

Ensuring Sustainable Access to Drinking Water in Sub Saharan Africa: Conflict Between Financial and Social Objectives

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Summary. — We study a model explaining dynamics in water coverage that accounts for financial performances of utilities. Our dataset covers 25 Sub-Saharan countries from 1996 to 2012. Results suggest that access to water depends upon financial results, but this relationship is not linear: we find important access increases for relatively low levels of capital cost recovery and deterioration of access performances beyond a certain threshold. Our results are consistent with the literature about risks of corporatization and potential conflict between financial and social objectives in the water sector, and they provide supporting quantitative evidence and recommendations for sector policies in the region.

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1. INTRODUCTION

In September 2000, building upon a decade of major United Nations conferences and summits, the General Assembly of the United Nations adopted the resolution *A/RES/55/2* committing nations to a new global partnership to reduce extreme poverty. This resolution sets out a series of time-bound targets that became known as the Millennium Development Goals (MDG). The goal number 7 is to “Ensure environmental sustainability” and it included the Target 7.C, that was, to “halve, by 2015, the proportion of the population without sustainable access to safe drinking water and basic sanitation”.

The water MDG is dramatically off track in Sub Saharan Africa, with only 64% of the population covered in 2012 instead of the expected 77.5% (WHO and UNICEF, 2014). This poor performance is driven by urban areas, where the water supply coverage through household connections declined while the access through other improved sources, like public taps, hand pumps, protected wells, hardly compensated for that. The estimated gap in available funding was 17 billion US dollars per year from 2009 to 2015 only to achieve the MDG goal (Banerjee & Morella, 2011). This calls for a reconsideration of the policies implemented in the sector.

After a phase started in the 1980s and centered on the priority of privatization, in the last ten years the policies for the urban water sector have developed into a new agenda, which still includes private sector involvement, but is now more focused on improving the efficiency of water boards, municipalities, and State Owned water Enterprises (SOE). This should be achieved by mimicking the private sector in line with the New Public Management approach (Schwartz, 2008). Some key priorities of this approach are corporatization, commercialization, performance contracts, and rate of return policy (Banerjee & Morella, 2011; Furlong, 2010).

These priorities are translated at the operational level, in a number of requirements that utilities are urged to comply with. The requirements include, among others, the increase

of cost recovery and average tariff levels, and the control of costs. Thus, they are mainly related to financial performances and efficiency. Financial health alone, however, may not be enough to ensure that utilities have the investment capacity necessary to bridge the funding gap of the African water supply sector.

From the 1980s studies on contingent valuation and willingness to pay (among others, Whittington, Lauria, & Mu, 1991) conducted on developing countries fueled some enthusiasm on the potential for full or capital cost recovery. However, tariff rise proved to be politically challenging and efficiency gains limited, so that the policy debate moved the attention from full cost recovery through tariffs to the concept of sustainable cost recovery, first introduced by the Camdessus Report (Winpenny, 2003). The latter allows for a mix of Tariffs, Taxes, and Transfers (TTT), recognizing the importance of affordability. The possible criteria for spreading the cost of water services can hence be viewed along a continuum between endogenous and exogenous solutions (OECD, 2010), with the former mainly relying on users for cost recovery and the latter transferring all the costs to external actors, typically through donors and public finance.

Overemphasizing financial performances can be misleading for utility management and political decision makers due to

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the trade-offs that characterize the relationship between social, environmental, and financial sustainability goals in the water sector (OECD, 2010). Achieving a balance between financial and social objectives is also a key challenge for the regulators of water services, regardless the nature of the regulated provider (public monopoly, formal/informal private sector) (Gerlach & Franceys, 2010). Furthermore, in order to provide the desired incentives, benchmarking regulation must consider baseline values and feasibility when setting targets for each indicator and the weighting system for their aggregation (Marques, Simões, & Berg, 2013).¹ However, as argued by Mehta (2014) “*even though policy rhetoric may be about rights and equity, in practice (...) considerations of utility and efficiency persist which may not always have the interests of the marginalized upfront*”. In fact, demanding cost recovery targets are still widely adopted in the water policies of many countries, in the covenants of conditional soft loans by International Finance Institutions, in performance contracts with private operators or corporatized utilities, and by regulatory bodies that practice benchmarking regulation.

This study focuses exclusively on urban and peri-urban areas.² Urban water supply is generally considered to be commercially more viable than other services, so that in Africa it was often separated from unprofitable elements like sanitation and rural water supply, and cost recovery targets are particularly demanding for urban water utilities. The need to rely only on tariffs may however provide adverse incentives to the extension of networks to poorer areas, as both private operators and corporatized utilities can perceive them as unprofitable markets.

The present analysis aims at verifying whether approaches based on cost recovery indicators are suitable to design a proper structure of incentives that could push utilities to achieve the main goal of African water utilities, defined by the target 7.C in MDG. Achieving universal access to water is very challenging in Africa, due to rapid urbanization and to the present low coverage rates. Coverage indicators capture access to utility water³ and they are also suitable to capture the dimension of equity in urban contexts because the fraction of urban population excluded from formal water services usually includes the poorest one, so that extending access is considered among the key pro-poor interventions (Gerlach & Franceys, 2010).

This study contributes to the understanding of the most appropriate composition of the TTT mix (with particular reference to the role of tariffs) when access challenges must be addressed. It also assesses the effect of cost recovery levels on coverage rates and discusses whether the incentive structure based on cost recovery targets has a significant effect on the results of utilities in increasing those rates.

The paper is organized as follows. Section 2 contains a literature review and presents the hypothesis to be tested. In Section 3 we describe the dataset we use. Section 4 provides empirical results, while Section 5 contains some concluding remarks, including those pertaining to policy implications.

2. LITERATURE REVIEW AND HYPOTHESIS FORMULATION

(a) Literature review

The present literature review focuses on studies that contribute to the understanding of the relation between cost recovery and changes in coverage, including both qualitative and quantitative studies and some studies that address this

relation only indirectly. Particular attention is given to studies about countries that are well represented in our sample (see Section 3) and to studies about corporatized utilities, regardless the presence of public-private partnerships.

Jaglin (2002) reviews the reforms of water services in urban areas in Sub Saharan Africa, and discusses the difficulties of reconciling a commitment to universal provision with a market-oriented approach where all those served must pay full costs. The paper focuses on users' participation as a measure that has been taken to reconcile these potential conflicting elements. However, users' participation tends to transfer costs from water companies to low-income households and can result in low quality services for the poor. The author identifies the distribution of costs on users as a possible, but still controversial way to reconcile the conflict.

Dagdeviren (2008) focuses on the commercialization of urban water services in Zambia demonstrating the tension between cost recovery and service extension when water sector reforms combine a low level of public investment with price increases. The author concludes that in Zambia, as in other low-income economies, the aspirations for cost recovery in water supply services can be a means to increase the proportion of the population with access to safe water, but with an inappropriate policy mix, this policy can also lead to the opposite result of declining access rates.

Herrera and Post (2014) consider 35 developing countries worldwide engaged in corporatization and inherent cost recovery policies. The authors find that cost recovery encountered strong resistances of the population and of local politicians. As decentralization policies were implemented jointly with corporatization, these resistances challenged the success of the reform. The authors argue that resistances were also due to the fact that the relation between cost recovery and investments in infrastructure (necessary to improve access to water) was not properly explained to the population. The assessment of this relationship, between cost recovery and infrastructure improvements, instead remains outside the scope of the work, while it is more directly addressed in another contribution by one of the two authors (Herrera, 2014). In this second work, Herrera presents three case studies of Mexican municipalities supposed to adopt cost recovery policies. These policies are found to be more successful in rich cities characterized by the presence of strong industrial and middle class bases, as fiscal self-sufficiency requires a customer base that can generate sufficient revenues to finance service improvements. In poor municipalities instead, improving urban service with revenues from consumer fees proved to be politically challenging, for the necessary increases in users payments, and practically unfeasible.

Bakker, Kooy, Shofiani, and Martijn (2008) analyze the institutional dimensions of urban water supply provision to poor households in Jakarta, focusing on incentives. Based on both quantitative and qualitative evidence they describe the persistence of low access rates as a governance failure, because the institutional setting created disincentives both for utilities to connect poor households and for poor households to apply for a connection. Among the drivers of this governance failure, the authors identified cost recovery requirements. In fact, corporatized, indebted utilities have adverse incentives to connect poor, unprofitable households, as low volumes of consumption are charged with low rates, while poor customers prefer alternative water sources, due to the high total cost of utility water, when both volumetric and fixed charges are considered.

Bayliss (2011), after a critical review of some evaluation studies by the World Bank on water privatization and neoliberal

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