AFRICA KNOWLEDGE PLATFORM

Sustainable African Cities

Urban growth and regional connectivity across a youthful continent

European Commission


BORN 2 WIN

"More than half of all Africans already live in cities. Since no two African cities are the same, sustainable urban development should consider unique local contexts. This story showcases European efforts to support sustainable cities and regional connectivity in Africa."

African city clichés

Cities in Africa are generally portrayed as one of two stereotypes.

The first has many small buildings, haphazardly concentrated along dusty roads. It is often accompanied by woeful tales of uncontrolled population growth, poor services, crime and poverty.

The second stereotype is typified by glassy skyscrapers, separated by bustling tree-lined streets. In these vibrant cities, young citizens have put the liberation struggles of 20th century behind them and are now ready to take their place on the world stage.

Reality is more complex than stereotypes.

Both pictures here below are from Kigali, Rwanda. They emphasize how contrasting stereotypes can exist side by side in a city like Kigali. Other African cities are just as complex.

Generalising African urbanisation is a mistake. Contrasting stereotypes in the same city highlight the importance of sustainable urban development. Policy

decisions today can be the difference between two completely different development pathways in the future.

The European Commission's Joint Research Centre (JRC) is mimicking the methods used within Europe's borders to better understand urbanisation and development in Africa. This entails a territorial approach that analyses local phenomena – at high spatial granularity – within a broader context of continental and regional trends.

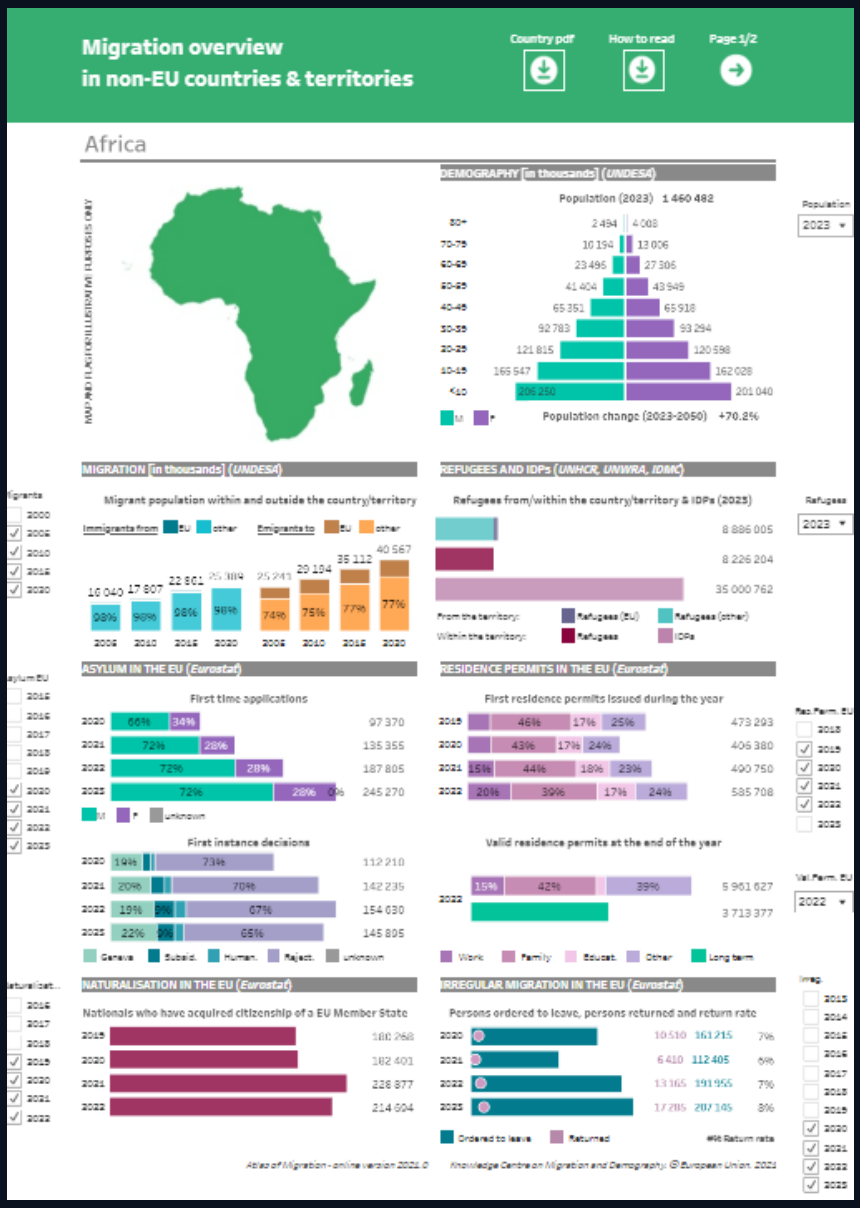
This story demonstrates some of these tools and initiatives by showing that:

1. **Population growth is not uniform in Africa**. Cities will not all experience the same pressures of population growth in upcoming decades.
2. **Future urban development can vary greatly based on today's policy choices.** The projected growth of African cities is not predetermined and varies greatly depending on future development pathways.
3. Cities are not isolated islands, but are **connected by transportation networks essential for the movement of people and freight**. Strategic development corridors are essential to connect sustainable cities to the broader regional context.

Mapping Africa's population

Africa is a young continent. This graphic from the European Commission's Knowledge Centre on Migration and Demography Data Portal shows the age distribution across Africa. Go ahead and click on the image to interact with the data.

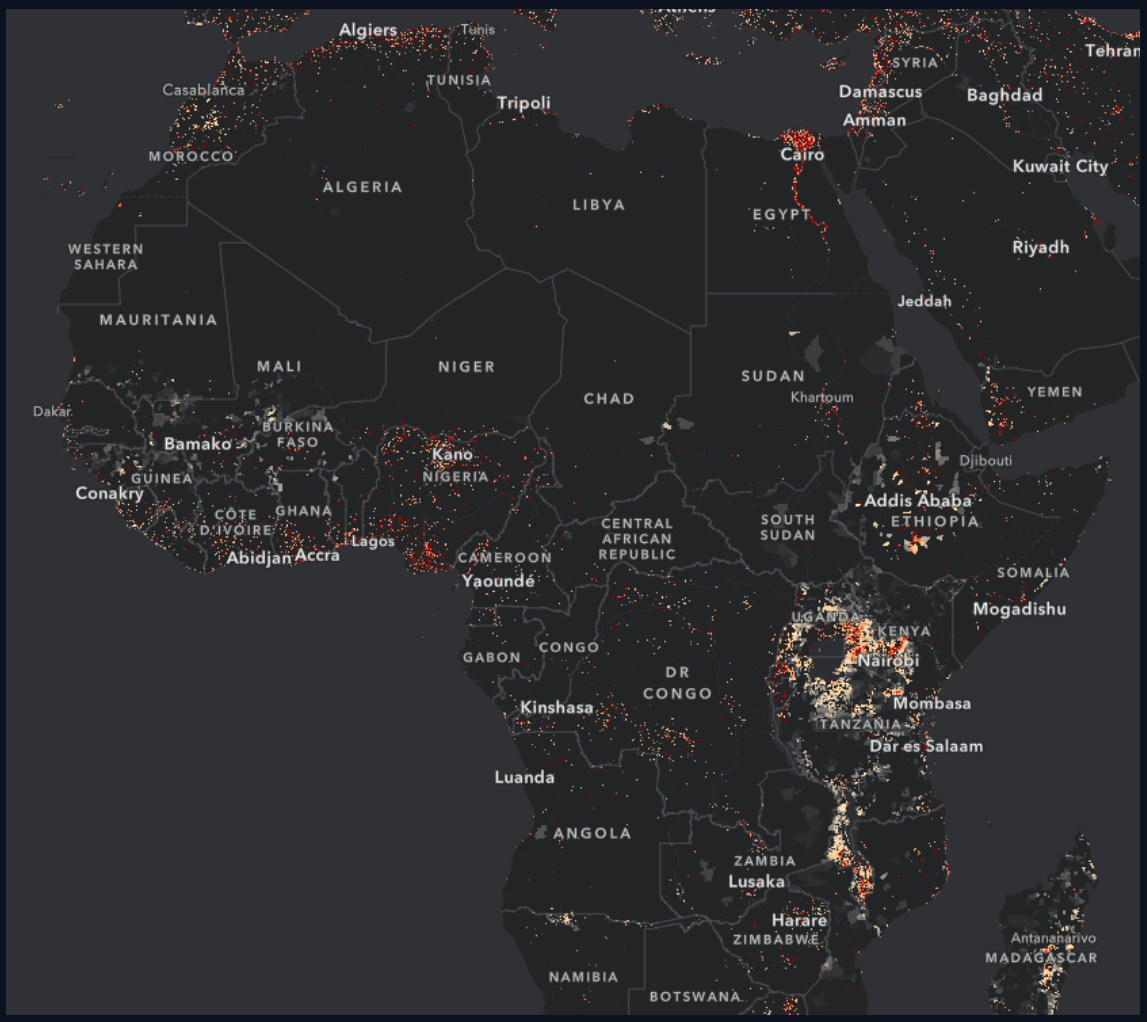
There are currently about 380 million Africans younger than 10 years old. These individuals will be starting their own families by mid-century, and with it will come the growing need for houses, jobs, schools and hospitals. By 2050, the African population is expected to nearly double from 1.3 billion people to 2.5 billion.

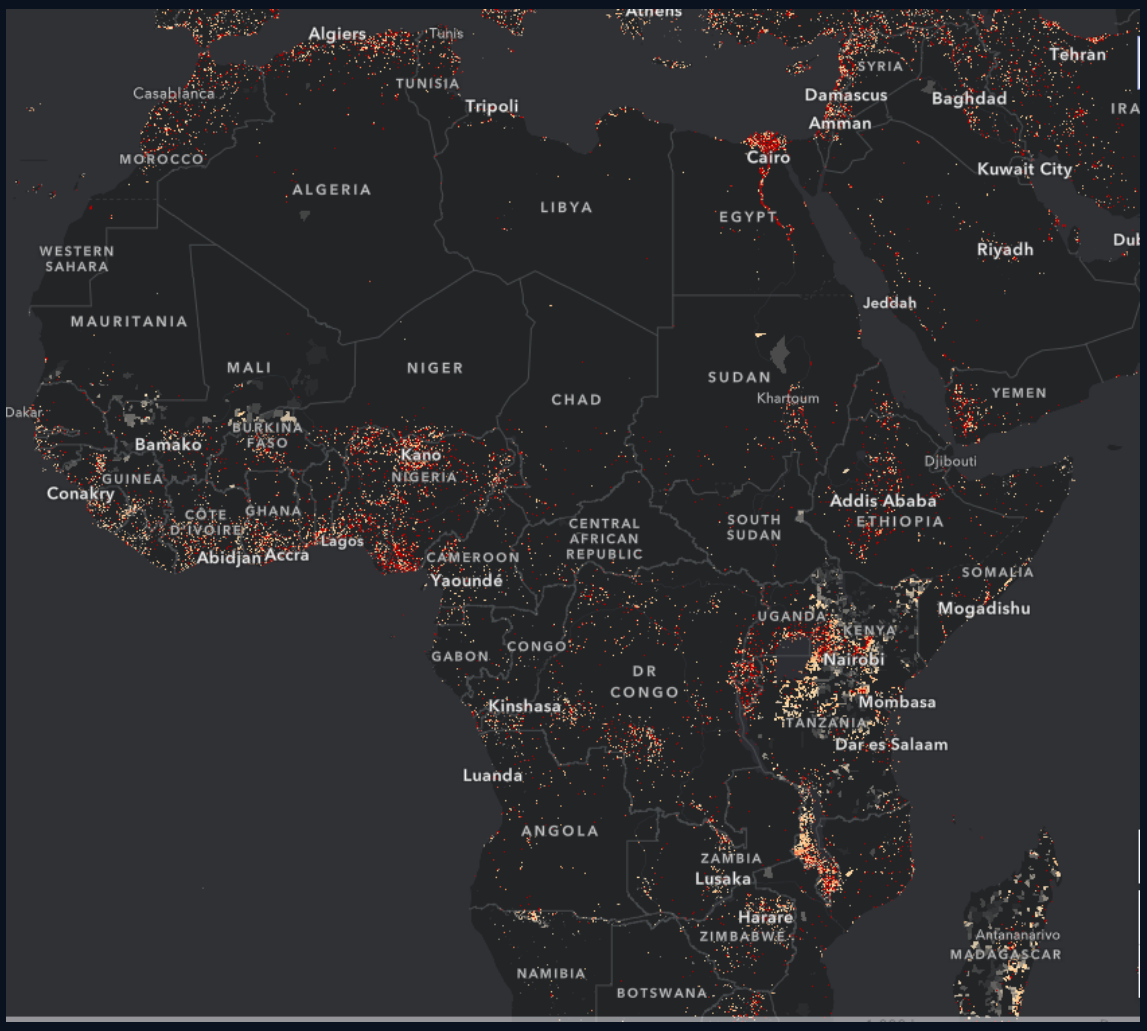


Population growth is not uniform across the continent, but is concentrated in the areas around towns and cities.

The JRC's Territorial Development Unit has compiled a harmonised Reference Territorial Database for Africa. This database uses localised data to develop indicators relevant for urban planning.

The JRC's global human settlement layer - provides high resolution population data for the whole world. The below images compare human population between 1990 (upper) and 2015 (lower). Darker shades of red correspond to higher populations.


Algiers
Tunis
Casablanca
TUNISIA
Tripoli
MOROCCO
ALGERIA
LIBYA
EGYPT
SYRIA
Damascus
Baghdad
Amman
Cairo
Kuwait City
Riyadh
Jeddah
WESTERN SAHARA
MAURITANIA
MALI
NIGER
CHAD
SUDAN
Khartoum
YEMEN
Dakar
BURKINA FASO
Bamako
Kano
NIGERIA
GUINEA
Conakry
Djibouti
Addis Ababa
ETHIOPIA
CÔTE D'IVOIRE
GHANA
Lagos
Abidjan
Accra
CENTRAL AFRICAN REPUBLIC
SOUTH SUDAN
CAMEROON
Yaoundé
SOMALIA
Mogadishu
UGANDA
KENYA
Nairobi
GABON
CONGO
DR CONGO
Kinshasa
Mombasa
TANZANIA
Dar es Salaam
Luanda
ANGOLA
ZAMBIA
Lusaka
Harare
ZIMBABWE
Antananarivo
MADAGASCAR
NAMIBIA
BOTSWANA



High resolution data like this can be used to develop spatially explicit indicators related to the social (e.g. population size, demographics, education and health services), economic (e.g. circular economy, energy efficiency) and environmental (e.g. natural resources, climate action) characteristics of African cities.

These indicators can be combined with country-level data - such as trade-flows or economic sector analyses - to give a multi-scale and integrated understanding of regional development.

Future urban development

Future population growth

To forecast future population changes, the JRC developed the **LUISA4Africa modelling platform.**

Building on the LUISA Territorial Modelling Platform , which has been used successfully to model urbanisation in Europe, LUISA4Africa is able to forecast future population trends under different development scenarios.

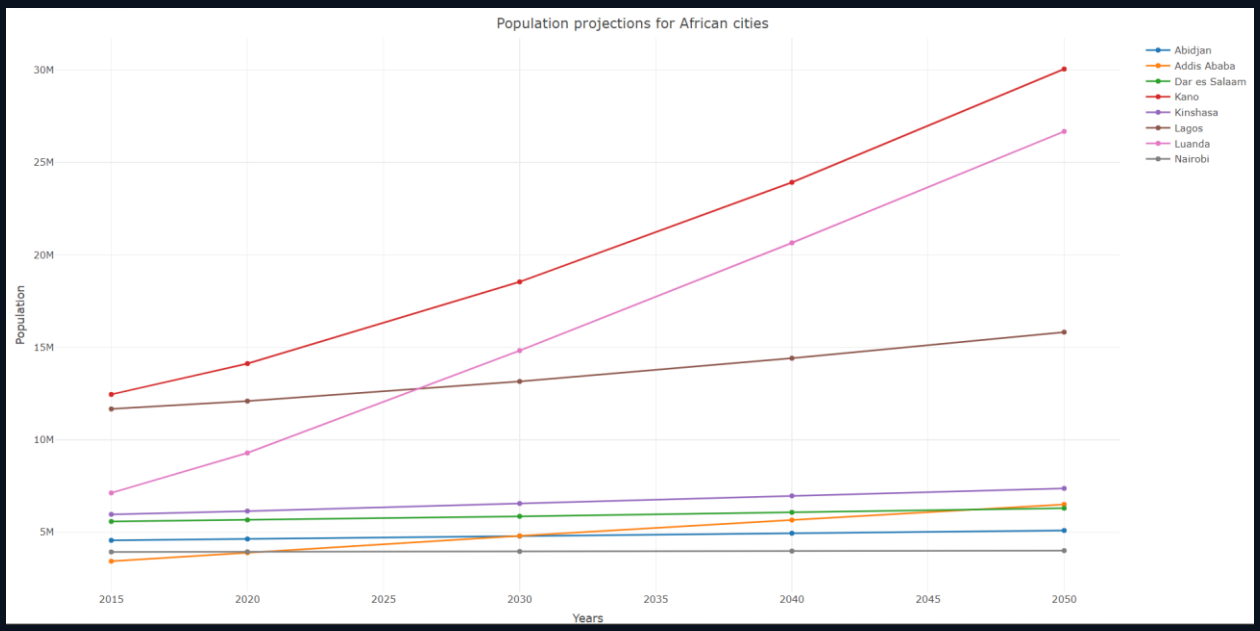
This figure shows projected populations for eight African cities according to the Shared Socio-Economic Pathway 3 (SSP3). SSP3 is based on a scenario where:

1. **Economic development is slow**, consumption is material-intensive, and inequalities persist or worsen over time.
2. **Population growth** is high in developing countries, and low in industrialised countries.
3. International priorities for addressing environmental concerns is low, leading to **environmental degradation**.

The below chart shows how **Kano**, Nigeria, which already had 14 million inhabitants in 2020, is expected to more than double to 30 million people by mid-century.

Although the population of **Luanda**, Angola, is currently smaller than a city like Lagos, its faster growth means that it could overtake the Nigerian city within the next decade.

You can interact with the figure to zoom into the orange line, which shows the population of **Addis Ababa**, Ethiopia. Although it is currently the smallest of the cities in this figure, its rapid growth could see it surpass **Nairobi** (Kenya), **Abidjan** (Côte d'Ivoire), and **Dar es Salaam** (Tanzania) by mid-century.

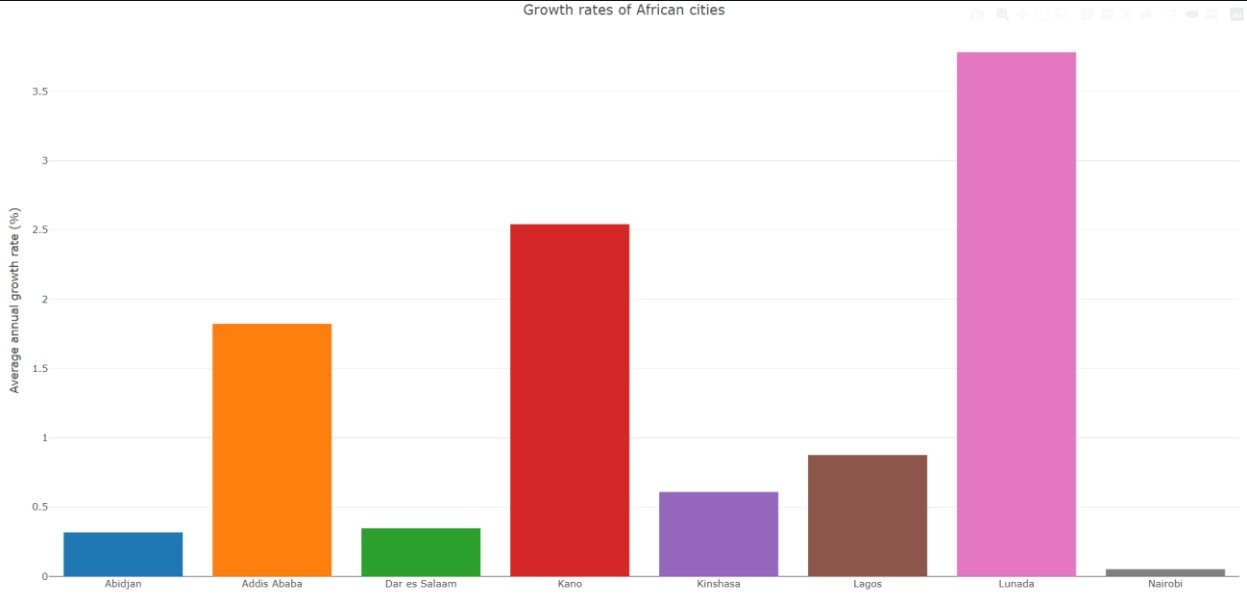


The below chart shows the average annual rate of population growth between 2015 and 2050. These rates are based on a statistical estimates of exponential increase and don't consider feedbacks that might curtail future population growth.

Luanda has one of the fastest growing populations in Africa; 3.78% annual growth means that its population would double in less than 20 years.

Addis Ababa's growth rate of 1.82% would mean that its population would double every 40 years. By contrast, the slow population growth of Nairobi, just 0.05% each year, means that its population will be relatively unchanged for the next century.

These trends demonstrate how **African cities will not all experience the same pressures of population growth**. Future trajectories will differ from city to city.



Alternative future pathways

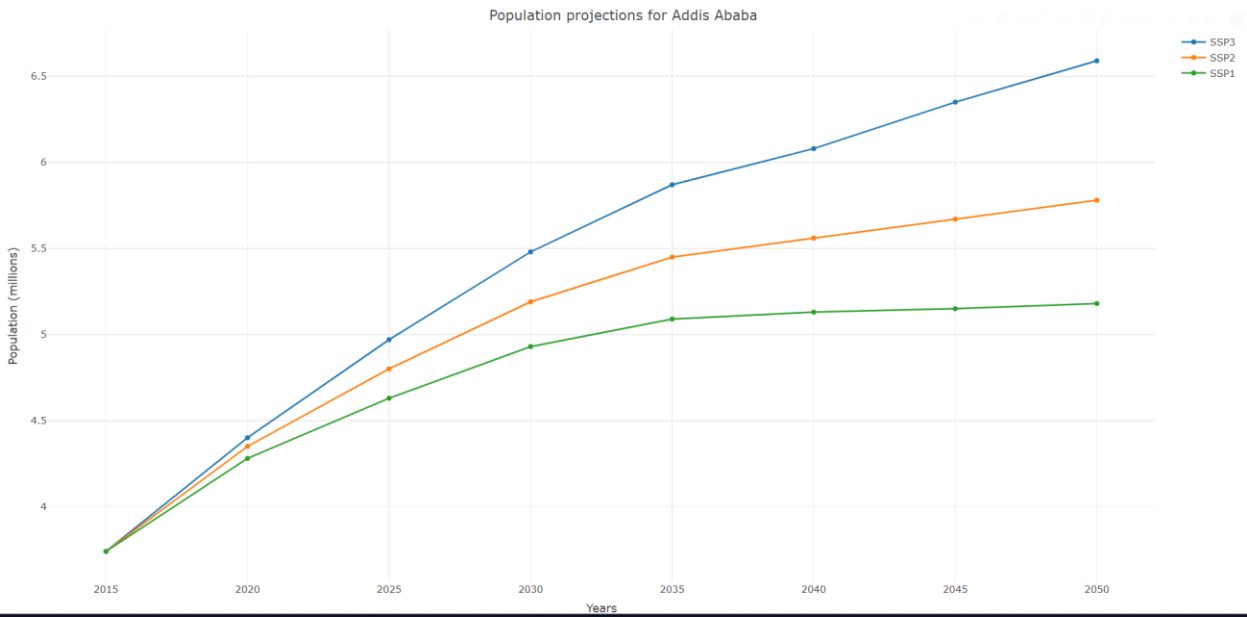
LUISA4Africa can be used to also project the populations of individual cities under different development scenarios. As one example, this figure shows the variation in population growth for Addis Ababa, across three development pathways.

Here, **SSP1 is a "sustainable growth" scenario**, where the focus is on a circular economy to reduce inequalities while remaining within environmental limits.

SSP2 is the "middle of the road" scenario where social, economic, and technological trends do not stray from historical patterns.

SSP3 assumes a "rocky road" of future development, filled with challenges and regional rivalries.

The population of Addis Ababa by mid-century can differ by as many as 1.4 million people, depending on how the city develops in the future. That's a huge difference because each of those 1.4 million extra people would need access to jobs, homes, sanitation, schools, and healthcare.



Sustainable urban expansion

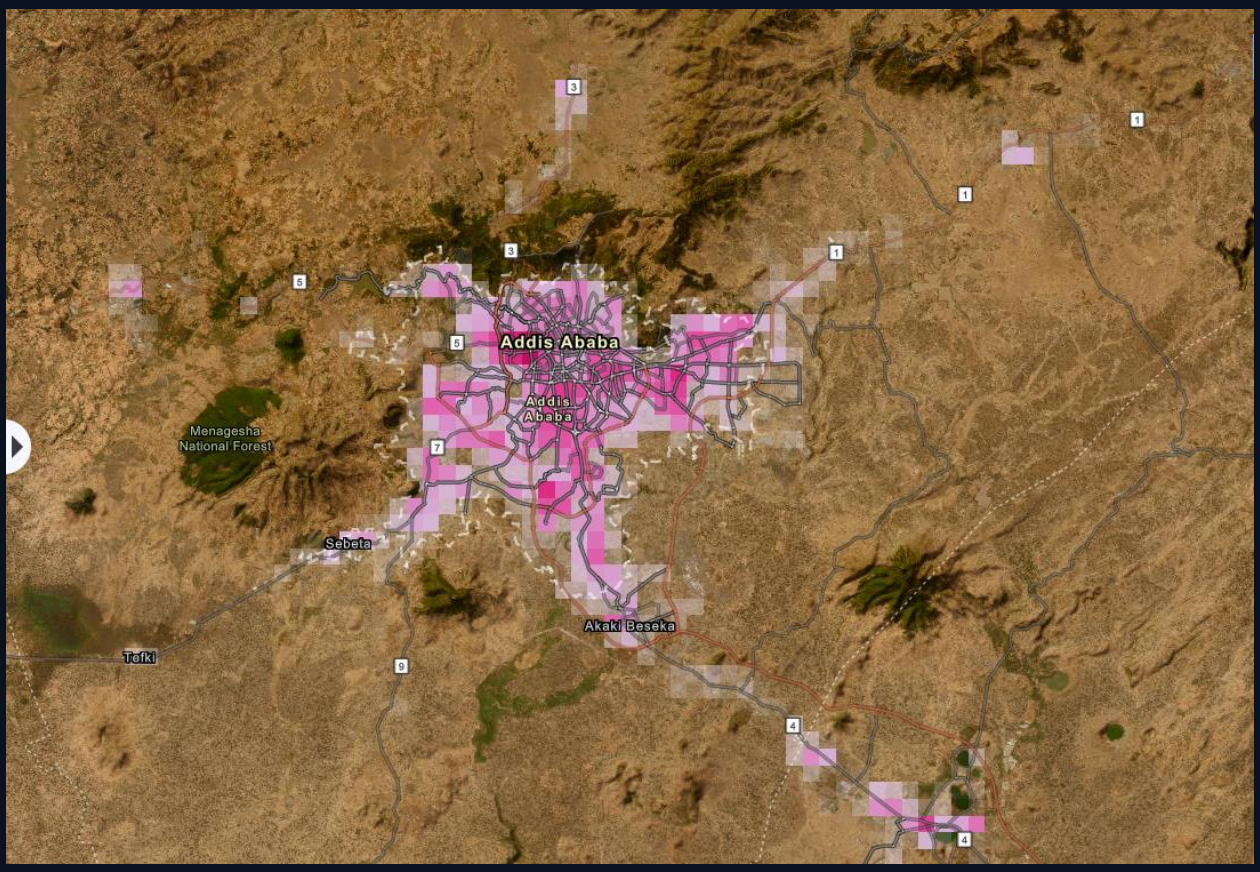
The need for sustainable urban planning to support an additional 1.4-2.8 million people in a single city is unquestionable.

The below images compare the built-up area in Addis Ababa between 1970 and 2014. These data are from the JRC's Global Human Settlement Layer.

These data show how the spatial extent of the city has grown considerably in recent decades. Addis Ababa will continue expand to accommodate population growth by mid-century. This growth can either be unplanned and unregulated, or it can be coordinated in a sustainable way to enhance social and environmental resilience.

"The urban planning choices we make today will affect the sustainability of African cities by 2050."


Addis Ababa
Addis Ababa
Menagesha National Forest
Sebeta
Akaki Beseka
Tefki


Addis Ababa
Addis Ababa
Menagesha National Forest
Sebeta
Akaki Beseka
Tefki

Strategic development corridors

As populations grow and cities' capacities become stretched, it becomes necessary to start seeing urban development in a broader context.

This map shows some of Africa's largest cities. Bigger circles correspond to larger populations. Although broad-scale maps like this one make cities seem like islands in a sea of uninhabited territory, connections between them are vital for their sustainability.

A further application of the **LUISA4Africa platform is the identification and characterisation of strategic development corridors**. The first step for such an analysis is identifying the urban 'nodes' that need to be connected by 'corridors'. Press this button to demonstrate this first step.

The below map shows the straight-line distance between African cities with more than 1 million inhabitants.

Suddenly, African cities no long seem like isolated islands. They now appear as hubs in a well-connected continental network.

Connecting African cities has attracted investment for a Trans-African Highway Project. This road project - developed by the UN Economic Commission for Africa, the African Union and the African Development Bank - aims to develop trade-corridors across the continent.

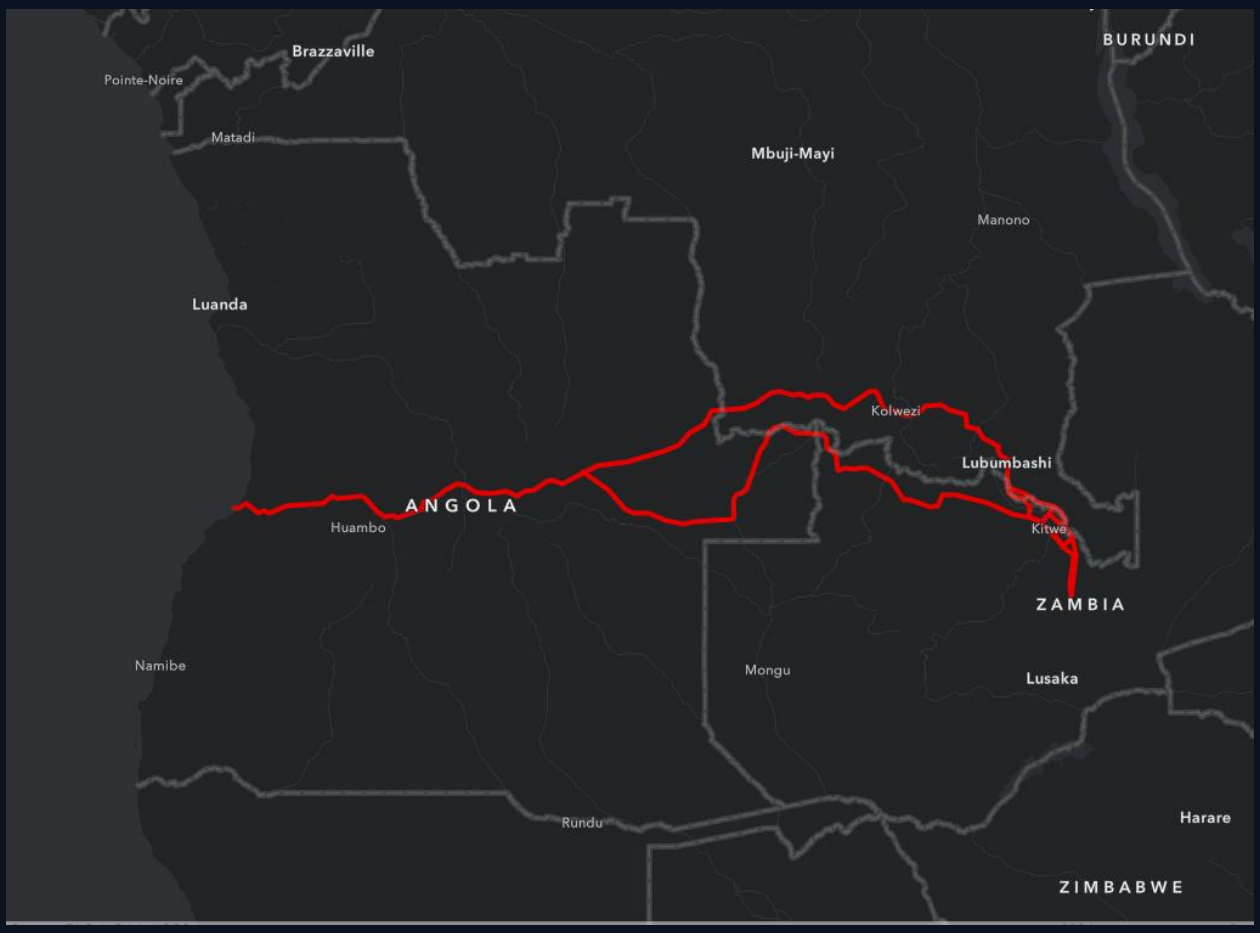
The below map shows the international Trans-African Road network, which spans a total length of more than 56,000 km.

This road network is in various stages of completion, with some sections completed and others in a state of disrepair. **Expanding dirt-tracks into functional highways brings new opportunities for regional development**.

The red line in the below map shows the road connecting Angola, Zambia and the Democratic Republic of Congo (DRC). This road forms the western section of the ambitious Beira-Lobito Highway project, which aims to cross the continent and link the Indian and Atlantic oceans.

Currently the road is made up of dirt tracks or paved roads in need of reconstruction, but its development could potentially link the mineral-rich copper-belt region on the border between Zambia and DRC, with the deep-water Port of Lobito in Angola.

Strategic corridors can be identified by defining a buffer around roads like this one based on how long it takes to reach the road. Press the button to identify a strategic corridor around this road.



The below map shows that the road can be reached from within the darker blue areas in 80 minutes or less. The road is within a 2 hours journey from the light blue areas.

This broader area could be developed to enhance sustainable connectivity and facilitating intra-Africa and Africa-Europe trade. In this context, the development of a strategic corridor is meant to support territorial development (both rural and urban) through reliable networks and services, including the deployment of digital and energy related infrastructure.

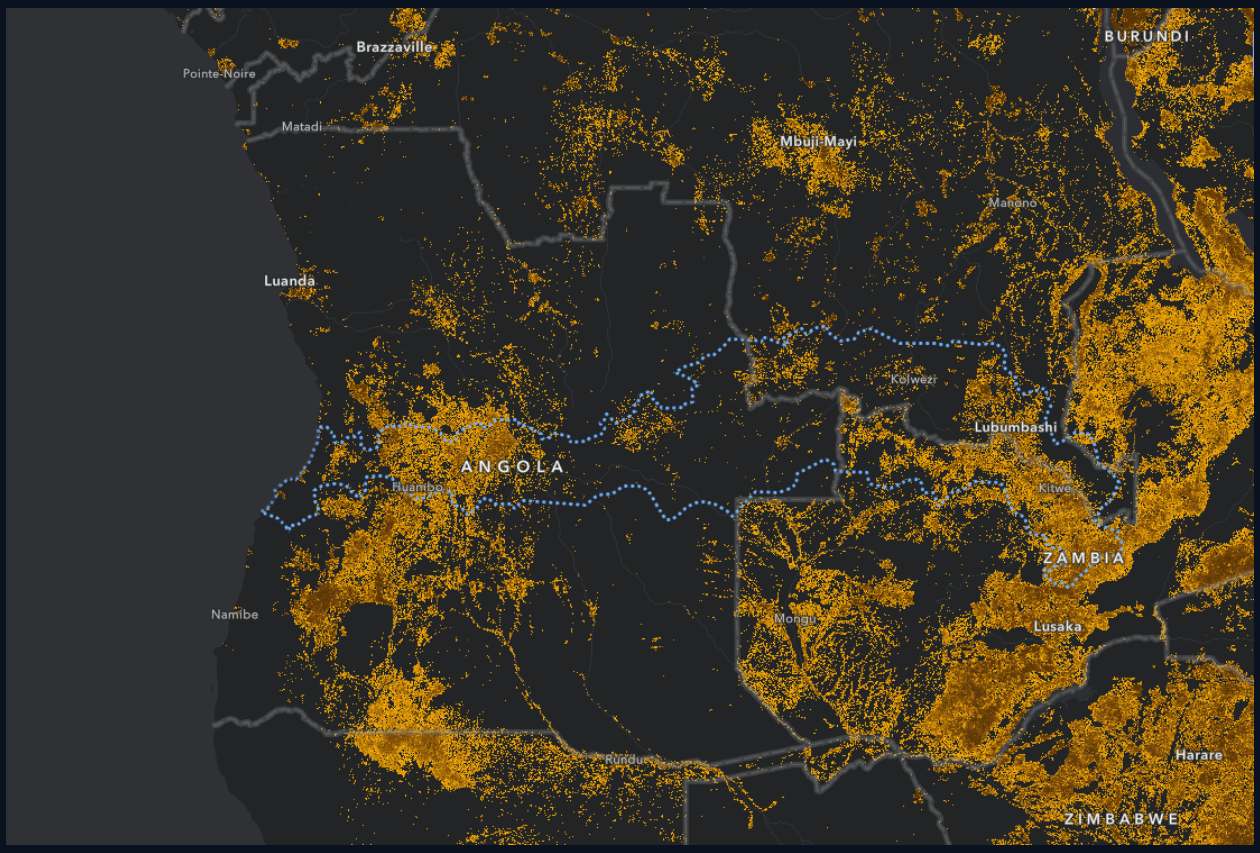
From these links you can download more information on strategic corridors:

>>>https://publications.jrc.ec.europa.eu/repository/handle/JRC128380

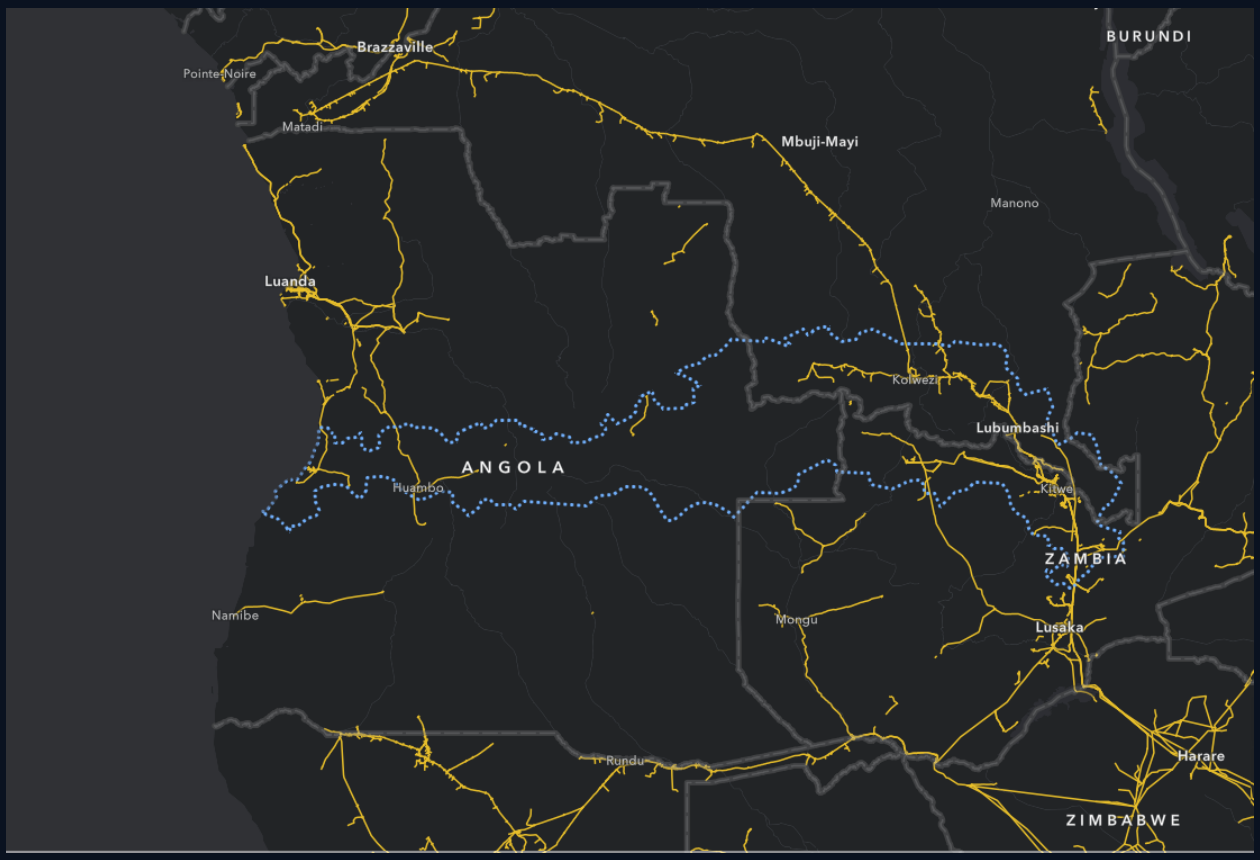
>>>https://publications.jrc.ec.europa.eu/repository/handle/JRC128942

Once the approximate extent of the strategic corridor has been identified, it becomes possible to evaluate each corridor according to a fixed set of criteria to define investment priorities.

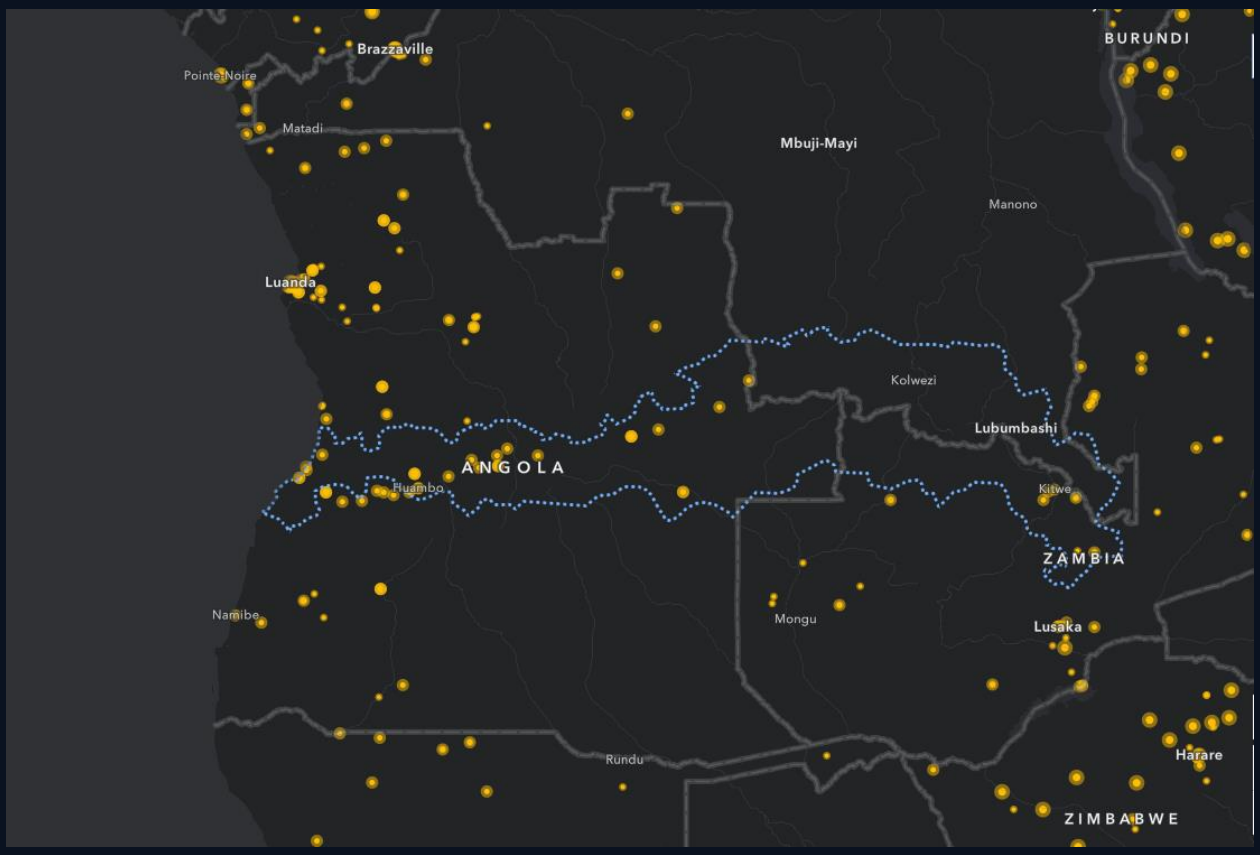
For example, we could explore how much of the corridor is currently cultivated with cropland. The below map could be used to evaluate how development within strategic corridors might impact food security.



Alternatively, we could explore existing infrastructure to identify the capacity of the area to support urban expansion. The map below shows existing and planned electricity infrastructure within the Benguela-corridor.



It is even possible to map existing foreign investment to identify potential financing gaps. For example, the next map shows the localities of projects financed by the Chinese government.



Supporting urban policy

Urban development is embodied by Sustainable Development Goal 11 to achieve **Sustainable Cities and Communities**. Progress towards SDG 11 has been slow, especially in Africa where 238 million people currently live in urban slums. While many nations have developed sustainable urban policies, only half have reached the implementation stage for these policies.

11 SUSTAINABLE CITIES AND COMMUNITIES

MAKE CITIES AND HUMAN SETTLEMENTS INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE

THE PANDEMIC HAS WORSENED THE PLIGHT OF SLUM DWELLERS

THE MAJORITY OF THE MORE THAN **1 BILLION SLUM DWELLERS** RESIDE IN THREE REGIONS (2018)

EASTERN AND SOUTH-EASTERN ASIA	SUB-SAHARAN AFRICA	CENTRAL AND SOUTHERN ASIA
370 MILLION	238 MILLION	226 MILLION

16%

THE AVERAGE GLOBAL SHARE OF URBAN AREA ALLOCATED TO STREETS AND OPEN PUBLIC SPACES (2020)

SHORT OF THE TARGET OF 30% STREETS AND 10–15% OPEN PUBLIC SPACES

156 COUNTRIES HAVE DEVELOPED NATIONAL URBAN POLICIES

BUT ONLY HALF ARE IN THE IMPLEMENTATION STAGE

ONLY HALF OF THE WORLD'S URBAN POPULATION HAVE CONVENIENT ACCESS TO PUBLIC TRANSPORT (2019)

CONVENIENT ACCESS MEANS RESIDING WITHIN 500 M WALKING DISTANCE OF A BUS STOP/LOW-CAPACITY TRANSPORT SYSTEM AND 1000 M OF A RAILWAY OR FERRY TERMINAL

THE SUSTAINABLE DEVELOPMENT GOALS REPORT 2021: UNSTATS.UN.ORG/SDGS/REPORT/2021/

Source: United Nations Department of Economic and Social Affairs

The need to support sustainable African urbanisation is urgent, and is a priority for the European Commission. The European Commission, thanks to the information supplied by the JRC, contributes directly to SDG Target 11a:

"Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning"

The overall aim of the JRC's efforts is to develop an **online tool to perform multi-dimensional analysis of territorial developments related to urbanisation and regional connectivity**. Once completed, the tool can be used by stakeholders and policy-makers to evaluate and eventually select strategic locations for investments in urban and regional sustainability.

These efforts advance Europe's Comprehensive Strategy with Africa, which states plainly that:

"African cities have a key role to play in the green transition; the EU should support the development of green and smart urbanisation models and businesses in Africa."

The data and indicators from the JRC's efforts will gradually be made available through the **Urban Data Platform Plus**, where it can be used freely by all stakeholders in African urbanization.

https://africa-knowledge-platform.ec.europa.eu/

This document has been originated from a StoryMap compiled in the context of the European Commission's Africa Knowledge Platform.

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Related websites

Urban Data Platform Plus

Images

Cover image: Kampala taxi rank cover image: Photo by Hassan Omar Wamwayi on Unsplash