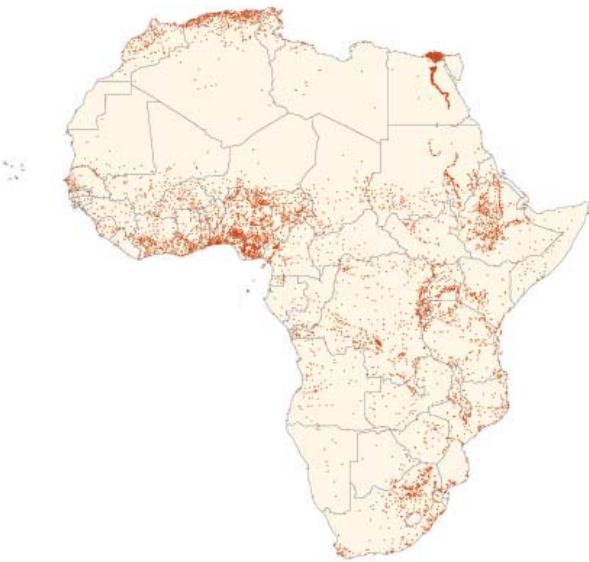


# AFRICAPOLIS: UNDERSTANDING THE DYNAMICS OF URBANIZATION IN AFRICA

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Urban Africa: numerous agglomerations with over 10,000 inhabitants, 2015. OECD/SWAC (2020), *Africa's Urbanisation Dynamics 2020: Africapolis, Mapping a New Urban Geography*, West African Studies, OECD Publishing, Paris, <https://doi.org/10.1787/b6bccb81-en>

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Africa is undergoing unprecedented urbanization. But the dynamics driving this trend are poorly understood for several reasons, including the lack of a common definition of urban, unreliable demographic data, and over-representation of major agglomerations. Africapolis is a database that offers a common definition of urban and an innovative methodology based on cross-referencing satellite images with demographic data. It shows that Africa is far more urban than it appears, with the continent home to hundreds of agglomerations that are not officially recognized. Africapolis also shines a light on the diversity of ways that urbanization manifests itself: the appearance of spontaneous metropolitan regions and mega-agglomerations, the central role of rural transformations in urban growth, the emergence of intermediary agglomerations, and inland urbanization that creates a new balance in terms of the importance accorded to coastal cities. Lack of official recognition for numerous agglomerations is the source of major imbalances in terms of visibility, resources and capacities allocated by central governments. The work conducted by Africapolis helps policymakers better understand the realities of their territory and harness the potential of the continent's urban dynamics.

## INTRODUCTION

Between 1950 and 2015, Africa's urban population rose from 27 million to 567 million people, a 2,000% increase. Currently, half of all people in Africa live in an agglomeration with a population greater than 10,000. Africa's urbanization dynamics are particularly difficult to understand for reasons that include varying definitions of urban and a lack of reliable up-to-date demographic data.

Africapolis, a database produced by the Sahel and West Africa Club<sup>1</sup> (SWAC), offers a common definition of urban and an innovative methodology based on cross-referencing satellite images with demographic data. The figures and analyses presented in this article are drawn from *Africa's Urbanisation Dynamics 2020: Africapolis, mapping a new urban geography*.<sup>2</sup> This work provides an objective assessment of the continent's urban dynamics. First, Africa is far more urban than it appears, with the continent home to hundreds of agglomerations that are not officially recognized. Next, rural transformations play a key role in driving African urbanization. Also, the continent is home to new urban forms such as metropolitan regions and spontaneous mega-agglomerations. Last, an inland urban Africa is emerging, counterbalancing the dominant view of

<sup>1</sup> For more information: <https://africapolis.org/home> and [www.oecd.org/swac](http://www.oecd.org/swac)

<sup>2</sup> OECD/SWAC (2020), *Africa's Urbanisation Dynamics 2020: Africapolis, Mapping a New Urban Geography*, West African Studies, OECD Publishing, Paris 2020 <https://doi.org/10.1787/b6bccb81-en>.

coastal urban Africa. This ground-breaking analysis calls for a policy-making response, which is essential to improving the allocation of resources and to the informed planning of access to services across territories and long-term guidance for urban development.

## AFRICA'S URBAN DIVERSITY

Africa is undergoing an unprecedented urbanization phenomenon: since 2010, the urban population of Africa has grown by 21 million every year. In 2015, for example, Kenya had more urban dwellers than the whole of Africa in 1950.

Since the 1990s, strong demographic growth has been the primary driver of this urbanization: Africa's population has more than doubled since 1990 to reach 1.2 billion people in 2015, and is set to double again by 2050.<sup>3</sup> Urbanization dynamics are influenced by many other factors whose impacts vary depending on the national context: climate and geography, people's income, public institutions and policies, economic cycles, conflicts, etc.

There are several difficulties that make it harder to build a global, comprehensive understanding of Africa's urbanization dynamics. First of all, there is no common definition in Africa, as in the rest of the World, of an urban area, and at times demographic data are unreliable and/or rarely updated. International statistics also tend to over-represent major agglomerations, and the impossibility of separating official areas from spontaneous areas in agglomerations illustrates the need for a spatial approach.

### DISPARATE DATA AND DEFINITIONS ACROSS THE CONTINENT

The different definitions of urban can be grouped into three categories: cities, agglomerations and metropolitan regions, corresponding to three distinct approaches.

- The city is defined as a politico-administrative entity: its legal status and boundaries are determined by the state on the basis of various administrative criteria. The first limitation with this approach is that the boundaries of the city are not always visible; boundaries can be drawn across continuously built-up areas, creating an invisible separation between city and suburb. Criteria defining a city may also restrict the acceptance of change, and fail to represent changing territorial urbanization. In Egypt, only administrative capitals are defined as cities, and their number has barely changed since 1960. The country's official level of urbanization has therefore remained stagnant at around 43% for a half century.
- An agglomeration is defined using a spatial approach based on land use. This is an area defined as a set of dense constructions: density can be measured either by number of inhabitants per unit of surface, or as a maximum



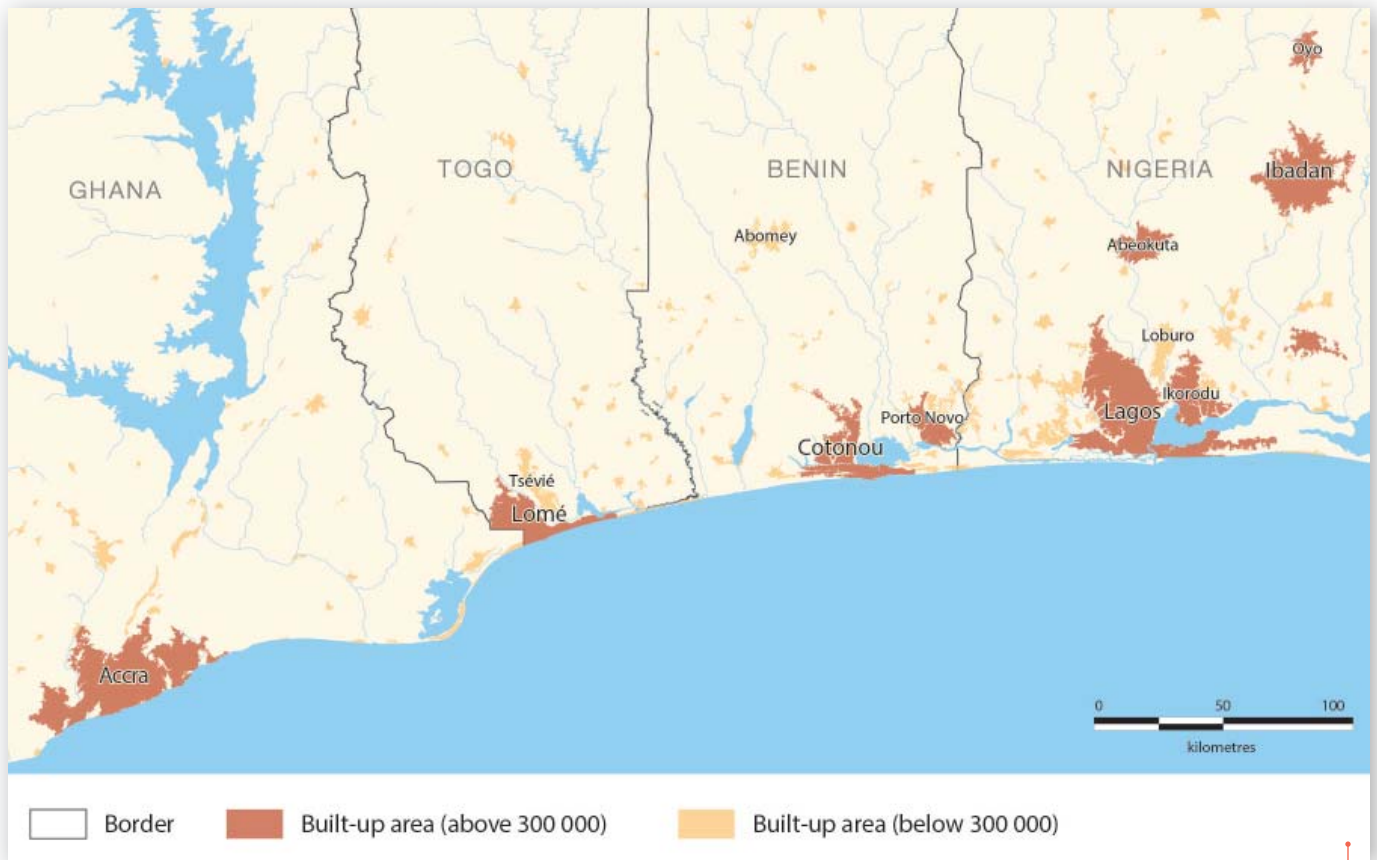
Matola and Maputo (Mozambique): two municipalities, one agglomeration. SWAC/OECD (2020)

distance between buildings. Urban agglomerations conform to several criteria: minimum population, percentage of non-agricultural households, presence of certain infrastructure and administrative functions, etc. If one or several of these criteria are fulfilled, the area is considered an agglomeration, which may contain several cities in the administrative sense of the term. This approach is used by several African countries, but each with their own criteria and thresholds. The difference between a city and an agglomeration is exemplified by Maputo, the capital of Mozambique, which is a separate municipality from neighboring Matola. However, spatially they are part of the same agglomeration.

- The metropolitan region is a functional approach. It is defined as a set of more or less dense flows and networks of people, goods and services. It aims to show that the sphere of influence of large cities does not end at the agglomeration's boundaries but extends to functionally connected satellite locations. Although extensively used around the world, South Africa is the only country in Africa to recognize this category.

Every state in the world defines the city according to its own criteria. The absence of a recognized shared definition makes it hard to compare data and to generalize results on the regional or continental levels.

<sup>3</sup> United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019, custom data collected from the website.



The Greater Ibadan Lagos Accra Urban Corridor: a transnational metropolitan region. SWAC/OECD (2020)

National definitions are not always reliable because they can fluctuate over time and tend to reflect political strategies, with statistical frameworks directly related to electoral maps, taxation, land rights, etc. Administrative boundaries are therefore sometimes arbitrary: the administration can statistically create, modify or erase a city to hide certain imbalances. In Nigeria, there is no statistical definition of the urban population because city boundaries are divided into local government areas that make estimating the population impossible, and the 2011 census was cancelled.

Data from some countries can be out of date owing to a lack of administrative capacity. The most extreme cases are the Democratic Republic of the Congo (last census in 1984) and Somalia (last census in 1975).

### OVER-REPRESENTATION OF LARGE AGGLOMERATIONS IN INTERNATIONAL STATISTICS

The United Nations World Urbanization Prospects<sup>4</sup>, the main reference for

*Urbanization is developing outside statistical definitions. A spatial and homogenized definition of what is meant by “urban” is needed to implement development policies that match realities on the ground*

urban statistics at the international level, only contains agglomerations with over 300,000 inhabitants in Africa and lists 210 of them: they account for just 3% of the agglomerations identified by Africapolis. This discrepancy illustrates the high level of under-representation and limited knowledge of small and intermediate agglomerations.

### ACCOUNTING FOR OFFICIAL AND SPONTANEOUS ZONES IN AGGLOMERATIONS

Irrespective of the need for homogenization, a spatial approach to urbanization is equally important in order to properly comprehend the dynamics at play. The spatial approach is justified by a number of observations, primarily the impossibility of separating the official and the spontaneous areas in agglomerations. Thousands of agglomerations have a “planned” or “official” area and one or more “spontaneous” areas.

Urbanization develops outside statistical definitions. This is why Africapolis favors a homogenized definition and spatial approach to measuring urban phenomena. This approach

<sup>4</sup> United Nations, Department of Economic and Social Affairs, Population Division (2019), World Urbanization Prospects, The 2018 Revision.



makes it possible to identify key features of African urbanization, such as urban sprawl, *in situ* urbanization of rural areas, and the emergence of metropolitan regions. It also makes it possible to compare phenomena on a continental scale and over time, and thereby to implement development policies that match realities on the ground.

## THE AFRICAPOLIS METHODOLOGY: A SPATIAL AND BOTTOM-UP APPROACH

### INNOVATIVE METHODOLOGY

The Africapolis database was created to provide a unified method and definition of urban in Africa, and to describe trends in urbanization. It was designed to enable long-term comparative analysis of urbanization dynamics in Africa.

Africapolis uses a spatial approach to measure urbanized space. The approach focuses on concrete spatial manifestations of urbanization — it could also be described as morphological — to make comparisons across countries and time possible. The database applies the same definition of urbanized space to all countries, regardless of nationally specific definitions. Africapolis defines an agglomeration as urban if its population exceeds 10,000 and a continuously built environment with less than 200 meters between buildings. This approach, also used by countries such as France and Sweden, allows for the inclusion of a major characteristic of urbanization that is ignored with an administrative approach: urban sprawl. The advantage of the spatial approach is that it does away with the limitations imposed by administrative definitions of urban realities, limitations that are all the more evident in the African context where it is impossible to separate official urban areas, which are planned, from areas that are spontaneous or informal.

Africapolis draws its data from two sources: population data available nationally and/or locally, and satellite images collected from Google Earth. The methodology is built on a new generation of technologies — satellite images and a geographical information system database — and uses the largest collection of localized census data ever compiled in Africa. This is also very much a bottom-up approach because Google Earth allows anybody to check the accuracy of data by reposting them on the platform, and to consult the census documents, which are public sources.

The protocol used by the Africapolis teams is as follows: first, demographic data are collected from available statistical sources before being harmonized and disaggregated into local units, shown as points. Then, satellite images are analyzed to provide remote detection of built-up areas and polygons are used to delimit urbanized zones. Last, the most painstaking phase involves linking the data by cross-referencing the local units (geo-referencing of points) with the urbanized zones (polygons) in order to identify all agglomerations with over 10,000 inhabitants.

### COMPLEMENTING NATIONAL STATISTICS

Results generated by Africapolis complement national data and provide a different view of urbanization: agglomerations identified by Africapolis but not officially recognized coexist with official cities that Africapolis does not consider urban. Even within agglomerations of more than 10,000 inhabitants, some sections may be officially recognized as rural and others as urban.

The database shines a light on several key issues: Africapolis reveals the existence of a great many agglomerations that are not recorded in official statistics. This concerns agglomerations of all sizes, some in excess of a million residents, such as Sodo and Hawassa in Ethiopia. Lack of recognition of these agglomerations has a major policy impact in terms of planning and the allocation of resources. Africapolis data indicate that the levels of urbanization observed are higher than officially reported in 25 of the 50 countries covered.

African urbanization cannot be understood simply by studying a sample of large cities, nor is it simply a matter of urban versus rural. Through the use of spatial satellite data, Africapolis reveals and highlights the diversity of urbanization forms.

## KEY LESSONS: URBAN DYNAMICS AND THE NEW GEOGRAPHY OF AFRICA

### AFRICA IS ALREADY WIDELY BUILT-UP

The continent is already far more urban and its agglomerations far more numerous than the international statistics tell us. As previously mentioned, World Urbanization Prospects<sup>5</sup> only takes account of cities with over 300,000 inhabitants, producing an inventory of 210 agglomerations for the entire African continent. But this is just 3% of the agglomerations identified by Africapolis, which has identified 7,617 of them. Like most other continents, Africa comprises a majority of small- and medium-sized towns: in 2015, there were 25 agglomerations of over 3 million residents, and 5,000 with fewer than 30,000.

### THE RISE OF THE METROPOLITAN REGION

Where urbanization is concentrated in certain zones, new forms of settlement develop, such as metropolitan regions. The same region might see the emergence of major agglomerations as well as small- and medium-sized agglomerations. This dynamic leads to new forms of concentration, with lower density but strong economic and social integration. They can be transnational: West Africa has an urban corridor linking Ibadan to Accra via Lagos, Lomé and Cotonou, known as The Greater Ibadan Lagos Accra Urban Corridor. The metropolitan regions

<sup>5</sup> United Nations, Department of Economic and Social Affairs, Population Division. (2019), World Urbanization Prospects, The 2018 Revision.

surrounding these agglomerations juxtapose to form a transnational metropolitan region: exchanges between metropolises become more intensive than exchanges with intermediate cities, accelerating disparities with the rest of the country where development remains difficult.

### THE EMERGENCE OF SPONTANEOUS MEGA-AGGLOMERATIONS

The work also points to another form of urbanization: spontaneous mega-agglomerations that constitute the intersection between several secondary urban regions. Fifteen agglomerations of this type were identified, representing 8% of the urban population (35.7 million people), underlining the importance of taking the spatial criterion into account. Within these vast morphological units, only a few urban centers, if any, are officially recognized. In light of demographic growth and decreasing rural exodus, it is highly likely that this process will intensify, which is why it is so important to inform the policy-making process of the current transformations and the impacts they will have.

### THE EMERGENCE OF INTERMEDIARY CITIES

Today, 210 million Africans live in one of the continent's 1,400 intermediary cities. These cities play an essential role in structuring the urban network and connecting the local and regional levels with the continental and global levels, a phenomenon very little studied previously.

### RURAL TRANSFORMATIONS

Aside from demographic growth, two major factors in urbanization that relate to rural transformations can be observed. First is the urban sprawl that swallows up existing rural settlements. Unlike a city's administrative limits, the morphological limits of an agglomeration fluctuate over time: this is the phenomenon of urban sprawl, traditionally defined as the expansion of an urban built environment to undeveloped agricultural or natural spaces. But this definition is overly restrictive because in reality agglomerations also swallow previously inhabited rural areas. So, as well as sprawling they also absorb existing rural settlements. One example is in Egypt, where Cairo has absorbed countless rural towns and villages.

But the most surprising and massively widespread phenomenon is the *in situ* urbanization of rural areas. This is a phenomenon that occurs once a rural zone reaches a density that means it is reclassified as urban. The increasing density goes hand in hand with the reorganization of activities, notably a gradual decrease in agricultural activities. During this process the distinction between urban agglomeration and rural settlement becomes unclear. This phenomenon can entail widespread and massive urbanization – quite unlike

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Monshaat Al Bakkari: an absorbed rural village on the periphery of Cairo (Egypt). SWAC/OECD (2020)

natural agglomeration growth that leads to a more gradual urbanization.

These rural transformations also challenge the influence still attributed to rural exodus and residential migration in driving urban growth in Africa. If in the past the primary driver for urbanization resulted from centripetal flows of people migrating from rural areas to urban zones, urban growth today is a result of centrifugal movement (sprawl) rather than natural growth in rural areas (*in situ*). This shows the importance of carefully studying today's rural areas if we are to understand the urbanization of tomorrow.

### THE PLACE OF INLAND CITIES

In most representations and discourses relating to African urbanization, we can note the considerable importance accorded to coastal agglomerations. However, 75% of Africa's city-dwellers actually live in the continent's interior.

Most major colonial cities – the entry points to Africa used by colonial powers – were ports, and these are the foundation of many of today's most populous African agglomerations. But in reality, many cities have only limited contact with the coastline: at the local scale, in many cases constructions along the coast tend to face inland. And if we

examine the coastline, it becomes clear that its occupation is discontinuous and uneven. The West African urban corridor, cited above, shows that urban concentrations only occasionally follow the coastline, quite unlike the far more consistent urban build-up along the coastline of other continents. These observations reveal a shared characteristic of African societies, which were historically primarily pastoral and agrarian. Coastal development is a

recent phenomenon in Africa that should not be ignored, but neither should it be over-stated.

There is, at the same time, increasingly strong urban growth in the interior. Inland regions are seeing the emergence of secondary agglomerations, political capitals as well as spontaneous mega-agglomerations. Africa's main historical settlement areas are in its interior, and the indicators show that these territories are where there is the highest potential for urban growth. The capitals of 17 landlocked countries display urban growth that is just as rapid as that of countries with a coastline. Some of the intermediary agglomerations of the interior, such as Touba in Senegal, Kumasi in Ghana and Bouaké in Côte d'Ivoire, have become major secondary agglomerations and compete with national coastal metropolises.

*African urbanization cannot be understood simply by studying a sample of large cities, nor is it simply a matter of urban versus rural*

The bipolarity of urban growth, coastal versus interior, shines a light on the political consequences of urbanization: it could be accompanied by a shift in socioeconomic and political power from the coast and toward the interior. The primary challenge resulting from this change is to improve connections between urban networks and to approach integration from a continental and regional point of view.

**OUTLOOK FOR 2030**

The urban trends over the past 15 years described by Africapolis seem set to continue: urban networks will continue to densify, today's rural areas and small agglomerations will be the large urban zones of tomorrow, new mega-agglomerations will appear, and so on. What is harder to anticipate is precisely when and to what degree policymakers and development partners will adapt to harness the potential of these changes.

**INTEGRATING THE NEW REALITIES INTO PUBLIC POLICIES FOR ACCESS TO SERVICES**

The work of Africapolis challenges the scale of territorial planning. Most power currently resides with the central state and when some responsibilities are delegated to the local level, they are generally delegated to cities. However, as the analysis undertaken by Africapolis shows, these administrative entities are often poor reflections of the spatial and morphological realities of agglomerations, and they struggle to integrate phenomena relating to spontaneous urbanization.

Hundreds of officially unrecognized agglomerations, and thus their residents, have far lower political profiles at the national level, meaning less support and fewer resources from the central state. And even where secondary agglomerations are recognized as such in national

statistics, there remain distortions that favor major agglomerations: access to drinking water, for example, is generally considerably better in the metropolises than the rest of the country, including in other urban areas.

Without recognition and an accurate overview of urban dynamics, states are incapable of fully understanding their territories and the breakdown between the various settlement zones, and therefore the requirements for each zone. In terms of policies for access to services such as water and sanitation, these are very large-scale, long-term projects. This makes it all the more important to anticipate demographic and urban change.

**CONCLUSION**

Africa is the fastest urbanizing continent in the world. Cities play, and will continue to play, an essential role in the continent's development. Using a spatial approach, the Africapolis database analyzes little-studied processes at work in this urban transition: rural transformations, the emergence of spontaneous mega-agglomerations, blurring of boundaries between rural and urban, the emergence of secondary agglomerations, urbanization away from coastal regions, etc. The failure of national statistical frameworks to recognize many cities – including intermediary cities which have a significant role to play in the development of national and continental urban networks – is the source of major imbalances, particularly in terms of resources and capacities.

These unique processes and urban dynamics demand development policies that are in alignment with the realities of urban Africa, particularly in terms of access to services. The challenge now facing policymakers is to take ownership of these newly available data and put them to good use.