



# Public Service Provision under Conditions of Insufficient Citizen Demand: Insights from the Urban Sanitation Sector in Indonesia

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**Summary.** — Indonesia drastically lags behind other countries in Southeast Asia and at similar levels of development in supplying urban wastewater sanitation. We use case studies from three cities in Indonesia to better understand why wastewater services are underprovided. We find strong demand-side constraints that interact with supply-side decision making. After comparing the urban wastewater sector in Indonesia to the health, education, and rural wastewater sectors in the country and to the urban wastewater sector in other Southeast Asian countries, we conclude by arguing for an increase in educational programs that will foment citizen demands on the government.  
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## 1. INTRODUCTION

The absence of appropriate wastewater sanitation is one of the leading killers in the developing world. Open defecation and untreated waste spread germs that cause diarrheal disease, which is the second leading cause of death in children under five. Other children suffer from stunting linked to diarrheal disease, and diarrhea leads to high levels of school absenteeism, reducing human capital accumulation. Global economic losses related to the lack of access to sanitation amount to an estimated \$260 billion annually (World Bank, 2013). Target 7c of the Millennium Development Goals, therefore, aims to halve the number of people around the world using unimproved sanitation facilities. Despite great progress in East Asia, this goal is unlikely to be met globally, and across South Asia, Southeast Asia, and sub-Saharan Africa, rates of open defecation remain above 10% (United Nations, 2013).

Indonesia is one of the countries that has not seen significant improvements in sanitation. After India, Indonesia has the second highest number of people regularly participating in open defecation (WHO/UNICEF, 2010), and across the world's fourth most populous country, there are only nine centralized sewage systems, covering less than 2% of the population. Because of the high prevalence of toilets that discharge directly into water courses and household septic tanks that are never properly emptied, local groundwater pollution has contributed to Indonesia having an infant mortality rate in low-income areas nearly double that of other low- and middle-income countries in the Asia-Pacific region (121 per 1,000 versus 59 per 1,000); in addition, the country suffers from disproportionately high incidence of typhoid for its region and income level (WSP, 2009). In 2006, the estimated economic

costs of poor wastewater sanitation in Indonesia amounted to \$6.3 billion, which is \$28.60 per capita or 2.3% of the country's gross domestic product (WSP, 2008).

Historically, Indonesians have been able to rely on the country's rich geographic endowments of rivers and natural drainage channels to remove household waste of all kinds (Brook, Rimbatmaja, & Widyatmi, 2010). But increasing population density and increasing waste production make these traditional methods of waste treatment highly untenable. The central government in Indonesia has recognized that a problem exists and that change needs to happen. With international donor assistance, the country developed a roadmap for urban sanitation in 2009. In 2010, wastewater infrastructure funding

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was made equal to water infrastructure funding in the central government's Special Allocation Fund (*dana alokasi khusus* (DAK)), and during 2006–12, the central government's expenditures on sanitation have increased eightfold (World Bank & AusAID, 2013).

Nonetheless, despite the initiatives undertaken by the central government and by international development partners to improve sanitation infrastructure in Indonesia, there has been relatively little progress in major urban areas in Indonesia.<sup>1</sup> As a result of Indonesia's 2001 "big bang" decentralization (Hofman & Kaiser, 2004), Indonesian local governments are responsible for providing sanitation services, but some observers believe that these local governments are destined to underdeliver in this sector (WSP, 2009). As compared to rural areas, where small-scale infrastructure can address the sanitation needs of a large proportion of the local population, urban areas face challenges at a scale where government intervention is necessary to solve the common-pool resource problem.<sup>2</sup> Our research seeks to understand why Indonesian city governments have not acted more aggressively in this sector, given interest from the central government and international development partners.

We build on other recent literature that has tried to explain local government service provision in Indonesia (Rosser, 2012; Rosser & Joshi, 2013; Rosser, Wilson, & Sulistiyanto, 2011; von Luebke, 2009), using case studies from three large Indonesian cities. Across the three case studies, we look for evidence of both supply-side and demand-side factors that might hinder the development of wastewater infrastructure and also the institutions that would support long-term service delivery. We describe a deleterious interaction between supply-side and demand-side constraints. After making comparisons to the health and education sectors in Indonesia, rural wastewater sanitation in Indonesia, and urban wastewater sanitation in other countries in Southeast Asia, we conclude the paper by calling for increased local education campaigns and describe why we are optimistic about the likelihood of such campaigns catalyzing government action.

## 2. LOCAL GOVERNMENTS CONFRONT THE TRAGEDY OF THE COMMONS

Indonesia's wastewater sanitation situation is a classic tragedy of the commons (Hardin, 1968). There is a shared resource (i.e., the environment and the community health benefits that come from having a clean environment) that it is in everyone's best interest to protect. But individuals acting independently and rationally according to their own self-interest make decisions that deplete the resource. Specifically, in urban areas, it is cheaper to allow toilets to empty into floodwater drainage schemes and other watercourses than to pay the costs of construction and subsequent service fees associated with the installation, cleaning, and maintenance of private septic tanks or the connection and service fees associated with a public sewer system. In such a situation, government should step in either to directly provide the public good of environmental protection that the market will not provide, to provide information that changes individual preferences, or to otherwise create superior incentive structures that reduce exploitation of the commons. In Indonesia, however, there is little evidence of local governments in urban areas doing this.

Why are city governments failing to provide these services? On the one hand, there often are financial constraints, under which governments lack the resources to fund public service

delivery. In the urban sanitation sector, this is particularly true. The construction of urban wastewater infrastructure is costly, particularly because of the costs of urban land acquisition and the challenges of installing new underground piping in densely-populated areas. All government decision making about the sector therefore takes place with the knowledge that capital costs will be very high. On the other hand, there often is a problem of government accountability, where the government is able to overcome the financial constraint but is not willing to use available resources for public service delivery. A lack of accountability might result from deficiencies in information transmission, the difficulty for citizens of monitoring the government, or poorly functioning electoral mechanisms that make sanctioning the government a challenge for the citizenry (Adsera, Boix, & Payne, 2003; Przeworski, Stokes, & Manin, 1999). This lack of accountability is often associated with corruption that diminishes the quality of public service provision (Davis, 2004; Deininger & Mpuga, 2005; Reinikka & Svensson, 2005).

Much of the development literature has focused on these supply-side problems, trying to explain why education or health services, for example, are underprovided by the government. In doing so, however, the literature often assumes that demand for public services exists. But with some public services that are important from the perspective of protecting common-pool resources, there may be a demand-side problem: citizens may not be asking the government to take any action in a particular sector. We review these supply- and demand-side explanations.

### (a) Supply-side explanations

Assuming that citizen demand does exist—as is usually the case in the health and education sectors, for instance—there are a number of reasons why government officials nonetheless might be hesitant to provide the demanded service. Most obviously, there are budget constraints, and government officials must make difficult decisions about what services they are going to provide. Recent analyses of Indonesian service delivery reveal that local governments have allowed illegal fees to persist in the health and education sectors because this allows them to avoid having to reallocate funding from other parts of the budget that are catering to other constituencies (Rosser, 2012; Rosser & Joshi, 2013).

Beyond basic budget constraints, where a service is not being provided in any form (as is the case with wastewater sanitation services in much of Indonesia), there may be high transaction costs to establish new local institutions that would engage in the service provision or to give the responsibilities for service provision to existing institutions. In either case, the local government leadership must organize legislative support for the initiative, invest time in writing draft legislation, invest time in making staffing decisions, and invest time in designing mechanisms of oversight and regulation. If the costs of undertaking these initiatives are greater than the political or material gain that local officials think will come from the creation of these institutions, then they have little incentive to invest in their creation.

In the wastewater sanitation sector, there are a number of reasons to believe that politicians do, in fact, estimate the costs of service provision as higher than the benefits.<sup>3</sup> The health and environmental benefits of improved sanitation may come only in the long-run, which conflicts with the short political time horizons of politicians.<sup>4</sup> Local politicians may understand the benefits of wastewater sanitation, but if they are not poised to take credit for reduced incidence of diarrhea and infant

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