

Africa's Urbanization for Development:

Understanding Africa's Urban Challenges and Opportunities

Draft

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Foreword

Eight years ago the Bank set out four key objectives for cities: livability, competitiveness, good governance & management, and bankability¹. As early as 1997, *The Future of African Cities* provided an overview of key urban challenges and strategic priorities for western Africa². More recently, the 2006 *Urban Transition in Sub-Saharan Africa*³ looked at implications of urbanization for economic growth and poverty reduction. In recent years, country-specific AAA (in Ghana, Mali, Niger, Cameroon, Togo, Kenya, Tanzania, Ethiopia, Mozambique, South Africa) have provided basic information on the state of urbanization at the country level and specific tools which provide solid data on urban investment needs.

The rationale for this report maintains the four key objectives of the Bank's urban strategy, but responds to a world in which many countries are falling far behind in meeting them. Given the financial and administrative constraints of African cities, there will be a need to "find simple solutions to complex problems"⁴.

The document presented here will form the basis for the first of four chapters in a new Africa Urban Strategy. It characterizes the patterns of urbanization, their costs and benefits, and the priorities for policy interventions in urban Africa. The other three chapters, to be written during Fiscal Year 2009, will look at urban governance, at investment gaps, and give strategic recommendations for the future.

As a preview of those strategic recommendations, we anticipate focusing particularly on helping African governments to plan pre-emptively for urban growth, and to emphasize those policies which assist the productivity of urban economies. Rather than aiming to scale-up existing urban programs, this new set of policies would aim to manage urban growth so that its participants are given the best possible chance to succeed. That is the most realistic option given the capacities of African governments, and the scale of urban change. Those policies would imply strategic interventions in spatial planning and in infrastructure—including transportation corridors and water & sanitation trunk infrastructure.

In summary, the prospect of Africa's urban population doubling in the next twenty years presents two scenarios. At best African cities can become efficient sites of economic growth, with speedy infrastructure able to foster agglomeration economies. In contrast, if policymakers do not act quickly, African cities will instead become gridlocked, with inefficient infrastructure far more costly and difficult to retrofit than to put in place now. There is an urgent need to shape future growth before it happens rather than act after the event.

*"Humanity has been given a second chance: we now need to build urban areas yet again that are at least equivalent in size to the cities that we have already built, we need to do it better, and we need to do it in a very short time."*⁵

But...*"You urban guys knew how to do housing but you had no idea about creating jobs."*—Robert McNamara, former President of the World Bank, 1986⁶.

¹ World Bank, 2000.

² Farvacque-Vitkovi'c & Godin, 1998.

³ Kessides, 2006.

⁴ Farvacque-Vitkovi'c & Godin, 1998: v.

⁵ Angel et al., 2005: 102.

⁶ Cohen, 2001: 44, ftnt 23.

Executive Summary

Over the next twenty years, Africa's urban areas are forecast to accumulate an *extra* 290 million residents, bringing the total number of urban residents to 590 million⁷. While these figures are only estimates, there is no uncertainty that urban growth in Africa is happening, and is happening fast. The key questions are: **What is the character of that urban growth? Is urbanization good for Africa? How should policymakers respond?**

This report finds the following answers to these three questions:

- **What is the character of urban Africa?** Urbanization levels in Africa are still relatively low by global standards—with low population densities and levels of agglomeration. Most of Africa's urban population resides in cities of 500,000 people or less, but the urban share of larger cities has been growing for the last thirty years and continues. Economic production is relatively sparsely distributed—with a few exceptions in South Africa and along the coast of West Africa. Within African cities, 'slum' populations are reportedly large, and urban infrastructure and service deficiencies continue to hinder economic development.
- **Is urbanization good for Africa?** Most African governments appear to think not, since 83 percent are implementing policies to reduce rural-to-urban migration. Research findings, however, indicate that the growth of cities typically accompanies economic development, and that migration contributes to lower poverty rates. In any case, migration accounts for only a quarter of urban population growth in Africa, with the rest constituted by *natural growth and reclassification*. Finally, cities have been impacted substantially by African civil wars, but seem particularly well-placed to lead economic recovery afterwards.
- **How should policymakers respond?** Africa's urban economies are currently hindered by deficiencies in crucial infrastructure and services—not only those *within* urban areas, but also those *between* urban areas. These deficiencies appear to be a key explanation for the underperformance of African firms relative to those on other continents. African economies suffer from poor quality roads and other transportation infrastructure between urban areas, even though many cities are landlocked and rely on those links. Within urban areas, firms have indicated that electricity is overwhelmingly their greatest constraint, and residents suffer poor service delivery in many other areas. These problems have been deepened by unplanned growth which renders upgrading programs so costly if pursued after the event. Can such problems be averted for future urban growth? Only if African national and urban governments act now, and start planning pre-emptively for growth. Further work is required on developing these priorities for urban planning.

⁷ UNDESA, 2007.

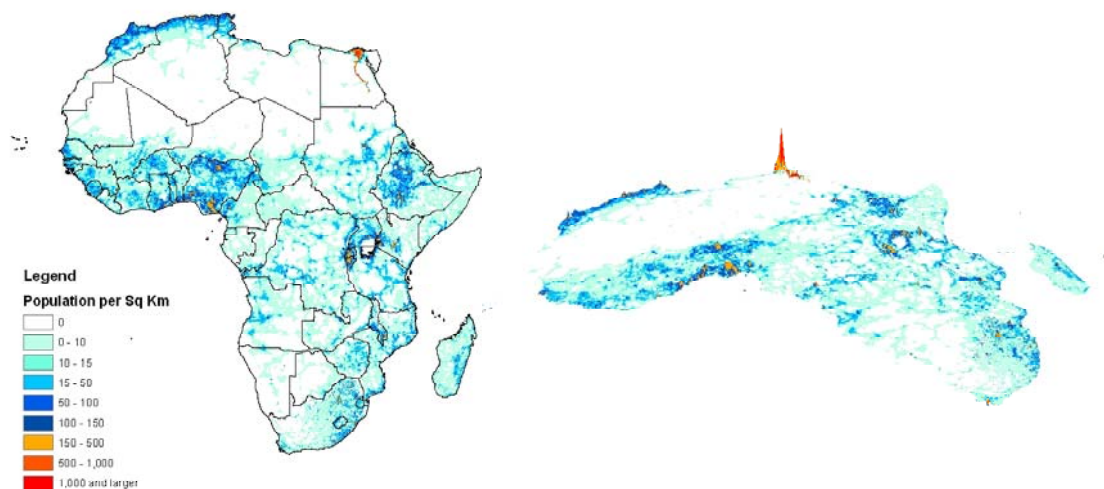
1. A Snapshot of Urban Africa

This first section investigates the physical and economic profile of urban Africa.

1.1. Where is Urban Africa?

1. **Africa's population distribution is spiky**⁸. The continent's population is unevenly distributed, and clusters at coasts, along rivers and near lakes. It is evident that population is not spread consistently even when close to those environmental amenities. Figure 1 shows these patterns by mapping population density in 5-kilometer grid squares across the continent, every ten years since 1960. The data reveals that the coast of Western Africa emerges as a large area of high-density settlement, stretching from Port Harcourt (Nigeria) along the coast through Lagos (Nigeria) and Accra (Ghana) to Cotonou (Benin) and Abidjan (Cote d'Ivoire), before diminishing in density out towards Liberia. The Great Lakes region emerges as another high-density cluster, from Nairobi westwards through Kampala (Uganda) and around Lake Victoria to Kigali (Rwanda) and Bujumbura (Burundi). Johannesburg and its province of Gauteng is shown clearly in the south, with pockets of high density settlements stretching east to Maputo (Mozambique) and southeast to Durban (South Africa). By contrast the western coast of southern Africa is sparsely populated⁹.

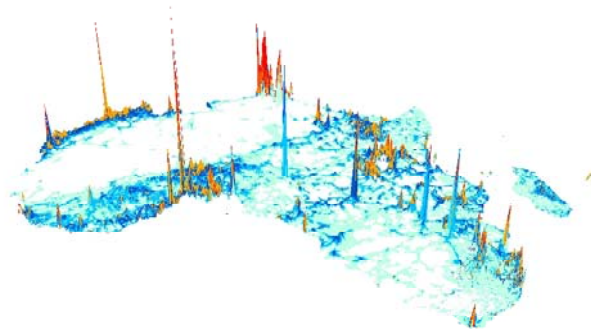
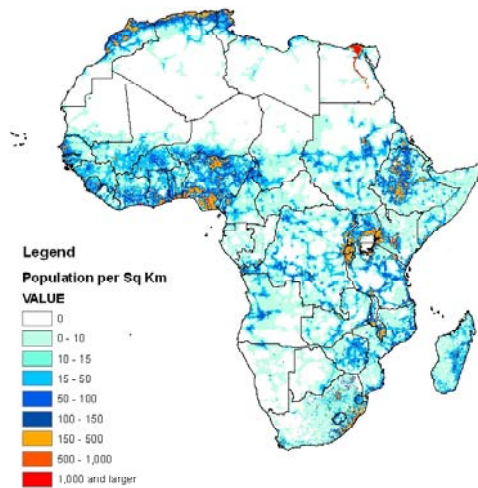
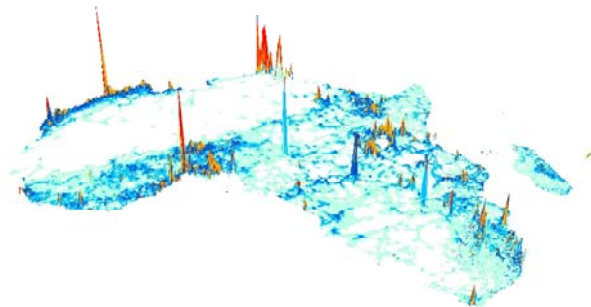
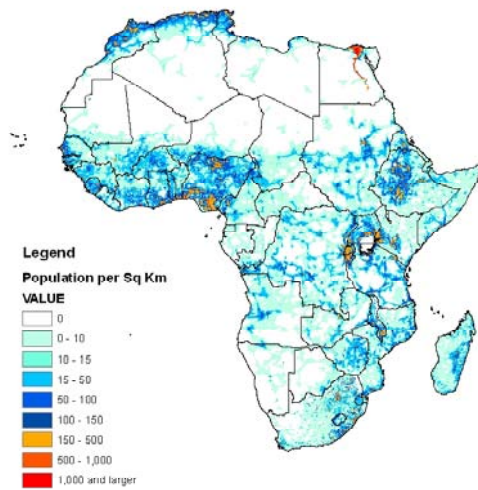
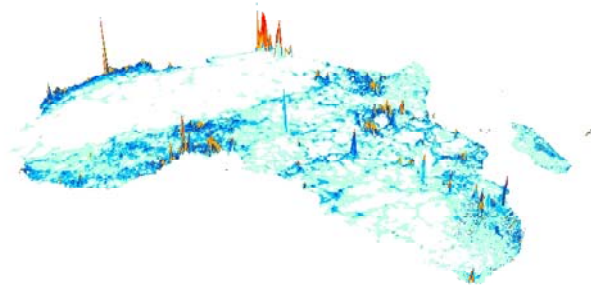
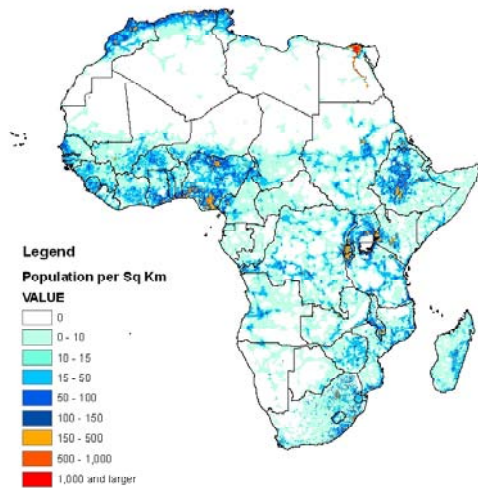
Figure 1 : Population Densities in Africa. 1960, 1970, 1980, 1990 and 2000



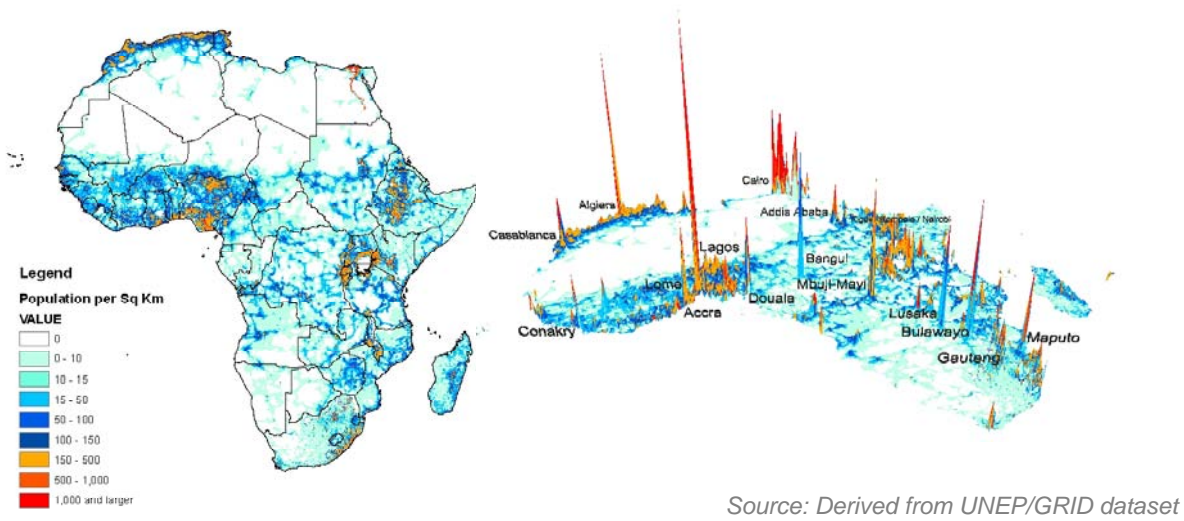
⁸ This paraphrases Florida, 2005.

⁹ For reference, the highest peaks in population density are labelled on the most recent map.

[Figure 1 continued: 1970, 1980, 1990]

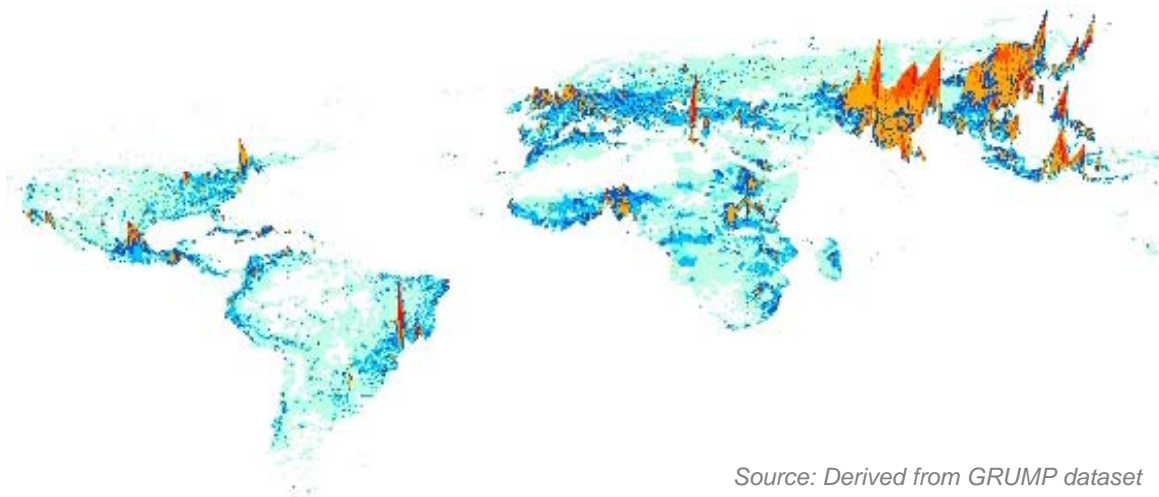


[Figure 1 continued: 2000]



2. **By comparison with India, China and much of the rest of Asia, Africa’s population has relatively low densities.** Figure 2 shows that the peaks and troughs of population density in Africa are, when mapped at the world scale, are rather modest compared to Asia, North America and Europe. But as illustrated by the earlier figures, Africa’s population densities have been rising fast and are continuing to do so.

Figure 2 : World population densities, 2000



Do These Maps Show the Locations of 'Urban Africa'?

3. **In measuring urban Africa, we need to move beyond the use of administrative boundaries.** Policy reports have often compared 'urbanization' levels¹⁰ across countries using data from the UN's World Urbanization Prospects. But these are grossly inaccurate: they rely on definitions of 'urban' which vary greatly between countries (see Table 1), and often extrapolate from censuses collected 10 years ago or more; so comparing such data is like comparing apples with oranges¹¹.

Table 1 : Myriad Definitions of 'Urban' in Africa

Country	Definition of 'urban'
Botswana	Agglomerations of 5,000 inhabitants or more where 75 per cent of the economic activity is non-agricultural.
Burkina Faso	Localities with 10,000 inhabitants or more and with sufficient socio-economic and administrative infrastructures.
Congo, Dem. Republic of	Places with 2,000 inhabitants or more where the predominant economic activity is non-agricultural; and places with fewer inhabitants which are considered urban because of their type of economic activity (predominantly non-agricultural).
Ethiopia	Localities with 2,000 inhabitants or more.
Ghana	Localities with 5,000 inhabitants or more.
Mali	Localities with 5,000 inhabitants or more and district centers.
Mozambique	From 1950 to 1970: Conselho of Maputo and Beira; in the 1980 census: 12 cities (Maputo, nine provincial capitals and the cities of Nacala-Porto and Chokwe); in the 1997 census: 23 cities and 68 towns (vilas).
Nigeria	Towns with 20,000 inhabitants or more, with mainly non-agrarian occupations.
Rwanda	Kigali, plus administrative centers of préfectures and important agglomerations and their surroundings.
Senegal	Agglomerations of 10,000 inhabitants or more.
South Africa	A classification based on dominant settlement type and land use. Cities, towns, townships, suburbs, etc., are typical urban settlements. Enumeration areas comprising informal settlements, hostels, institutions, industrial and recreational areas, and smallholdings within or adjacent to any formal urban settlement are classified as urban. The 1996 estimate was adjusted to comply with the 2001 census definition.
Tanzania	Up to 1967: 16 gazetted townships. Since the 1978 census, urban areas are defined using several criteria and include all regional and district headquarters, as well as all wards with urban characteristics (i.e., exceeding certain minimal level of size-density criteria and/or with many of their inhabitants in non-agricultural occupations). No specific numerical values of size and density are identified, and wards are defined as urban based on the decision of the District/Regional Census Committees.
Uganda	1991 and earlier: cities, municipalities, towns, townboards and all trading centers with a population over 1,000 persons; 2002: gazetted cities, municipalities and towns with a population over 2,000 persons.
<i>Source: UN World Urbanization Prospects (each country is self reported)</i>	

¹⁰ It is vital to be clear on terminology here. 'Urbanization' refers to the proportion of a country's total population which lives in urban areas. The *level of urbanization* will hence be expressed as a percentage, such as 40 percent. The *rate of urbanization* is the speed of change in that level—for example, an increase from 40 percent to 44 percent in the space of one year will mean the annual rate of urbanization was 10 percent. 'Urban growth', by contrast, refers to the nominal change in urban population. It is easy to be confused by these measures. For instance, urban growth of 100,000 people per year will not necessarily result in a positive rate of urbanization; it will do so only if rural populations are growing more slowly.

¹¹ Satterthwaite, 2007: 41.

4. Population densities are not a sufficient alternative to administrative boundaries, since urbanism is determined not only by physical characteristics but also by economic characteristics. Population densities are less arbitrary than administrative definitions, but they do not capture an essential element in what is ‘urban’, namely a threshold value of population in one place through which agglomeration economies can occur. Urban economies require ‘thick’ markets for labor and final goods, ease of access to those markets, and the resulting backward and forward linkages between enterprises. These economic characteristics of urban areas are most likely to operate when population density and population size are present in combination¹². For example, a village of 10,000 people might live at high densities, but the community’s absolute size will be too small to develop a diverse economy, unless it is within reach of a larger urban center. Conversely, a small province of 50,000 people might begin to diversify their livelihoods and trade with each other, but that process will be impeded greatly if population densities are too low and distances from an urban center are too far for the development of complex markets for labor and final goods.

5. Agglomeration economies can also occur in agricultural production, not only in industry and services. The core mechanisms of agglomeration economies—‘sharing’ of inputs, ‘matching’ of markets and ‘learning’ of productive knowledge—are usually associated with industry and services, but can apply to agricultural production too¹³. Thus our definition of ‘urban’ by reference to agglomeration remains relevant even for African urban areas where a high proportion of the population is engaged in farming¹⁴.

6. Using the rationale summarized above, the Agglomeration Index was developed as part of the Bank’s World Development Report 2009. It constitutes a measure of urbanization that can be compared across countries¹⁵. The Agglomeration Index is calculated as the percentage of the population that lives at moderately high densities (150 people per square kilometer) within 60 minutes’ travel time of a city of 100,000 inhabitants or more¹⁶. The Index combines a threshold size of city with a dense population within the reach of the closest central city. While a dichotomy between what is ‘urban’ and what is ‘rural’ will always be arbitrary—indeed, even the Agglomeration Index will miss many households located in rural areas which

¹² Clearly that density and size will need to be supported by infrastructure, institutions and various other prerequisites to economic activity. We will return to these factors later in the report.

¹³ See World Bank, 2008 for more detail on these mechanisms.

¹⁴ This situation can arise in response to rising food prices and general urban poverty; see Tacoli, 1998 and other literature by the same author for a thorough analysis. In Tanzania, for example, it was found that 67 percent of the urban population of small urban centers (and 23 percent in large urban centers) are engaged in agriculture—Glasser, Raich et al., 2008: 37.

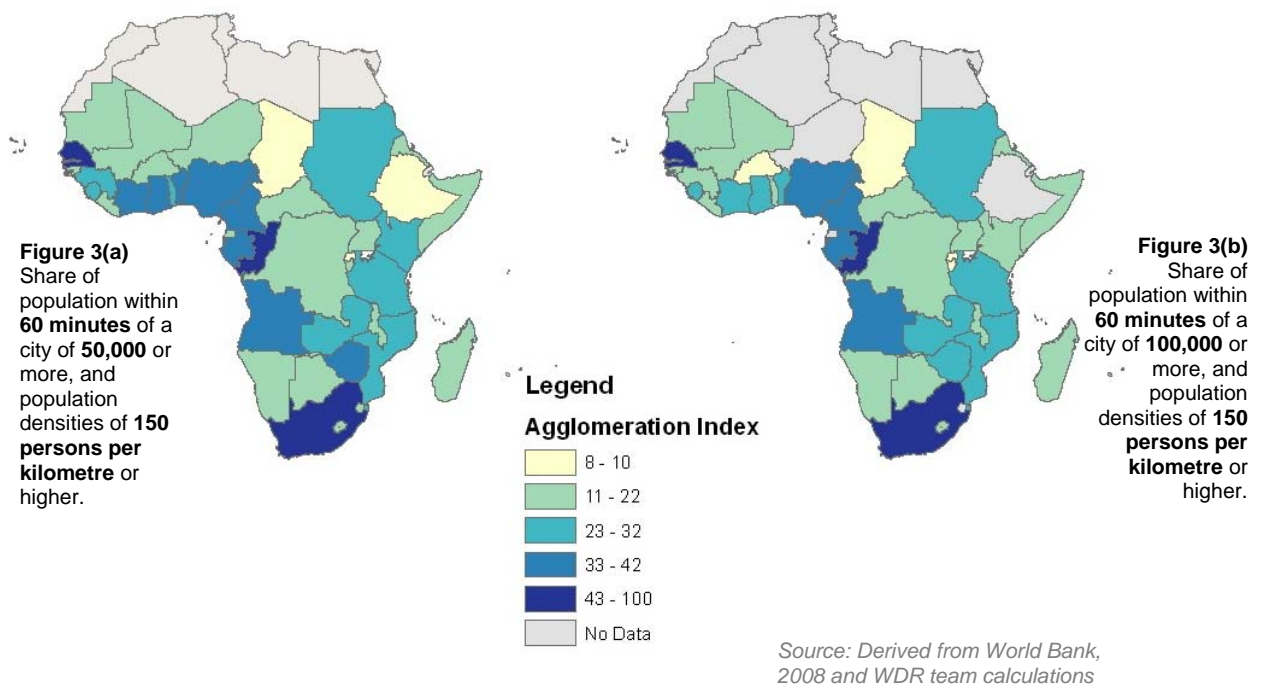
¹⁵ Uchida & Nelson, 2008.

¹⁶ These static thresholds had to be developed for the sake of quantitative analysis, even though in reality these phenomena of agglomeration economies are a matter of degree not thresholds. Towns of less than 50,000 people—especially in higher income countries, where that is sufficient to develop a high concentration of economic activity—may be able to derive agglomeration economies. Conversely, the inhabitants of low-density villages may still take some part in an urban economy because they are within 60 minutes’ travel time of an urban center. But the Index measure does still constitute a big advance on the ‘urban’ definitions used for statistical analyses in previous publications.

rely on urban income sources, and may classify many other households as ‘urban’ although they actually have predominantly rural characteristics¹⁷.

7. **Figure 3 shows a map of two Agglomeration Indices by country in sub-Saharan Africa.** Figure 3a uses a population threshold of 50,000; Figure 3b uses a population threshold of 100,000. Using the Agglomeration Index threshold of 50,000, the unweighted average for all countries in the world is 42 percent; and forty-one out of forty-eight African countries are below this average¹⁸. Regional patterns emerge in both of these maps: the Sahel countries are rather disagglomerated, as are Ethiopia, Namibia, Botswana, Madagascar, Uganda and much of central Africa. Eastern Africa has higher concentrations of its population in urban areas. And the coastal countries in West Africa, plus South Africa and Sudan, have the highest rates of urban concentration on the continent. Figure 4 shows a more detailed map of travel time to a city of 100,000 population or greater. One visible trend is the relatively weak connectivity between countries in Africa.

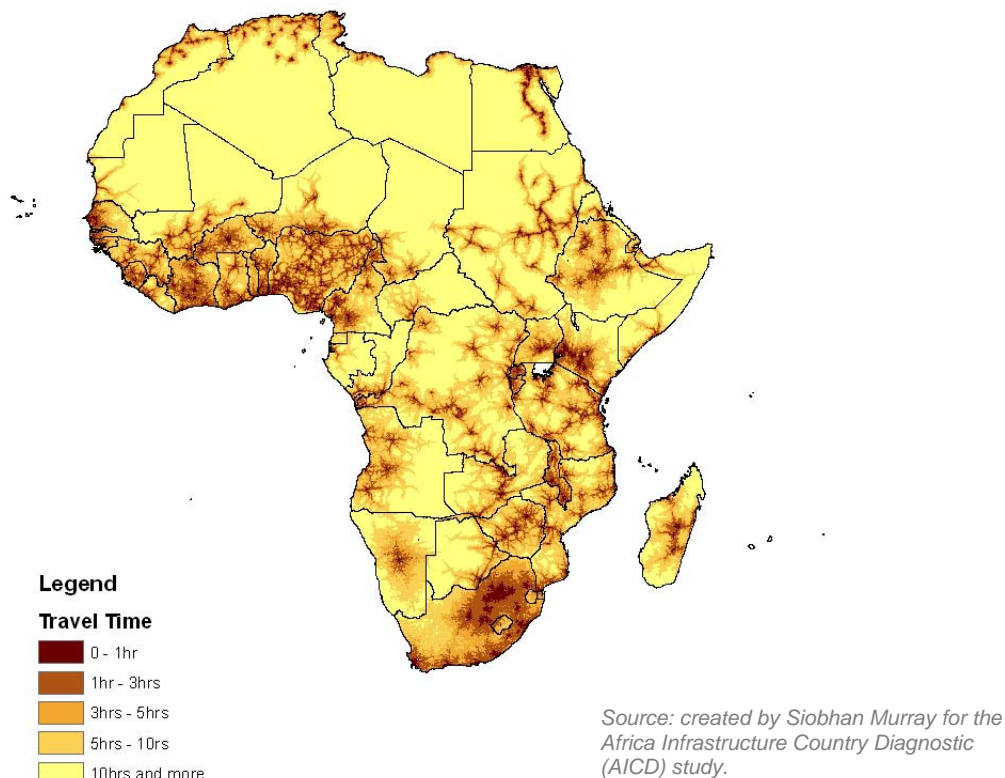
Figure 3 : How Agglomerated is Africa?



¹⁷ For example, should small towns be classified as urban or rural? In many countries, small towns act as market towns, with markets and services for local agricultural producers, plus retail and service outlets for their populations. They may also be administrative centres, with local government functions, and will probably also have a small health facility, school, police station, postal service and perhaps even a court (Satterthwaite, 2006: 16). But, physically, they may also look more like a village, with a low density of population—and perhaps with only the official buildings build of permanent materials.

¹⁸ The exceptions are São Tome & Príncipe, Mauritius, Cape Verde, the Republic of Congo, The Gambia, Senegal and South Africa.

Figure 4 : Travel Time to Nearest City with Population of 100,000 or Greater

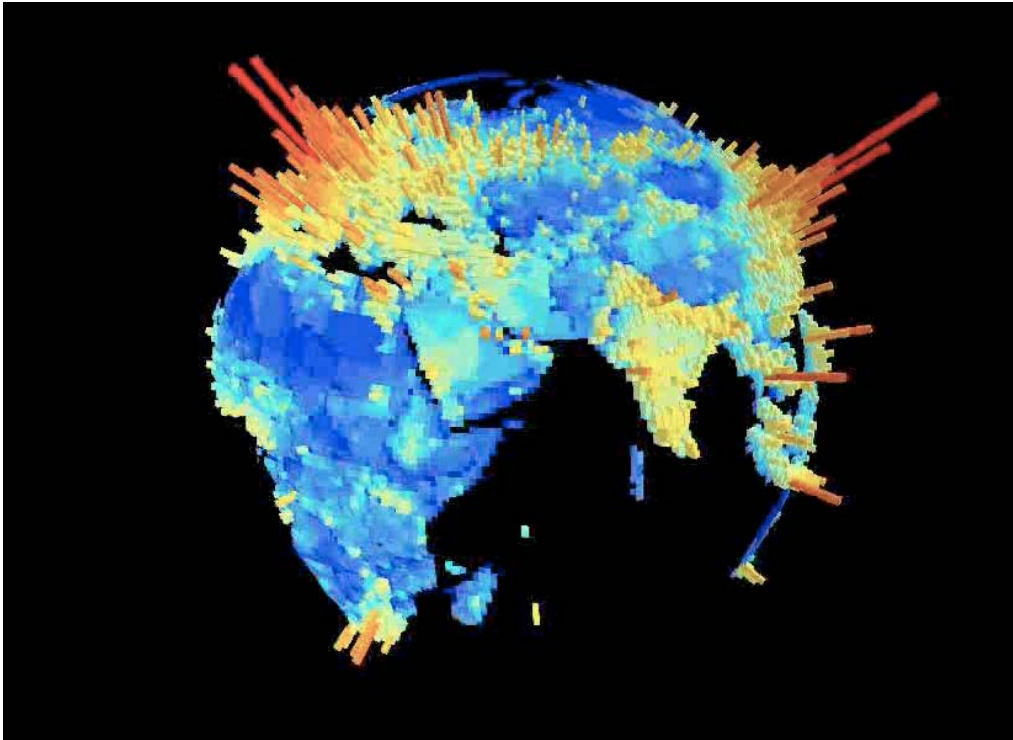


1.2. How is Economic Production Distributed?

8. **Is economic production concentrated too?** This question calls for some innovative analyses of available data, since GDP data is available at the country level but usually not at the level of cities or provinces. One attempt has been made by a group of researchers at Yale University, who have divided the planet into a grid of cells, each 100 kilometers by 100 kilometers in size, and estimated the value-added attributable to each cell¹⁹. Their results are shown in Figure 5 and Figure 6. Cape Town, Gauteng, Kinshasa, and Lagos are clearly visible on the map, whereas the rest of Africa is rather flat. Unfortunately the methodology is rather unreliable: it uses census data to estimate rural and urban populations, then assigns agricultural output to the rural areas and non-agricultural output to the urban areas. In reality, rural populations may have non-farm incomes and urban populations have farm incomes; moreover there will be intra-country variation in farm and non-farm incomes, but these subtleties are not shown here. Thus the maps are very similar to population density maps, magnified by the difference in agricultural and non-agricultural value-added in each country.

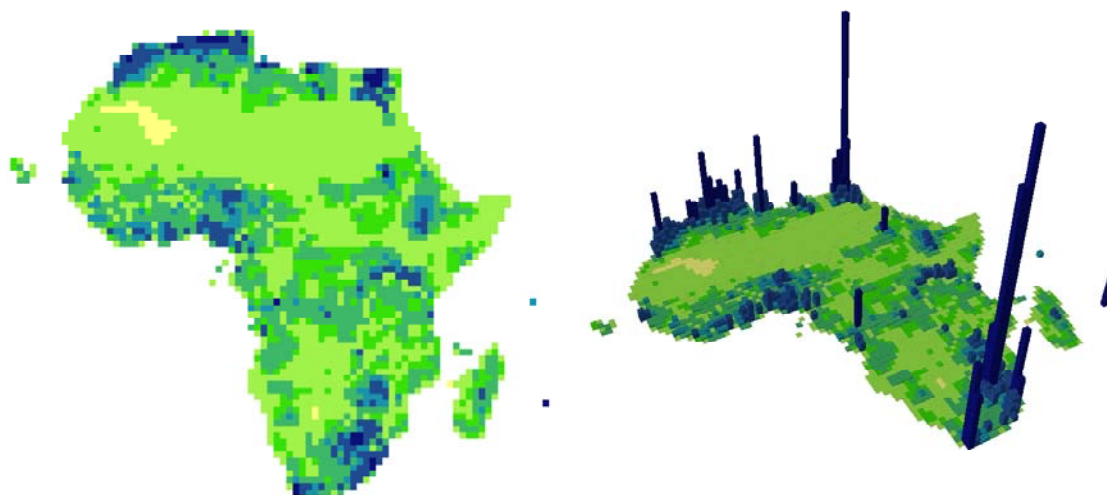
¹⁹ Nordhaus et al., 2006. According to standard national accounts theory, value-added (or income) should be equivalent to gross product.

Figure 5 : Estimates of Gross Regional Product 1990, Worldwide



Source: http://gecon.yale.edu/world_big.swf

Figure 6 : Estimates of Gross Regional Product 1990, Africa



Legend
Geographic Cell Product (000's of dollars, PPP)

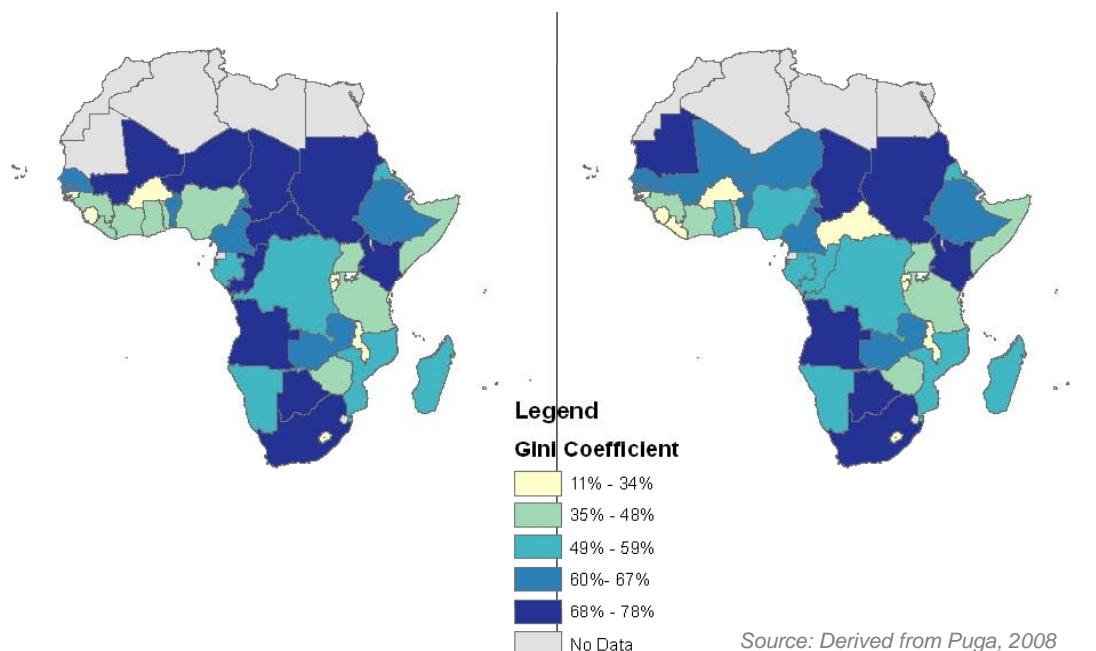
0
0 - 50,000
50,001 - 100,000
100,001 - 500,000

N.B. each cell measures 100km by 100km

Maps are generated from:
Geographically-based Economic Data,
<http://gecon.yale.edu/>

9. **Africa appears very similar to the rest of the world in its distribution of economic activity *within* countries.** Figure 7 shows a simplified version of the data for each country, having calculated a 'spatial Gini' index. That index takes value zero if production is evenly spread across a country, and approaches value 100 if production is completely concentrated at a single point²⁰. The right-hand side of the Figure shows these calculations for habitable land alone, to avoid biasing the statistic for countries with large amounts of desert or closed forests. Using that measure, we find that the 39 African countries for which data is available share almost exactly the same distribution as the rest of the world. The world average is 49.8, with standard deviation of 21; the African average is 49.5, with standard deviation of 18. So, in terms of economic concentration within countries, Africa is not 'different'. Within Africa, some regional patterns can be discerned: economic activity is more spatially-concentrated in landlocked countries and in Sahel countries.

Figure 7 : A Spatial Gini for Gross Regional Product: Overall and Habitable Land



10. **The spatial distribution of economic activity has implications for growth and for peace.** There are at least two useful interpretations of the Spatial Gini data and the way in which it varies across Africa. On one hand, low values of the spatial Gini coefficient—especially in relatively low income countries—will indicate a sparseness of markets, which is likely to contribute to the prohibitively high transport costs borne by African firms. Economies of scale are difficult to attain when markets are spread out across the country rather than concentrated thickly in a more confined space. In this context, the spatial dispersion of economic activities in some African countries may be an obstacle to growth. On the other hand, the spatial concentration of economic activities (indicated by high values of the spatial Gini coefficient) entails strong regional inequalities within a country. These inequalities are likely to hinder economic opportunities in some parts of the country, and—as with high Gini coefficients on

²⁰ For the methodology involved, see Puga, 2008.

incomes—may be socially harmful too. In particular, recent literature on civil conflict finds that regional inequalities have been significant determinants of the onset of civil war²¹. Given that peace and development are mutually dependent—i.e. it is difficult to have one without the other—the optimum degree of spatial concentration for each country is likely to be towards the middle of the Gini coefficient scale.

1.3. Which Cities Are Growing?

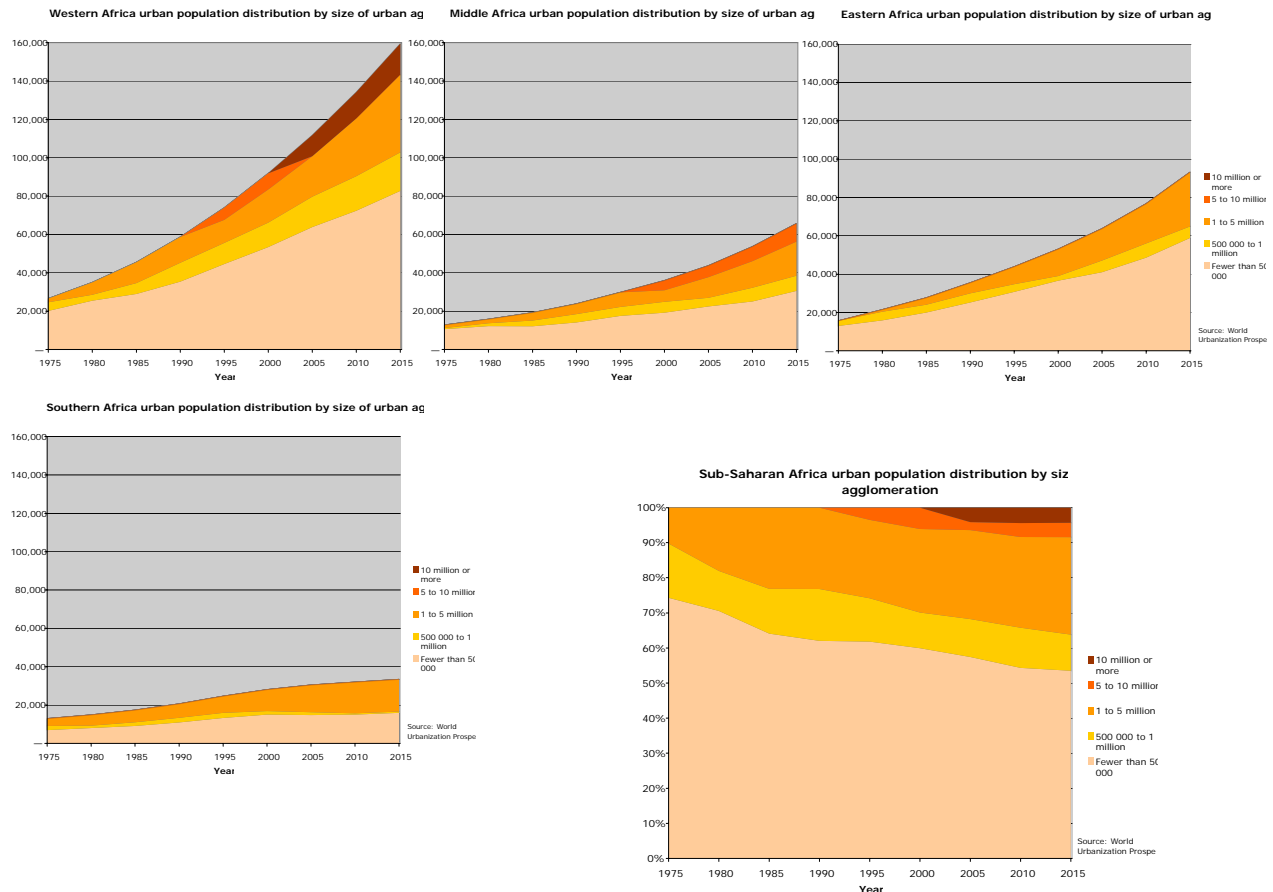
11. **Sub-Saharan Africa exhibits a diversity of urban sizes, and cities with populations under 500,000 accounts for most of Africa’s urban population.** While much attention is focused on ‘mega-cities’ in Africa, a very small percentage of Africa’s total urban population is in fact residing in such places. We can see from Figure 8, by taking a reading for any year that urban areas of fewer than 500,000 inhabitants constitute the most common category of urban size²². That same category of smaller cities also accounts for the largest share of urban population growth. Since 1990, the population of cities with fewer than 500,000 inhabitants has grown by over 60 million inhabitants—more than all other categories of cities combined. Obviously these are patterns in aggregate data rather than country-level studies—indeed there will be many small cities which are not growing, and even some which are losing population—but it should serve as a useful reminder that not all (nor even most) of the demographic action is in mega-cities.

12. **However, large cities are growing at a faster rate than small cities, and so account for a rising share of Africa’s urban population.** As shown by the lower-right chart in Figure 8, the proportion of urban Africans living in cities of 500,000 inhabitants or less has been falling over the last thirty years, while those in medium sized cities of 500,000 to 1 million has remained relatively constant. By contrast, cities with populations between 1 million and 5 million have accounted for an almost-continuously increasing share of total urban population, for all four regions in sub-Saharan Africa. Thus while small cities still account for the largest yearly increase in urban population in numerical terms, large cities account for the fastest increase in population in percentage terms.

²¹ For one of the most rigorous studies, see Østby, 2007.

²² These graphs use data from the UN’s urban population estimates, and as such is subject to the caveat discussed above in paragraph 3. However, we are interested here in general trends rather than precise readings, for which purpose the data is sufficiently accurate. This finding on population distribution mirrors that of a previous Cities Alliance report, which drew attention to statistics showing that 52 percent of Africa’s urban population were living in cities of 200,000 people or less in 2002 (Kessides, 2006: Figure 2.3).

Figure 8 : Urban Population by Size of City in Western, Central, Eastern and Southern Africa



13. **There is great heterogeneity between countries in the size distributions of their cities, and this does not seem to be patterned by income, urbanization level or total urban population.** Figure 9 shows the distribution of city sizes for a sample of African countries, breaking down the category of 'small cities' into four classes: 200,000 to 499,999 residents, 50,000 to 199,999, 20,000 to 49,999 and Under 20,000. Whether the countries are sorted by income (using GDP per capita), by urbanization level (i.e. urban population as a percentage of total population) or by total urban population, there appears to be no clear pattern in the city size distributions. However, these distributions are not entirely random, and indeed have tended to follow a stable pattern over time: a portfolio of urban sizes develops in each country²³. Sometimes it has been supposed that such a size distribution of cities exists because there is a hierarchy of urban functions, with each size of city devoted to particular tasks²⁴; but this theory is not always borne out in reality: even small cities can develop the sophisticated industries or service sectors which are normally associated with the largest cities.

²³ See World Bank, 2008: 1.12-1.17 and Box 1.1.

²⁴ Philbrick, 1957; Henderson, 1974.

14. Urban primacy is correlated with higher rates of GDP growth, though we are not yet sure enough of the relationship to make policy recommendations on that basis. Policymakers have sometimes seen the distribution of city sizes as a problem, seeking to decentralize growth to secondary cities. Those reactions are often based on concerns about agglomeration costs in large cities, such as congestion, pollution and crime, or the difficulties of governing such a concentration of people. However, a simple correlation between urban primacy (i.e. the share of a country's population living in its largest city) and GDP per capita growth shows no relationship between the two variables in Africa—see Figure 10. And a study which investigated this question more rigorously found urban primacy to be *positively* related to growth in GDP per capita, after including education, democracy and other variables²⁵. This relationship holds up to an urban primacy of around 35 percent, after which urban primacy and GDP per capita growth cease to be related.

15. The World Bank's Urban Transport Strategy has noted previously that neither the magnitude of agglomeration economies nor the significance of environmental externalities are understood clearly enough to be able to make any universal judgment about how far or how fast to push concentration or deconcentration²⁶. The attempts of policymakers to control concentration—either by land-use and development constraints in the megacities or by inducements to locate outside the megacities—have had limited impact. Experience shows that investments have often been pushed into unsuitable locations, and that the choice of where public investment is concentrated is determined by political considerations not economic potential²⁷. Moreover, even if large African cities do suffer major diseconomies of scale, they are “more a testament to the neglect of urban policy than a function of their sizes.”²⁸ We will explore a parallel theme, concerning the efforts of policymakers to diminish rural-urban migration, in the section below entitled ‘Is Urbanization Good for Africa?’.

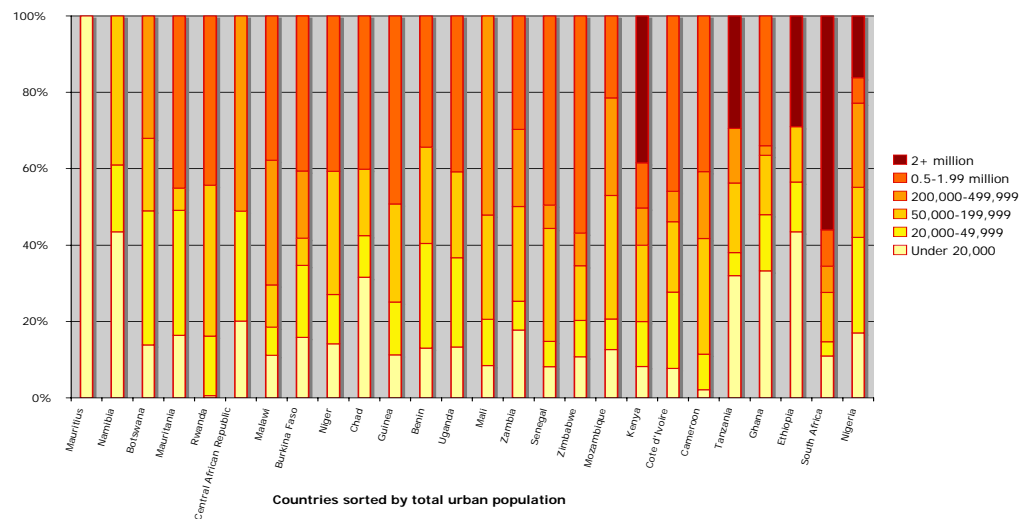
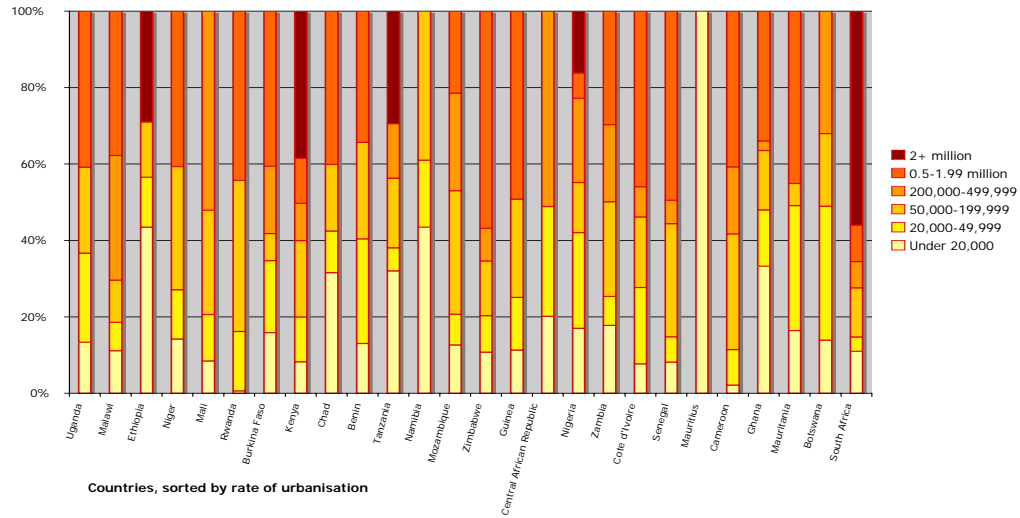
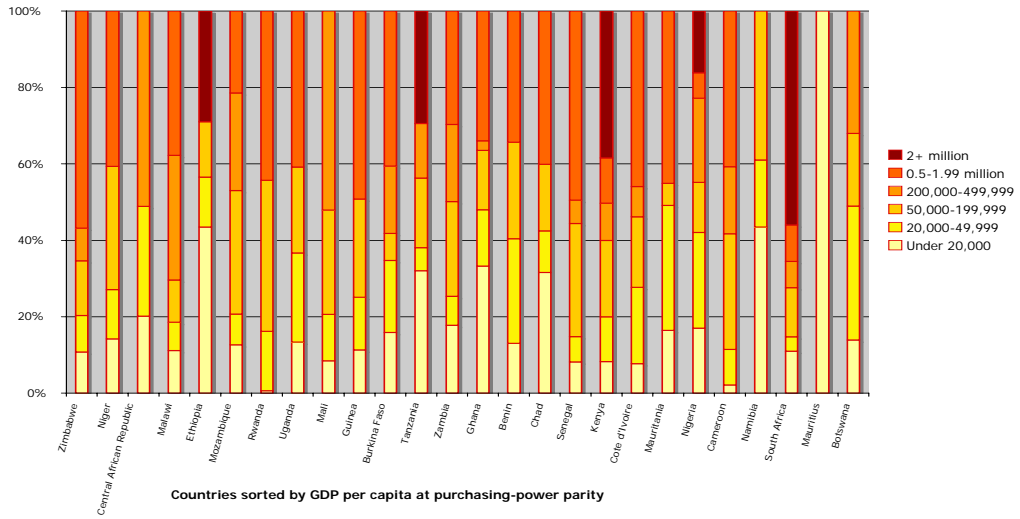
²⁵ Bertinelli & Strobl, 2007.

²⁶ World Bank, 2002: 16.

²⁷ Satterthwaite, 2006: 10.

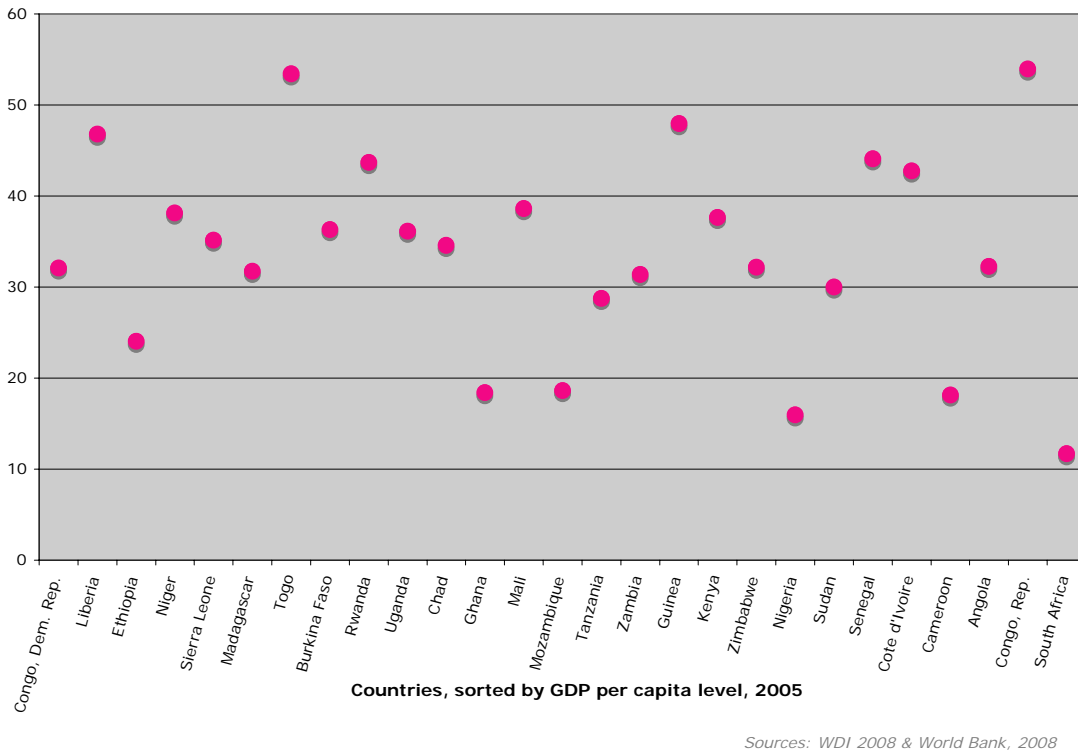
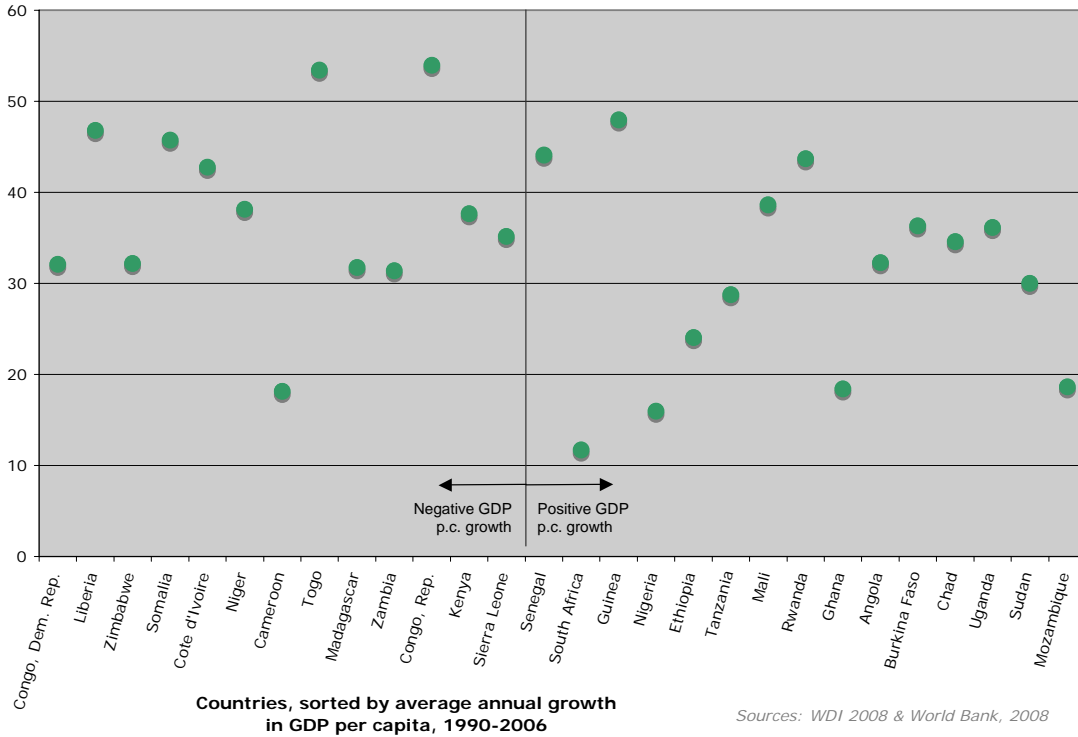
²⁸ Kessides, 2006: xxiv. Compare, for example, Janice Perlman's rather sensationalist claim that “...the sheer size of these mega-cities presents a situation of which we have no collective experience. No precedent exists for feeding, sheltering, or transporting so many people ..., nor for removing their waste products or providing clean drinking water” (Perlman, 1989) with Andrew Hamer's view that “Size per se is not the issue; instead, it is mismanagement at both the regional and local levels, and wrong-headed national urbanization policies promoted by physical planners with visions of optimal geography and very little sense of economics. ... What we have are polycentric clusters of identifiable and separate cities and towns that require both regional trunk infrastructure and effective local urban management, in much the same way that a province or a small country might need,”—Hamer, 1994: 173.

Figure 9 : Size Distributions of Cities by Income, Urbanization Rate and Total Urban Population



Source: Citypopulation.de, as reported in Satterthwaite, 2008: table 3.

Figure 10 : Simple Correlations of Urban Primacy with GDP per Capita Growth and Levels Show no Relationship²⁹



²⁹ This is before controlling for other variables, as described in paragraph 14.

1.4. Are African Cities Predominantly Slums?

16. **According to a recent and influential definition, a ‘slum’ household is defined by reference to five variables, access to improved water, improved sanitation, security of tenure, durability of housing, and sufficient living area³⁰.** The absence of any one of these is deemed sufficient to determine that a household is a slum household. However, a caveat on the use of this data should be noted. In particular, the measures are rather blunt: a household is deemed to be either ‘slum’ or ‘not slum’, with no indication given of the degree of deprivation. The utility of indicators could be improved greatly if they showed exactly which of the five components are present or missing. That revision would permit more informative comparisons over time and between countries. As an example of this approach, we show several welfare indicators below in the section entitled ‘Summary of Case Studies of 13 Cities’³¹.

17. **There is no definitive data on slum populations in Africa, but estimates indicate that they are large.** Figure 11 plots UN-HABITAT’s estimates of slum populations for each country with the level of urbanization for that country. It shows that African countries tend to be less urbanized than elsewhere in the world, but that in Africa urban areas consist predominantly of slums. For example, in Nigeria, 41.6 million people out of a total population of 52.5 million were estimated to be living in slums in 2001. Figure 12 maps these slum estimates for Africa, showing a strong regional pattern of slum prevalence. However, the low reported slum incidence in Liberia and DR Congo leads us to question the accuracy of this data.

18. **Slums are usually a response by households to high formal land prices or to shortages of land on formal markets, but they are not always situated on the least desirable plots of land.** Slum-dwellers, like households buying land on the formal land market, choose locations by trading off competing preferences with their budgets. On one hand, access to markets and livelihoods opportunities are usually better in the center of cities; on the other hand larger living areas and greener environments are usually available on the outskirts of cities. Thus slums can be found both near center of cities—where land costs are highest, forcing dwellings to be occupied at extremely high densities—and at the urban fringe, where land is cheaper, but accessibility is worse.

³⁰ ‘Access to improved water’: 20 litres per person per day, at less than 10 percent of total household income, available to household members without needing to spend more than an hour a day to collect it. ‘Improved sanitation’: An excreta disposal system, in the form of either a private or public toilet shared with a reasonable number of people. Empirically, lack of improved sanitation has been the dominant feature identifying slum households—UN-HABITAT, 2003b: 20.

‘Security of tenure’: Measured by evidence of documentation of secure tenure status—i.e. the right to effective state protection against eviction—and either *de facto* or perceived protection from forced evictions. ‘Durability of housing’: A non-hazardous location with a structure which provides protection against rain, heat, cold and humidity.

‘Sufficient living area’: Fewer than three people per habitable room, which is a minimum of 4m². UN-HABITAT, 2003b: 18-19.

Confusingly, UN-HABITAT says that this definition will not apply in all cases. For example, in Rio de Janeiro, living area is reportedly insufficient for middle classes too, and is thus deemed not to be a good discriminator—UN-HABITAT, 2003b: fnnt 38.

³¹ See Banerjee et al., 2007: Table 2.1 for an alternative source.

Comprehensive reviews of the circumstances in which slums are formed are available elsewhere³².

Figure 11 : Africa is Less Urbanized than Elsewhere, More Dominated by Slums

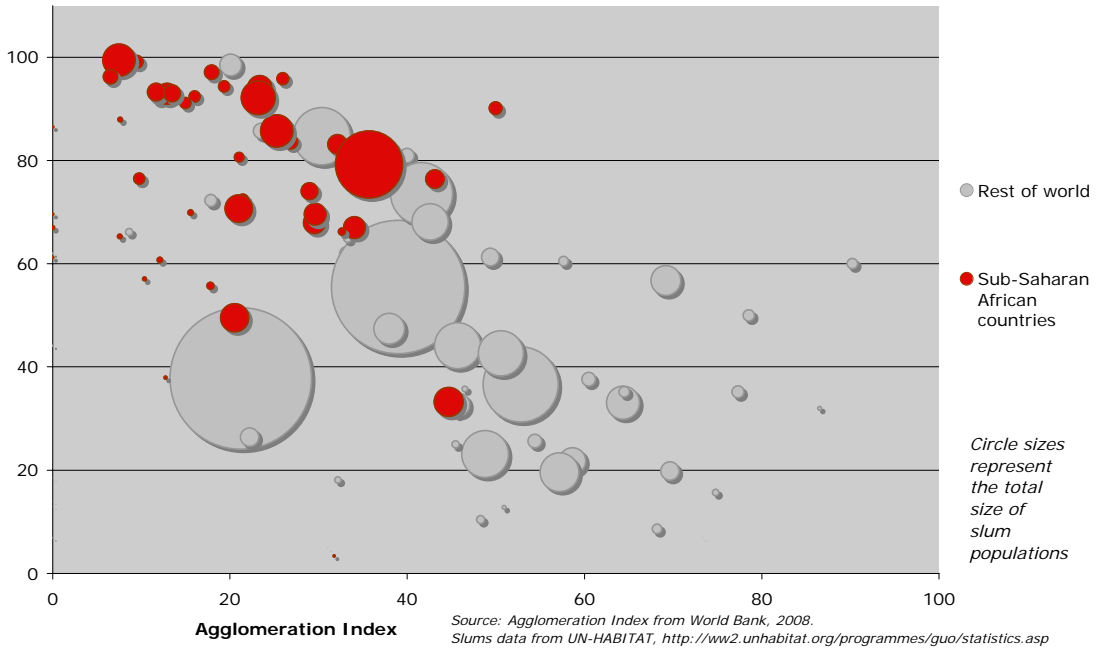
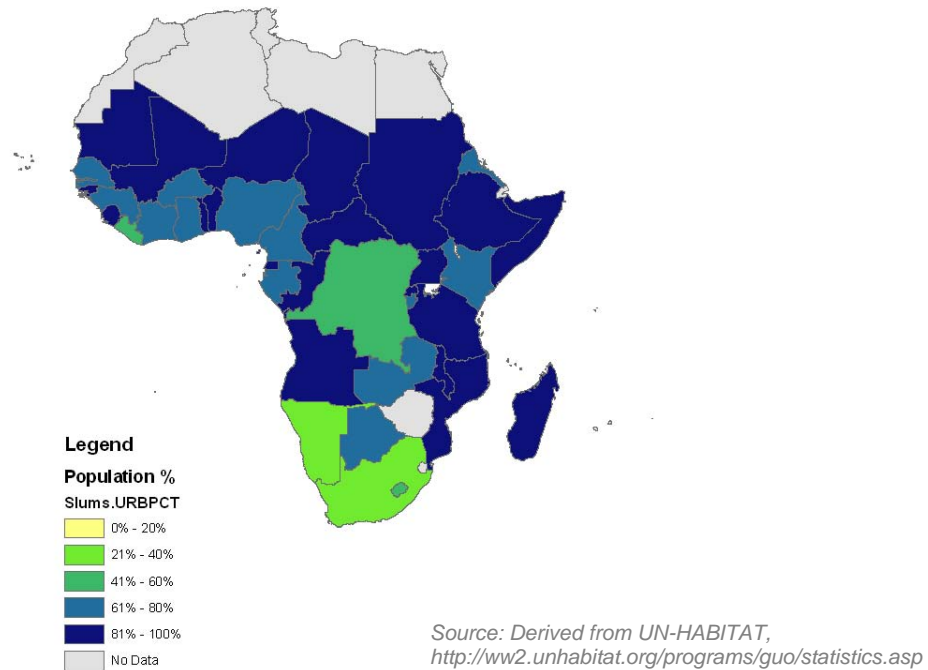


Figure 12 : Slum Population as a Percentage of Urban Population by Country, 2001



³² See, for example, UN-HABITAT, 2003a & 2003b, or Bassett, 2003: 4-5.

19. **The existence of slums is not itself indicative of poverty; indeed there is great heterogeneity in the incomes of slum residents.** For this reason, the terms ‘informal settlements’ or ‘underserviced settlements’ are preferable—and more descriptive. For example in Tanzania, the government estimates that 89 percent of real estate development is extra-legal (and hence would be classified as ‘informal settlements’)³³; but not all of those settlements would be deemed to be underserviced according to welfare indicators.

20. **The indicators by which slums are defined have clear humanitarian implications, and also impede economic development.** For instance, difficulties in accessing water means not only that populations may incur health problems, but also that urban Africans are incurring substantial costs in walking to, waiting for, collecting, and carrying home their water needs—or have to pay even higher volumetric prices for others to do it for them. In Nairobi, for example, residents in under-serviced areas pay up to 11 times more for water sold by private vendors than those who have access to piped water³⁴. This is a typical price differential in Africa as a whole, where water purchased from public utilities is priced at an average of less than \$0.50 per cubic meter, but is priced at \$1.30 per cubic meter when drawn from point sources, and \$2.55 and \$4.75 per cubic meter respectively when purchased from private vendors with mobile tankers and from private vendors with mobile carts³⁵. Urban residents in East Africa who fetch water themselves were spending 28 minutes per day in 1967 to queue for water; this has increased to 92 minutes per day in 1997³⁶. In general, slums bring private costs to individuals in the form of missed opportunities, spatial mismatch, health costs, inaccessibility to education and other costs³⁷. A recent study of 162 countries found that the proportion of urban households that are residing in slums has a significant and large impact on national GDP per capita³⁸.

³³ Glasser, Raich et al., 2008: x.

³⁴ Hardoy, Mitlin & Satterthwaite, 2001: 48.

³⁵ Approximate figures, read from Kariuki & Schwartz, 2005: Chart 3.

³⁶ As cited in Kessides, 2006: 18.

³⁷ Hardoy & Satterthwaite, 1989. Also Baker, 2008: 8-9.

³⁸ Fox, 2007. This model explained 70 percent of the variance in GDP per capita. To guard against endogeneity effects, the model instrumented for urban integration using variables for governance during colonial periods and ethnic diversity.

2. Is Urbanization Good for Africa?

21. **Many African policymakers are understandably cautious about the role of cities in economic development, and about current spatial distributions of their population.** Figure 13 shows the results of a UN survey of population policies. It indicates that 83 percent of African governments are implementing policies to reduce rural-to-urban migration, and 78 percent are intervening particularly to reduce migration to large urban agglomerations³⁹. These percentages are notably higher than world averages.

Figure 13 : African Governments and Population Policies



Source: UNDESA, 2008

22. **Those policies are often motivated by high rates of unemployment and poverty in African cities.** In an analogous reaction in an era when Europe's cities were afflicted by large swathes of squalor and slums, Jean-Jacques Rousseau claimed: *"It is the large towns that drain the state and create its weakness. The wealth they produce is an apparent and illusory wealth... France would be much more powerful if Paris were annihilated."*⁴⁰ We know in retrospect that this claim was most likely wrong; but do African policymakers—who advocate a rather less extreme approach to containing urban populations—have a point? The answers provided in this section suggest, first, that cities play a key role in economic development and, second, that continued migration to cities is far more multi-directional than is often portrayed, and on aggregate raises income in both urban and rural areas.

³⁹ UNDESA, 2008: tables 15-18.

⁴⁰ Braudel, 1967: 439.

2.1. Cities and Economic Development

23. **Cross-country analyses show a strong positive relationship between GDP and the level of urbanization⁴¹, though there are some exceptions in Africa.** The weakness of that relationship was illustrated by a previous World Bank analysis, which found that relationship did not hold in 9 out of 24 African countries between 1990 and 2003⁴². That finding of '[increased] urbanization without growth' in Africa may seem like a paradox, but is explained by the idea that the relationship between *levels* of GDP and urbanization is much stronger than the relationship between *changes* in GDP and urbanization⁴³. Urban growth was artificially constricted during the colonial era⁴⁴—thus Africa was at that stage less urban than would be expected from its level of income; after 1960, its rapid urbanization can be explained as a kind of 'catching up' and also by other factors such as wide disparities between rural and urban wages⁴⁵.

24. **There probably exist causal connections between levels of GDP and urbanization in both directions.** These connections imply a virtuous cycle between GDP and urbanization.

- In one direction—from GDP growth to urbanization—a shift into industrial and service sectors has usually been accompanied by higher incomes, and those sectors have usually been concentrated in cities⁴⁶. The first part of this mechanism is illustrated by Figure 14, which plots the average annual growth in value-added in agricultural and non-agricultural sectors between 1996 and 2006, in all African countries for which data is available. The countries are sorted by average annual growth in GDP per capita, from left to right. Amongst higher growth countries—from Lesotho, which grew at an average of two percent per annum, to Angola and Equatorial Guinea which had far higher growth rates—productivity growth in industry and services was almost consistently faster than productivity growth in agriculture. Industry and services were responsible for lifting growth rates of GDP per capita higher than did agriculture alone⁴⁷.
- In the other direction—from urbanization to GDP growth—higher rates of urbanization provide some of the preconditions for economic growth, especially in facilitating the 'agglomeration economies' described in the Bank's World Development Report 2009. These 'agglomeration economies' are constituted by cost savings from 'sharing' (of infrastructure), 'matching' (of labor and inputs) and 'learning' (knowledge), and are achieved through greater density of firms and reduced distance to markets. While urbanization alone will not be sufficient to spur those mechanisms of economic development—since they are catalysed (or

⁴¹ World Bank, 2008: Figures 1.6, 1.7 and 1.8.

⁴² Kessides, 2006: 10. Most likely the relationship would have been even weaker if the many African countries experiencing civil war were included in the sample (see paragraphs 45 and 46, below).

⁴³ Fay & Opal, 2000: 22.

⁴⁴ Satterthwaite, 2002: 9-10.

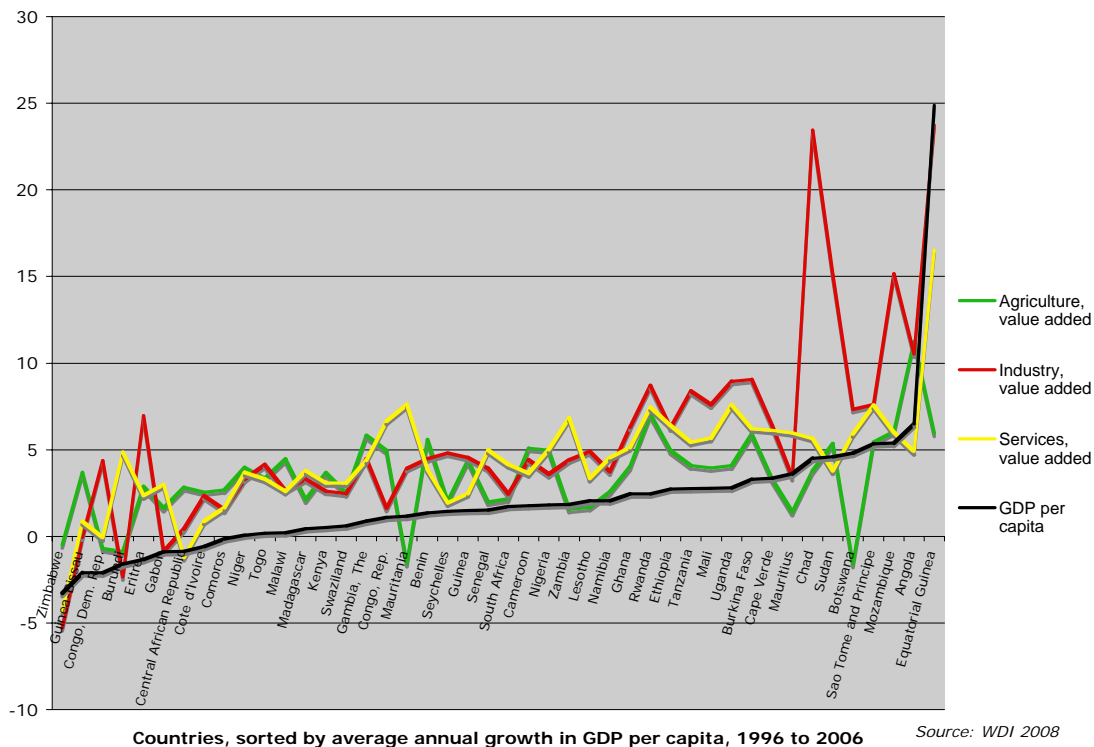
⁴⁵ Fay & Opal, 2000: 26.

⁴⁶ Also see Fay & Opal, 2000: 23.

⁴⁷ The caveat here, as stated before, is that rural and urban areas in Africa are far from being neatly divided between agricultural and non-agricultural sectors; there is, for example, substantial agricultural production in Africa's cities. Hence we must retain the sectoral labels on this data, and cannot simply relabel as growth in 'urban' vs 'rural' value added.

hindered) by institutional and macroeconomic frameworks for growth—urbanization does accompany it. In summary, there may be examples of ‘urbanization without growth’ but there are few, if any, examples of ‘growth without urbanization’.

Figure 14 : Among High Growth Countries, Growth was Spurred more by Industry and Services than by Agriculture



25. The benefits of urbanization also appear to be reflected in poverty reduction, in some cases. Evidence from 90 countries shows that urbanization has been associated with lower overall poverty rates, with rural areas benefiting in particular⁴⁸. So, while urban poverty may be rising because of the larger share of population in urban areas, overall poverty is falling, partly because of that shift in population balance towards urban areas. Unfortunately this relationship is far weaker in Africa than elsewhere, having been observed only in the most recent of three time periods⁴⁹. Further investigation is therefore required to understand why some African cities have contributed to poverty reduction more than others. For example, is it the case that coastal African cities typically do better than others? While 75 percent of Africa’s population resides more than 100 kilometers from a coast (compared to only 34 percent in the rest of the developing world)⁵⁰, many of Africa’s large urban agglomerations are

⁴⁸ Ravallion, Chen & Sangraula, 2007.

⁴⁹ Ravallion, Chen & Sangraula, 2007: Tables 3 & 4. That time period was from 1999 to 2002; further investigation is required to know if the pattern has continued subsequently.

⁵⁰ Sachs et al., 2004: Table 4, using data from the Center for International Earth Science Information Network (CIESIN).

clustered along coasts and rivers (as identified above in paragraph 1)—thereby lowering the costs of import and export (as discussed below in paragraph 65).

26. However, when we attempt to take this analysis a step further—to understand what makes some urban economies more successful than others—we are hindered by a severe shortage of data. It would be desirable to build a comprehensive picture of urban economies in Africa, but this is one of the areas most constrained by lack of data. Ideally we would determine which cities have outstripped average African growth rates, and which have fallen behind—then dissect the sources of those successes and deficiencies to understand what caused them. This is possible in the US and Europe, but it is very hard to derive data on GDP at the sub-national level in Africa.

27. Several methods are available to approximate ‘urban GDP’, all of which are imperfect. In the introductory section ‘A Snapshot of Urban Africa’, we showed a map of GDP in Africa, which was calculated by multiplying rural population in each grid square by farm incomes, and urban population in each grid square by non-farm incomes. But this assumed that all rural populations have farm incomes and urban populations have non-farm incomes, and did not take account of any intra-country variation in farm and non-farm incomes. Some other publications, which confidently proclaim urban GDP figures, are on closer inspection based purely on guesswork and will probably have a large margin of error⁵¹. One alternative method, suggested by UN-HABITAT’s Urban Indicators programme⁵², multiplies the fraction of national employment for each industrial sector in the city (from surveys) by the value of national product for each industry, then multiplies that figure by the wage ratio (i.e. the extent to which urban productivity differs from national productivity). But since the last variable is the one we hope to *determine* from urban GDP, this method seems unlikely to succeed! Another method from the same publication multiplies the number of households in each city by their average household income (from a census or from surveys), then multiplies that by the ratio of national household income to national GDP. It is likely that such data gives the most accurate results. In Tanzania, that type of data showed that urban areas are home to 23 percent of Tanzania’s population and generate 51 percent of its GDP⁵³. It would be desirable to assemble more such data from other African countries.

28. From the point of view of many African policymakers, urban economies are a somewhat mixed blessing, since they may encourage productivity gains, but they are also highly informal, thus depriving the state of tax revenues. The ILO estimated that 72 percent of non-agricultural employment in Sub-Saharan Africa was informal in the 1990s⁵⁴. UN-HABITAT estimated that 60 percent of the urban labor force in Sub-Saharan Africa was employed by the informal economy⁵⁵. These percentages may be higher than in rural areas; for example, in Tanzania it was estimated following a survey in 1991 that 56 percent of urban employment was informal, compared with only

⁵¹ See, for example, PriceWaterhouseCoopers, 2007, which obtains ‘urban GDP’ per capita simply by multiplying national GDP per capita by a ratio “in the range from 1.5 to 3”, “based on plausible ratios...for cities at similar income levels for which direct income per capita estimates were available”.

⁵² UN-HABITAT, 2004: 47-48.

⁵³ Glasser, Raich et al., 2008: iii, 62-67.

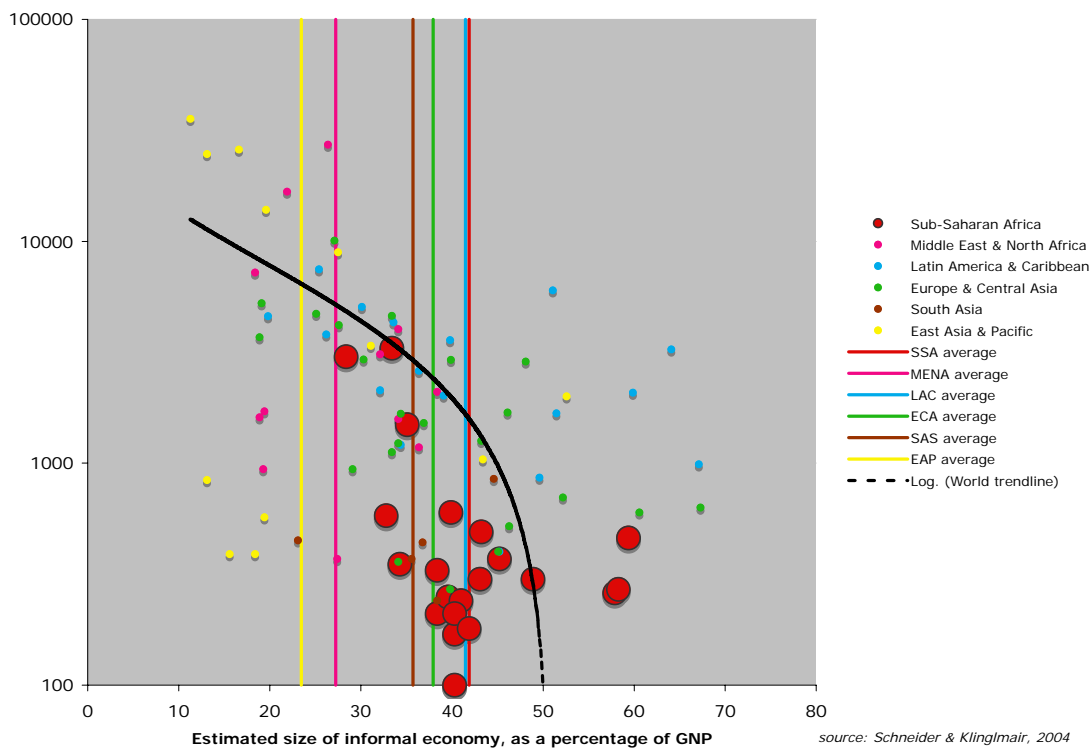
⁵⁴ This estimate was made on the basis of statistics from five countries: Benin, Chad, Guinea, Kenya and South Africa—ILO, 2002: 19.

⁵⁵ UN-HABITAT, 2003a: 103.

15 percent of rural employment⁵⁶. Not only do informal economies deprive the state of tax revenues, they often indicate a second-best choice of employment, and are unlikely to grow beyond a small scale⁵⁷.

29. **But, when compared to economies in the rest of the world, African economies are in fact more formalised than would be expected from their low levels of GNP.** Figure 15 shows estimates of the size of informal economies plotted against GNP⁵⁸. The data provides estimates for individual countries; the vertical lines show regional averages; and the world trendline shows a line of best fit for all countries in the world. It is clear from this graph that Africa's economies are more informal than the rest of the world, but not by much: in fact the African average is almost exactly the same as in Latin America. Moreover, given that almost all African countries lie to the left of the trendline, we might have expected African economies to be even *more* informal than they actually are.

Figure 15 : Africa's Economies are More Formal than Expected




⁵⁶ Becker, 2004: 54. A more recent study found the proportion of Tanzanians to be employed in the informal economy is as high as 90 percent—Mkurabita, 2005.

⁵⁷ Kessides, 2006: 13-14.

⁵⁸ Estimating the size of the informal economy is notoriously difficult to do. These figures were estimated by Schneider & Klinglmaier, 2004, and use a combination of the currency demand method (the excess of currency demand over that required by the formal economy), the electricity consumption method (the excess of electricity consumption over that required by the formal economy), and the authors' own model which incorporates tax burdens, regulatory burdens and 'tax morality' of the country's population.

30. Informality is symptomatic of economic problems, not at the root of them. If Africa's economies are not unusually informal, it seems advisable to concentrate less on abolishing informality *per se*, and concentrate most on raising GDP—so that people need to rely less on the informal and subsistence economies. Unfortunately the tools for doing so are, so far, still under development. Returning to the words of Robert McNamara, who put it more bluntly in 1986, "*you urban guys knew how to do housing but you had no idea about creating jobs.*"⁵⁹ More recently it has been claimed that "*most urban analysts are still entering the city through the house and the bathroom, rather than through the workplace, the market, or as a site of creating long-term assets.*"⁶⁰ If this report is permitted to make only one recommendation for more research efforts—where the largest gap currently exists—it would be for the development of tools for diagnostic policymaking to support urban economies. Most likely those tools would draw on five components for an effective urban policy: housing, water & sanitation, enterprises, markets, and assets, with all five framed by appropriate urban governance.



⁵⁹ Cohen, 2001: 44, ftnt 23.

⁶⁰ Cohen, 2007: 3.

2.2. Migration and Cities

This section reviews some of the key dynamics of migration with respect to cities. It focuses particularly on the size and direction of migration, the decision to migrate, and migration policies.

31. Contrary to some expectations, rural-urban migration constitutes a relatively small component of urban population growth. The proportion of African urban population growth due to migration and administrative reclassification declined from approximately 40 percent in the 1960s and 1970s to approximately 25 percent in the 1980s, with the remainder accounted for by population growth⁶¹. In some countries, such as Tanzania, the proportion is lower still: migration contributed only 17 percent of urban population growth between 1988 and 2001⁶². Thus if policymakers are concerned about urban population growth, a focus on migration would be less effective than a focus on natural population growth amongst existing urban residents⁶³. Policies which can help to slow natural population growth include those which focus on the social and economic status of the poor, on providing quality reproductive health services, and on empowering women⁶⁴. Unfortunately, some reduction in natural growth rates is already occurring through the prevalence of HIV/AIDS, which affects as much as 30 percent of some urban populations in Africa⁶⁵.

32. Migration flows are less unambiguously rural-to-urban than is often portrayed. There is a scarcity of good data on the size and direction of migrant flows, but we base this claim particularly on NESMUWA survey data from West Africa, as presented in Figure 16⁶⁶. The seven charts show, for seven countries, the estimated number of individuals migrating between four locations: the capital city, other urban areas, rural areas, and other countries. These locations are represented as concentric circles, between which migrants move. Those movements are shown by arrows of sizes that vary according to their magnitude. The net flow is shown in figures, for each of the six possible pairs of origin and destinations for each country: capital-and-other urban, capital-and-rural, capital-and-other countries, other urban-and-rural, other urban-and-other countries, and rural-and-other countries. Finally the net flow is shown for each location circle: grey when it has accumulated migrants and white when it has lost migrants. For context, we also show the population of the capital city, urban areas, and rural areas in 1990—the middle year of the time period when this survey data was collected.

⁶¹ Chen et al., 1998: table 2-7. There was, however, substantial inter-country variation in these figures for Africa. Meanwhile it is interesting to note that the pattern in Asia was entirely the reverse, with migration *increasing* from 40 percent of urban growth to 64 percent of urban growth in the same period.

⁶² Glasser, Raich et al., 2008: iv, 84. It should, however, be noted that these numbers may be somewhat higher once all migrants have been counted who choose to reside in peri-urban areas outside the legal or statistical boundaries of cities.

⁶³ See also UNFPA, 2007: 36-37 for a powerful rebuttal of common myths.

⁶⁴ UNFPA, 2007: 70, and box 24.

⁶⁵ Potts, 2006: 71-72.

⁶⁶ An overview of the methodology used in this survey is given in Beauchemin & Bocquier, 2004; in summary, a representative sample was taken of households in urban and rural areas, data was collected on lifetime migration histories, from birth to time of the interview. Another questionnaire provided an indirect record of out-migrants who had been part of the household in the five years preceding the survey. The surveys distinguish between rural areas, secondary towns, principal towns and the capital city, but here we amalgamate principal and secondary towns for simplicity of presentation.

33. The results confirm some preconceptions about migration trends, but contradict others:

- **The capital city accumulated migrants in every country.** Migration is adding to natural growth; also reclassification of land has tended to increase the population of capital cities.
- **Urban areas apart from the capital city *lost* migrants in every country except Niger and Tanzania.** Thus out-migration was, on average, acting to *diminish* the growth of other urban areas, even if natural growth and reclassification were acting to increase their populations. This finding will come as a surprise to many, including those who have highlighted population movements from larger cities to smaller towns attributable to lower living costs, higher food security, and more accessible labor markets in those places⁶⁷. These survey results indicate that such migration does occur, but that it is outweighed by migration from towns to capital cities and, in the cases of Guinea and Cote d'Ivoire, from urban areas to rural areas.
- **Similarly, small and medium-sized towns did *not* always serve as stepping stones on the way to capital cities.** Contradicting the claim that migrants move from rural areas to other towns and then onwards to capital cities, we can see that many rural emigrants moved directly to capital cities⁶⁸.
- **Rural areas lost migrants in all countries except Cote d'Ivoire, but the flow was certainly not in one direction alone.** In most cases emigration from the capital city to rural areas, and from other urban areas to rural areas, was almost as strong as rural migration in the other direction. In Guinea, for example, 51,100 migrants moved from rural areas to Conakry, but 32,100 moved in the other direction; 28,100 migrants moved from rural areas to principal and secondary towns, but as many as 41,200 moved in the other direction.
- **In many cases the flow of rural migrants to other countries was greater than the flow to urban areas within their own country.** For example, in Burkina Faso a net 16,800 migrants moved to urban areas, but 78,800 moved to other countries. In Mali, a net 27,200 migrants moved to urban areas, but 169,400 moved to other countries. In Senegal, a net 27,700 migrants moved to urban areas, but 57,400 moved to other countries.

34. Some other findings are apparent from other sources, and from more detailed analysis of the same survey data, including the following. First, **return migrants from urban to rural areas are now predominantly young people.** For example, research in Cameroon in the 1990s showed that three-quarters of urban emigrants to rural areas were between 15 and 45 years old. In Cote d'Ivoire in 1993, three-quarters were less than 30 years old⁶⁹. Second, **the stereotype of immigrants to cities arriving on the outskirts and building slums is often inaccurate.** More often, migrants first settle in peri-central areas, where they are housed by friends or family, or where they find temporary rented accommodation. This is a vital factor in their economic success, since many migrants rely on starting jobs immediately, which they find through social

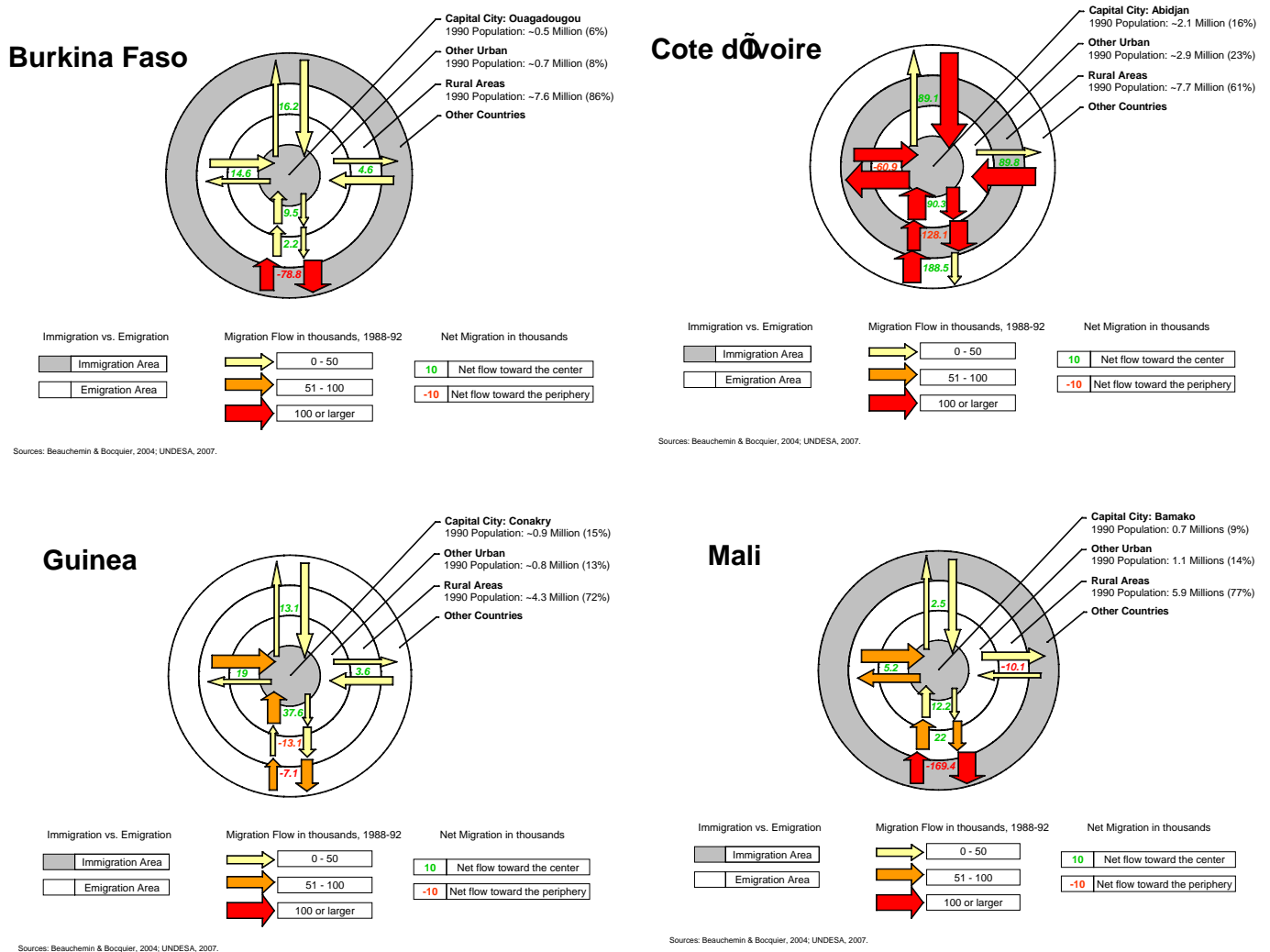
⁶⁷ For example, Andersson, 2002.

⁶⁸ Beauchemin & Bocquier, 2004: 2253.

⁶⁹ Multiple sources in Beauchemin & Bocquier, 2004: 2255.

networks—sometimes even before they actually migrate⁷⁰. That pattern has been observed by research in Dakar, Yaoundé, Bamako and Abidjan⁷¹. There are exceptions to that spatial distribution of migrants within the city, as in Dar es Salaam, where it appears immigration has been a far more significant factor in the spatial expansion of the city⁷². In these cases, social networks are the main determinants of location decisions because they facilitate land purchases and access to employment⁷³; but peri-urban areas have become the locations of choice for migrants because that is where, over time, non-indigenous ethnic groups have become concentrated. In general, the growth of peripheral slums is mainly attributable to existing urban residents moving out of the central urban areas, and to former migrants who have already been in the city for months or years.

Figure 16 : Migratory Flows in West Africa 1988-1992, and in Tanzania 2001-02
[continued over page]

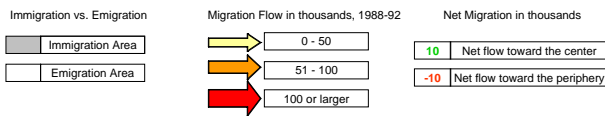
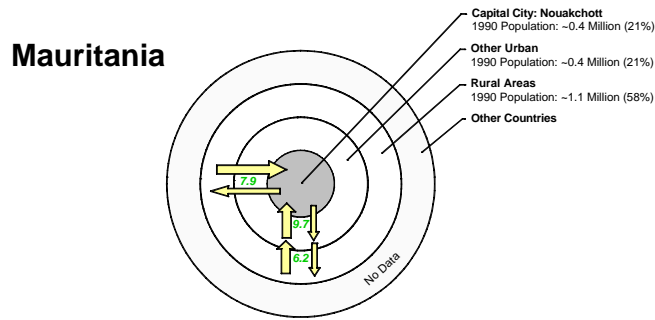


⁷⁰ Sources in Lall, Selod & Shalizi, 2006: 5.

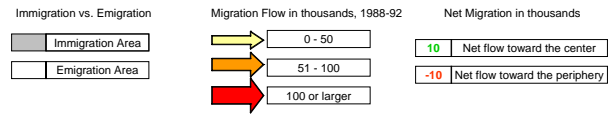
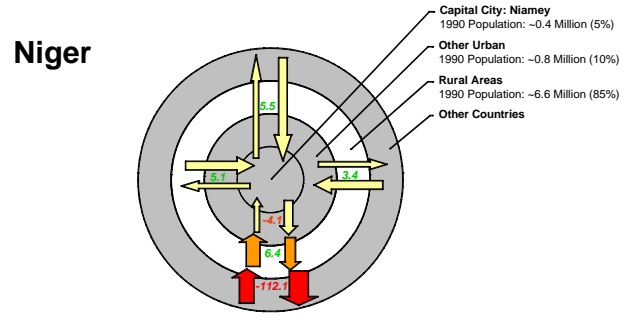
⁷¹ Multiple sources in Beauchemin & Bocquier, 2004: 2256.

⁷² Kombe, 2005: 117-128.

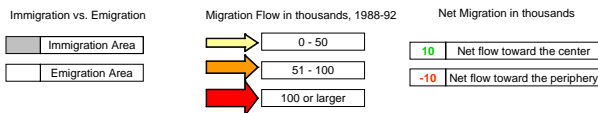
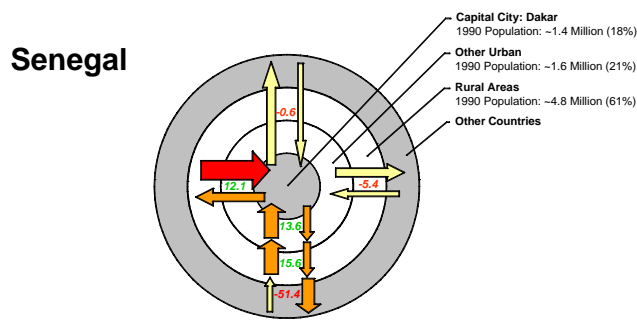
⁷³ Indeed, it has been found that three-quarters of urban immigrants join existing households on arrival in cities—Glasser, Raich et al., 2008: v, 88.



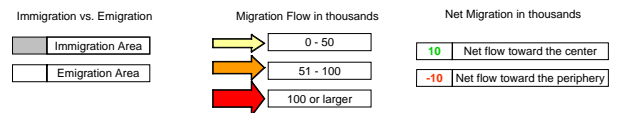
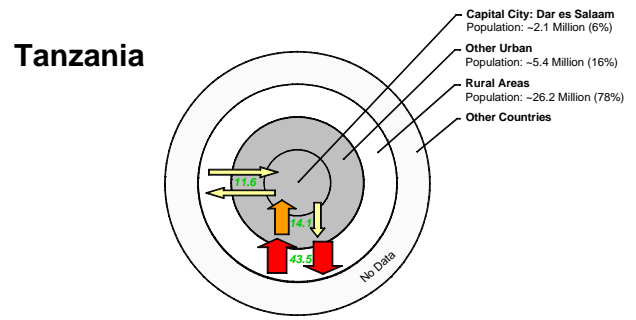
Sources: Beauchemin & Boquier, 2004; UNDESA, 2007.



Sources: Beauchemin & Boquier, 2004; UNDESA, 2007.



Sources: Beauchemin & Boquier, 2004; UNDESA, 2007.



Sources: Migration figures from World Bank, 2008; Appendix B. Population figures for 2000 from UNDESA, 2007.

35. **One of the greatest surprises here is the strength of ‘reverse’ migration.** What can explain that pattern? First, some migration to urban areas is temporary rather than permanent: some migrants are drawn to cities during seasons which bring less work in rural areas (‘seasonal migration’), and others are drawn to cities before starting a family, but will then migrate back to rural areas or their home town (‘circular migration’). These surveys show such seasonal and circular migration as bi-directional flows. Second, bi-directional flows may indicate the return of migrants to their home areas if they do not succeed economically in cities. Urban economies act as a kind of filtering mechanism, retaining migrants who are successful. These findings are explored more fully in the next few paragraphs.

36. **Rural-urban migration is often a rational economic decision.** Even though urban unemployment can be far higher than in rural areas, the continued migration of populations from rural to urban areas is still rational due to high differentials in wages. For example, in Tanzania, rural unemployment was around 7 percent while urban unemployment was around 16 percent and as high as 31 percent in Dar es Salaam⁷⁴.

⁷⁴ Tanzanian government statistics, as cited in Glasser, Raich et al., 2008: 58.

But the chance of finding urban employment at higher wages may still have been encouraging migrants to move to cities⁷⁵.

37. It is difficult to establish exactly how much cities contribute to higher prosperity of migrants, since migration is not randomized. Indeed, it seems almost certain that migration requires higher incomes to afford information on urban opportunities, transportation to cities, and perhaps a financial cushion for the first few weeks or months. Migrants also appear to be self-selected—i.e. their observable characteristics are systematically better than non-migrants, particularly in terms of education level⁷⁶.

38. It appears that migrants are more successful than existing urban residents, particularly in finding employment. Migrants exhibit comparable or better chances of being employed than non-migrants⁷⁷. But most research findings based on samples of urban migrants exclude those who did migrate but failed to prosper in cities, and thus returned to their home regions. And, as before, simple comparisons of economic outcomes for migrants and non-migrants are not valid unless they control for differences in education and other observable variables. Surveys in West Africa, for example, found that migrants' educational attainment is systematically higher than that of existing urban residents⁷⁸. All of these factors bias upwards our estimates of the effect of cities on migrants' incomes unless we control for them properly.

39. Migrants may also be attracted to cities by a range of amenities which are not present in rural areas, though a proper investigation has not yet been made in Africa. Research studies outside Africa indicate that migration may continue even if expected income streams are no higher in urban than in rural areas⁷⁹. There is not yet research to investigate whether this phenomenon occurs in African cities. We do, however, know that there are social rewards to migration as well as economic ones: social status of returnee migrants to villages is often higher than those who have never migrated; and migration to urban areas can also provide an escape from family and cultural constraints in rural areas⁸⁰. There is an ongoing debate about whether migration continues beyond the point where it is economically optimal: on one hand, individuals (and families) consider only their private costs and benefits when making migration decisions, but migration carries externalities in the form of congestion, pollution and other social costs, leading in theory to an over-optimal rate of migration⁸¹. On the other hand, those same individuals and families will not consider the full social benefits of agglomeration economies and other positive externalities from moving to cities, leading in theory to an under-optimal rate of migration.

40. In summary, the policy implications of 'over-migration' are ambiguous, but it seems that restrictions on migration are generally harmful. There have been

⁷⁵ This pattern would be predicted by the Todaro and Harris-Todaro models, where migrants move according to their 'expected' income streams (i.e. the average wage, multiplied by the probability of finding employment) in both places, discounted by the cost of moving). A good overview of those models is provided by Lall, Selod & Shalizi, 2006: 10-15.

⁷⁶ Lall, Selod & Shalizi, 2006: 4.

⁷⁷ Beauchemin & Bocquier, 2004: 2257-2261.

⁷⁸ See, for example, Bocquier & Traoré, 1996: 263 for studies in West Africa.

⁷⁹ Studies by Christopher Timmins and Somik Lall are currently being written up.

⁸⁰ Tacoli, 1998, and Lall, Selod & Shalizi, 2006: 22.

⁸¹ For greater detail on these arguments, see Overman & Venables, 2005.

recommendations to invest more in amenities in rural areas; but that seems like a perverse recommendation if it is urban areas which generate the fiscal revenues with which those amenities would be funded. Moreover, the dichotomy between economically useful and not-useful migrants is rather artificial: in reality migrants are probably partly attracted by economic gain and partly attracted by urban amenities⁸², and all urban residents, whether employed or not, will be augmenting the flow of income in urban areas. The conclusion that, on balance, restrictions on migration are generally harmful is based on individual-level findings, that migrants moving to urban areas increase their incomes and those of their families, and that migration will improve the efficiency of labor markets⁸³. It is based also on macro-level findings such as those reported in paragraph 25, that higher levels of urbanization reduce poverty, including in rural areas. Though there is little research using panel data from Africa, findings elsewhere suggest that migration restrictions—including the denial of urban services, and the use of large-scale slum evictions—have maintained surplus labor in rural areas and delayed the realization of agglomeration economies in urban areas⁸⁴.

41. A new role for policymakers could involve facilitating information flows for migrants, and making forecasts of migration movements. If urbanization becomes more widely accepted as necessary for economic development, and if migration is acknowledged to be rational, policymakers can help those processes to be manifested in the most beneficial way. The tools to do so are, however, not well developed. There do exist some relatively easy techniques for government to improve the efficiency of migration—for example, by facilitating the flow of information on economic opportunities and in helping to match employees to labor markets⁸⁵. And in countries with ethnic diversity, policy interventions may need also to pay attention to the risks of ethnic conflict being exacerbated by migration⁸⁶. However, if the aim of policymakers is also on the future—particularly to invest now in preparation for population movements over the next ten or twenty years—there is clearly a need for better data on where migration has occurred in the past, and better forecasts on where it is likely to occur subsequently.

⁸² See, for example, Oucho, 1996: 99.

⁸³ Lall, Selod & Shalizi, 2006.

⁸⁴ See, for example, Au & Henderson, 2006, and Hardoy & Satterthwaite, 1989: 289-292, box 9.7.

⁸⁵ There is also still an open question on the topic of migrants' destinations: should governments aim to divert migrants from some cities to others? This question was reviewed briefly in paragraph 14.

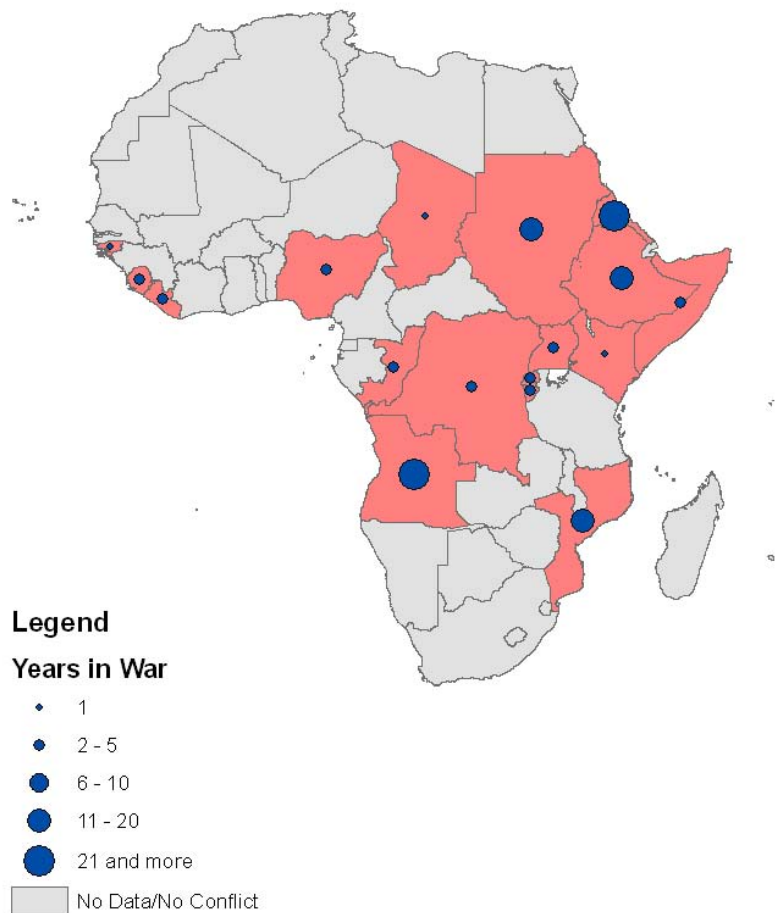
⁸⁶ See, for example, Smith, 2006 for a case study on Nigeria.

2.3. Conflict and Urban Growth

42. **This section addresses the dynamics of migration and economic development during and after conflict.** We focus on a specific subset of conflicts, namely wars⁸⁷. We find that wars can have a substantial impact on urban growth; but also that cities may be especially well-placed to lead post-war economic recovery.

43. **More than one-third of African countries had a war—whether intra-state or inter-state—in the last fifteen years.** Their locations are shown in red on Figure 17, with the size of circles representing the number of years each country has been in war (some of which exceed fifteen years in total length, having begun before 1993). It is evident that central and eastern Africa have been most affected by war in recent years.

Figure 17 : African Wars in the last 15 years



Source: Derived from PRIO, 2008.

⁸⁷ 'Conflict' and 'war' are conceptually distinct. 'Conflict' is a broad term, meaning a clash of interests. If a conflict involves violence, it becomes 'violent conflict', or an 'armed conflict'. In turn, if a violent conflict escalates, it can become a 'war'. There are several definitions of 'war' which conform to this rationale, and here for purposes of analysis we take one from Gleditch et al., 2002, where 'war' is defined as an armed conflict with more than 1,000 battle-related deaths per year.

How Do Wars Affect African Cities?

44. **Cities are often targeted during war.** Mogadishu, Kigali, Brazzaville, Freetown, Monrovia and many other African cities have been on the front lines of recent wars: targeted, besieged, assailed or bombarded⁸⁸. The economic costs of war for cities include the destruction of housing stock, destruction of infrastructure, and outmigration of skilled workers.

45. **Meanwhile, somewhat paradoxically, cities are also places of refuge and security, to which displaced populations flee.** While the section on 'Migration and Cities' highlighted the 'pull' (or attractive) forces of cities—economic opportunities, wages and amenities which migrants expect to be better than in rural areas—there are also a number of 'push' (or expulsive) forces which cause migrants to flee rural areas. Famine is often considered as an expulsive force, but war should probably be counted as a major expulsive force too. In Sudan, for example, of the 6 million IDPs from predominantly rural areas, two-thirds fled to urban areas, and half went to Khartoum⁸⁹. Other cities with recent massive influxes of displaced populations include Kampala, Uganda; Bujumbura, Burundi; Goma, DR Congo; Luanda, Angola. Of course not *all* cities will experience population influxes during a war: if they are too close to the frontlines they may be emptied of population rather than accumulate population; and if they are too far from the frontlines, as for example was Kinshasa, their population growth may not be any higher than previously.

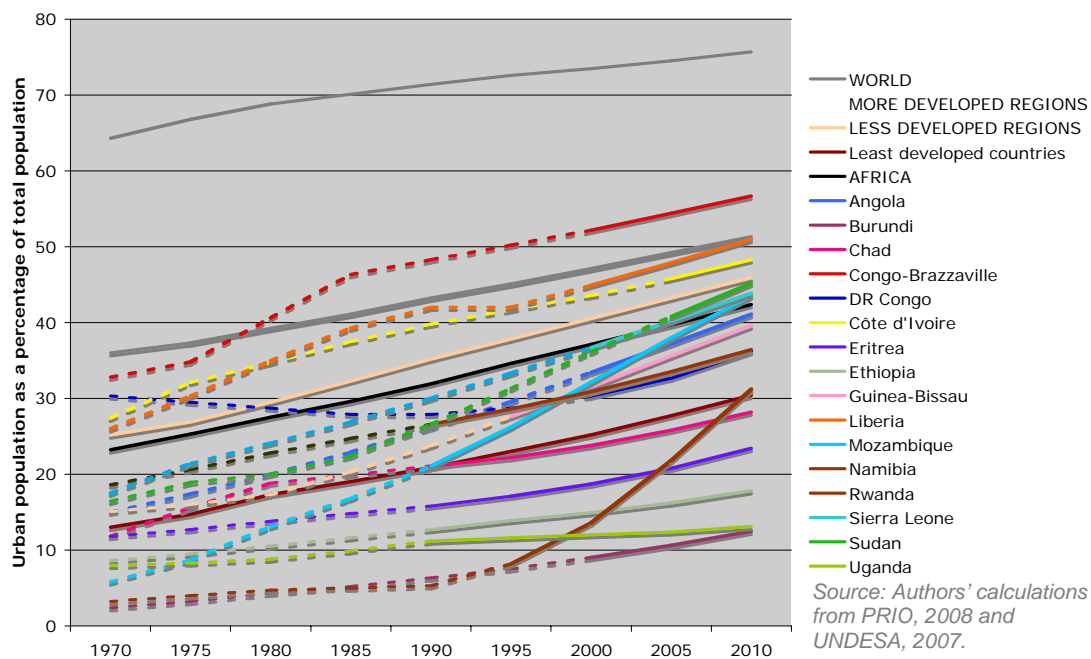
46. **After war, some of these displaced populations return to their places of origin, but many do not, having managed to incorporate themselves into urban economies.** While population data on countries experiencing war is inevitably very imprecise, Figure 18 plots the available data from UN-HABITAT for discussion purposes. If this data can be trusted (see paragraph 3), it shows that the urban populations of war-affected countries continued to rise during war, and in some cases even accelerated further afterwards (notably Rwanda, Mozambique, DR Congo and Eritrea). Furthermore, history shows that urban areas *outside* the countries experiencing war can be the destinations of large population movements, as refugees shelter from violence in towns the other side of a national border. However, when a more rigorous investigation has been undertaken, in comparison with countries not experiencing war and also controlling for other variables, it was found that war on aggregate *slows* a country's urbanization rate⁹⁰. This result may be true at the macro scale, even if large populations are moving between cities and from rural areas to cities (see Box 1).

⁸⁸ Several different typologies of war-affected cities have been attempted: for example, as hubs, arenas and prey (Esser, 2004); or 'assailed' (to destroy or punish the enemy), 'besieged' (to prompt psychological defeat while economising on forces and resources), 'bombarded' (to dissuade the adversary from entering into, or pursuing, conflict), 'held hostage' (to hold the city without destroying it in order to negotiate or control new territory), or as arenas for insurgency from within (e.g. urban terrorism, guerrilla warfare)—(Dufour, 2002; Dessimoz & Levron, 2004a: 39-51; CSRC, 2006: 18). Cities may also serve as the arenas for warfare designed to be most visible to the outside world; in Somalia, for example, militias sought to bolster their numbers in Mogadishu in order that their strength might be observed by the international community (including aid donors): whoever controls the capital city is perceived as the legitimate representative of the Somali state and receives international support (Marchal, 2006: 214, 215).

⁸⁹ Secondary sources in UN-HABITAT, 2006: 135. This preference for urban areas is particularly surprising in a country where only 40 percent of the total population normally reside in urban areas.

⁹⁰ Fay & Opal, 2000: 19.

Figure 18 : Urban/Rural Population Before and During war [dotted lines], and after war [solid lines]



Box 1 : Cities during and after war – anecdotal evidence

- In Sierra Leone, many of the country's ex-combatant youth, together with those who worked in support of combatants, did not return to their villages after war. Even though many had not yet found sustainable sources of income, they may have preferred life in urban centers, and they often also feared retribution on return to their home villages in rural areas^a.
- In Mogadishu, similarly, the relative anonymity afforded by its urban environment has been an effective survival strategy in the face of clan-based threats in the countryside^b. Many displaced people remain living in camps, while others rent some sort of makeshift shelter, but few have acquired positions of consequence in the market or in politics^c.
- In Uganda, civil war in the north of the country has swollen urban populations so much that Gulu and Lira are now the country's second and third largest urban agglomerations. On the other hand, these displaced populations seem to have stayed in the north rather than migrating to Kampala.
- Rwanda's towns and cities experienced massive growth between the 1991 and 2002 censuses, much of it driven by the civil war. Kigali's population grew at an average of 9 percent per year, and almost all other urban centers grew at 8 to 10 percent a year. This is in a context where Rwanda's overall population was growing at only 1.2 percent from 1991 to 2002^d.
- In Caála, Angola, a significant part of the displaced population installed itself in peri-urban districts of the city once the war ended. This was particularly the case for women and youths who had found the means of survival in taking on commercial activities in the city, widows, the war disabled and families of former UNITA combatants who feared hostile reactions in their regions of origin. Even for those people not able to generate their own income in the city, the city was reportedly the best place to gain access to financial and humanitarian aid from the authorities or from NGOs^e.
- In Abidjan, Cote d'Ivoire, there was a rapid influx of populations escaping the fighting further to the north of the country, but other populations—those deemed not to be 'Ivoirien'—were pushed out owing to officially-encouraged discrimination.

^a ARC et al., cited in Sommers, 2006: 15.

^b Marchal, 2006: 217.

^c Marchal, 2006: 217.

^d Potts, 2006.

^e De Passos, 2004: 125.

47. The ratchet effect of war on the populations of some cities might be aided also by the relative advantages of cities in fostering post-war economic recovery—particularly in terms of security and small-scale service provision.

Post-war cities have often managed to attain relatively good levels of security more quickly than rural areas. That is because state institutions have normally enjoyed a greater continuity during war⁹¹, and because the writ of the state is easier to enforce in confined geographical areas than elsewhere. Those relative advantages for security mean that investors are even more likely than usual to concentrate their investments in cities—especially in each country's largest cities, such as in Luanda, Kinshasa and Abidjan⁹². Furthermore, small-scale private entrepreneurs have emerged after war; indeed of all countries worldwide with small-scale private service providers in water and electricity, around half are in post-conflict countries⁹³. These entrepreneurs have focused their operations particularly in cities, where the spatial concentration of populations renders business easier and less costly.

48. Despite such potential advantages, urban economies face a number of obstacles after war; and these obstacles are somewhat neglected by post-war development programs. With respect to financial capital, households may have fallen into a poverty trap and are unable to rebuild their houses or purchase new equipment for production or commerce⁹⁴. With respect to human capital, many skilled workers are reluctant to return until many years after the end of war (if at all). With respect to physical capital, relief organizations and development agencies have recently been concentrating more on social development in post-war periods than on rebuilding infrastructure⁹⁵. In terms of infrastructure, rates of electricity provision and use in conflict-affected countries are around 75 percent lower in war-affected African countries than elsewhere; there are less than a third as many phone lines per capita; only half as many roads are paved; and a smaller fraction of the population has access to treated water⁹⁶. For example, in Monrovia, Liberia, hand pumps were still the main source of drinking water for several years after the war ended in 2003. It was reported that \$5,000 would have partly rehabilitated the main 36-inch pipe from the treatment plant 15 kilometers away, obviating the need for many tanker trucks⁹⁷, and a further \$12 million would have restored running water to the whole of Monrovia⁹⁸. Telecommunications are one of the few exceptions to this trend: mobile phone companies are typically among the first to invest in conflict-affected areas, often even before ceasefires⁹⁹. In summary, the loss of capital from war is only partially regained after it.

⁹¹ CSRC, 2006: 20-21.

⁹² A forthcoming report (UNDP, forthcoming 2008) deals with these topics in more detail.

⁹³ Schwartz et al., 2004: 7.

⁹⁴ Baldwin-Orero et al., 2007.

⁹⁵ UNDP, forthcoming 2008: see chapter 3.

⁹⁶ World Development Indicators (WDI) calculations in Schwartz et al., 2004: 4. Of course we do not know how much of these infrastructure deficiencies preceded war, and it is possible that war-affected countries are systematically more likely to have such problems (as part of the circumstances which provoke war in the first place).

⁹⁷ Paye-Layleh, 2004.

⁹⁸ IRIN, 2005.

⁹⁹ Bray, 2005: 1, 4.

3. Dynamics of Urban Expansion

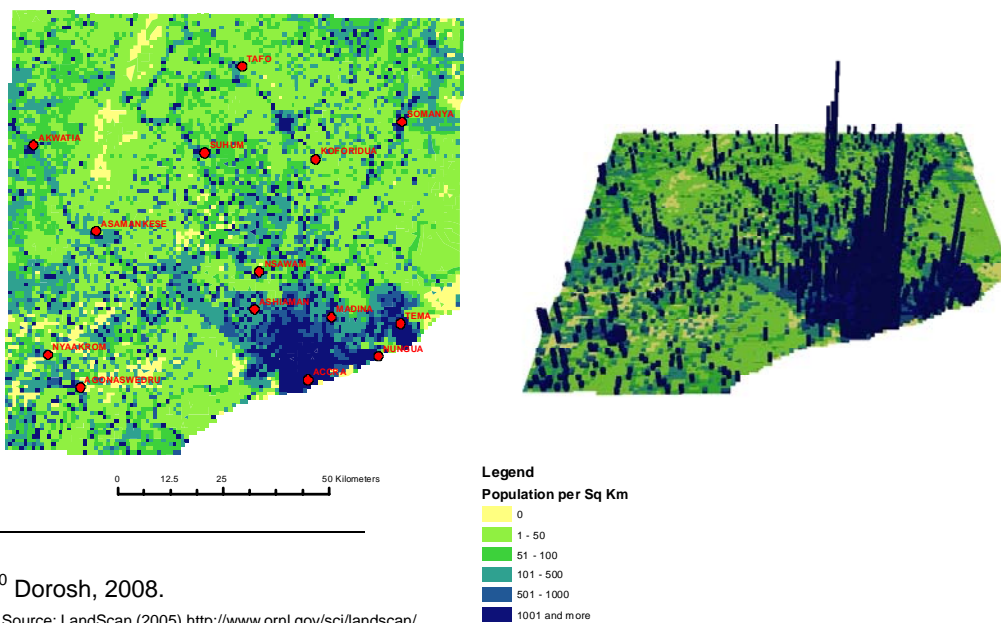
This section explores some of the physical and economic challenges faced by African cities. This may help explain why urban growth in Africa is accompanied by economic growth to a lesser extent than elsewhere. The results imply priorities for policy interventions.

3.1. Spatial Trends: Expansion, Administration, and Slums

Cities are Expanding rather than Densifying

49. Urban growth can be manifested in the densification of cities (growing upwards), and/or in the spatial expansion of cities (growing outwards). So what types of urbanization are being manifested in Africa? **An analysis of city populations and population densities in African cities finds a positive but very weak relationship, where large cities have high densities¹⁰⁰.** This is what urban economics would predict: new urban residents would endure longer commuting distances (and hence lower utility) if they reside only at the outer boundary of the city; so to maintain equilibrium levels of utility, some also reside within the existing boundary and thus increase the city's population density. In seeking to obtain the same utility as those closer to the center, some residents will be attracted towards the center of cities, thereby increasing the density. Meanwhile, population densities will also be influenced by the topography of the city, the efficiency of its urban transportation, the dynamics of its land market amongst other variables—the exclusion of which may explain the weak relationship between city size and population density alone. A fuller discussion of these mechanisms is given later in this report, in a comparison 13 cities. Figure 19 shows an example of the population density profile for Accra in 2005; similar figures for all other cities are provided in Annex 1.

Figure 19 : Population densities in Accra, Ghana

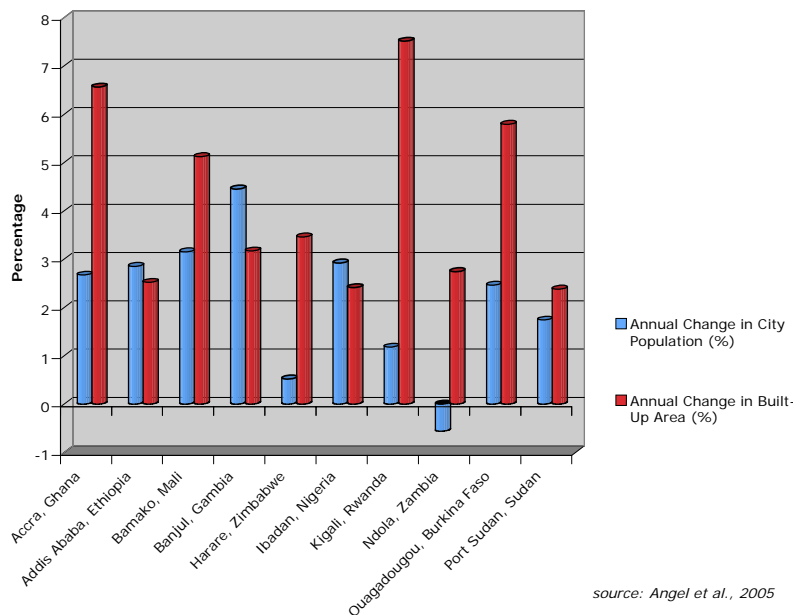


¹⁰⁰ Dorosh, 2008.

Source: LandScan (2005) <http://www.ornl.gov/sci/landscan/>

50. **A sample of Ten African Cities of different sizes and in different regions shows that all cities expanded geographically¹⁰¹. In most cases this spatial expansion was even faster than population growth (i.e. the density of those built up areas actually declined).** For example, in Ghana, Accra's population grew by approximately 48 percent between 1985 and 2000, from 1.9 million to 2.8 million, but its built-up area grew by 158 percent, from 133km² to 344km². In Rwanda, Kigali's population grew by approximately 19 percent between 1984 and 1999, from 297,00 to 354,000, but its built-up area grew by 197 percent, from 15km² to 45km². As shown by Figure 20, there was some degree of heterogeneity in those results, but only in three of those ten cases was the growth in built-up area slower than the growth in population: in Banjul, Addis Ababa and Ibadan. For the former two cases, that pattern is consistent with urban economic theory, which predicts higher densities when cities are geographically constrained (Banjul is on a peninsula, and Addis Ababa is somewhat surrounded by steep hills). If this sample is taken to be representative of the growth patterns for its size and income class, the built-up area of urban Africa would have expanded by 6.1 percent each year between 1990 and 2000, while its urban population expanded by 'only' 2.3 percent each year¹⁰². This represents an annual decline of 3.5 percent in the density of African cities, and compares with an annual decline of 2.5 percent in low income countries generally, and 3.2 percent in lower-middle income countries¹⁰³.

Figure 20 : Falling Population Densities in African cities



51. **There continues to be a debate about the relative merits of high-density versus low-density cities.** High-density cities may not suit all population segments, but on the other hand low-density cities require heavier use of private automobiles¹⁰⁴, are

¹⁰¹ See Angel et al., 2005.

¹⁰² Angel et al., 2005: 24, 56. Population figures are derived from national censuses.

¹⁰³ Angel et al., 2005: Table IV-2.

¹⁰⁴ This is because the average distance from a public transit stop to each destination will necessarily be lengthened, and because public transport operators tend to become unprofitable if population densities fall below 30 to 50 persons per hectare—Bertaud, 2004.

less energy efficient through having larger houses and more transport mobility required¹⁰⁵ and, most simply, use up more agricultural land.

52. These figures probably underestimate the area of each city. They are taken from Angel et al., 2005 and were derived using remote-sensing of satellite imagery with a resolution that is finer than the ‘agglomeration index’ discussed above. Thus open spaces such as parks and green spaces—which we probably think of as ‘urban’ insofar as they are located within cities—were excluded by this data¹⁰⁶. For the same reason, peri-urban areas were also undercounted where clusters of houses are interspersed with open space.

53. These trends have been facilitated in African cities by weak enforcement of urban planning, by innovative local transport solutions, and by rising incomes.

We observe two dominant trends of urban expansion in African cities: informal settlements and high-income suburban development. Informal settlements account for most of the spatial expansion of cities—though there is scant research to measure exactly what that proportion has been, and how it is changing over time. Those settlements are constructed without official planning permission, often as a response to high costs in the formal land market or constraints on the formal supply of land. They are facilitated also by local transport solutions, such as the large fleets of privately-owned minibuses which serve as public transport in African cities, and which can cope with lower-density settlements than can conventional bus networks. Meanwhile, low-density urban expansion also reflects the preferences of higher-income urban residents to move into suburban developments, which in some African cities reflect a desire more land and less pollution or crime. In view of this latter component, the spatial expansion of African cities can presumably be expected to continue as incomes rise, with progressively more of that expansion constituted by low-density ‘urban sprawl’¹⁰⁷.

Spatial Expansion can Exceed the Administrative Boundaries of a City

54. Administrative boundaries are not always a meaningful description of a city’s real size. For example, the administrative area of Kigali city covers 349 square km¹⁰⁸, and encompasses the whole built-up area of the city. By contrast, the size of Accra’s metropolitan area is only 200 square km¹⁰⁹—but its built-up area has expanded far outside that boundary¹¹⁰. Annex 1 shows that spatial expansion is occurring beyond administrative boundaries in the following cities: Accra, Ghana; Bamako, Mali; Dar es Salaam, Tanzania; Kampala, Uganda; Kinshasa, DR Congo; Lagos, Nigeria; and Maputo, Mozambique. Figure 21 shows an example of this analysis. In some cases—such as Bamako, Mali—administrative boundaries are being expanded over time; but this is not the case for all cities.

¹⁰⁵ Newman & Kenworthy, 1989 plus subsequent literature.

¹⁰⁶ Angel et al., 2005: 57.

¹⁰⁷ See Angel et al., 2005: 81-87 for a more comprehensive attempt to model the dynamics of urban expansion.

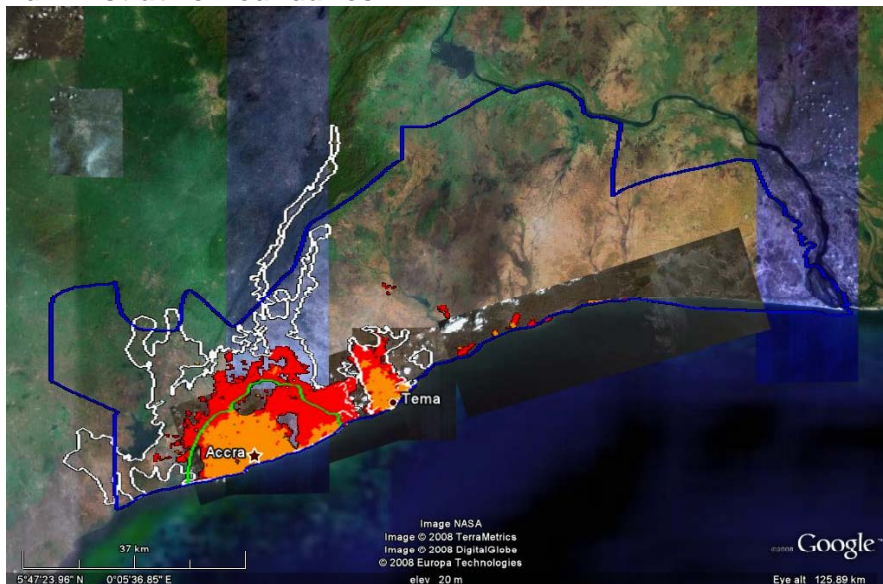
¹⁰⁸ <http://www.kigalicity.gov.rw/spip.php?article117>

¹⁰⁹ <http://www.ama.ghanadistricts.gov.gh/>

¹¹⁰ It should however be noted that Accra’s spatial expansion still remains within the larger ‘Greater Accra’ administrative boundary.

55. Urban areas outside administrative boundaries will often have a peri-urban character. ‘Peri-urban’ means peripherally-urban, and indicates not only the geographical position of these places, but also their economic and social character. Peri-urban areas often have a combination of urban characteristics (e.g. high population densities, integration in urban economies) and rural characteristics (e.g. reliance on agriculture, limited service delivery). Such areas often also have functional linkages with both urban and rural areas; for example, they may act as a kind of membrane at the edge of urban areas, with markets on which agricultural goods arrive and are distributed to the rest of the urban area. However, being outside legal urban boundaries, land rights and tenure status can also become yet more uncertain; and urban services are even less likely to be provided. Many households will rely partly on food they themselves grow on plots near their shelters or elsewhere cultivated during the rainy season¹¹¹. Clearly such areas fall somewhat outside the usual ‘urban’ and ‘rural’ dichotomy. But, according to the rationale given the first sections of this document, peri-urban areas should justifiably be counted as urban if they are proximate to an urban center and have population densities of 150 persons per square kilometer or higher¹¹².

Figure 21 : Accra, like Many Large African cities, has Expanded Beyond its Administrative Boundaries



Sources:
Built-up areas in 1990 (yellow) and 2000 (red), as detected by remote sensing—Angel et al., 2005.
Built-up area in 2008 (white line), as observed from aerial photography—Authors’ manual analysis.
Greater Accra admin area (blue line) & Accra Metropolitan area (green line)—maplibrary.com.
Background imagery—GoogleEarth and embedded sources.

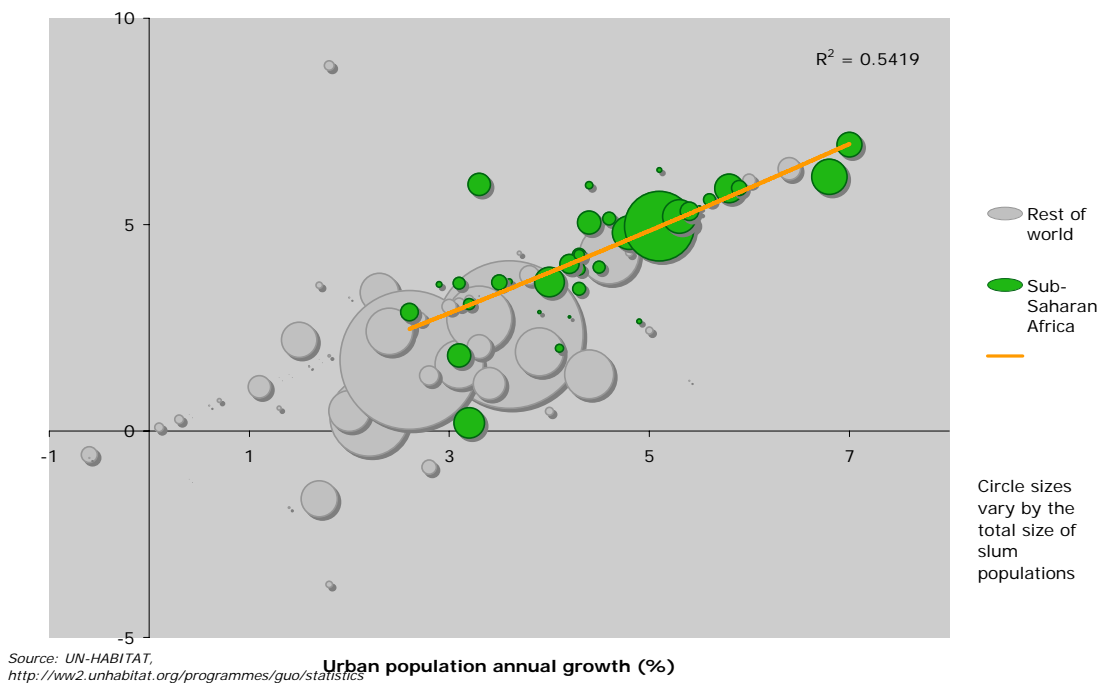
¹¹¹ This phenomenon has been documented in Nairobi, Lusaka, Dar Es Salaam, and elsewhere—see Hardoy & Satterthwaite, 1989: 256-7.

¹¹² This approach is shared also by the Bank’s ESW study on Tanzania—Glasser, Raich et al., 2008.

Urban Growth is Predominantly Slum Growth

56. **Over the next twenty years, if current trends continue, 208 million of the 290 million additional African urban dwellers will be living in slums.** Between 1990 and 2001, when Africa's urban population grew by 66 percent in the 43 African countries for which data is available, it is estimated that 72 percent of those new urban residents were slum-dwellers. If that proportion remains constant, 208 million of the expected 290 million additional African urban dwellers in the next twenty years will be living in slums¹¹³. Figure 22 shows that Africa is not particularly unusual in this trend: it shares the same relationship as the rest of the world, whereby faster urban growth means faster slum growth. But since African urban areas are growing at some of the fastest rates in the world, slums are also growing at the fastest rates in the world. That relationship is not surprising: in particular, the provision of sufficient service infrastructure becomes more of a challenge where urban growth occurs at faster rates.

Figure 22 : Faster Urban Growth has meant Faster Slum Growth, 1990 to 2001



57. **It seems likely that slum upgrading policies will not be enough—even if they are implemented ‘at scale’. Slums will continue to grow unless some key interventions are undertaken.** Slums are growing because of continued poverty in African economies, but also because urban spatial growth is not being effectively planned. A survey of slum residents in three peri-urban settlements in Dar es Salaam asked “which services do you miss most?” The survey found that roads and water

¹¹³ These figures are estimates, using definitions of ‘urban’ which vary between countries; but they do give an idea of the magnitude of urban growth. An alternative model for forecasting urban growth has been suggested by Bocquier, 2005, which would revise downwards the expected growth of urban Africa by around 25 percent. That would suggest 218 million additional urban Africans in the same time period; and if slum residents account for 72 percent of those, that means 157 million extra Africans living in slums.

scored highest by far: they were each the first priority of around 40 percent of respondents, and the second priority of 25 to 35 percent of respondents¹¹⁴. An indication of the importance of accessibility for slum residents is given by their locations—frequently amongst formal housing and as close to the city center as possible—wherever possible within reach of marketplaces, industrial zones, office districts, formal housing, and other locations for livelihoods opportunities¹¹⁵. When slums have been relocated, those livelihoods opportunities have sometimes been lost simply because they incur journeys which are too long or expensive¹¹⁶. All these results put an emphasis on questions of urban spatial planning, particularly in planning roads and other infrastructure, and facilitating transport corridors.

3.2. Infrastructure and Services are Hindering Economic Growth

58. This section surveys the provision of infrastructure and services in African cities. The analysis is rendered more difficult by incomplete data, but for each section below, we present what data is available and give a caveat about its shortcomings. The Bank's Africa Technical Urban Department is currently working to gather more data for Ghana, Kenya, Tanzania, Mali, and other countries where it has or is producing an ESW.

59. The impact of deficient utility infrastructure and services has been emphasized by surveys of 1,800 firms in eight countries in sub-Saharan Africa. These surveys found that weaker performers tend to be those where indirect costs account for 20 percent or more of total costs¹¹⁷. 'Indirect costs' mean the cost of energy (which accounts for approximately one-third of indirect costs), transport (around 5 to 15 percent of indirect costs), land costs (5 to 10 percent), telecomms and security (2 to 8 percent) and water (2 percent)¹¹⁸. These high costs shares mean that even firms that are highly productive on the factory floor may be rendered uncompetitive. For instance, the ratio of gross value added to 'net value-added' (i.e. gross value added minus indirect costs) is 1.25 to 1.43 for Uganda, Senegal—similar to China, India or

¹¹⁴ Presentation accompanying Kreibich, 2007. These results may not be universal, however. Another survey in Nairobi (World Bank 2006), asked slum residents to identify their top four development priorities: the results were focused on sanitation (24 percent), water supply (19 percent), health clinics and services (13 percent) and electricity (12 percent). Infrastructure is clearly still very important, but the spatial dimension is clearly absent here.

¹¹⁵ For a set of case studies of slums in various African cities, see http://www.ucl.ac.uk/dpu-projects/Global_Report/home.htm

¹¹⁶ This builds on 'spatial mismatch' literature, which shows how the geographic dislocation of housing from jobs can have significant consequences for earning opportunities. See Kain, 1968; and much subsequent case study literature. For an example from South Africa, see Rospabe & Selod, 2006, which found that higher average commuting distance amongst employed workers did significantly increase the probability of being employed.

¹¹⁷ Eifert et al., 2007. Indeed, these estimates of indirect costs may be conservative, since transport costs on inbound raw materials are often absorbed in the price of materials rather than explicitly counted as transport costs. Stronger performers, meanwhile, incurred indirect costs of 15 percent or less of total costs.

¹¹⁸ Eifert et al., 2007: 14-16. Given that such indirect inputs are relatively and absolutely more expensive than other factors of production in Africa, their high cost shares in total costs will not simply be because African firms are substituting into indirect inputs during production: they must reflect a competitive burden on firms.

Morocco; but it is 1.43 to 1.67 for Kenya, Nigeria and Eritrea, 2.17 for Ethiopia, and as high as 4.76 for Zambia¹¹⁹. This means that productivity measures based on gross value added alone will be inaccurate by a factor of between 1.25 and 4.76 for African countries, and hence will miss the economic impact on firms of poor infrastructure and services.

Transportation and Logistics

60. Urban transportation infrastructure and service provision is often deficient and expensive. We focus particularly on transportation infrastructure and services *between* urban centers: there is growing evidence of the extent to which this is impeding urban economies¹²⁰. For example, a study by UNCTAD indicates that freight costs amounted to 13 percent of total import value in Africa in 2000, compared to an average of 8.8 percent for all developing countries and 5.2 percent for developed countries¹²¹. What explains these high costs?

61. African countries vary greatly in their provision of paved roads. Figure 23 shows a map of major African roads, colour-coded by type of roads surface. This data is relatively new and was produced by the World Bank for its Africa Infrastructure Country Diagnostic (AICD)¹²². One clear pattern is that coastal Africa is much better provisioned with surfaced roads—though this is perhaps what one would expect given that populations and economic production are also clustered near the coasts. If one compares this map with earlier maps of population densities, it is striking that clusters of population coincide geographically with clusters of paved roads. The population agglomerations we identified earlier—coastal West Africa, the Great Lakes region, and south-eastern Africa—are relatively well served with paved roads. While there are some exceptions to this pattern—for example, the route from Conakry (Guinea) through Freetown (Sierra Leone) to Monrovia (Liberia) is particularly badly served—the main gaps in roads provision mainly affect landlocked African cities: not only are they distant from many African and international markets, that distance is magnified by bad roads which make travel even more difficult and increase costs.

62. The same map also shows clearly that data on ‘Percentage of paved roads’, which is often used to compare countries’ roads provision, is misleading. For example, according to that dataset¹²³, Sudan is classified as having 36 percent of its roads paved—indeed that is the highest proportion in mainland sub-Saharan Africa; yet when the data are examined on this map, that percentage seems far too high. South Africa, by contrast, which is apparently woven with paved roads, only registers 20

¹¹⁹ Eifert et al., 2007: 20-21.

¹²⁰ An analysis of transportation infrastructure and services within urban centers is available elsewhere: see, for example, World Bank, 2002.

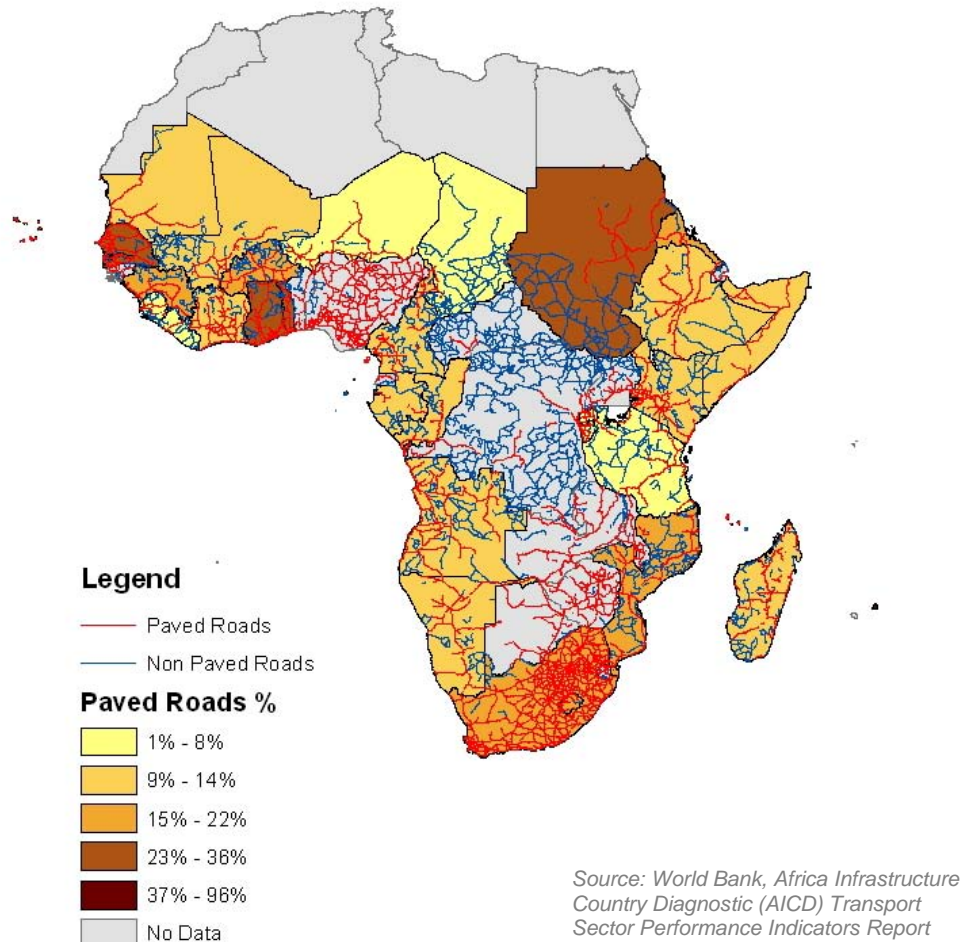
¹²¹ As cited in Broadman, 2007: 257.

¹²² Road-surfacing was assigned manually for each road, using data from Michelin maps and other sources.

¹²³ That data is taken from World Development Indicators—for which the most complete year is 1999.

percent in the same dataset, presumably because of a far greater number of rural tracks counted as roads in that country¹²⁴.

Figure 23 : Paved & Unpaved Roads, and the Inaccuracy of Standard Cross-Country Data



63. But good transportation infrastructure requires good institutions too.

Physical infrastructure accounts for nearly half of the transport cost penalty borne by intra-African trade¹²⁵. But what about the other half? As an overall indicator of logistics performance, we turn to the Logistics Performance Index, which was developed by the World Bank¹²⁶. It combines survey data on logistics infrastructure, competence of logistics operators, domestic logistics costs including transportation and warehousing, timeliness of shipments, ability to track and trace shipments, and efficiency of customs & border clearance. These data were collected by surveying transport operators, including

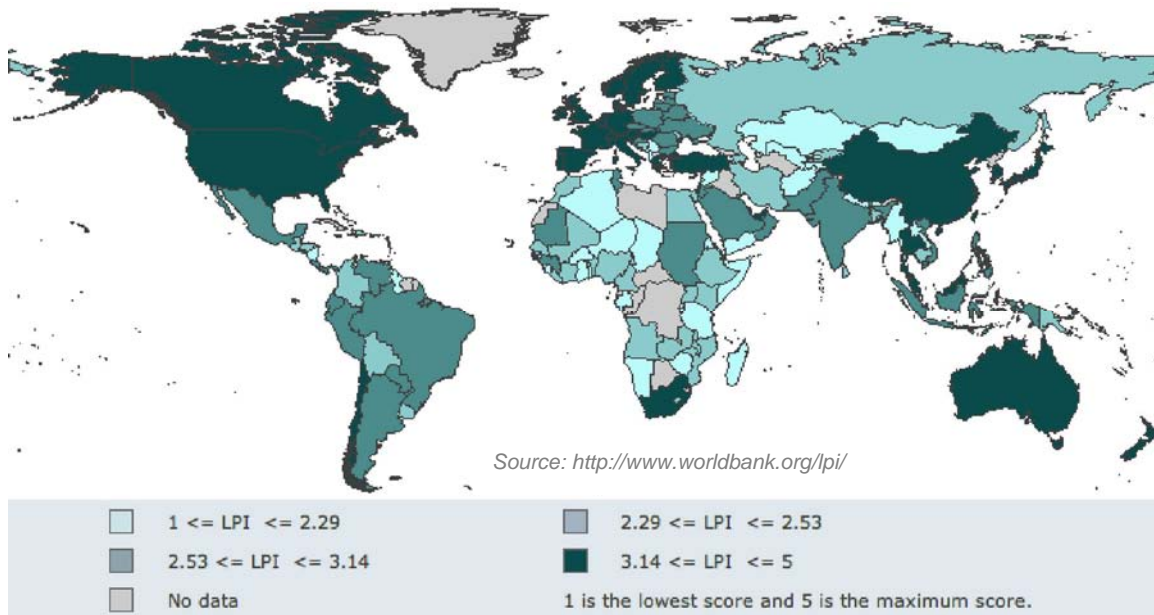
¹²⁴ Data availability is being greatly improved through the Bank's Sub-Saharan Africa Transport Policy Program. See <http://go.worldbank.org/NWMEF2ISFO>

¹²⁵ Limao & Venables, 2001: 467. 'Infrastructure' in that study was an index calculated from four physical infrastructure variables: road network density, paved road network density, rail network density, and the number of telephone main lines per person.

¹²⁶ See <http://www.worldbank.org/lpi/>

international operators, for their opinions on each of seven logistics measures, and then averaging those measures for each country to give a single score. Figure 24 shows this index plotted on a world map, indicating clear deficiencies in almost all of Africa. Within mainland sub-Saharan Africa, the top ten countries were South Africa, Guinea, Sudan, Mauritania, Kenya, The Gambia, Uganda, Cameroon, Angola and Benin. If only infrastructure and domestic transportation costs are taken into account, Chad, Togo, Lesotho, Liberia and Madagascar would replace some of those countries, but they slip down the table once regulatory burdens, professional competence and institutional sophistication are taken into account. In any case, of 150 countries surveyed worldwide, South Africa is the only African country to appear even in the top 50.

Figure 24 : Logistics Performance -- How does Africa Match Up?



64. Border costs, customs and police checkpoints impose further obstacles to inter-urban trade. Indeed, they contribute to a situation where Africa's urban agglomerations are far more fragmented in reality than they appear on a map. Figure 25, below, shows the results of a study funded by USAID of the time and money costs of police, customs and other checkpoints in West Africa. It uses data collected by real truckers with proper documentation and roadworthy vehicles, who logged the time and money they spent at such checkpoints. For example, on the Ghanaian stretch of the road from Ouagadougou (Burkina Faso) to Accra (Ghana), there were 1.5 checkpoints every 100 kilometers; drivers paid \$3 every 100 kilometers in bribes, and were delayed by 50 minutes every 100 kilometers. The same map also gives an impression of the very high number of checkpoints along the road from Lagos to Accra. Thus although we identified that stretch of high population density as being one of Africa's large urban agglomerations in Figure 1, in reality the transport of people and goods between Lagos, Cotonou, Lomé and Accra is impeded. Anecdotal evidence from other parts of Africa is given in Box 2. Thus perhaps the only part of Africa which has really achieved the fluidity of movement one would expect from an urban agglomeration of the nature observed in East Asia or Latin America is Gauteng province in South Africa. On the other hand, we do not yet have enough evidence to know whether

Africa's urban industries are yet sophisticated enough to require inter-urban trade and linkages in order to grow further¹²⁷.

Figure 25 : Checkpoints, Borders and Delays in West Africa



Source: Map is available from http://www.watradehub.com/index.php?option=com_content&task=view&id=727
 This data was collected between 2006 and 2007.

65. Landlocked countries endure the highest burden of transport costs: their transport costs are estimated to be 55 percent higher than countries with coastlines¹²⁸. In Uganda, for example, transport costs are estimated to account for 35 percent of the price of exports; that proportion is even higher for other Great Lakes countries¹²⁹. Border costs and delays are one reason why these transport costs become so elevated: World Bank studies have found that the costs per ton-km between Rwanda and Mombasa are twice those between Nairobi and Mombasa¹³⁰.

¹²⁷ cf. World Bank, 2008, particularly its argument that spatial distance and divisions become constraints on growth only once an intermediate level of development has been achieved.

¹²⁸ This statistic is taken from Limao & Venables, 2001: Table 4, and indicates the penalty of being landlocked for a country with a median quality of infrastructure, shipping through a coastal country also with a median quality of infrastructure.

¹²⁹ Broadman, 2007: Box 5.8.

¹³⁰ Broadman, 2007: Box 5.8.

Box 2 : Transport between African cities

In Central Africa, a loaded truck travelling from Bangui in the Central African Republic to Douala in Cameroon pays about \$580 at local barricades *en route*, while roadblocks and border controls add four to seven days to a three-day journey time¹³¹. A Chinese firm investing in South Africa found that sending products from Angola to South Africa is as expensive as shipping them to China¹³². In Cote d'Ivoire, four years into supposed peace, truckers report the leaching of money and time to rebels and government roadblocks on their delivery routes¹³³; foot passengers may be detained, delayed, harassed or face extortion; goods may be seized, papers may be confiscated, and a person might be pressed to give between \$1 and \$10 of a \$30 monthly income to regain freedom of movement¹³⁴. While the armed personnel—whether government soldiers or other militias—manning such roadblocks often claim they are indispensable to security, they are usually simply a racket for extortion¹³⁵.

“This racket contributes to...the impoverishment of already destitute populations. These barriers to the free movement of people and goods... slow down our economy and stifle trade within the country”—Jean-Louis Billion, President of the Ivorian Chamber of Commerce¹³⁶.

In Somalia, the removal of roadblocks during periods of relative stability has prompted noticeable reductions in the prices of everyday goods, which previously were inflated by the cost of bribes paid to gunmen on the roads¹³⁷.

66. This situation has some clear policy implications. A recent study by World Bank researchers estimates that a network of primary roads which connects all sub-Saharan capitals and other cities with populations over 500,000 would expand trade by about \$250 billion over 15 years¹³⁸. That road network would require an investment of \$20 billion for initial upgrading and \$1 billion annually for maintenance, and would need to be accompanied by reforms to checkpoints, roadblocks and customs controls. However, even if an Africa-wide road network cannot be achieved in the near future, early gains could be achieved by improving links within particular African regions—particularly in joining landlocked cities and countries to ports on the coast. Improving the quality of infrastructure in a landlocked country can substantially cut its transport cost penalty over coastal countries. Improving infrastructure from a 75th percentile level (i.e. substandard) to a median (i.e. standard) level cuts the transport cost penalty of being landlocked from 74 percent to 55 percent¹³⁹. Further improvements in the landlocked country from a standard quality of infrastructure to a 25th percentile (i.e. superior) level can cut the cost penalty more, from 55 percent to 41 percent. If the coastal country also improves its infrastructure from a standard level to a 25th percentile level, the cost

¹³¹ African Development Bank, 2003.

¹³² Broadman, 2007: 25.

¹³³ Polgreen, 2007: 22.

¹³⁴ Refugees International, 2007.

¹³⁵ Somalia provides a rare example of beneficial checkpoints: one of the governments set up checkpoints accompanied by hundreds of armed men and pickup trucks mounted with anti-aircraft guns, and began collecting taxes (around US\$4,000 each day) from passing trucks, who seemed glad of the centralised collection and the security provided in return—Crawley, 2001.

¹³⁶ IRIN, 2007.

¹³⁷ Hassan, 2007.

¹³⁸ Buys, Deichmann & Wheeler, 2006.

¹³⁹ Limao & Venables, 2001: Table 4. These statistics estimate the reduction in cost penalty if infrastructure in each country is improved from a median level in an international sample to a 25th percentile level in that same sample.

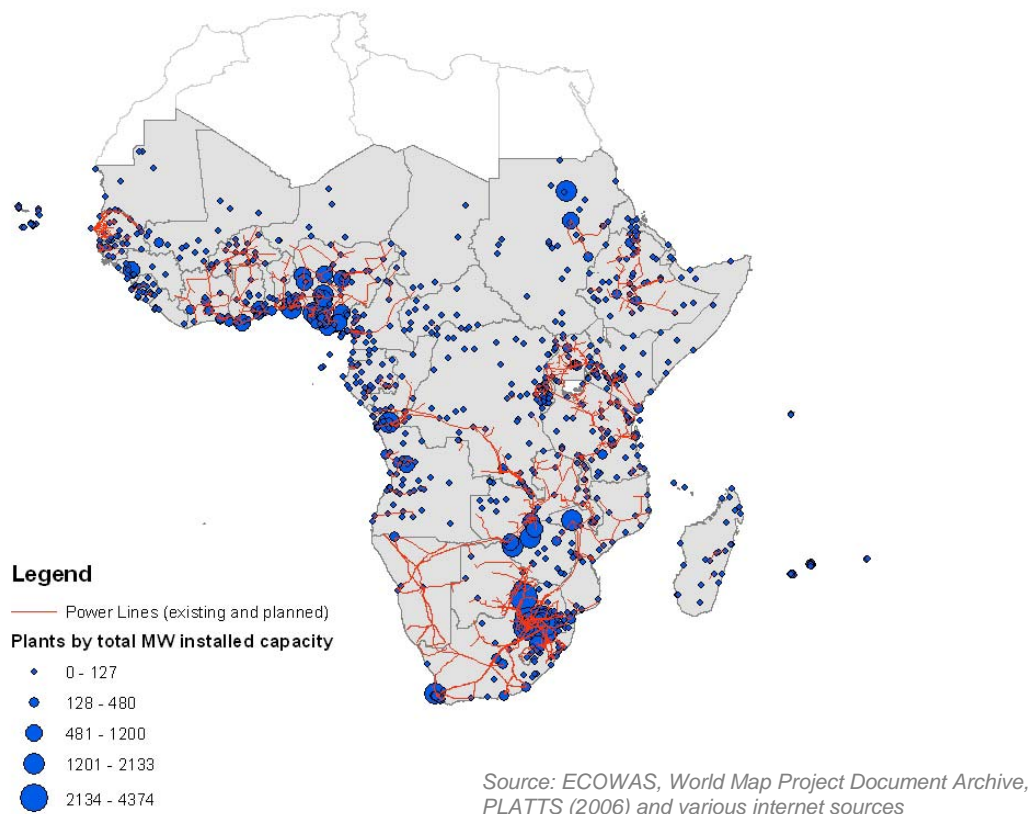
penalty can be cut again, so that transport costs to/from landlocked countries would be 33 percent more expensive than to/from coastal countries¹⁴⁰.

Electricity Coverage

67. Figure 26 shows a map of electricity generation capacity and distribution in Africa. It is evident that countries vary in their electricity generation strategies, with some having constructed power transmission lines across long distances, and others having aimed to save on this expense by building their generation capacity close to demand. Sometimes those strategies are chosen also for political reasons, as in DR Congo, where President Mobutu aimed to render the separatist Katanga province dependent on Kinshasa for electricity: the power transmission lines stretching thousands of kilometers across the country are clearly evident on this map.

68. **Further analysis is required to know whether electricity generation and transmission are sufficient for demand.** Some strong indicators are provided by the enterprise survey data shown in the Annex to this report: electricity is cited as a 'major' or 'severe' constraint to business by far more firms than any other constraint.

Figure 26 : Electricity Generation and Transmission in Africa



¹⁴⁰ Several World Bank projects are currently under development with these objectives in mind—see, for example, Dorosh & Schmidt, 2008.

Telecommunications

69. **Telecommunications are crucial to reducing the cost of moving ideas, and thus are crucial to economic activity and productivity. But in Africa it has been very hard to measure telecommunications standards representatively.** For example, telecommunications indicators in the Bank's WDR 2009 use the official cost of foreign calls, the size of official international voice traffic and the size of international internet bandwidth. However, the first two measures do not take into account the use of voice-over internet protocols (VOIP) or unofficial routings of calls via third-countries, which are relatively common in Africa and can greatly reduce the cost of international calls from many countries. Meanwhile the measure of internet bandwidth shows capacity rather than usage; but the most important question is whether bandwidth is sufficient for demand.

70. **For these reasons, we do not show this data here, and instead draw attention to the need for further research on this topic.** Preliminary research indicates that internet access in Africa carries a relatively high financial cost: the average African price of \$206 for 100 kilobits per month compares rather unfavourably with the world price of \$77. Indeed African prices for broadband internet service are around three times those in Asia¹⁴¹. That situation does appear to be changing, as broadband coverage and prices improve. And meanwhile the rapid and broad expansion of cellular telephone networks and users has been a real success story¹⁴², with likely positive impacts on African economies. A previous study found that 10 additional phones for every 100 people increased the annual rate of GDP growth by 0.6 percentage points¹⁴³.

3.3. Summary of Case Studies of 13 Cities

71. **This section provides an overview of recent trends and current situations in 13 cities: Accra, Addis Ababa, Bamako, Dakar, Dar es Salaam, Gaborone, Gauteng, Kigali, Kinshasa, Kampala, Lagos, Maputo and Ougagadougou.** These cities are drawn from Southern, Eastern, Western and Central Africa¹⁴⁴. The full case studies of each city are contained in an Annex to this document.

72. For each city—subject to data availability—we show four trends: (i) spatial extent (and if possible recent spatial expansion), (ii) population density, (iii) constraints on economic activity, and (iv) welfare indicators. The spatial extent was derived manually from aerial photography¹⁴⁵, and where possible was superimposed with data on spatial expansion, with the yellow areas showing the extent of the built-up area in the first time period (usually the year 1990) and the red areas showing the expansion in built-up area which occurred between that time period and a second time period (usually the year

¹⁴¹ International Telecommunications Union data, as reported in Eifert et al., 2007: 18.

¹⁴² Banerjee et al., 2007.

¹⁴³ Waverman et al., 2005.

¹⁴⁴ All are the largest cities within their respective countries; subsequent analysis will focus on smaller cities.

¹⁴⁵ One member of this report team traced by hand the outer extent of settlement.

2000)¹⁴⁶. The population density figures use Landsat data from 2005, for a standardized area measuring 100 kilometers by 100 kilometers for each city. The constraints on economic activity are graphed using the most recent IFC Enterprise Survey for each country. The welfare indicators are presented using data from the Demographic and Health Surveys (DHS) funded by USAID and implemented by Macro International¹⁴⁷.

Spatial and Demographic Profile

73. Population density varies greatly and is determined by topography, transport and total population. According to urban economic theory, population density is one of the variables through which land markets reach an equilibrium. Densities will tend to be lower towards the edge of cities, where land rents are lower per square meter because of the greater commuting distance to central business districts. The relationship between density, price and location will also be mediated by topography, transport and total population. First, topography (such as hills, coastlines or swamps) constrains the buildable area of a city and therefore encourages higher-density living¹⁴⁸. Second, poor transportation leads to longer commuting times; residents will respond by living closer to their workplaces at higher densities. Third, increased urban population leads to spatial expansion but also to increased densities: new urban dwellers on the outskirts of a city will suffer longer commuting distances than existing urban residents; the land market will find a new equilibrium only when additional residents move towards the city center, generating the same levels of utility in the center as on the outskirts, and meanwhile adding to population densities.

74. These land market dynamics are reflected in our thirteen case studies. While the smaller cities such as Gaborone, Kigali, Ouagadougou and Bamako have predominantly lower densities, these are higher in the case of Kigali because it is constrained by steep hillsides. Larger cities such as Lagos and Kinshasa have higher densities, particularly when they also suffer from poor urban transport. Constrained topography in Dakar, Maputo and Dar es Salaam could help explain why these cities have remarkably high densities for their medium population size.

Economic Profile

75. It is sometimes said that the best thing government can do for entrepreneurs is to avoid getting in their way. In Nairobi, for example, there is a cluster of almost two thousand tinsmiths in Kamukunji district, making a variety of tin trunks, charcoal stoves, security bolts, cooking pots, griddles, bicycle carriers, and wheelbarrows. They have

¹⁴⁶ Those data are taken from Angel et al., 2005 and can be downloaded from Stephen Sheppard's website at Williams College, <http://www.williams.edu/Economics/UrbanGrowth/DataDownloadUpdate.htm>

¹⁴⁷ We use these in preference to the more widely-known UN-HABITAT data, since we believe them to utilise a methodology which gives more accurate, and more fairly comparable, results.

¹⁴⁸ Inhabitants will have to live more densely if they are to avoid greater commuting distances which would result from spilling out further into the scarce buildable land.

become phenomenally successful, but only after the government decided to stop evicting them from land, which they had done once before¹⁴⁹. **But letting businesses and markets work—the laissez-faire approach—only goes so far.** In Mogadishu, Somalia—the country where state capacity is perhaps the weakest of any place in the world—private entrepreneurial activity has been thriving in retail activity, construction, and even telecommunications and electricity supply. Informal institutions for contract enforcement have arisen in place of formal institutions, but they have been less adept at dealing with—for example—cross-ethnic disputes and primary education¹⁵⁰. Governmental support for property rights and a range of basic social services appear to be necessary for urban economies to function well.

76. The IFC’s Enterprise Surveys reveal that basic needs for doing business are not being met. Figure 27 shows the results of all recent enterprise surveys in sub-Saharan Africa, which asked firms to identify their most serious constraint to doing business. A lack of electricity is clearly most often cited as their binding constraint. In Uganda in 2006, for example, where 87 percent of firms considered electricity to be a major or severe constraint on business, electricity is priced at \$0.175 per kWh¹⁵¹, and is not particularly reliable: firms suffer an average of 74 power outages per year¹⁵². Ugandan firms are reportedly willing to pay around \$0.39 per kWh for a reliable electricity supply, since that is how much a lack of electricity costs them¹⁵³. Elsewhere the cost of power outages may be even higher, since firms are choosing to supplement their electricity supply with generators which cost as much as \$0.40 to \$0.60 per kWh¹⁵⁴. In general, African firms are losing as many as 3 to 7 percent of their sales solely due to an unreliable electricity supply¹⁵⁵.

77. The emphasis of firms on electricity, access to finance and other constraints may seem surprising to those who claim that Africa’s main problems lie elsewhere, such as in its relatively unproductive labor. But in fact it appears that lower productivity per worker is in many cases assuaged by lower wages: for example, garment firms in Madagascar, Kenya, Ghana, Mozambique and Lesotho have labor costs which are 40 to 60 percent lower per unit of physical output than their counterparts in Chinese export-processing zones¹⁵⁶. We might therefore infer, from the fact that garment firms in such places have been less successful than those in Chinese export-processing zones, that the constraints on such firms will lie elsewhere. This inference is given credence by the finding that labor costs account for a relatively small share of firms’ total costs (around 20 percent)¹⁵⁷; by contrast, it appears that indirect costs—especially of electricity, transport, telecommunications and other infrastructure—constitute decisive competitive burdens on African firms, as detailed above in paragraph 58.

¹⁴⁹ McCormick, 1998.

¹⁵⁰ Nenova & Harford, 2004; Nenova, 2004.

¹⁵¹ Eifert et al., 2007: fnt xiii. It should be noted that even this rate is subsidised, given that the full costs of electricity—including the expensive thermal generation used in attempts to plug capacity gaps—is \$0.29 per kWh—Gelb et al., 2007: 15.

¹⁵² Eifert et al., 2007: 17.

¹⁵³ Power Planning Associates, cited in Gelb et al., 2007: 15.

¹⁵⁴ Eifert et al., 2007: 17.

¹⁵⁵ Eifert et al., 2007: 17.

¹⁵⁶ Eifert et al., 2007: 9.

¹⁵⁷ Eifert et al., 2007: 10.

Figure 27 : Firms' Concerns in Sub-Saharan Africa

78. Furthermore, the ranking of these constraints appears to depend on level of income: governance problems and labor regulations are cited more often at higher levels of income, but electricity and access to credit are most important at lower levels of income¹⁵⁸. These results are shown in Figure 28 and Figure 29. That pattern is not necessarily because governance, labor regulations, or any of the other low-ranked constraints on Figure 27 are of better quality for low income countries, but simply because the constraints of electricity and access to credit are even more pressing. Moreover, the findings about electricity constraints are robust across different firm sizes¹⁵⁹, and are cited whether or not the firm has purchased an electricity generator to supplement the power supply¹⁶⁰. Firms recognise a constraint even when they can adapt to it—probably because mitigation itself is costly. Finally, the Enterprise Surveys are drawn from firms currently in business, but there are likely to be others which were

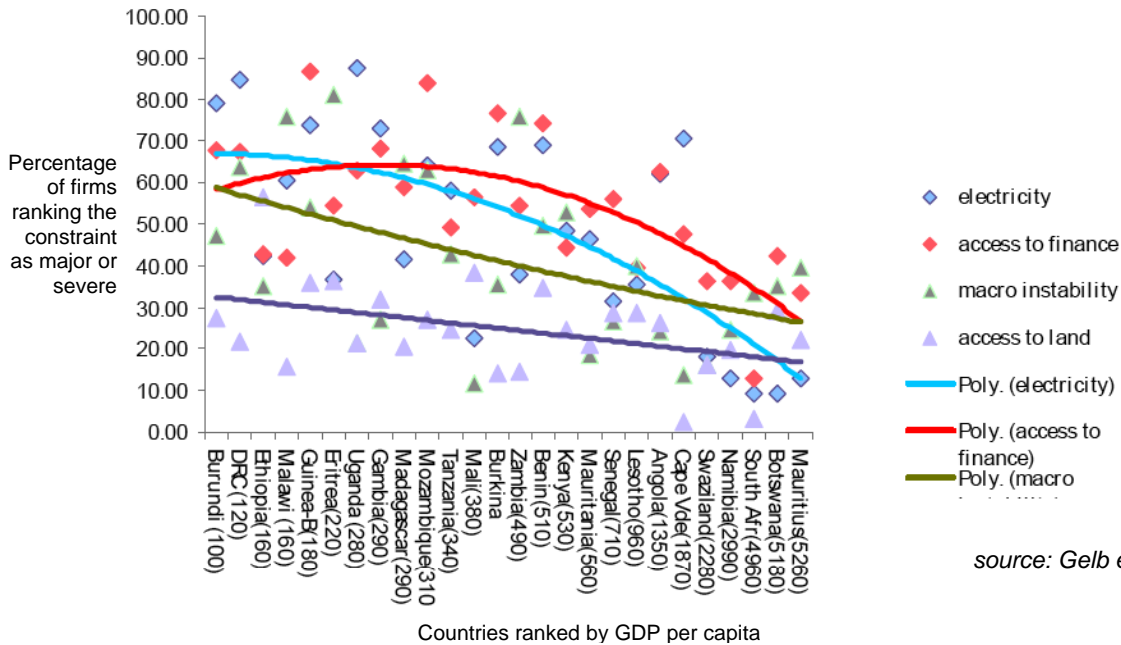
¹⁵⁸ This finding is drawn from Gelb et al., 2007, who perform more detailed analysis of Enterprise Surveys from 2002 to 2006 for 26 countries in Sub-Saharan Africa.

¹⁵⁹ Gelb et al., 2007: 26-27. By contrast, domestic and small firms complain significantly more about access to finance than do large and foreign firms.

¹⁶⁰ Gelb et al., 2007: 30.

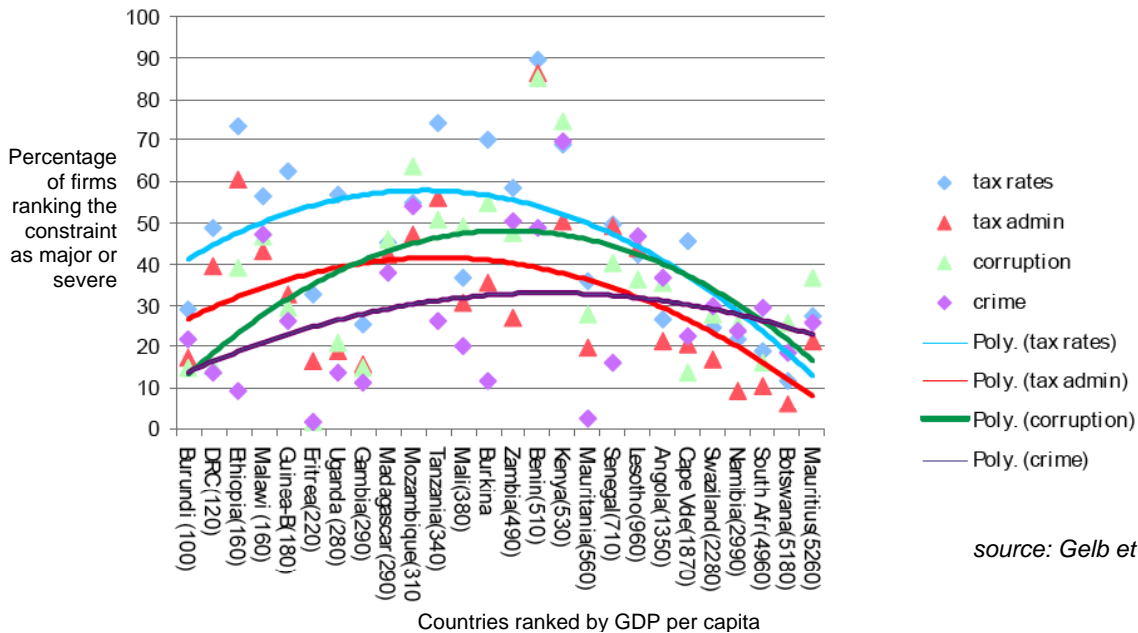
driven out of business or prevented from ever entering the market by the same constraints. We do not have data on these firms, but it is likely that the constraints are even more serious for such firms¹⁶¹.

Figure 28 : Electricity and Access to Finance are Constraints for Many Firms, though Less so for Higher Income African countries



source: Gelb et al., 2007: 14

Figure 29 : Tax Regulations, Corruption and Crime are Constraints which peak in the Middle of Africa's Income Range



source: Gelb et al., 2007: 14

¹⁶¹ Gelb et al., 2007: 31.

79. The value of this survey data is highlighted by comparing these rankings with those from other ratings data such as the *Doing Business* surveys, Kaufmann-Kraay corruption measures and *Institutional Investor*. A comparison shows that there exists a high correlation between rankings in Enterprise Surveys and other datasets for some of the business constraints—including for electricity—but not for those constraints in which the *de facto* situation (as measured by Enterprise Surveys) may differ from the *de jure* environment (as measured by *Doing Business*)¹⁶². That is because, in practice, some firms suffer from much greater power outages or slow customs clearances than others—perhaps depending on their location within the country, but also on their relations with local authorities. Thus, in a quantitative analysis of the Enterprise Survey data which allows for fixed effects by country, we still observe coefficients significantly different from zero on variables measuring the tangible effect of constraints—such as business days lost owing to power outages.

80. The finding that firms' concerns change with rising incomes is complementary to the message of the Bank's *World Development Report 2009*.

The WDR09 shows how economic constraints at different levels of urbanization and income. **Using its analysis, we would expect Africa's economic development to be hindered most by an absence of the basic preconditions for economic activity.** These preconditions, which the WDR09 calls 'spatially-blind institutions' (though 'institutions' in this definition would include electricity), can help all productive activities regardless of location. With those preconditions established, urban economies are much better places to move from 'incipient' urbanization towards 'intermediate' urbanization, where cities attain the market thickness and critical mass to develop agglomeration economies. At that stage, 'spatially connective' infrastructure—such as roads and transport services—will become even more important, since economies will be hindered by 'economic distance' between cities and between firms and workers in the same city. According to the WDR09, only later will 'spatially targeted' policies and incentives to decrease pollution, crime and slums become relevant. In reality, African countries may have urban areas at various different stages of development, each of which require all three types of policies; but WDR09 does provide a framework for prioritising investments for different types of cities.

81. Once electricity, access to finance and other fundamental constraints are lessened, we are likely to see much greater concern amongst African firms for 'spatially connective' infrastructure like roads, telecommunications and transportation. That infrastructure will become crucial to foster the 'agglomeration economies'¹⁶³ on which urban development thrives, since all three agglomeration economies—which can snappily be termed 'sharing' (of infrastructure), 'matching' (of labor and inputs) and 'learning' (knowledge)—depend on ease of movement around the city. The benefits of proximity to workers are lost if they are stuck in traffic jams for half the day. The benefits of similar firms from which one can learn are diminished if it becomes difficult to travel between them. The benefits of nearby factories producing

¹⁶² See Gelb et al., 2007: 17-19.

¹⁶³ These 'agglomeration economies' are like economies of scale—i.e. cost-savings through production on a larger scale—except that they operate externally to each firm. Groups of firms in the same city can save costs on infrastructure (common logistics networks and basic infrastructure should benefit all firms), on labor and other inputs (a large labor pool should entail better matching of workers and intermediate inputs to jobs), and on knowledge (if ideas are more easily transmitted between different firms in close proximity). These agglomeration economies help explain the crucial role of cities in driving economic growth.

useful inputs for your production process are impeded by road congestion. Successful cities thus depend on the movement of people, movement of goods and movement of ideas.

Social Profile

82. **Figure 30 shows welfare charts drawn from the Annex, plus an extra one for Abidjan, thus placing the cities' welfare indicators "head to head".** Clearly not all African cities—even the largest cities in each country—are alike. Gauteng, Addis Ababa, Accra, and Dakar are performing best for welfare indicators (though Dakar falls slightly short on education). Bamako and Ouagadougou have been making substantial improvements, shown in surveys over multiple years. And Kigali (somewhat understandably, given its civil war in the 1990s) has furthest to go. In general, where poor performance occurs, it is very often in households having access to electricity. Households in these cities do in general manage to secure access to some kind of toilet facilities (even if it is a pit latrine) and to piped water (though this is often procured in plastic containers from a standpipe rather than directly to households)¹⁶⁴.

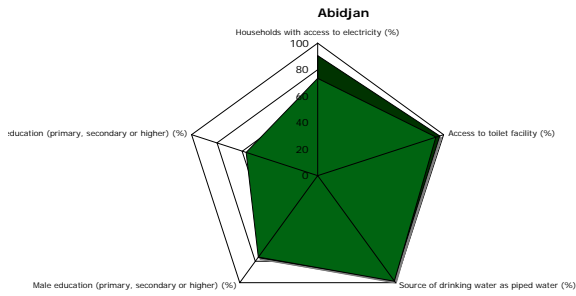
83. **These results may indicate that capital cities are doing rather better than the rest of Africa's urban populations, since urban infrastructure coverage has typically fallen in the last 10 to 15 years.** An analysis of similar household survey data shows that electricity coverage amongst Africa's urban population rose from 66 percent to 69 percent between 1990-95 and 2001-05¹⁶⁵. But most other urban indicators fell in the same time period: access to piped water fell from 41 percent to 28 percent, and access to a flush toilet fell from 29 percent to 22 percent. These differences correspond not only with the smaller size of cities outside the capital city, but also with incomes: the poorest populations are systematically less well served by infrastructure¹⁶⁶.

¹⁶⁴ For an indication of how these indicators compare to other regions of the world, see Baker, 2008: 11-12.

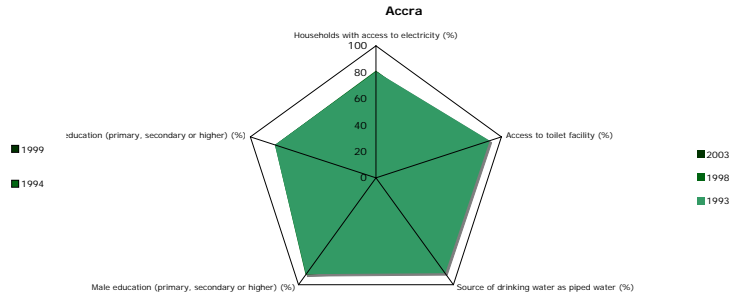
¹⁶⁵ All figures are weighted averages from Banerjee et al., 2007: Annex 2.1, which also gives details of the variation in these patterns between countries.

¹⁶⁶ Banerjee et al., 2007: 30-31.

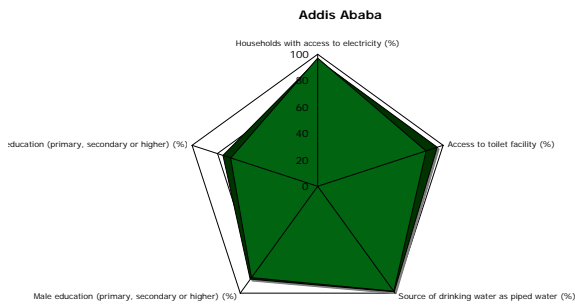
Figure 30 : Welfare Indicators for 12 African cities



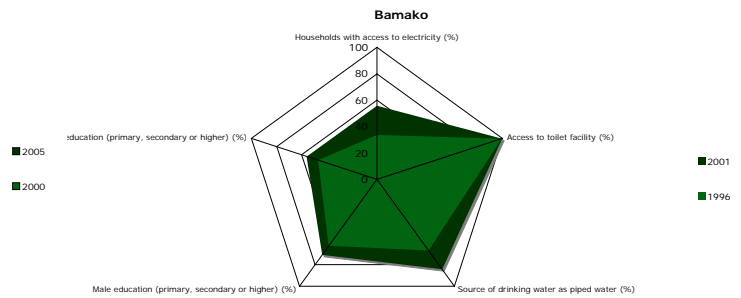
source: Macro International 2008, DHS Surveys



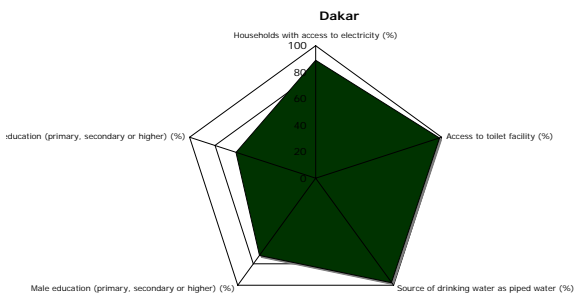
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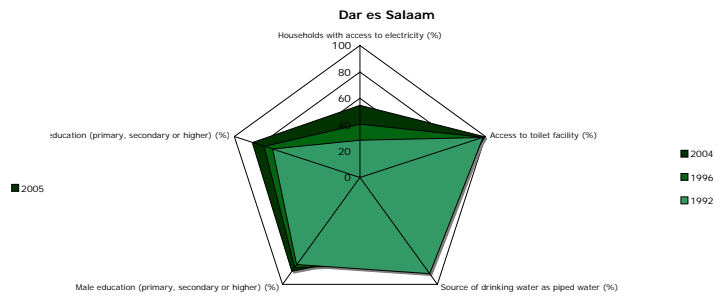
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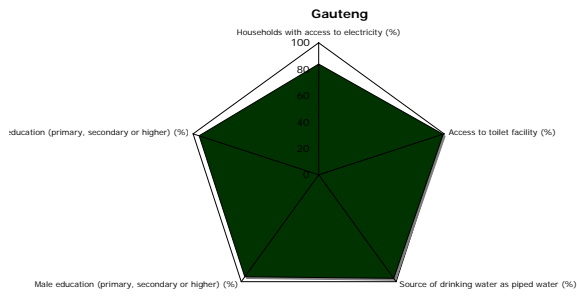
source: Macro International 2008, DHS Surveys



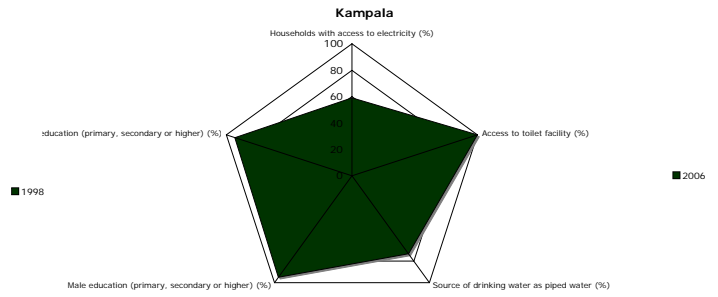
source: Macro International 2008, DHS Surveys



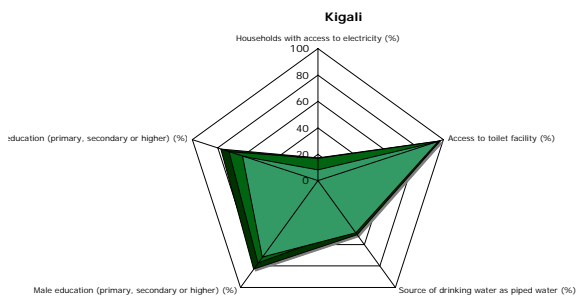
source: Macro International 2008, DHS Surveys



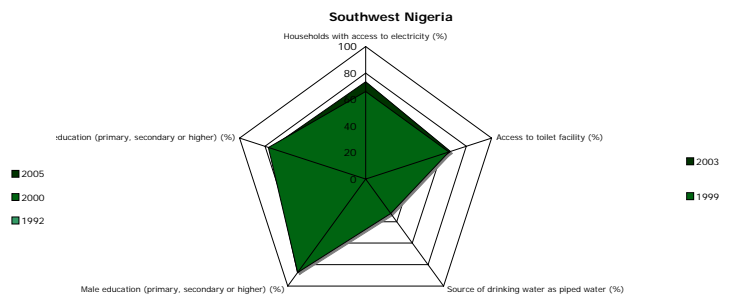
source: Macro International 2008, DHS Surveys



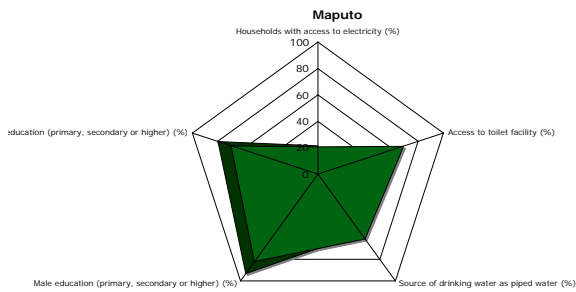
source: Macro International 2008, DHS Surveys



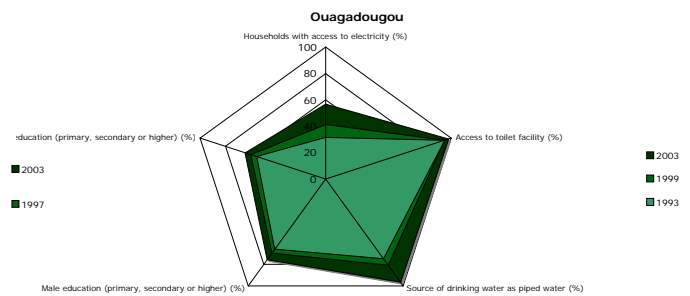
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source: Macro International 2008, DHS Surveys

Further Research

This final section provides three very brief pointers for further work.

84. First, many of the findings in this report will be surprising to policymakers in governments and other institutions. That surprise would be less likely if policies were based more often on the best available **data** and analysis. An excellent example is provided by the *State of the Cities Report*¹⁶⁷ which is published in South Africa, and undertakes a very thorough analysis of South African cities before making policy recommendations.

85. Second, these data deficiencies are particularly severe with respect to an **understanding of urban economies**. For instance, we do not even have reliable estimates of GDP levels or growth in African cities, which would be only the first step in making an analysis of what makes some cities more successful than others. There remains a great need for the development of tools and knowledge which can assist in diagnostic policymaking to support urban economies.

86. Third, given the continued rapid growth of African cities, there is a clear need for policies which can shape the nature of that growth to maximise its benefit for African populations. In the foreword to this document we highlighted the idea of **pre-emptive urban planning**, to mitigate for the most costly impacts of unplanned spatial expansion. The development of that idea should be an urgent priority for continued research work.

¹⁶⁷ SACN, 2004 & 2006.

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