

Africa's Urbanization: Challenges and Opportunities

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Abstract

Africa is urbanizing fast. Its rate of urbanization soared from 15 percent in 1960 to 40 percent in 2010, and is projected to reach 60 percent in 2050 (UN Habitat 2010). Urban populations in Africa are expected to triple in the next 50 years, changing the profile of the region, and challenging policy makers to harness urbanization for sustainable and inclusive growth. Although many have written about the phenomena, what is clear to us is that it is impossible to deal with Africa's growth and poverty challenges without managing urbanization. Urbanization is not a subplot, but rather the main policy narrative for Africa.

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Africa's Urbanization: Challenges and Opportunities¹

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The Main Idea

Africa is urbanizing fast. Its rate of urbanization soared from 15 percent in 1960 to 40 percent in 2010, and is projected to reach 60 percent in 2050 (UN Habitat 2010). Urban populations in Africa are expected to triple in the next 50 years, changing the profile of the region, and challenging policy makers to harness urbanization for sustainable and inclusive growth. Although many have written about the phenomena, what is clear to us is that it is impossible to deal with Africa's growth and poverty challenges without managing urbanization. Urbanization is not a subplot, but rather the main policy narrative for Africa.

Africa's urban growth is in line with the trends observed in most emerging and developed countries. In the last 10 years, the region's economies grew rapidly—above 5 percent a year (IMF 2012)—and the outlook for the near term is largely positive. Findings from economic geography tell us that density is needed for economic prosperity and that urban growth is a necessary condition for accelerated growth and shared prosperity (World Bank 2008; Henderson 2005, 2010; Venables 2010). Long-run growth needs an efficient system of urban centers that produce industrial goods and high-value services, along with transportation networks to link national economies with regional and global markets (Spence et al. 2009; World Bank 2009).

Along the broad spectrum of development patterns, Africa urbanization presents some peculiarities. While the heterogeneity of the region precludes easy generalizations, one can take note of some

¹ This working paper has been accepted for publication in J. Y. Lin and C. Monga, eds, **The Oxford Handbook of Africa and Economics, Volume 1: Context and Concepts**, New York, Oxford University Press (forthcoming, 2015). All future rights reserved.

singular characteristics. Although Africa and Asia have similar urban rates (around 40 percent), per capita GDP in Africa was one third that of Asian countries in 2012. In addition, Africa's literacy rates and institutional development indices are much lower than Asian counterparts, and Africa's infrastructure lags behind.

Recent population censuses are providing more accurate data than has been available in the past. Among other issues, this new information will shed light on such questions as (a) the size and source of urban growth across African countries (Potts 2012; Gollin et al. 2013); (b) the role of rural migration versus natural growth in urban expansion (Fox 2012); and (c) the usefulness of growth models in explaining the long-term pattern of urbanization. The typical models of structural transformation explain urban expansion through the movement of labor from rural to urban areas that follow the transformation from agriculture to industry and services. Urbanization would be a result of either a "push" from agricultural productivity growth or a "pull" from industrial productivity growth leading to "production cities," with a mix of workers in tradable and non-tradable sectors.

However, this model of development does not seem to explain the urbanization pattern of more than a dozen African countries—those whose economic growth has been associated with natural resource exploitation but not with increased manufacturing shares of GDP (Collier 2009; Gollin et al. 2013). In these countries, urbanization is likely to have been driven by the income effect of natural resource endowments. Assuming that tradable goods are more likely associated with increases in productivity than non-tradable goods, the lack of manufacturing development could hinder long-run economic potential for African cities. This argument merits further empirical research.

Understanding African urbanization is highly relevant in other domains as well. Extreme poverty continues to be more prominent in rural than in urban areas (at least three times higher). Therefore, urbanization would seem to be a superior way to provide better services and livelihoods to millions, as well illustrated in the case of China (Taylor 2008). One may expect that over time, the gap between urban and rural earnings will decline and eventually disappear, as surplus labor shrinks and the rural sector modernizes. But it be quite a while

until this occurs.² As part of the process, one might stress the importance of governments providing basic services to smaller cities and intermediate towns that can facilitate the transition between rural and non-rural activities (Ferre et al. 2010), the mobility of labor, and the generation of economic activity.

As in most developing countries, urbanizing Africa will face serious challenges, especially as policy structures adjust slowly (Henderson 2005). At the national level, integration of capital markets often occurs more slowly than labor market integration, which is facilitated by migration. Investment in infrastructure is woefully inadequate, institutional development lags, and the fiscal base is weakened by centralized processes. Urban management and planning needs to be strengthened to help cities plan ahead and avoid congestion, pollution, and the emergence of urban slums; but the track record of most African countries in this arena is poor so far. For this reason, the issue of urban management is at the core of the continent's development challenge.

This paper addresses the question of what is required to make African cities efficient, sustainable, and inclusive. We will be using economic geography as an organizing framework (World Bank 2008; Henderson, 2005; Venables 2010) for policy recommendations that support agglomeration benefits while managing congestion costs. The paper is organized in five sections. The first shares key elements on African urbanization. The second section reviews recent literature on urban growth models and how these models apply to Africa's urbanization process. The third and fourth sections discuss what it will take to encourage efficient and inclusive African cities, while taking into account the diversity of countries and the geographical and social division of the continent. Section five closes with key conclusions and observations for the future.

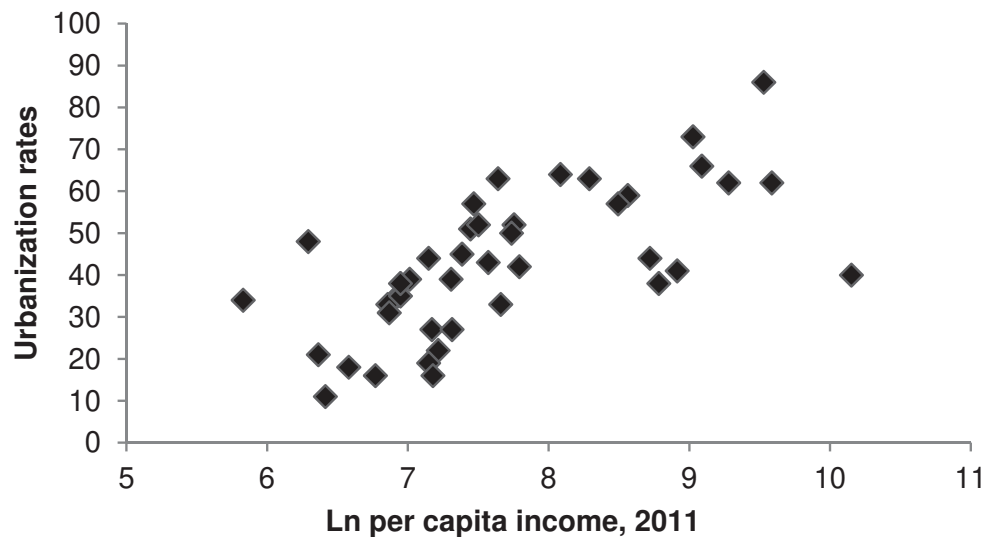
² For example, in the Republic of Korea, the urban-rural wage gap was eliminated by 1994; and in Sri Lanka the ratio was under 1.4 by 1995. By comparison, Africa stands far afield in terms of wage disparities.

Africa's Urban Expansion

In most parts of the world, urbanization has been accompanied by industrialization and economic development, as increases in productivity in manufacturing and services benefited from proximity and concentration of activities and inputs. In Africa, data for 2011 confirm the relation between per capita income and urbanization levels (see figure 1). However, Africa's urbanization is occurring at lower levels of income and with far less investment in infrastructure. These trends suggest serious problems in coping with the challenges of rapid urbanization, notably accommodating a larger population and ensuring a favorable business environment.

African urbanization is characterized by a number of unique characteristics, described below.

Figure 1: Income and Urbanization Rate, 2011



Source: World Bank 2013c.

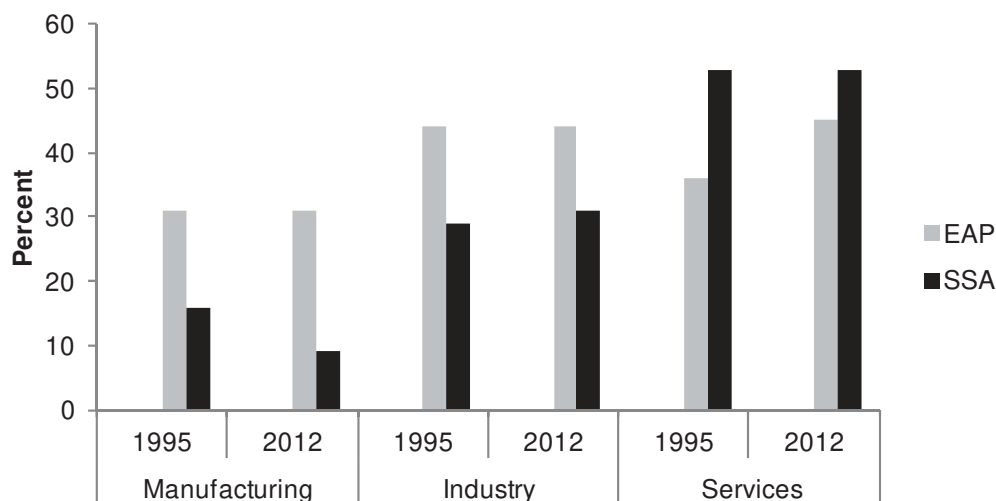
Heterogeneity

Sub-Saharan Africa is a collection of widely heterogeneous countries and cities with considerable differentiation in their patterns of urbanization. For example, there are 13 countries with urbanization levels above 50 percent, mostly oil-producing countries and middle-income countries.

Seven countries have levels below 20 percent; these include the lowest-income countries such as Burundi, Ethiopia, Niger, and Uganda. With the exception of Nigeria, all countries with urbanization rates above 50 percent have per capita incomes (in 2000 U.S. dollars) above US\$1,300.

African urbanization has happened quickly, but with little change in the economic structure of most of its countries. The average share of manufacturing has actually declined in the last 15 years (figure 2), while services have remained at 51 percent of GDP, according to the World Bank's *World Development Indicators* (World Bank 2013c).

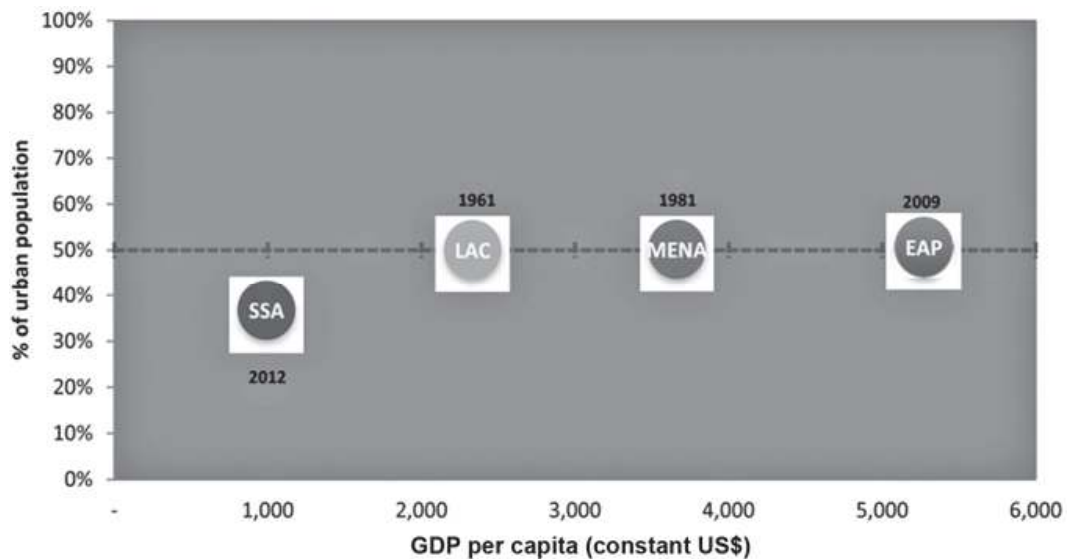
Figure 2: Output Shares, Sub-Saharan Africa and East Asia and the Pacific



Source: World Bank 2013c.

Africa shows much lower income levels than other regions, such as East Asia or South Asia, at similar stages of urbanization. Countries in East Asia and the Pacific (EAP) surpassed urbanization rates of 50 percent in 2009 while exhibiting an average GDP per capita of US\$5,300 (in 2005 US\$). The Middle East and North Africa (MENA) became 50 percent urban in 1981 with an average GDP per capita of US\$3,700, and Latin America and the Caribbean (LAC) crossed the same threshold in 1961 at GDP per capita of US\$2,300 (see figure 3). Sub-Saharan Africa is currently 37 percent urban with an average GDP per capita of US\$992. Compared with other developing regions, the continent is urbanizing while poorer.

Figure 3: Urbanization and per Capita GDP across Regions

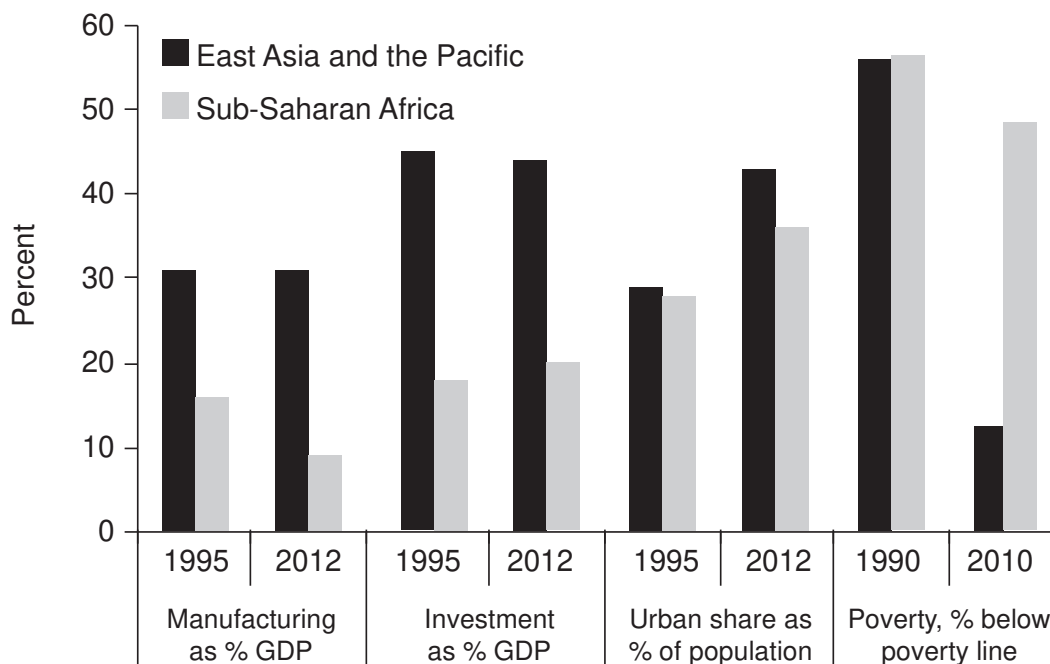


Source: World Bank 2013c.

Rapid urban growth at early stages of development has meant that people have been concentrating in urban areas without the accompanying investment in physical structures and human capital needed to reap the expected economic benefits of agglomeration; and governments have been less able to manage negative externalities. In fact, average population densities of cities in Sub-Saharan Africa are estimated to be approximately 20,861 people per square mile, which is comparable to densities in EAP (19,223 people per square mile) and LAC (18,190 people per square mile) cities, and more than four times the OECD average (4,882 people per square mile).³ The net result, as seen in figure 4, is that Africa has not seen the major decline in poverty experienced in East Asia, for example, in the course of the last two decades. The key variable in explaining this is the relative low level of capital investment during the rapid urbanization period.

³ Data from Demographia: <http://www.demographia.com/>.

Figure 4: Comparing Sub-Saharan Africa and East Asia and the Pacific



Source: Demographia: <http://www.demographia.com/>.

Capital investment in Africa has remained around 20 percent of GDP for the past 40 years. In contrast, East Asian countries such as China, Japan, and the Republic of Korea stepped up infrastructure investment during periods of rapid urbanization. In China, capital investment (including infrastructure, housing, and office buildings) increased from 35 percent of GDP in 1980 to 48 percent in 2011, accompanying a rapid increase in urban population from 18 percent in 1978 to 52 percent in 2012. For the region as a whole, East Asia investment remains above 40 percent of GDP (World Bank 2013a). Poverty reduction is probably the most visible accomplishment. While the percentage of people living under US\$1.25 per day declined from 58 percent to about 12 percent in East Asia, the share of people at very low income levels remains at over 45 percent in Sub-Saharan Africa.

Urban populations in Africa are concentrated in small towns, reflecting early stages of development. Based on the most recent population estimates, there are more than 20 African countries where more than 70 percent of the urban population lives in cities of less than 500,000 people (Simkins 2013). This is similar to China's experience in the 1990s, when its cities were (relatively) undersized due to migration

restrictions, substantially impairing their efficiency (Au and Henderson 2006). Migration restrictions limited labor mobility and agglomeration, and at that time China had a much larger share of its urban population in smaller cities (between 100,000 and 1 million) than other emerging economies. The relaxation of migration restrictions has since redrawn China's demographic map, prompting a huge redistribution of people across cities of different sizes. As large cities play a critical role in productivity levels and business climate (Puga and Venables 1996; Henderson and Venables 2010), it is clear that Africa is missing a large opportunity.

Too Few Large Cities

Most cities in Africa have populations too small to properly exploit the scale benefits of clustering local economic activity, thereby limiting urban productivity gains and economic growth. Relative to the rest of the world, African countries distinctly lack cities in the range of 1–5 million in population. As Henderson (2009: 5) notes: "While Shanghai, Beijing and Guangzhou, for example, have evolved into megacities, recent research suggests that many prefecture-level cities are about half their efficient size. The research indicates that a doubling of the population in such cities would lead to a 20-35 percent increase in output per worker." Divisions between countries in Africa have of course played a role in this pattern of urbanization. If Africa's 50 countries were 50 states in one country like the United States, then the largest cities would be large enough to sustain greater diversification and incubation of new firms (Venables 2010).

There is also evidence to suggest that city primacy in Sub-Saharan Africa is lower than optimal for many countries. Henderson (2004) argues that optimal primacy is inversely related to land area, population, and income per capita. Deviations from optimal primacy entail costs in terms of productivity growth. Based on estimates in Henderson (2003) and data for 2010, the following countries have less than 80 percent levels of optimal primacy: Benin, Chad, Ethiopia, Ghana, Lesotho, Madagascar, Malawi, Morocco, Mozambique, Nigeria, Rwanda, Sierra Leone, and South Africa. Political fragmentation further impinges on city size and can hurt productivity. Collier and Venables (2007) and Venables (2010) show that country area and population are highly significant

drivers of city size. They further show that a merger of two similar size countries—that is, a doubling of population and area—would lead to developments resulting in a 75 percent increase in the size of the largest city.

Poor quality of data continues to hinder the quality of analysis of African urbanization and development (Henderson et al., 2013, Simkins 2013). New population censuses have improved the information on Africa's urbanization, but many countries still have not had censuses since 2000 and for those who have had them, public access is limited. There are also problems of definitions. In the case of Nigeria, when urbanization is measured by density and distance between dwellings, the result is 100 million people rather than the 140 million mentioned in the census (AFRICAPOLIS 2008). Based on census data and individual city analysis, Fox (2012) and Potts (2010) argue that urbanization may have slowed down in several countries, such as Benin, Burkina Faso, Mauritania, Mozambique, Niger, Senegal, and Zimbabwe. One explanation of this finding in contrast to overall urbanization rates reported by the World Bank and others is that primate cities have gained populations while secondary towns and cities have not. Thus, national urbanization percentages may not exceed population growth; yet slums are growing in the primate city with higher city concentrations. Both Potts (2013) and Gollin et al. (2013) argue that natural demographic growth of cities and towns (due to high fertility rates) rather than rural migration is at the root of city growth. Potts (2013) suggests that the contribution of in-migration to urban growth has fallen from 55 percent in the early 1960s to around 30 percent from the mid-1990s onwards.

Alternative Analytical Frameworks: Is Urbanization Different in Africa?

The typical analytical framework that explains the link between urbanization and economic development is the structural transformation model. It suggests that as growth occurs, production shifts out of agriculture to manufacturing and services and tends to concentrate in urban areas, benefiting from large pools of labor and capital and

proximity to other firms. As agriculture is land intensive, there is limited scope for a large number of people to concentrate in one settlement. For manufacturing, however, capital can substitute for land limitations. In addition, scale and agglomeration economies increase efficiency of production and also the likelihood of spatial concentration of industry and services. Certainly this is the basic development paradigm originating with W. Arthur Lewis (1955) and reinforced by the policy empirics of the Commission on Growth and Development (2008) in its *Growth Report*.

A recent body of literature suggests that the above link between urbanization and industrialization may not be universal, however. Urbanization in Africa (at least in several countries) may have been triggered by development of natural resource exports rather than by improvements in manufacturing productivity. Using a sample of 116 countries for 2010, Gollin et al. (2013) illustrate that a number of countries are highly urbanized without having industrialized much. These are mostly resource-exporting countries that have urbanized without increasing output in either manufacturing or industrial services. This pattern is also observed by Collier (2006). In the more prevalent development paradigm, urbanization happens as consequence of productivity increases in manufacturing (enabling higher wages and attracting labor from the rural areas); in addition, productivity increases in agriculture (agriculture revolution) free rural labor to move to cities and be employed in tradable production—so-called “production cities.” In the alternative model, cities in countries deriving substantial income from commodities and natural resource exports will grow in response to the consumption of non-tradables associated with that increase in disposable income. In this case, resource-led development would lead to the creation of “consumption cities” by increasing the income surplus and shifting workers away from the tradable sector.

The latter model seems to apply to many Africa countries (at least 15 of them) (Gollin et al. 2013). The authors show that there is little evidence of a *green revolution* in Sub-Saharan Africa, as food yields have remained low (Evenson and Gollin 2003); in 2010, cereal yields were 2.8 times lower than in Asia. Concomitantly, an industrial revolution in Africa is not evident. Its manufacturing and higher-value service sectors are relatively small (McMillan and Rodrik 2011) and its 2010

employment shares in industry were 5 percent of total employment—one third of Asia’s share of labor in manufacturing. African labor productivity was also roughly half that of either industry or services in Asia (World Bank 2013a). As noted by Gollin et al. (2013):

Despite the lack of the standard push out of agriculture or pull from industry, Africa has urbanized to the same level as Asia over the last half-century. Natural resources extractive activities are highly capital-intensive, and their production creates very little direct employment. But the rents generated provide a different origin for a “pull” into urban areas as the increased purchasing power made available from resources increases demand for urban goods and amenities.

Whether urbanization is different in Africa may not matter as much as the consequences. If urbanization is unaccompanied by formal employment and broad-based income gains, then cities will become concentrations of relatively richer people purchasing low-level services from those migrating to cities. The creation of slums will be inevitable and the concentration of basic infrastructure services to cater to the higher-income parts of the city will continue the cycle of poverty, whether in rural areas or in cities. One can also visualize the development of important service sectors that reflect the geographical and physical advantages of the region. The broader issue of viable development strategies then falls back on government to create the conditions for higher densities, better connectivity, and deliberate and targeted interventions to make development inclusive (World Bank 2008).

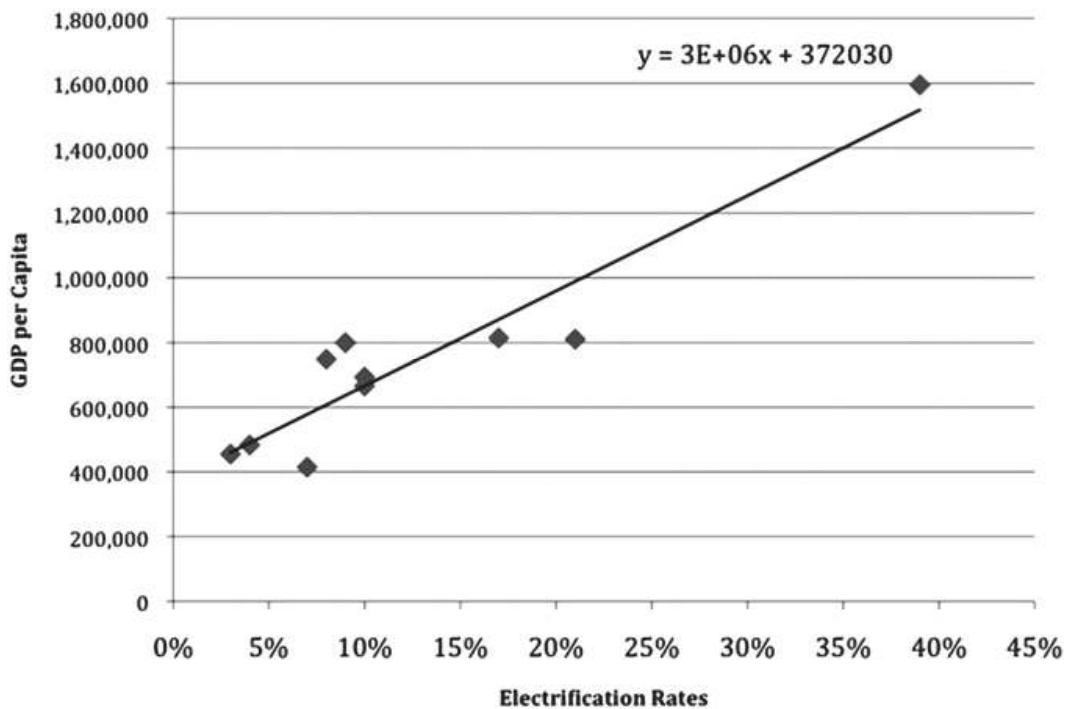
Density without Congestion: Are There Solutions That Are Feasible and Affordable?

Rapid urbanization is projected to continue in Africa, and many primate cities may double or triple in the next two decades. Predicting the future size of African cities is risky since the spatial transformations that accompany development or respond to economic shocks cannot easily be foreseen (Henderson 2005). Moreover, it is difficult to separate urbanization policies from broader economic policies, economic

planning, and the role of the state. Trade, investment, and specialization result in spatial transformations; these will be smoother if land markets function well, if local infrastructure is able to boost competitive advantage, and if cities offer the amenities and services required by the growing workforce. Good urban policies are required to maintain well-functioning cities (Freire 2013). Some experts have identified land policies and tax policies as critical elements, while others have stressed governance more generally. One key variable that distinguishes successful from unsuccessful cities is the quality of infrastructure.

There has been considerable work on the dearth of infrastructure in Sub-Saharan Africa (World Bank 2010) and its link to lower rates of economic growth. Equally important, however, is the impact of infrastructure investments on the generation of output and income and jobs. A simple picture of energy access and economic activity for Tanzania (figure 5) shows the clear relationship between infrastructure and the level of economic activity in cities. Most Tanzanian cities have electrification rates at or below 20 percent of the population.

Figure 5: Energy Access and Economic Activity in Tanzanian Cities



Source: Based on data from National Accounts of Tanzanian Mainland and Power System Master Plan 2012 Update.

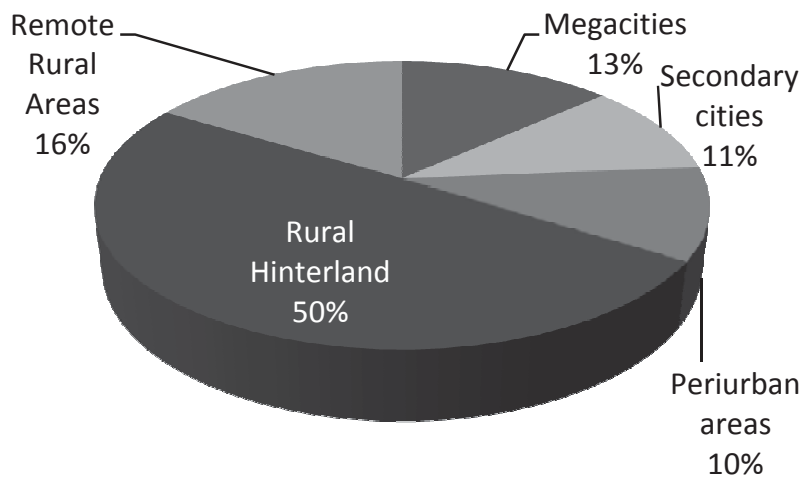
Therefore, it is not surprising that per capita income in those secondary cities is one quarter to one half of income in the capital. Like education, infrastructure is the great equalizer. Moreover, once connected, the infrastructure cities can generate will scale economies in ways similar to agglomerated cities. Given the pattern described by Collier and Venables (2011) of one, undersized primary city, Africa must better connect its secondary or intermediate-sized cities (in line with the established evidence of the importance of connectivity and prosperity) while trying to achieve the larger densities required for efficiency in production and service delivery.

Given the realities of geography, connectivity cannot be viewed only within national borders. This has implications for cities and spatial planning. Some cities will be closer to a rail link or a port in a neighboring country, so the economics will require additional efforts in the realm of political economy. Greater regional integration and cooperation will be important for shared infrastructure, such as energy supply, as well as for overall growth. The lack of size and density can, in some respects, be compensated for by connected cities, and deeper integration and cooperation can lead to larger economic dividends. Cross-border migration and its management is getting attention in many of the African agendas and some progress is being recorded. Such integration is occurring along the corridors of selected trade routes and could mirror the larger megacities of Asia if regional infrastructure obstacles can be overcome (World Bank 2009).

The particular characteristics of the Africa region require specific urbanization policies. Drawing from the *World Development Report 2009* (World Bank 2009), some pillars are essential. First, African countries are characterized by low population densities in small and scattered cities, which lack scale and primacy—although, at the city level, densities are as high as in Latin America or East Asia. The population movements will be intense in the near future as the region moves up the urbanization ladder. National development policy will therefore need to focus on a portfolio of places to improve the synergies and connectivity of cities. As seen in figure 6, half of the population lives in the rural hinterland and 10 percent in peri-urban areas. To facilitate mobility and efficiency in the densification process, land policies, infrastructure investments, and market-based energies will need to focus equally on both megacities and

intermediate and secondary cities. Spatial considerations—such as connectivity to the capital, access to ports, and the availability of larger (at times cross-border) markets—will be key to success. Therefore, governments will need customized development plans based on energy, transport, and economic activity. People will migrate toward economic opportunities and the provision of basic services.

Figure 6: Distribution of Population in Sub-Saharan Africa



Source: World Bank 2010.

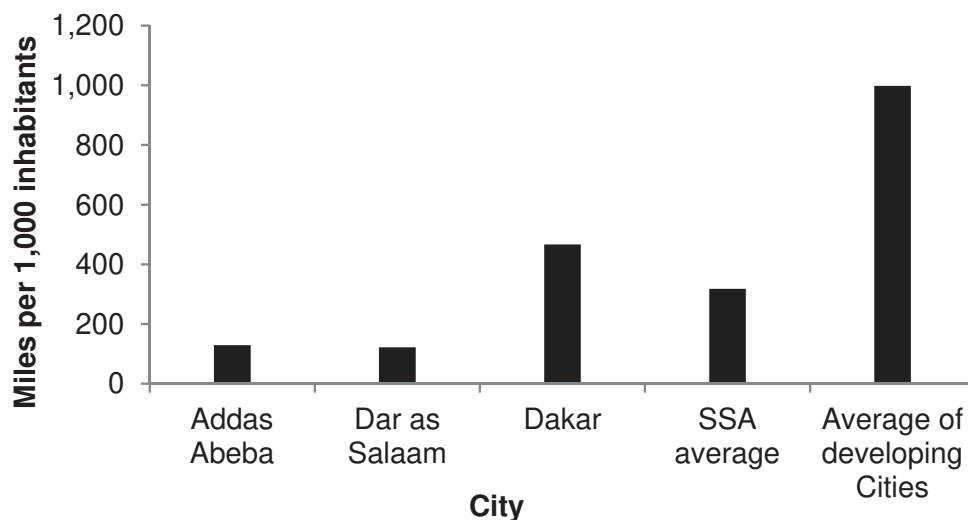
Densification. Densification is an important element of efficient urbanization in Africa. The average population density on the continent (77 people per square kilometer) is still among the lowest in the world. The agglomeration index in the *World Development Report 2009* gives Africa a score of 30 percent, compared with about 50 percent for the rest of the world (World Bank 2009). As a whole, urban density in the African continent is quite flat, although the average city density is about the same level as observed in East Asia and Latin America. However, rapid expansion of peri-urban cities without planning and without infrastructure will result in patchy development. This will increase the costs of providing basic services and will hurt connectivity and mobility of labor. Density matters because the concentration of people and firms in towns and cities generate scale and agglomeration economies, because the costs of providing basic services decline rapidly with density, and because density can be greener. The average greenhouse gas (GHG)

emission of a dense city is exponentially lower than a sprawled one (Hoornweg 2011). The challenge in Africa will be to get the “right” density that harnesses market forces to encourage concentration and promote convergence in living standards between villages, towns, and cities. For instance, the economic density in New Delhi is more than 60 times higher than Accra; obviously one is over-sized and the other under-sized. Planners will have to deal with New Delhi’s problems as a retrofit, whereas Accra’s planners have the chance to anticipate and plan (World Bank 2013c).

Expansion of basic services. The provision of infrastructure and public services should be cheaper and more efficient in denser areas, and indeed this is the case. However, the sheer size of new populations typically constitutes a substantial burden for already stretched municipal budgets. The result is that in some cases service coverage has been declining, notably with regards to water supply. Adequate investments—whether public or private—in infrastructure and services will be crucial to reap the benefits of density. Furthermore, inadequate provision of basic services does not deter the migration of people to cities; they will come just for the chance of getting these services.

Infrastructure. African countries lag behind their peers in developing countries in infrastructure provision (World Bank 2010). The differences are particularly large for paved roads, power generation, and access to potable water and sanitation. Access to electricity reaches only 16 percent of African citizens, compared with 41 percent in other developing countries. Average power consumption is 124 kilowatts per capita, or 10 percent of that in the rest of the developing world (World Bank 2010). African firms report losing 5 percent of their sales because of frequent power outages; this figure jumps to 20 percent for informal firms. While private firms are eager to explore the potential of African rapid growing markets, the lack of infrastructure and red tape constitute major obstacles to private investment.

Figure 7: Paved Roads in Cities in Sub-Saharan Africa (miles per 1,000 inhabitants)



Source: World Bank 2006.

Strengthening connectivity. Cities within a country are not isolated entities and their success is closely linked to their connectivity with domestic and international markets. Cities in Africa have relatively poor connectivity with domestic and international markets. Urbanization has been associated with motorization, but investment in roads and improved traffic management has lagged, leading to high levels of congestion. While much is made of Africa's distance from world markets, the primary problem is domestic—long distances within countries. Africa has one of the lowest road densities in the world, second only to Latin America (figure 7). But unlike Latin America, Africa has a third of its population in landlocked countries and even more far from access to regional if not global markets. Low inter-regional transport costs are also critical to fostering industrial competitiveness, particularly in the context of retaining trade and manufacturing competitiveness (World Bank 2009). Africa scores poorly on logistics indices.

High transport costs add to the high fragmentation of the continent. Transportation costs from West Africa to the United States are twice those of other regions. It takes more than 40 days for goods to pass the border in Africa, twice the period in Latin America. For landlocked

countries the constraints are even larger. Integration is the obvious recommendation; but while there are many international agreements, they not necessarily reflect successful cooperation. For example, the costs of participating in the agreements are too high, given the meager benefits and small size of participating economies. Agreements across cities and regions with similar cultures and language are more likely to be successful. Integration between neighboring cities across countries can also provide the base for broader integration. Sub-Saharan Africa has many pairs of large cities that are near each other but separated by national borders. Agreements between these cities or triangulation of agreements like those started in East Asia in the 1980s can promote integration across space. Finally, the coastline of West Africa is the location of a succession of large cities, from Abidjan to Lome. The potential of multicountry agglomerations should be considered when thinking of infrastructure and connective investments. UN Habitat (2010) has identified three major urban corridors that are forming around the production and trade of cotton. These are illustrations of cross-border spatial thinking that would require concrete policy follow-up.

Sustainable Cities and Inclusive Growth

While urbanization can speed up economic transformation and foster broad-based growth, it can also lead to persistent poverty and unsustainability if not properly managed. The most important negative externalities are congestion, pollution, and concentration of people and assets in areas prone to pollution and natural hazards. If left unregulated and in the face of poor planning, the benefits of cities can be overshadowed by their costs. In rapidly growing economies like China, these costs are high and increasingly more transparent. Premature mortality linked to air pollution is one such consequence. In Africa, particulate matter pollution is very high (World Bank 2013b), compounding the dangers associated with untreated sewage, contaminated water sources, and road accidents. These are all preventable with basic infrastructure investments.

With increasing numbers of people locating in cities with high risks of natural disasters, policies that strengthen sustainability are essential. Africa's urban areas are often located in low-river deltas or coastal areas directly exposed to sea-level rise and coastal surges, and thus are

especially vulnerable to disaster and climate change. In Tanzania, a 2 degree or more warming in global temperatures could cause 5–19 centimeters of land to be submerged by rising sea levels (World Bank 2013d). The forced dislocation of coastal populations will overwhelm already weak administrative structures and precarious finances. Environmental externalities generated by urbanization are not being properly addressed and the risk and costs of damage to infrastructure are very substantial. In Namibia, for example, after the major floods in 2009, the costs for reconstruction of the transport infrastructure were estimated to be nearly US\$350 million (World Bank 2013d).

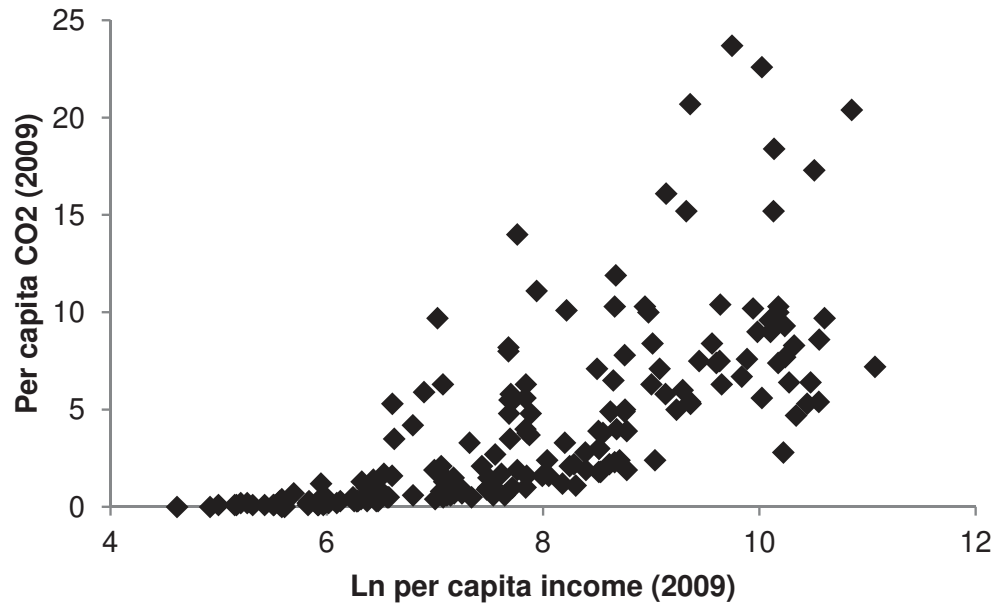
Successful urbanization is primarily about coordinating various types of long-run investment. Since urban policies lock in development patterns for decades to come, they need to be well designed at the outset. The World Bank and UNEP have argued the merits of sustainable, green growth (World Bank 2012; Hallegatte 2012). Its basic tenets include efficient use of resources, lower energy consumption, and reduced emissions. Green sustainable development is smart policy insofar as it can avoid getting locked into unsustainable and ultimately costly development paths. Cities are fundamental for any green growth agenda. At the city level this agenda unfolds along three pillars:

1. City form (density leads to lower GHG emissions and less pollution)
2. Greening public investments and purchasing (buildings, energy, waste management, urban transport) by easing the way for green start-ups and training of local workers
3. Raising consumer awareness and lowering the costs of green technology purchases (Leipzig 2012; OECD 2011)

From a green growth perspective, the massive need for infrastructure investment may be an opportunity for African cities to adopt greener technologies, promote density, invest in connectivity, and avoid lock-in investments that will be difficult to reverse in the future. It is well established that in the absence of smart policies as described above, economic growth will result in increased carbon emissions—at least until public pressure leads to abatement policies (Hoornweg and Freire 2013). Figure 8 shows the cross-country relation between per capita CO₂ and per capita GDP for 120 countries. Three points are clear:

first, the relationship is positive; second, the shape of a fitted curve is exponential; third, there is much higher variability among high-income economies, denoting differences in incentives and abatement policies.⁴

Figure 8: Carbon Emissions Go Up with Income



Sources: World Bank (2013) for per capita income; Boden et al. (2013) for CO₂ emissions.

One persuasive argument is that the green growth agenda, the urbanization strategies that countries can pursue, and basic development policies to foster high, sustained, and inclusive growth are really one and the same. The basic infrastructure investments needed to make cities efficient and competitive, and the investments needed to make cities more resilient and manageable, and the investments needed to improve livability and welfare of inhabitants, coincide. This is the essence of the green growth agenda: how to take advantage of the urgency to invest in infrastructure and promote growth while improving resource efficiency, reducing waste, and promoting social inclusion and resilience (Halegatte 2011). The agenda will include land policies to promote density; energy policies to promote efficiency and use of renewable sources (especially

⁴ A similar graph displaying emissions over time would show that most OECD countries started on the path to their current per capita emissions 20 years ago, while emerging economies are rapidly catching up.

for buildings and urban traffic); price policies to discourage waste in consumption of water and energy; and integrated policies to contain congestion, encourage density, and reduce the use of privately owned cars in the rapidly growing cities of Africa. This is the urbanization challenge, and how government deals with it will help determine the economic future of African economies.

Making urbanization inclusive is more than a mantra. It implies that urbanization should be a key element of bringing inclusive or broad-based growth to African cities and towns, rather than creating slums in large cities and unsustainable living in smaller ones. But despite its development potential as vehicles for inclusion, urbanization and city growth in Africa have deepened divisions. For example, two thirds of Africa's urban population lives in informal settlements or slums and 60 percent of total urban employment is in the informal economy. Without a radical shift in priorities, these conditions will only get worse. We have seen that Sub-Saharan Africa's urban population has increased from 23 percent in 1970 to 37 percent in 2011, while urban poverty declined only marginally from 41.5 to 33.6 percent (World Bank 2013b). This is not a good track record, and is contrary to trends in other parts of the world. The most promising avenue to achieving some degree of economic justice seems to be the provision of a minimal level of public services. This in turn will require the infrastructure needed to provide such services (Arnott 2009).

Policies to affect poverty alleviation in Africa may well need to include urban interventions throughout the cities of different sizes and specializations, including intermediate-size cities and smaller market towns that serve the rural sector. A survey in rural Kagera, Tanzania over 20 years found that about 50 percent of those who exited poverty did so by transitioning from agriculture into small rural towns. On average, 40–50 percent of households relied on nonfarm household enterprises as an income source (Christiansen et al. 2013). More generally, household enterprises have been responsible for the majority of the nonagricultural employment growth in Sub-Saharan Africa, and this trend is likely to continue for several decades. While informal solutions may be more suitable to the income and education level of many African towns and cities, government's responsibility to provide basic access to services should target where the poor are. For several

countries in Africa, the potential for manufacturing and services to absorb rural labor surplus may be less than in countries with strong tradable sectors in cities. In these cases, Africa’s jobs may well end up being closer to the agricultural sector; however, they cannot emerge without basic infrastructure services.

Observations for the Future: As Africa Urbanizes

In order to make sense of urbanization in Africa, it is useful to first recognize that Africa’s population remains predominantly rural. About 66 percent of the inhabitants live in rural areas with significant variation across countries (table 1). In Africa’s middle-income countries, half of the inhabitants still live in rural areas, whereas in the landlocked, low-income countries they account for about 70 percent (World Bank 2010). The vast majority of the population lives in the rural hinterlands within six hours travel time of cities having at least 50,000 inhabitants. One third of Africa’s urban population is concentrated in the region’s 36 megacities with more than 1 million inhabitants. However, much of the remaining population is spread across 232 intermediate cities of between 100,000 and 1 million inhabitants and in peri-urban areas. So while much of Africa can be officially classified as urbanized, these settlements are urban with significant caveats. Most lack basic infrastructure and amenities and most are therefore unable to capture the usual economic benefits of cities.

Table 1: Current Distribution of Population by Type of Settlement

Country type	GNI per Capita (\$)	Percentage of total population				
		Megacities	Secondary cities	Peri-urban areas	Rural hinterland	Remote rural areas
Sub-Saharan Africa	875	13.4	10.4	10.3	49.8	16.4
Middle income countries	5,081	24.6	16.2	12.5	50.1	1.6

Source: World Bank 2010.

Within this reality, African urbanization faces four broad challenges:

1. rapid growth of populations with low levels of economic activity based on inadequate physical and human capital
2. low density, sprawl, and informality in peri-urban fringes that exacerbate poverty in the continent
3. weak coverage of basic infrastructure services, notably water, energy, and sanitation, which makes it difficult to improve welfare in either urban or rural environments
4. weaknesses in administration, institutions, and overall planning capacity

These are the challenges of development, regardless of where people reside or what their type of settlement. For this reason, we would argue against separating the urbanization agenda from the overall development agenda. One critical dimension of a response to the four challenges is economic planning, an indispensable tool for the generation of economic growth and jobs, as well as the delivery of services to the poor. This includes sound development planning and urban land use planning. Another dimension is infrastructure—with electricity and transport being the highest priority—to alleviate urbanization pressures and bottlenecks to development.

According to the *World Development Report 2009* (World Bank 2009), a strategy to promote efficient urbanization should be targeted to density level of each area. More specifically, the strategy should focus on land market efficiency, connectivity, and targeted interventions to deal with problems arising from pollution, congestion, and concentration of people in vulnerable areas. For ease of exposition and for policy purposes, we illustrate these principles in three types of African cities: fast growing cities (those growing at perhaps 4 percent a year, so they will double in size in less than 20 years), major cities (capitals that are expanding faster), and megacities (of about 10 million inhabitants or more) (table 2).

Table 2: Projected Urban Populations

City/county	Fast growing			Major cities			Mega cities/mega regions				
	Population (millions)		Growth (%)	City/county	Population (millions)		Growth (%)	City/county	Population (millions)		
	2010	2025			2010	2025			2010	2025	Growth (%)
Kinshasa/Congo, Dem. Rep.	9.1	16.1	4.1	Nairobi/Kenya	3.3	5.7	3.8	Cairo/Egypt	12.5	15.6	1.5
Luanda/Angola	4.8	8.7	3.7	Dar es Salaam/Tanzania	3.4	6.2	3.7	Lagos/Nigeria	10.6	15.8	2.7
Maputo/Mozambique	1.6	2.6	3.0	Addis Ababa/Ethiopia	2.8	4.2	3.9	Johannesburg/South Africa	3.9	4.1	0.7
Kampala/Uganda	4.2		4.7	Dakar/Senegal	2.9	4.3	2.8	Kinshasa/Congo, Dem. Rep.	9.1	16.1	4.1
Abidjan/Côte d'Ivoire	4.1	6.3	3.0								

Source: UN-Habitat 2010 (http://www.unhabitat.org/jo/en/imp/Upload/1052216_Data%20tables.pdf).

The Fast Growing City: The Case for Early Action

Countries at a low level of urbanization but with rapid population growth face the most complicated challenge but also the greatest policy opportunity. Burkina Faso, Burundi, the Democratic Republic of Congo, Ethiopia, Malawi, Niger, Tanzania, and Uganda are in this category. The urban population is growing above 4 percent a year, while more than 75 percent of the population is still living in rural areas. Incomes are low and infrastructure is lagging. Public policy will probably favor investment in productive infrastructure to accommodate the needs of economic activity and new firms, leaving new migrants to fend for themselves in the urban periphery. The capital cities—including Kinshasa, Luanda, Maputo, and Kampala—have been growing fast at 4–5 percent a year and will continue to grow fast in the near future. This will absorb much of the migration from the rural areas and the demographic growth of the urban areas themselves.

These cities could use the opportunity of rapid growth to make efficient decisions in terms of both investment and city form. The most important policy tool would be forward-looking urban participatory planning, which could guide urban expansion and the associated infrastructure needs. Urban dynamics are seldom correctly foreseen, and in most cases the political economy has the last word in determining the location of infrastructure. To be efficient, planning should be flexible, participatory, and indicative (with a vision for the next 10–15 years). Urban reference maps should plan major roads and city services, the areas for urban expansion, and the reserves for amenities.

Planning should aim to reduce sprawl, enhance densification, and prevent development in environmentally precarious zones. Without realistic fiscal projections for resource availability, urban plans often fail. Dakar, Lagos, and Maputo recently prepared city development strategies, as frameworks to encourage participation from the community in discussing challenges and opportunities.

The second policy priority would be the efficient use of land and institutions to strengthen property rights, record market transactions, and steadily move toward more efficient land markets. Poverty and inclusion issues can best be addressed by recognizing the role of informal settlements in providing shelter for millions of poor people, and ensuring the delivery of basic services, including education and

health, regardless of location. This development of human capital is essential for bridging the inequality gap in next generations, but also in upgrading the skills of the workforce. Finance will need to come from the central government, but land-based taxes (including property taxes) and user charges can be effectively used. International assistance could be important in identifying the factors that would make possible early-on green strategies for urbanizing Africa.

The Large Cities: Capitalizing on Economic Activity

Dar es Salaam, Nairobi, and Addis Ababa are large, fast-growing cities with the potential to capture agglomeration economies. National universities are producing planners and engineers who are able to contribute to the urban sustainability debate. Their countries are reaching the 50 percent urbanization rate and have governance structures in place. The challenge is to ensure continuing urban growth, while improving density in the center and connectivity to the periphery. This grouping includes the oil-exporting countries and the middle-income countries, such as Botswana, Cape Verde, and Senegal. Middle-income countries of Northern Africa have introduced effective policies to absorb informal settlements and provide shelter to the population.⁵ For large cities in Sub-Saharan Africa, the challenge will be to include the emerging development in the periphery and consolidate or reform the older structures in city centers. On land management, there may be benefit in relaxing regulations so that cities can grow in height and capture the benefits of density. If governance issues can be effectively handled, greater cooperation with the private sector can yield economic gains, especially in connective infrastructure.

Mega Cities

If UN Habitat projections prove accurate, by 2050, 20 of the largest world cities will be in Africa. Large cities bring enormous opportunities of growth and prosperity, provided that basic policy structures are in place.

⁵ Egypt, Morocco, and Tunisia have achieved a remarkable decline in the percentage of population living in slums. They have used methodologies similar to the highly successful programs in Hong Kong SAR, China, and Singapore, including strong presence of the public sector and an effective housing finance system. Thousands of housing units have been made available in the last 10 years.

This includes well-functioning land markets, urban mobility, and ways to deal with pollution. To accommodate increasing population and absorb slums, financial markets have to work well and complex programs need to be organized to help create affordable housing markets. Cairo, Johannesburg, and Moroccan cities have been experimenting. Targeted programs have been designed and implemented, some with remarkable success: for example, the percentage of slum dwellers in Cairo fell from 50 percent to 17 percent in 20 years. The city has also auctioned public land to finance infrastructure programs. The Egyptian government also tried a costly plan to accommodate newcomers by creating new cities in the desert, but with little success. In Seoul, the creation of a polycentric structure for the mega-region embraced connectivity by placing new localities relatively close to Seoul (10 kilometers). This scheme allowed for an organic decentralization and economic specialization according to economic clustering. The Republic of Korea has significant experience in managing megacities. Financing usually is not a major obstacle, since the bulk of national economic activity is centered in and around the megacity. Thus, the emerging megacities of Lagos and Kinshasa will have models to choose from if they plan effectively.

Going forward, urbanization can either be seen as a threat or an opportunity. Africa has some distinct characteristics in its urbanization pattern. However, there is also a body of practice that can be drawn on to enable urbanization to play a positive, and probably decisive, role in Africa's development. Not to deal with urbanization will retard development prospects and prove costly. It is the development agenda for the continent.

References

- Acemoglu, Daron, and James Robinson. 2010. "Why is Africa Poor?" *Economic History of Developing Regions* 25(1): 21–50.
- AFRICAPOLIS. 2008. "Urbanization Trends 1950–2020: A Geo-statistical Approach, West Africa, Fact Sheets By Country." AFD (Africa department), coordinated by SEDET (Developing Societies in Space and Time) teams (CNRS/Université Paris Diderot).
- Arnott, R. 2009. "Housing Policy in Developing Countries: The Importance of the Informal Economy." In *Urbanization and Growth*, Spence et al., eds. Washington, DC: Commission for Growth and Development.
- Au, Chun-Cung, and J. Vernon Henderson. 2006. "How Migration Restrictions Limit Agglomeration and Productivity in China." *Journal of Development Economics* 80(2): 350–88.
- Boden, T. A., R. J. Andres, and G. Marland. 2013. "Global, Regional, and National Fossil-Fuel CO₂ Emissions. Carbon Dioxide Information Analysis Center. Available at: http://cdiac.ornl.gov/trends/emis/overview_2010.html.
- Christiansen, Luc, Joachim De Weerd, and Yasuyuki Todo. 2013. "Urbanization and Poverty Reduction—The Role of Rural Diversification and Secondary Towns". Policy Research Working Paper 6422. World Bank, Washington, DC.
- Collier, Paul. 2006. "Africa's Economic Growth: Opportunities and Constraints." Centre for African Studies, Department of Economics, Oxford University. Available at: <http://www.afdb.org/fileadmin/uploads/afdb/Documents/Knowledge/09484307-EN-AFRICA-S-ECONOMIC-GROWTH-OPPORTUNITIES-AND-CONSTRAINTS.PDF>.
- Collier, Paul, and Anthony Venables. 2007. "Rethinking Trade Preferences: How Africa Can Diversify Its Exports." *The World Economy* 30(8): 1326–45.

- — —. 2011. "Productivity in Cities: Self Selection, and Sorting." *Journal of Economic Geography* 11(2): 241–51.
- Commission on Growth and Development. 2008. *The Growth Report: Strategies for Sustained Growth and Inclusive Development*. Washington DC: World Bank.
- Evenson, R. E., and D. Gollin. 2003. "Assessing the Impact of the Green Revolution: 1960–2000." *Science* 300: 758–62.
- Fay, Marianne, and Charlotte Opal. 2000. "Urbanization Without Growth: A Not-So-Uncommon Phenomenon." Policy Research Working Paper 2412. World Bank, Washington, DC.
- Ferre, Celine and Ferreira, H. G. Francisco, and Peter Lanjou. 2010. "Is There a Metropolitan Bias? The Inverse Relationship between Poverty and City Size in Selected Developing Countries." Policy Research Working Paper 5508. World Bank, Washington, DC.
- Fox, Sean. 2012. "Urbanization as a Global Historical Process: Theory and Evidence from Sub-Saharan Africa." *Population and development review*. Volume 38. Issue 2. Page 285.
- Freire, Maria Emilia. 2013. "Urbanization and Green Growth in Africa." Growth Dialogue Discussion Paper. The Growth Dialogue, Washington, DC.
- Gollin, Douglas, Remi Jedwab, and Dietrich Vollrath. 2013. "Urbanization With and Without Industrialization." Working Paper 2013-290-26. Department of Economics, University of Houston.
- Gollin, Douglas, Remi Jedwab, and Dietrich Vollrath. 2013. "Urbanization With and Without Structural Transformation." Meeting Paper 344, Society for Economic Dynamics.
- Hallegatte, Stephan. 2012. "The Economics of Sustainable Cities." In *Towards a Partnership of Sustainable Cities*, Hoornweg et al., eds. Washington, DC: World Bank.
- Henderson, J. Vernon, 2002. "Urbanization in Developing Countries." *The World Bank Research Observer* 17(1): 89–112.

- — —. 2005. "Urbanization and Growth." In *Handbook of Economic Growth*, Vol. 1, P. Aghion and S. Durlauf, eds., 1543–91. Elsevier.
- — —. 2009. "Urbanization in China: Policy Issues and Options." China Economic Research and Advisory Program, Brown University and National Bureau of Economic Research.
- — —. 2010. "Cities and Development." *Journal of Regional Science* 50(1): 515–40.
- Henderson, J. Vernon, and Anthony Venables. 2008. "The Dynamics of City Formation." NBER Working Paper 13769. National Bureau of Economic Research, Cambridge, MA.
- Henderson, J. Vernon, Mark Roberts, and Adam Storeygard. 2013. "Is Urbanization in Sub-Saharan Africa Different?" Policy Research Working Paper 6481. World Bank, Washington, DC.
- Hoornweg, Daniel, and Mila Freire. 2013. *Building Sustainability in an Urbanizing World: A Partnership Report*. Washington, DC: World Bank.
- International Monetary Fund (IMF). 2011. *Regional Economic Outlook for Africa: Sustaining the Growth*. Washington, DC: IMF.
- Leipziger, Danny. 2012. "What Do We Know About Green Growth and Its Policy Ramifications." Policy Brief No. 4. The Growth Dialogue, Washington, DC.
- Lewis, W. A. 1955. *The Theory of Economic Growth*. Homewood, IL: Irwin.
- McMillan, Margaret, and Dani Rodrik. 2011. "Globalization, Structural Change and Productivity Growth." NBER Working Paper 17143. National Bureau of Economic Research, Cambridge, MA.
- Organisation for Economic Co-operation and Development (OECD). 2011. *Compact City Policies. A Comparative Assessment*. Paris OECD.
- Potts, Deborah. 2012. "What Happened to Africa Rapid Urbanization?" Africa Research Institute.
- Puga, Diego, and Anthony Venables. 1996. "The Spread of Industry: Spatial Agglomeration in Economic Development." *Journal of the Japanese and International Economies* 10(4): 440–64.

- Simkins, Charles. 2013. "Urbanization in Africa and Its Relation to the Demographic Dividend: 2010 to 2060." Available at: <https://openknowledge.worldbank.org/bitstream/handle/10986/16657/815460WP0Afric00Box379851B00PUBLIC0.pdf?sequence=1>.
- Spence M., P. Annez, and R. Buckley. 2009. "Urbanization and Growth." Background paper for the Commission on Growth and Development, Washington DC.
- Taylor, J. 2008. "Poverty and Vulnerability." In Shahid Yusuf and Tony Saich, eds., *China Urbanizes*. Washington, DC: World Bank.
- UN-Habitat. 2010. *The State of African Cities*. Nairobi: UN-Habitat.
- Venables, Anthony. 2010. "Economic Geography and African Development" *Regional Science* 89(3): 469–83.
- World Bank. 2008. *World Development Report 2008: Agriculture for Development*. Washington, DC: World Bank.
- — —. 2009. *World Development Report 2009: Reshaping Economic Geography*. Washington, DC: World Bank.
- — —. 2010. *Africa's Infrastructure. A Time for Transformation*. Washington, DC: World Bank.
- — —. 2011. *Towards a Partnership of Sustainable Cities*. Workshop, June 13–14. World Bank, Washington, DC.
- — —. 2012. *Green and Inclusive Growth*. Washington, DC: World Bank.
- — —. 2013a. *Global Monitoring Report 2013: Rural-Urban Dynamics and the Millennium Development Goals*. Washington, DC: World Bank.
- — —. 2013b. "Harnessing Urbanization to End Poverty and Boost Prosperity in Africa." World Bank, Washington, DC.
- — —. 2013c. *World Development Indicators*. World Bank, Washington, DC. Available at: <http://data.worldbank.org/products/wdi>.
- — —. 2013d. *Turn Down the Heat: Climate Extremes, Regional Impacts, and the Case for Resilience*. Washington, DC: World Bank.

Africa is urbanizing fast. Its rate of urbanization soared from 15 percent in 1960 to 40 percent in 2010, and is projected to reach 60 percent in 2050 (UN Habitat 2010). Urban populations in Africa are expected to triple in the next 50 years, changing the profile of the region, and challenging policy makers to harness urbanization for sustainable and inclusive growth. Although many have written about the phenomena, what is clear to us is that is impossible to deal with Africa's growth and poverty challenges without managing urbanization. Urbanization is not a sub-plot, but rather the main policy narrative for Africa.

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