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Conflict and Collisions in Sub-Saharan African Urban Definitions: Interpreting Recent Urbanization Data From Kenya

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Summary. — This paper explores the challenges for analysis of urbanization which can arise from insufficiently rigorous definition of what is "urban". Policy makers and investors still use the ideas of "rural" *versus* "urban" and increasingly assume that the pace of urbanization in African countries is a measure of positive economic structural change. However most urban definitions do not incorporate economic characteristics. In Africa widely differing urban population thresholds and administrative factors are the most common criteria. The thresholds are often so low that many rural settlements are also defined as "urban" or they may be included on population density criteria, meaning the apparent pace of urbanization is inflated unrealistically. These issues are exemplified in this paper through detailed examples drawn from Kenya. It uses a range of sources including official census data and urban data published by Africapolis, as well as aerial images of rural and urban settlements in Kenya. It demonstrates how the use of population density criteria has inflated Kenyan urban data by the incorporation of very large numbers of rural people and explains how this can lead to entirely misleading interpretations of local and national urban and migration trends. Errors in urban figures can therefore have serious policy implications. It is argued that such errors can be reduced by not relying on a single criterion to define "urban" or by triangulating data on rural and urban settlements with other relevant information.

Key words — Urbanization, urban definitions, rural settlements, sub-Saharan Africa, Kenya, Africapolis

1. INTRODUCTION

It has long been acknowledged by urban researchers that international comparisons of rates and levels of urbanization can be misleading because of the significant differences in the ways countries define what is urban (see, for example, Cohen, 2004; Montgomery, 2008; Montgomery, Stren, Cohen, & Reed, 2004; various works by Satterthwaite, frequently updated e.g., 2006, 2007, 2010; McGranahan & Satterthwaite, 2014). Most urban scholars know that urban definitions vary between countries to a quite startling extent, with a threshold of, say, 20,000 people in Nigeria, but only 200 needed in Sweden as long as the houses are no more than 200 meters apart (UN, 2015). Given their large share of the world's population, it is salutary to recognize that changes in definitions of "urban" in China have significantly affected the level of urbanization recorded there (Montgomery, 2008; Qin & Zhang, 2014; Shen, 2005), and that the frequently cited case of India's exacting criteria for a settlement to be deemed "urban" mean it is recorded as far less urbanized than it would be under most other countries' criteria (Indian Institute for Human Settlements, 2011; Jones & Corbridge, 2010; Satterthwaite, 2007). As the world becomes more urban, these issues have attracted more attention, perhaps because of the iconic significance of anticipating, and then passing, the "moment" when the global population shifted from being mainly "rural" to mainly "urban". Identifying regions and countries in Asia and Africa where this has occurred, or is projected in the near future to occur, is a common starting point for contemporary economic analyses by a wide range of actors, including investment consultancies, financial and current affairs media, development agencies, national and city governments, NGOs as well as academics (Potts, 2016). On the other hand, many of these economic analyses brush over the difficulties of definitions, if they recognize them at all.

The characteristics used to define what is "urban" include settlements' political and administrative functions, population size and population density, economic characteristics (in particular the nature of employment), or some combination of these. These features can all be traced back, conceptually, to the transformations for human organization and production made possible by the emergence of agriculture around twelve thousand years ago. Food surpluses allowed the specialization of labor away from acquiring food, which in turn facilitated the development of trade, the accumulation of surpluses, complex and hierarchical types of state formation, and class divisions. These new types of occupations, trade, and political and religious authority were all located in and channeled through the new nodes in the human landscape which emerged: relatively large, permanent, densely settled, and heterogeneous (cf Wirth, 1969) *urban* places. Thus, from the very beginning, labor specialization away from natural resource-based work (e.g., agriculture, forestry, fishing) was the crucial enabler and characteristic of urban settlements.

The influence of urbanism's historical roots can still be seen in some national definitions of "urban" used today which are published in the United Nation's World Urbanization Prospects (WUP), the main global urban dataset. This provides numbers on total urban populations as provided by national statistical authorities based on country definitions. Administrative criteria are still the most common and are used by "just over half" the countries reporting to the UN (Montgomery *et al.*, 2004, p. 132). Density and size are frequently used to determine the cut-off between urban settlements and rural areas and settlements. However, only 30 countries reported in the most recent 2014 WUP (United Nations, 2015) included economic characteristics, despite their significance in the emergence of urbanism. Of these thirteen were Republics within the former USSR which still use its definition based on number of inhabitants and a "predominance of non-agricultural workers

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and their families". In Japan one criterion is that "60% or more of the population (including their dependents) are engaged in manufacturing, trade or other urban type of business", and in India that "75% of male working population are engaged in non-agricultural pursuits". Until 1982 settlements with less than 100,000 in China were only "urban" if more than 70% or their populations were "registered as nonagricultural". In these countries, where large "villages" or very dense rural settlement patterns have long histories, the centrality of "urban" being associated with non-agricultural types of work is evident. It relates to an understanding that "urban" means more than settlement size and/or density, and must also mean "not rural" *in economic terms*.

This latter point is significant in relation to the complex and often contradictory realms of interpreting national urban data. One reason why cross-national comparisons of urbanization can be misleading is that urban population thresholds may be so low in some countries that settlements which are essentially villages with very high proportions of agriculturally based livelihoods are included. They can also be too high so that settlements where most households do not derive any significant part of their livelihoods from natural resource-based activities, which might logically be regarded as "urban", are excluded. Population density criteria are also fraught with possible difficulties since rural settlement patterns are very variable between and within countries and over time. Factors involved include local agro-ecological conditions: fertile soils and reasonable rainfall (or irrigation) may allow for very high rural densities where smallholder agriculture is still the norm as it still is in many parts of Asia and Africa. These may equal or exceed the density required under European Union criteria for classification as an "urban cluster" of "at least 300 inhabitants per km^2 and a minimum population of 5,000" (Dijkstra & Poelman, 2014, p. 6) which translates into three people per hectare over a contiguous area of 17 km^2. [1]

Montgomery *et al.* (2004, p. 135) note that problems with cross-national comparisons of the *level* and pace of urbanization are often related to these issues of defining "settlements that might be classified as either rural or urban" although "one can skirt the problem by focusing on the urban population that resides in settlements above a given size". This is often true, but problems with defining the "urban" population of larger settlements can still affect the measurement of urbanization levels. Urban boundaries can be cast too wide, including people who are still farmers. Major changes can also occur without these being noted in census or other reports. On the other hand, they may not be expanded often enough as urban populations grow and residential areas spread beyond existing boundaries, thus excluding many who are functionally part of the city in terms of the derivation of their livelihoods. For very large cities, such as Sao Paulo or Cairo, there are further complexities for tracking their physical and population growth depending on whether the city's administrative boundaries are used, or the broader concepts of the urban agglomeration, or metropolitan area. These different concepts can yield very different growth rates (Montgomery *et al.*, 2004).

Clearly, therefore, defining what is "urban" is complicated and contested and there is much scope for misdirected analysis of trends both within and between countries. The view taken here is that "urban" is best understood as a multi-faceted concept. It involves settlement form (size, density), settlement function (as nodes in nested landscapes of urban hierarchies which channel local, national and global flows of political power, trade, and finance), production (with manufacturing industry of particular significance for contemporary cities), and *employment*. Particularly if urban trends are being factored into broader analyses of national economic change, urban employment, and economic activities need to be characterized by labor specialization in ways that mainly sets them aside from work in the primary sector, based on natural resources. In broad terms, secondary and tertiary sector activities (whether formal or informal) are characteristic of urban places (albeit they can also be found in rural settlements e.g., shopkeepers, teachers, health workers).

The most obvious primary sector occupation regarded as "non-urban" is farming (whether on large- or small-scale farms), as evidenced by urban definitions which specify that "urban" employment must be non-agricultural. Working in forestry or fishing are other primary sector occupations which would be considered as non-urban. As with all such discussions, there are always caveats; for example, a large fishing port from which industrial trawlers operate would be an urban settlement, but a settlement where most fishing is on a small-scale artisanal basis might not. Mining is based on natural resources but it can generate very large urban settlements if large-scale, permanent deep mining involving major capital investment is involved. Obvious African examples are Johannesburg, which has long since its inception developed into one of Africa's largest agglomerations with a broadly based economy, and the Copperbelts in Zambia and the DRC. On the other hand artisanal mining (e.g., gold panning), which is estimated to employ millions in sub-Saharan Africa (Hilson, 2009), has very variable urbanizing effects: small impermanent mining camps are not "urban" in any meaningful way but multiplier effects associated with underground small mines in Tanzania have encouraged growth in small towns there (Bryceson & Jønsson, 2010). The key point is that there are various necessary conditions for a settlement to be truly "urban" but none are sufficient alone. A large, dense settlement could be a refugee camp, for example. A settlement is thus not even necessarily urban because the settlement form looks urban; its function and the economic characteristics of its population need to be factored in. Population size alone is not necessarily a good guide. In particular, as will be demonstrated below, when choosing factors to determine what is "urban", population density alone is regarded as insufficient, and the nature of livelihoods is regarded as necessary.

There are other viewpoints, however. There is much excellent work on the emergence of new types of settlements which defy easy definition and which may suggest the reformulation of our terms of engagement with settlement geographies (e.g., Champion & Hugo, 2004; McGranahan & Satterthwaite, 2014; Montgomery, 2008; Montgomery *et al.*, 2004; Tacoli, 2002, 2006; Tacoli, McGranahan, & Satterthwaite, 2008). One way of thinking about the rural and the urban nowadays, for example, is to treat them in terms of a spectrum of settlement types and livelihoods—very rural at one end to very urban at the other—with a host of intermediary types of physical locations and associated livelihoods, intricately linked by rural–urban movements and flows of goods and services. This is both intellectually respectable and insightful. It allows us to account for the complexity of settlement types which exists, and promotes the understanding and recognition of the importance of rural–urban (and urban–rural) linkages of all sorts: economic, social, political, and ecological. In Africa, for example, these links play an important part in addressing many inherent vulnerabilities in people's livelihoods in both rural and urban areas (Potts, 2010; Tacoli, 2002). Seasonal patterns

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