majority of

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4 Calculated using GDP estimate from World Bank Data. Accessed 23 March 2018.
constituents directly—leaving aside public health considerations. In practice, as we consider below, this is rarely the case at either central or county levels.

Using the matrix shown in Figure 1, roles and responsibilities nominally played by different sanitation institutions across decentralized levels can be mapped (Figure 3). This reveals gaps, e.g. the lack of a regulator for on-site sanitation service, which NESCRA is intended to fill; possible overlaps, e.g. the large number of national ministries seemingly with a substantive role in policy-setting; and biases, e.g. towards sewerage, despite it reaching few Kenyans. These are, however, symptoms rather than core underlying problems. Through the Kenya scoping study a set of three more fundamental institutional challenges were identified. The concepts of commitment, co-ordination and co-operation can be applied to help explain them further.

1. **Overlaps and competition around sector leadership at national and devolved levels**, preventing urban sanitation from commanding political attention and resources, and articulating and delivering on a clear vision and plan. Potential co-ordination problem: KESHP proposes NESCRA as a new co-ordinating entity, but it will need to manage relationships with other ministries, departments and agencies which may have competing interests, for example over infrastructure development resources (potential co-ordination problem).

2. **Weak incentives for county governments to commit policy attention and finance**, meaning that constitutionally responsible entities may not prioritize legislation and budget allocations for pro-poor urban sanitation services. Potential commitment problem: the Constitution assigns rights (to citizens) and responsibilities (to counties) for sanitation and the establishment of NASF should streamline and direct financial resources. However, for county (and national) politicians, urban sanitation is not a politically salient issue. Sanitation is perceived as regulation heavy and having limited demand; voters anyway have little experience of politicians making and honouring programme policy commitments, and where votes are cast on this basis (as opposed to a clientelist or ethnic basis) elections are infrequent and other issues compete for attention.

3. **Limited enabling regulatory oversight of on-site sanitation service provision used by majority of the urban poor**, presenting risks to customers (expensive/poor service) and workers (health and safety). Potential co-operation/co-ordination/commitment problem: KESHP proposes establishment of NESCRA for oversight and guidance on sanitation regulation, excluding sewerage services, and assigns counties most of the direct regulatory functions (e.g. monitoring and enforcement). However, functional boundaries between NESCRA and other regulatory agencies need to be clearly defined and demarcated (co-ordination) in a wider context in which national and county-level powers and responsibilities are contested, and compliance of informal sanitation

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**FIGURE 2** Access to Urban Sanitation by Wealth Quintile, Kenya.
Source: WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene. (n.d.)

Electronic copy available at: https://ssrn.com/abstract=3594758
### FIGURE 3 Mapping Roles and Responsibilities for Urban Sanitation Functions Across Kenya’s Decentralized Structures.

Key: Principle type of sanitation: ● On-site sanitation/faecal sludge management (FSM) □ Sewerage

Notes:
1Formerly the Ministry of Water and Irrigation.
2Formal service providers are made up of commercial and social enterprises involved in providing a wide range of services including: construction of major water and sewerage works; sanitation product manufacturing and distribution; sanitation marketing; construction of basic sanitation facilities; provision of toilet services; garbage collection and street cleansing services; FSM; and waste recycling.
3Informal service providers include small-scale, mostly unlicensed, service providers delivering services where public services are unavailable mainly in urban informal settlements. Informal service providers are largely involved in construction of latrines and manual pit-emptying services and garbage collection.

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| National | Policy | Regulation | Financing | Provision | Production |
|----------|--------|------------|-----------|-----------|------------|
| National Parliament | ● | □ | □ | □ | ● |
| National Treasury | □ | ● | □ | □ | ● |
| Ministry of Health | ● | □ | □ | □ | □ |
| Ministry of Water and Sewerage | □ | □ | □ | □ | □ |
| Ministry of Environment and Natural Resources | □ | □ | □ | □ | □ |
| Ministry of Education, Science and Technology | □ | □ | □ | □ | □ |
| Water Services Regulatory Board | □ | □ | □ | □ | □ |
| National Environment Management Authority | □ | □ | □ | □ | □ |
| National Environmental Sanitation Coordination and Regulatory Authority | □ | □ | □ | □ | □ |
| Water Sector Trust Fund | □ | □ | □ | □ | □ |
| Proposed National Sanitation Fund | ● | □ | □ | □ | □ |
| Water services boards / proposed water works development authorities | □ | □ | □ | □ | □ |
| County parliament (Assembly) | ● | □ | □ | □ | □ |
| County finance department/Treasury | □ | □ | □ | □ | □ |
| County water department | □ | □ | □ | □ | □ |
| County public health department | □ | □ | □ | □ | □ |
| County environment department | □ | □ | □ | □ | □ |
| Proposed county sanitation fund | ● | □ | □ | □ | □ |
| Water and sanitation service providers | □ | □ | □ | □ | □ |
| Proposed urban local authorities (City/Municipal Boards, Town Committees) | □ | □ | □ | □ | □ |
| NGOs and CBOs | ● | □ | □ | □ | □ |
| Formal private sector$^2$ | ● | □ | □ | □ | □ |
| Informal private sector$^3$ | ● | □ | □ | □ | □ |
| Households | ● | □ | □ | □ | □ |

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Electronic copy available at: https://ssrn.com/abstract=3594758
providers and users is in doubt (co-operation). Lack of clarity on regulations or sanctions for breaking them, on the one hand, as well as the more positive forms of technical and financial support needed to move to safer forms of sanitation, on the other, also weaken incentives for households and the informal sector (commitment).

3.2 | Findings II: How equivalent problems have been approached in Indonesia, South Africa and Tamil Nadu, India

3.2.1 | Problem 1: How to co-ordinate different ministries and departments for urban sanitation

As noted, policy and planning leadership and co-ordination functions for urban sanitation in Kenya are marked by overlaps and competition, at both national and county level. Institutional fragmentation and lack of co-ordination are well recognized problems for WASH in general, and sanitation in particular (UNDP, 2006; Cairncross, Bartram, Cumming, & Brocklehurst, 2010). Previous cross-country research points to the subtle power plays and vested interests that can prevent the institutions involved from working together (WaterAid, 2016a). These include sectoral ministries like public health, infrastructure, education and environment, and also non-sectoral ministries responsible for planning, finance and, in a decentralized context, local government support.

In South Africa, at the national level the sector co-ordination role for sanitation is vested in a single ministry, the Department of Water and Sanitation (DWS). DWS has historically managed the transition from being an implementer of projects to sector leader, aided by pooled support from donors (Jones & Williamson, 2005). However, co-ordination has become more challenging in recent years and sanitation has arguably been increasingly abandoned, institutionally, while DWS focuses more on water. For example, for several years in the late 2000s most sanitation functions were moved out of DWS to Human Settlements, resulting in marginalization (Tissington, 2011; Personal communication, January 15, 2018; February 19, 2018). Issues of co-ordination with the finance ministry, the National Treasury, did not feature prominently in interviews, and fiscal transfers are governed by formulae within a three-year medium-term expenditure framework. However, within this arrangement the Department of Cooperative Governance and Traditional Affairs (CoGTA) plays a significant role, administering capital and recurrent expenditure grants for basic services to municipal governments, and overseeing their integrated development plans (DWS, 2016; Tissington, 2011). With increasing failure of services at municipal levels, both CoGTA and DWS can end up in the firing line, straining relations between the two (Personal communication, January 15, 2018; February 7, 2018). This said, several inter-governmental co-ordination structures continue to function (Personal communication, March 6, 2018; DWS, 2016).

In contrast to the separation between ministries responsible for sanitation and local government support in South Africa, at the state level in India Tamil Nadu incorporates the two in the Municipal Administration and Water Supply Department (MAWSD). While this might improve the ability to co-ordinate on matters concerning the municipal level (ULBs), which are tasked with sanitation provision, it also carries some risks. For example, MAWSD’s leadership is responsible for many functions besides sanitation, including basic infrastructure for urban areas, rural as well as urban drinking water, and a range of general administrative support functions to ULBs (TNUSSP, 2017).

In Indonesia, the co-ordination role rests with the Ministry of National Development Planning, Bappenas, which also chairs inter-ministerial working group for the sector (WaterAid, 2016b). This has advantages: Bappenas sits somewhat apart from the sectoral ministries (in the case of sanitation,
principally public works, health and environment) and has implicit authority in co-ordinating the five-year national development plans and preparation of the sector ministries’ annual implementation strategies (World Bank, 2017a). An equivalent planning department (Bappeda) exists within provincial and district government structures. The ability of Bappenas and its equivalents to co-ordinate, however, relies on negotiation, rather than command and control. It is therefore dependent on the interest and personality of the senior civil servants involved across the various ministries/departments, as well as the relationships and experience of mid-level staff, who are frequently rotated at both national and district levels (Chong et al., 2015; Personal communication, February 19, 2018; March 6, 2018). Several other ministries hold de facto power: the sanitation investment budget is largely routed through the Ministry of Public Works, which also handles water supply investment (Personal communication, February 19, 2018; March 3, 2018; March 6a, 2018; March 20, 2018); the Ministry of Finance determines budget envelopes (World Bank, 2017a); while it is also reportedly difficult to engage the Ministry of Home Affairs in strategic sanitation matters (Personal communication, February 19, 2018; March 6, 2018; March 20, 2018). Home Affairs is responsible for capacity building of district governments (World Bank, 2015) and has close relationships with the district planning departments (Personal communication, March 6, 2018).

Figure 4 presents the institutional arrangements for urban sanitation sector co-ordination in the four countries in schematic form.

3.2.2 Problem 2: How to increase commitment to pro-poor sanitation services at decentralized levels

In describing problem 2, we pointed to several factors that undermine the commitment mechanism between citizens (as voters) and governments (i.e. the exchange of a promise of a vote for the promise of services like urban sanitation). While political devolution theoretically strengthens this mechanism

| Planning       | Local government | Water/infrastructure | Health               | Environment       | Education          |
|----------------|------------------|----------------------|----------------------|-------------------|--------------------|
| Kenya          |                  |                      |                      |                   |                    |
| (national level; proposed) |                  |                      | Ministry of Health (via NESCR) | Ministry of Environment and Natural Resources | Ministry of Education, Science and Technology |
| South Africa   |                  |                      |                      |                   |                    |
| (national level) |                  |                      | COGTA                |                   |                    |
| Tamil Nadu, India (state level) |                  | Municipal Administration and Water Supply Department | Health and Family Welfare Department | Environment and Forests Department |                    |
| Indonesia      |                  |                      |                      |                   |                    |
| (national level; equivalent arrangements at district level) |                  |                      | Ministry of Home Affairs | Ministry of Public works | Ministry of Environment and Forestry |

**Figure 4** Simplified Representation of the Arrangements for Urban Sanitation Sector Co-ordination in the Four Countries.

*Note: co-ordinating ministry/department shaded. Other ministries shown are the principal ones with a role in urban sanitation. Source: Authors, drawing on Ministry of Health (2016a), DWS (2016), TNUSSP (2017), World Bank (2017c)*
through local elections, in Kenya, it is weakened at all levels by the limited visibility of and demand for sanitation, as well as clientelist or ethic patterns of voting. The case study countries face similar issues, and provide a range of additional incentives to increase local level attention and spending on urban sanitation, especially for poor people (Figure 5). However, these must be used carefully, since the ideals and values associated with decentralization, including local level empowerment and accountability, mean national government is often unable to directly determine local government policies or spending.

**South Africa** has attempted to use a combination of carrots and sticks. On the one hand, there is strong normative and legislative commitment to providing basic sanitation services for all. This is rooted in the constitution’s Bill of Rights but operationalized as a specific obligation for local government through various policies and laws, including the Free Basic Sanitation Policy of 2009 (Tissington, 2011). On the other hand, South Africa post-decentralization initiated a system of predictable fiscal transfers designed to enable municipal governments to reduce the backlog in basic services including sanitation (World Bank, 2011b). Conditional grants are earmarked to specific sector priorities; in the case of sanitation and other basic services the Municipal Infrastructure Grant, managed by CoGTA, is allocated according to the number of households without access (Republic of South Africa, 2017). Costs have been mounting, however, given the expectation in urban areas, for poor and non-poor alike, is sewered sanitation (World Bank, 2011b). The national government also has limited control over what the equitable share, an unconditional division of national revenue between the three levels of government, is used for. Its intended purpose is funding operations and maintenance for basic services but much is absorbed by core administrative costs like salaries (Personal communication, February 6, 2018; March 5, 2018).

The dynamic in South Africa’s larger cities (particularly the eight metropolitan municipalities) is somewhat different—fiscal transfers from central government have less leverage simply because, with higher local revenues, they are a smaller percentage of the overall budget. Here, internal dynamics at the municipal level between politicians and civil servants can sometimes unlock progress. eThekwini municipality in South Africa has pioneered alternatives to sewered sanitation for informal settlements—for example community ablution blocks with paid caretakers in urban and peri-urban areas (Roma, Buckley, Mbatha, Sibiya, & Gounden, 2010). The municipality’s wider drive on pro-poor sanitation was partly stimulated by a cholera epidemic in 2000 (Gounden, Pfaff, Macleod, & Buckley, 2006)—with increased political attention around the crisis, the professionally led municipal utility—eThekwini Water and Sanitation—was able to secure the resources and autonomy to innovate from political leaders (Personal communication, February 2, 2018).

In **Indonesia**, district executive heads (mayors/regents) as well as district legislatures have a high degree of discretion over how to spend their budgets, which are mainly derived as unconditional transfers from national government. District heads, in particular, are crucial to engage if greater policy attention and finance is to go to urban sanitation (Personal communication January 28, 2018; February 14, 2018; March 6, 2018; March 7, 2018; March 20, 2018). While a move to direct elections of district heads may have reinforced the commitment mechanism between citizens and local government, for example in increased local government health expenditure (Skoufias, Narayan, Dasgupta, & Kaiser, 2014), this is not obvious in the sanitation sector. Indonesia’s national sanitation policy-makers have therefore experimented with various institutional mechanisms to increase local government prioritization and discretionary spending on urban sanitation. City sanitation strategies have now been completed by almost all district governments as a key part of the national programme (WaterAid, 2016b). However, quality of the documents is generally low, they lack formal legal status and they are seen by many cities as a box ticking exercise, in order to qualify for central government
Among mechanisms designed to improve sanitation specifically for low-income households, the national government has promoted communal-scale wastewater systems for high-density areas. However, while the capital costs are supported centrally, district governments tend to leave operation and maintenance to communities. This is due in part to a strong cultural norm around community empowerment and self-reliance, but in practice communities lack the financial and technical capacity for more complex management tasks (Mills, Willetts, & AlÁfghani, 2017; Personal communication, February 19 2018). There is also a donor supported output-based grant scheme whereby local governments are reimbursed for connecting households to the sewer network, particularly low-income households (World Bank, 2017b).

In India, finally, a succession of national campaigns have sought to encourage states and ULBs to address sanitation backlogs in urban areas. The latest, which has both urban and rural components, is supported by a strong normative drive on “cleanliness” backed by extensive publicity campaigns, helping to build local government and citizen awareness—but has still been largely focused on toilet construction. Within Tamil Nadu, meanwhile, the state government attempts to support ULBs to move away from reliance on transfers by supporting local financing e.g. municipal bonds [13].

*For simplicity, only the lower sphere of sub-national government is depicted in South Africa and Indonesia, as this is the key level for urban sanitation provision.

5 Urban open defecation is estimated at 7% nationally in 2015—over 30 million people—and 16% in Tamil Nadu at the last Census in 2011 (WHO & UNICEF, 2017; TNUSSP, 2017).
the Swachh Bharat Mission (SBM). It employs a major publicity campaign around the idea of “cleanliness,” suggesting that India’s national government is now attempting to harness the power of ideas and values to drive greater prioritization by both citizens and state and local government, alongside the financial incentives (i.e. subsidies routed through state and local government) that have driven previous campaigns (WaterAid, 2016a). However, SBM-Urban (SBM-U) still emphasizes construction of toilets (Wankhade, 2015), and only recently does there appear to have been concerted attention to managing the full waste chain, with a 2017 National Policy on Faecal Sludge and Septage Management (Ministry of Urban Development, 2017). Tamil Nadu is arguably ahead on this, having issued its own Septage Management Operative Guidelines in 2014—though awareness is reportedly low at ULB level (TNUSSP, 2017). Tamil Nadu has also taken steps to enable ULB investment in basic infrastructure from their own resources, through a range of state-level financing corporations and funds. Of particular note is the Tamil Nadu Water and Sanitation Pooled fund, which has enabled a number of smaller ULBs to issue municipal bonds on local capital markets (World Bank, 2016b). It is not clear how far these financing vehicles are suited to supporting on-site sanitation and faecal sludge management, given smaller project size and less secure revenue streams.

3.2.3 Problem 3: How to extend enabling regulatory oversight to on-site service provision, especially in informal settlements

Above, we identify issues of commitment, co-ordination and co-operation underlying this problem. First, the revisions to the regulatory framework for urban sanitation, including institutional innovations like the establishment of NESCRA, will need to enable commitment, by providing greater certainty about the rules and how these will be enforced, as well as an enabling framework for compliance (as noted, any sanctions created by a regulatory system also need to be balanced with more positive incentives, to empower poor people to co-produce sanitation solutions, rather than penalise them for non-compliance). Currently, the overarching Environmental Health and Sanitation bill is intended to address fragmented legislation on sanitation (Mansour et al., 2017). However, the application of regulation (e.g. monitoring and enforcement) will also need to be co-ordinated. This is especially important given that informal provision dominates and the value chain is made up of many small interdependent providers, and the KESHP identifies numerous regulatory entities: NESCRA, WASREB and NEMA, as well as decentralized authorities (county governments, city and municipality boards and town committees) (Ministry of Health, 2016a; see Figure 6 below). Finally, the institutional set-up for urban sanitation regulation will need to secure co-operation and prevent free-riding, whereby some entities can obtain the benefits of arrangements without contributing. Again, this may be harder for on-site systems where there is a larger number of small entities and each has a greater chance of avoiding any penalty for not playing by the rules.

In Tamil Nadu, India, there are gaps in a similarly fragmented legislative framework. For example, treatment, re-use and disposal is regulated by the State Pollution Control Board following prescriptions of national government, but the various national legal acts do not specify acceptable pathogen content (TNUSSP, 2017). At ULB level the public health cadre have multiple responsibilities and limited time to monitor performance of sanitation systems once they are constructed (Personal communication, January 31, 2018). Nonetheless, Tamil Nadu's decentralization arrangements do vest the key regulation functions with technical administrators who are ultimately accountable to state line agencies, rather than elected local officials. This may be a logical choice in a sector like sanitation,

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6 Launched on October 2, 2014, SBM-U aims at making urban India free from open defecation and achieving 100% scientific management of municipal solid waste in 4,041 statutory towns in the country.
given the complexities of service delivery and the limited political profile of sanitation, at least until there is a crisis (Das Gupta et al., 2017).

In South Africa DWS holds ultimate regulatory responsibility, rather than a separate agency. DWS’s main regulatory mechanism for sanitation performance monitoring and compliance is the Green Drop Programme. This focuses on wastewater, which means it does not cover the various temporary and on-site sanitation solutions used to meet the needs of poor people in urban areas. However, the basic principles and innovations are worth reviewing. Green Drop is incentive-based, in that it relies on the voluntary participation and sharing of information by municipalities that have sanitation provision responsibility (water services authorities). It is also intended to facilitate a risk-based approach to regulation, allowing DWS to focus support on municipalities that are failing to meet standards. Reportedly, all municipalities now participate. However, there have been significant challenges, evidenced by ongoing and severe wastewater pollution incidences. For example, while Green Drop supports identification of problems, follow-up (e.g. support to utilities to prepare corrective action plans) has been limited. There have also been challenges of transparency, reportedly for political reasons where municipal elected officials resist being “named and shamed.” Results were not released from 2011 onwards, though an online dashboard is now available. Green Drop originated partly as a response to the challenges of command and control approaches to regulation, given South Africa’s constitutional commitment to “co-operative Government.” This requires the national government to explore all possible avenues to incentivize compliance before using legal proceedings (Ntombela, Funke, Meissner, Steyn, & Masangane, 2016. In the 2016 National Sanitation Policy DWS nonetheless expressed a desire for greater powers to intervene where water services authorities and the utilities are non-viable (DWS, 2016).

At district level in Indonesia, monitoring and enforcement responsibilities are dispersed across technical departments, for example environment and health as well as the service providers. There are some examples of regulatory innovation at the district level, which aim to streamline monitoring needs and make compliance easier for the regulated entities. In Bandung, the capital of West Java province, the local government water supply agency has established a memorandum of understanding (MoU) with private pit emptiers, which are permitted to discharge into sewer manholes, rather than being required to travel to the waste treatment plant at some distance from the city. Operators are given large, visible stickers each month to indicate they are licensed, MoUs are witnessed by local police, and community members are encouraged to take smartphone photos and report illegal dumping (ISF-UTS & SNV, 2017).
4 | DISCUSSION AND CONCLUSION: KEY LESSONS FOR URBAN SANITATION INSTITUTIONAL FUNCTIONS AND FORMS, FOR KENYA AND OTHER DECENTRALIZING Contexts

By taking a problem-driven approach to consideration of the institutional arrangements for urban sanitation in Kenya, we have been able to explore underlying issues with greater precision. This is not exhaustive. The three core problems we identify are not the only ones that might emerge for Kenya or other decentralizing countries. Similarly, the three concepts used to explain how institutions support governance and service delivery outcomes—commitment, co-ordination and co-operation—are unlikely to explain every aspect of institutional incentives and behaviour. Finally, beyond our three examples there is a wealth of other experience that sanitation policy-makers in Kenya and elsewhere can draw upon—including internal examples of “positive deviance,” where one decentralized entity finds better solutions than its peers to similar or worse challenges (Andrews et al., 2017).

Given the room for uncertainty and the “moving target” presented by unfolding reforms in Kenya, we focus our concluding remarks on key institutional functions. We consider institutional forms—in terms not only of roles and responsibilities, but the relationships between entities—insofar as they might support those functions.

4.1 | Problem 1: How to co-ordinate different ministries and departments for urban sanitation

Although this problem exists in centralized governance contexts, it multiplies with each decentralized level that is given autonomy, and with the particular role played by ministries that support local government. The key lessons emerging from the other countries’ experience are two-fold:

➔ While designated sector leadership is important, it is not always necessary to give the role to a single lead ministry. Recognizing that any single sectoral ministry can struggle to influence its peers, Indonesia gave the co-ordinating role to the powerful national planning and development ministry, Bappenas. Given the breadth of its mandate, i.e. covering development planning across all sectors, the effectiveness of this depends on having individual leaders with strong commitment to sanitation and personalities that can secure co-operation.

➔ In a decentralized context, ministries responsible for supporting local government gain importance. The challenges of engaging the CoGTA in South Africa and the Ministry of Home Affairs in Indonesia point to the need to consider early on how to collaborate with the central government entities that support and supervise local government.

4.2 | Problem 2: How to increase commitment to pro-poor sanitation services at decentralized levels

Decentralization promises better service delivery outcomes by moving government closer to the people. However, in resource-constrained environments, elected local leaders must be persuaded to prioritize urban sanitation over other needs, especially where the assumed commitment mechanism is weak (the exchange of a promise of a vote for the promise of public goods). From our review of international experience, we find that:
Central governments can use conditional transfers to encourage prioritization of urban sanitation policy and spending, but need to match these with other forms of support. Experience from Indonesia’s city sanitation planning suggests that conditional transfers can be used to incentivize policy preparation but that cities and towns may resort to box ticking without support from higher levels of government and development partners. One model may be the project preparation and development support offered by Tamil Nadu’s state-level financing facilities.

Local technical leadership can play an important role in convincing politicians. The experience of South Africa’s eThekwini metropolitan municipality suggests that where they have the capacity and opportunity, technical leaders at local level can be best placed to persuade politicians to prioritize sanitation, and to navigate local politics to sustain a commitment over time.

4.3 Problem 3: How to extend enabling regulatory oversight to on-site service provision, especially in informal settlements

Compared to the other countries, Kenya has made a clearer separation of the regulatory function and is giving concerted attention to on-site sanitation used by the majority of its citizens, especially poor people. However, in a decentralized context, the number of agents involved in both monitoring and enforcement multiplies. There are also likely to be more entities in an on-site sanitation value chain, compared to sewerage. The institutional complexity gives rise to a number of co-ordination, co-operation and commitment problems. While none of the comparison countries have solved these altogether, there are some examples of innovation at both national and local level, that could be used to strengthen the institutional relationships on which effective regulation depends.

National and intermediate levels of government can use incentive- and risk-based approaches to improve performance of local authorities and service providers. South Africa’s Green Drop Certification Programme has succeeded insofar as all municipal water services authorities participate on a voluntary basis, and results are now publicly available. However, poor performers need support to plan and implement remedial action. This may be relevant in the context of Kenya’s plans to establish a system of awards for urban authorities and other entities that perform well on urban sanitation (Ministry of Health, 2016a).

Local regulatory capacity needs to be strengthened to ensure effective monitoring and enforcement in a decentralized context. The other countries’ experience suggest it is not always possible to rely either on the oversight of elected local representatives, or officials in line departments (for example, public health or environment) to regulate city and town performance on urban sanitation. Regardless of institutional form, various smart enforcement approaches could strengthen the functioning of local-level regulation, exemplified by the pragmatic approach to regulating illegal dumping of faecal sludge in Surakarta, Indonesia, which aims to make it easier for providers to comply and for citizens to report non-compliance.

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