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A tale of two cities: A multi-dimensional portrait of poverty and living conditions in the slums of Dakar and Nairobi

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A B S T R A C T

Our understanding of settlement conditions and the nature of poverty across urban slums is limited. Using three simple frameworks, we create a meso-level portrait of poverty and living conditions in the slums of Dakar, Senegal and Nairobi, Kenya. While slum residents in both cities share the challenge of monetary poverty, their experience diverges significantly relative to employment levels, education, and living conditions. Nairobi's relatively well-educated and employed residents suffer from poorer living conditions—as measured by access to infrastructure and urban services, housing quality and crime—than residents of Dakar, who report much lower levels of educational attainment and paid employment. The research findings challenge conventional development theory—particularly notions that education and jobs will translate into lower poverty and improved living conditions. More comparative research is needed to better understand what drives settlement conditions and to create more effective strategies to improve the lives of all urban residents.

Introduction

Today more than half the world's population lives in urban areas (UNFPA, 2007). The transition from a rural world to an urban one is the outcome of sustained urban growth in the cities of the global south—from cities like Shanghai and Beijing in China whose growth has captured headlines worldwide, to cities with less popularly recognized growth challenges like Lagos and Kaduna, Nigeria (Kahn & Yardley, 2007; Montgomery & Balk, 2012; Satterthwaite, 2007). Managing rapid urban growth has been especially difficult for the cities of the developing world. The needs of urban migrants have far outstripped the ability of the public (and also the private) sector to meet those needs (Bazoglu, 2012; Dudwick, Hull, Shilpi, & Simler, 2011). The most visible evidence of this failure is captured in the concentrated poverty and poor living conditions of slum settlements across cities of the developing world.

Urban slums, of course, are not a new phenomenon—they have been in existence for decades and studied almost just as long. A rich body of micro-studies—especially ethnographic and longitudinal studies of specific cities, settlements, and individuals within such settlements—has created vivid images of life within slums (e.g., Goldstein, 2003; Kramer, 2006; Peattie, 1968). Micro-studies have shed light on why people migrate to urban slums and the political/economic struggles of urban migrants over time (Perlman, 1980, 2006), political clientelism and the social isolation/marginalization of slum residents (Auyero, 1999, 2000, 2002), and links between urban residence, slum formation and health inequities (Hunter, 2006, 2007). At the other end of the analytical spectrum are macro-level analyses that examine national and global urbanization trends, emphasize the inexorable increase in slum settlements, and discuss the implications of slum growth for urban service delivery, health outcomes, and quality of life (e.g., Davis, 2006; UN Habitat, 2003, 2012).

There are some crucial gaps in our understanding of slums especially regarding the nature of and variation in poverty in these settlements. Just how poor are slum residents in any given city? In what ways are they poor? Are they worse off than rural residents or their counterparts in other cities? In comparing two slums in a single city, how do we ascertain which settlement is better off and in what way? From a policy perspective, additional questions arise. What can be done to reduce poverty and improve conditions in urban slums? Given budget constraints, which interventions should be prioritized and why?

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We focus on this gap in the literature. This paper emerged from our own struggle to empirically answer these questions for the slums of two African capital cities: Nairobi, Kenya and Dakar, Senegal. Using two specially commissioned randomized-sample surveys of about 3700 households (or 24,145 people) in these two cities, we generated rare and extremely rich empirical data. But we found that the literature offered few precedents that could help us effectively summarize and interpret the results and compare the findings across the two cities. To paint a comparative picture of poverty and living conditions in the slums of these two cities, we needed an analytical framework with 4 critical features. First, we needed a framework that explicitly acknowledges that urban poverty—like human development—is a complex, multi-dimensional phenomenon. Starting with the work of Sen (e.g., Sen, 1985, 1999, 2005; Sen & Anand, 1997), the poverty studies literature has shown the need to go beyond indicators that just measure income or consumption and acknowledge other forms of deprivation (see, for instance, Bourguignon & Chakravarty, 2003; Moser, 1998; Ravallion, 1996; Tsui, 2002).[3] Second, we needed a framework that could convey this multi-dimensionality in a manner intelligible to academics, policymakers, practitioners, and politicians alike. Given that predominant quantitative benchmarks such as "number of people living on a dollar a day" are easily understandable, any proposed complement or replacement needed to be simple and convey the type, nature and/or extent of the deprivation(s). Third, the framework needed to deploy a parsimonious number of indicators to make it feasible to collect, analyze and comprehend the requisite data. Finally, we were interested in a framework at the *meso*-level—positioned in-between macro-level analyses that treat all slums as one category, and the micro case-specific analyses that treat each settlement as unique. The framework should facilitate contextual understanding—required to allow for interventions to be tailored to a given situation—but without being paralyzingly narrow or overly general.

We developed three inter-related but simple frameworks; we deploy them here to tell a tale about the slums of Nairobi and Dakar. The three frameworks—the Development Diamond, Living Conditions Diamond, and Infrastructure Polygon—graphically present a summary focusing on 16 dimensions (and 14–20 indicators), chosen carefully from a data set of about 500 indicators. We show how the three radar graphs of thematically grouped variables provide a useful way to aggregate data, graphically/visually observe relationships between dimensions, and examine differences within and across cities. Table 1 defines the sixteen dimensions.

Our first framework—the Development Diamond—posits that poverty and development can and should be understood along four discrete but inter-related dimensions: monetary welfare, employment, education, and living conditions, including infrastructure access. Using this framework, we find that although slum residents are monetarily poor in both cities, *the nature of their poverty differs dramatically*. In Nairobi, slum residents are educated and most are employed, but they have appalling living conditions. Dakar's slum residents have fairly decent living conditions, but very low levels of educational attainment and paid employment. Thus, the Development Diamond helps us create a multi-dimensional snapshot of poverty or welfare, indicating the way in which slum residents are poor in a given settlement or city, and also the ways in which they are better or worse off than their counterparts in another location.

[3] The struggle to formulate expanded measures to help characterize and evaluate poverty and development has also been addressed by other agencies and authors. Enhanced measures include the United Nations Human Development Index and its most recent innovation the Multi-Dimensional Poverty Index (MPI) (Alkire & Santos, 2010; Alkire & Foster, 2011a, 2011b). These indices have been criticized from both social and ecological perspectives (see Berenger & Verdier-Chouchane, 2007; McGillivray, 1991; McGillivray & Shorrocks, 2005; Sagar & Najam, 1998).

Table 1
Data utilized for the graphic presentation.

Analytical frame	Metric
Development Diamond	
Vertex: Welfare	% of households living below an absolute (expenditure-based) poverty line
Employment	% of individuals over the age of 15 reporting paid employment in formal sector wage labor jobs, household microenterprises, or casual labor.
Education	% of respondents completing primary school
Living conditions	% of households with access to piped water and electricity, and living in houses with permanent walls (composite)
Living Conditions Diamond	
Vertex: Infrastructure	% of households with access to *any given service* across eight infrastructure services (composite)
Unit quality	% of structures with permanent walls
Neighborhood and location	% who feel safe in their neighborhood
Tenure	Ratio of owner-occupiers to tenants
Infrastructure Polygon	
Indicator: Electricity	% of households with in-house electrical connections
Toilet	% of households with access to private toilet facilities
Sewage disposal	% of household with access to sewerage/septic tank/soak pits for sewage disposal
Drain	% of households reporting a working drain
Garbage pickup	% of households with organized garbage pickup services
Public transit	% of households with at least one member using public transit as primary mode of transportation
Phone	% of households with phone service (either land line or cell phone)
Piped water	% of households with access to private piped water connections

But the empirical disconnect between the dimensions—the finding that households could be above the poverty line, have education and a job, but still have poor living conditions (and vice versa)—was surprising and caused us to examine living conditions more closely. The second and third frameworks—the Living Conditions Diamond and the Infrastructure Polygon—deepen the comparative analysis of the two cities. Using these frameworks, we confirm that living conditions and infrastructure access in slum settlements in these two cities also differ dramatically. The frameworks and our findings challenge some conventional perspectives on informal settlements in Africa. They belie the notion that African cities face a more or less similar slum problem. By extension, they challenge the idea that one approach to the upgrading of slums can work in African cities. The frameworks provide a tool that can help practitioners and policymakers better understand local needs and priorities and tailor their interventions.

Our findings suggests that the relationships between key development variables—monetary welfare, employment, education, living conditions, and infrastructure access—are more complex, the direction of causality more tenuous, and the sequence of proposed ameliorative interventions more open than we may have allowed in our understanding thus far. We call for comparative research to test and refine these three frameworks and enhance our understanding of the relationships between key variables. With more robust data, we might begin to explain—not just depict—the variation in slum conditions and facilitate appropriate interventions to reduce poverty and improve the quality of life for millions.

This paper contributes to the literature in three ways. It presents a series of three inter-related analytical frameworks useful for understanding the multiple dimensions of development *within* any given setting—urban or rural, slum or non-slum—and comparing