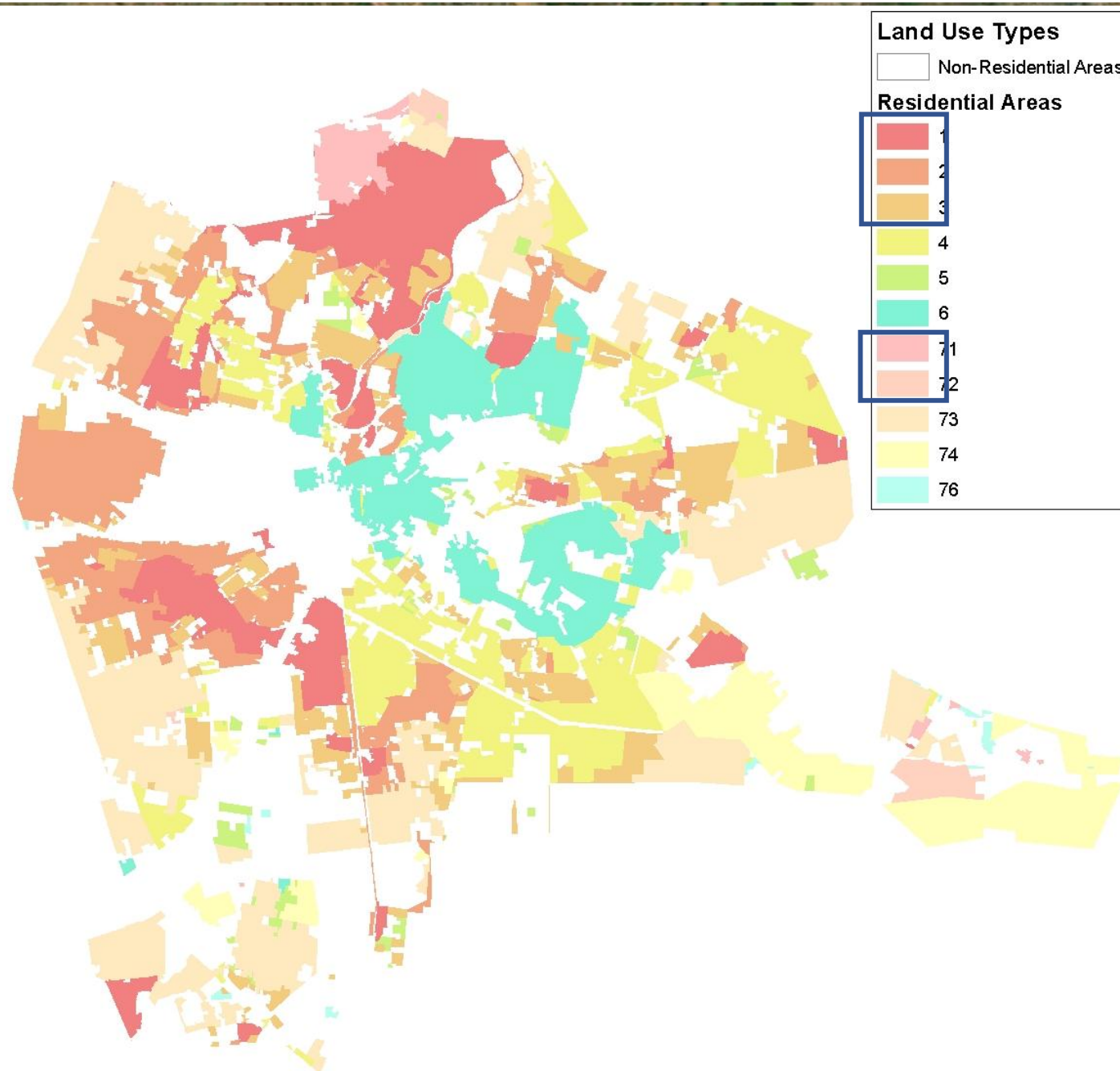# Key Findings: Analysis of Informal Areas Lusaka, Zambia

Patrick Lamson-Hall

The International Growth Centre

September 2021

plamsonh@stern.nyu.edu

# Lusaka contains three distinct types of informal settlements



Land Use Types

Non-Residential Areas

Residential Areas

| | |
|---|---|
| | 1 |
| | 2 |
| | 3 |
| | 4 |
| | 5 |
| | 6 |
| | 71 |
| | 72 |
| | 73 |
| | 74 |
| | 76 |

Residential Types
1 – Atomistic Development
2 – Informal subdivision
3 – Basic subdivision
4 – Formal subdivision
5 – Project development
6 – Upper income subdivision
71 – Barren land/atomistic
72 – Agricultural land/informal/disorderly
73 – Agricultural land/formal/disorderly
74 - Agricultural land/formal/orderly
76 – Agricultural land/formal/high-income

# Type 1 – Atomistic Development

Structure characteristics: Small houses (<40m2) with tin roofs, set irregularly and with no consistent relationship to each other. Coverage of the parcels is high (>50%).

Parcel characteristics: Parcels are irregular, not orthogonal, with no axis of symmetry and no clear layout with regard to one another.

Neighborhood characteristics: The layout of roads and paths is random and consists almost entirely of 3-way intersections. Width of roads is variable and roads do not run parallel nor meet perpendicularly. There are no arterial roads.



Example areas: Kuku, Misisi, Frank, Chawama, Kanyama, Kailingalinga, Bauleni, Kamanga, Kabanana, Chazanga.

# Type 2 – Informal Subdivision

Structure characteristics: Small houses (<50m2) with tin roofs, set regularly and in more or less straight lines, parallel to each other.

Parcel characteristics: Parcels are essentially rectilinear with some variation but with clear axes of symmetry and a clear layout with regard to other parcels. Coverage of the parcels is high (>50%).

Neighborhood characteristics: The neighborhood is organized into blocks which have some irregularity but contain many 4-way intersections. Width of roads is fixed with some variation in areas of transition, and roads run roughly parallel and meet roughly perpendicular. There are no arterial roads.



Example areas: Garden Park, Kanyama, John Laing, Jack, Kalikiliki, Mtendere East, Ng'ombe, Matero North, Matero East, George, Chunga.
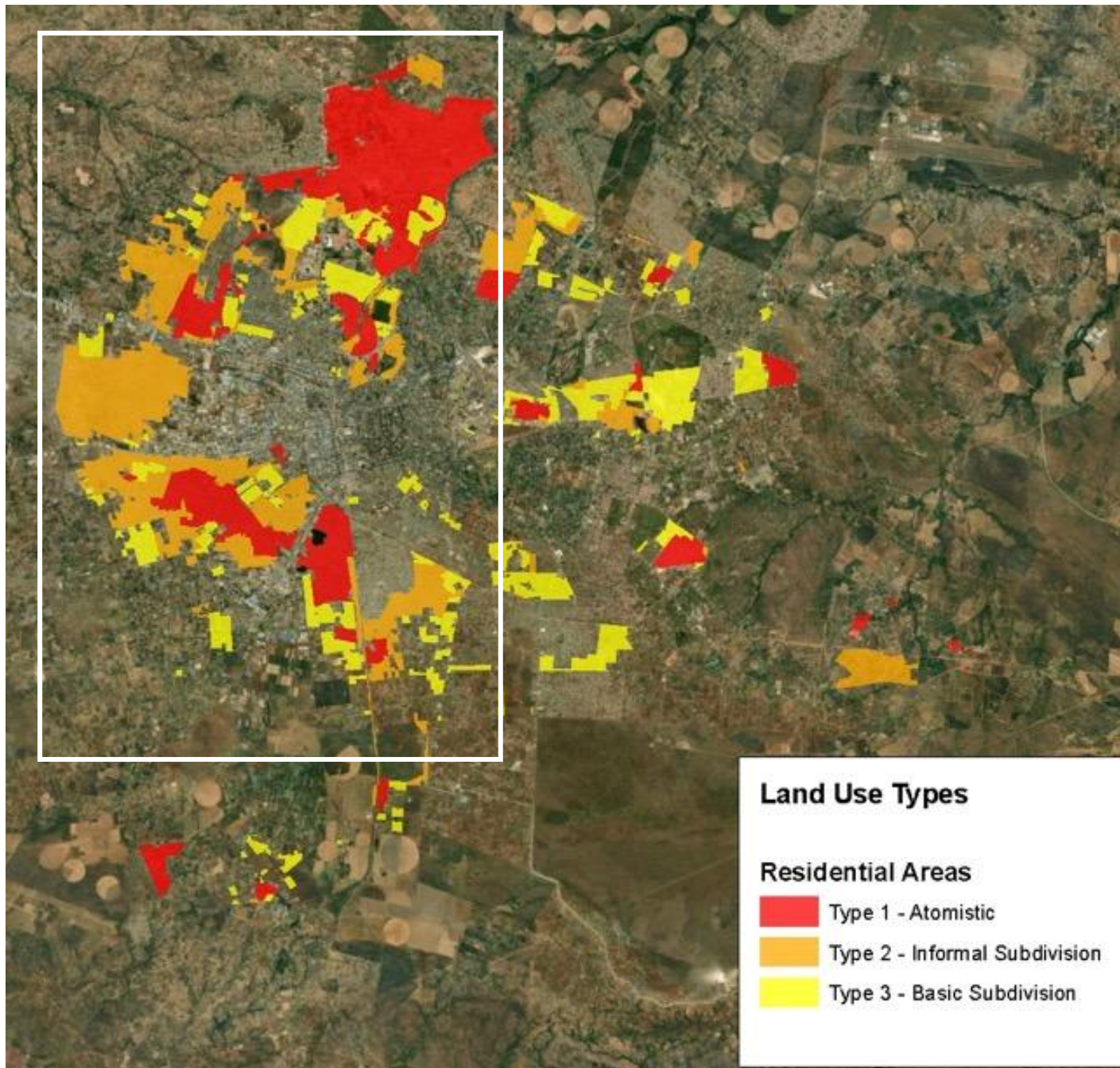
# Type 3 – Basic Subdivision

Structure characteristics: Small or medium-sized houses (<100m2) with tin or painted tin roofs. Structures sit parallel or perpendicular to adjacent structures.

Parcel characteristics: Parcels are rectilinear and properly surveyed with clear axes of symmetry and a parallel or perpendicular relationship to adjoining parcels in most cases. Coverage of the parcels is high (>50%).
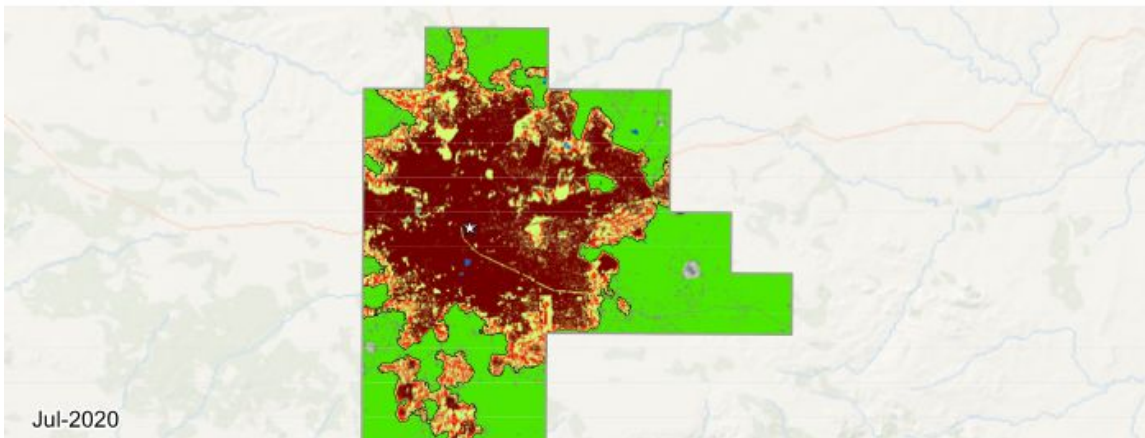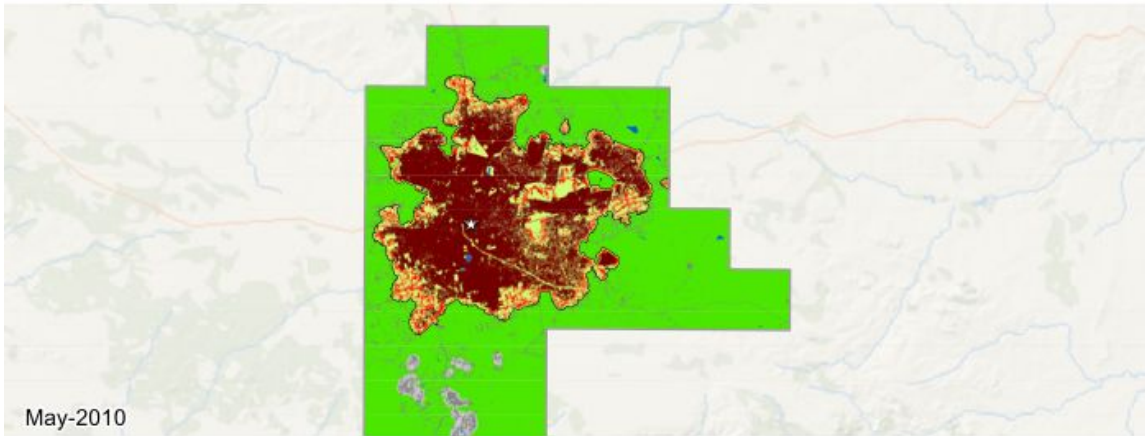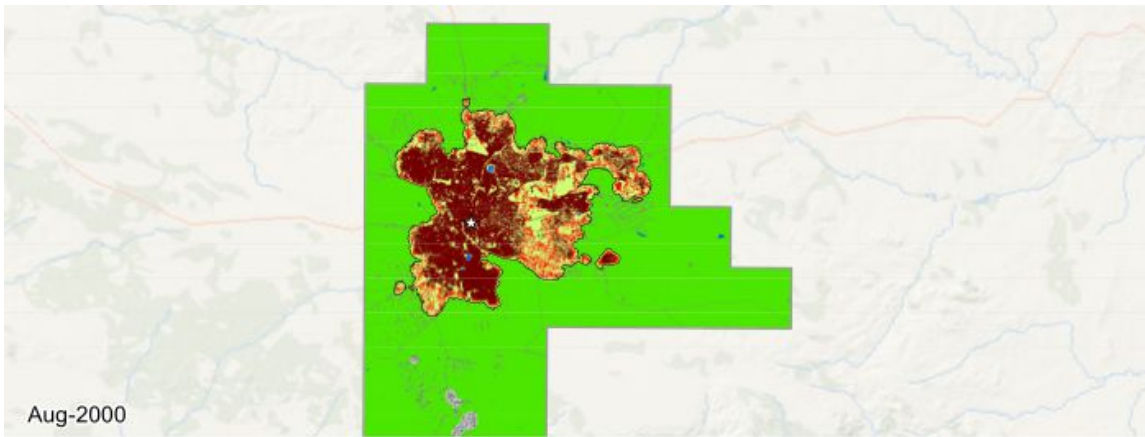
Neighborhood characteristics: The neighborhood is organized into consistently sized blocks and mainly meet in 4-way intersections. Width of roads is fixed, some roads conform to municipal requirements and have paving. Roads generally run parallel and meet perpendicularly. There are some arterial roads on the boundaries of neighborhoods.



Example areas: John Howard, Avondale, Chelston, Kuanda Square Stage One, Mandevu/Marapodi, Lusaka North Forest.

**These have grown mainly toward the west side of the city**

Land Use Types

Residential Areas

Type 1 - Atomistic
Type 2 - Informal Subdivision
Type 3 - Basic Subdivision

# From 2000 - 2020

## 1.17 million people moved to Lusaka
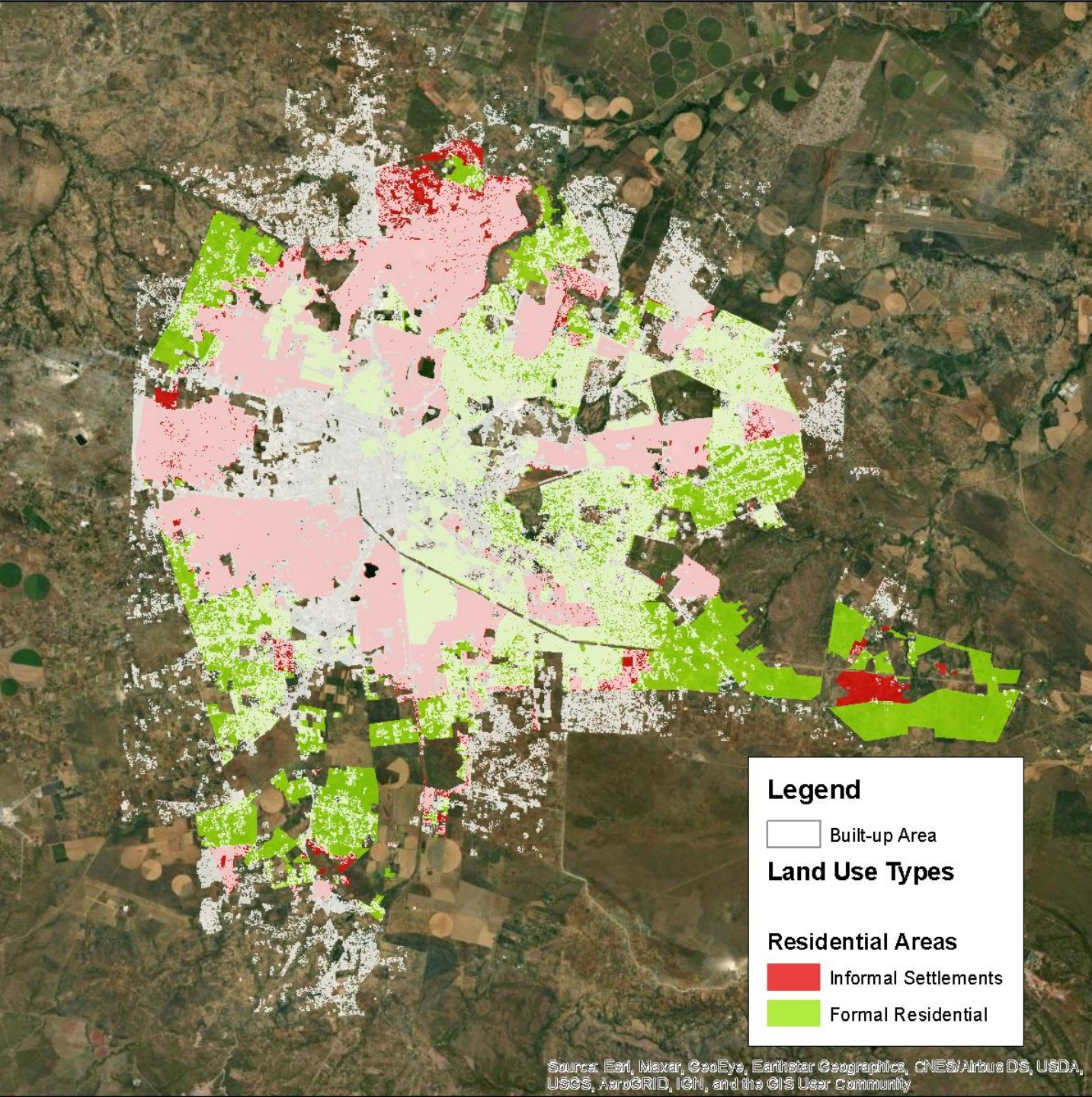
The city grew from 1.08 million to 2.25 million residents.

## 117 square kilometers of new built-up area were added

The built-up area grew from 113km$^2$ to 290km$^2$ .

## Population density fell by 10.5%

Density declined from 60 pp/hectare to 54 pp/hectare.

(Data is from LANDSAT satellite imagery and ZamStats)

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Legend**

▢ Built-up Area

**Land Use Types**

**Residential Areas**

🟥 Informal Settlements

🟩 Formal Residential

# From 2000 - 2020
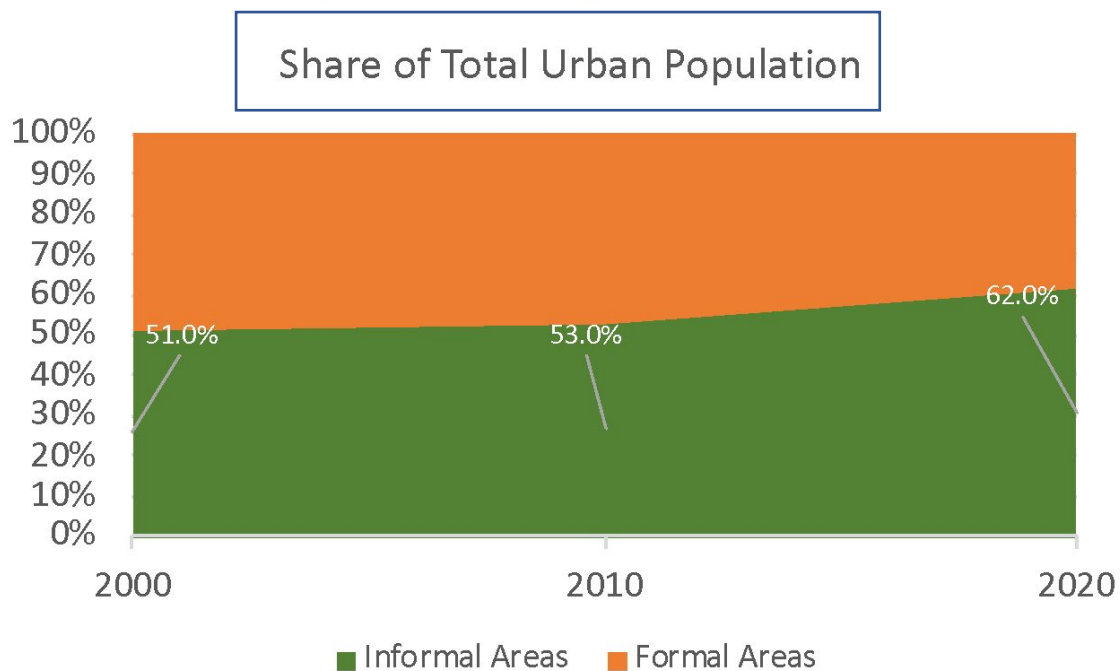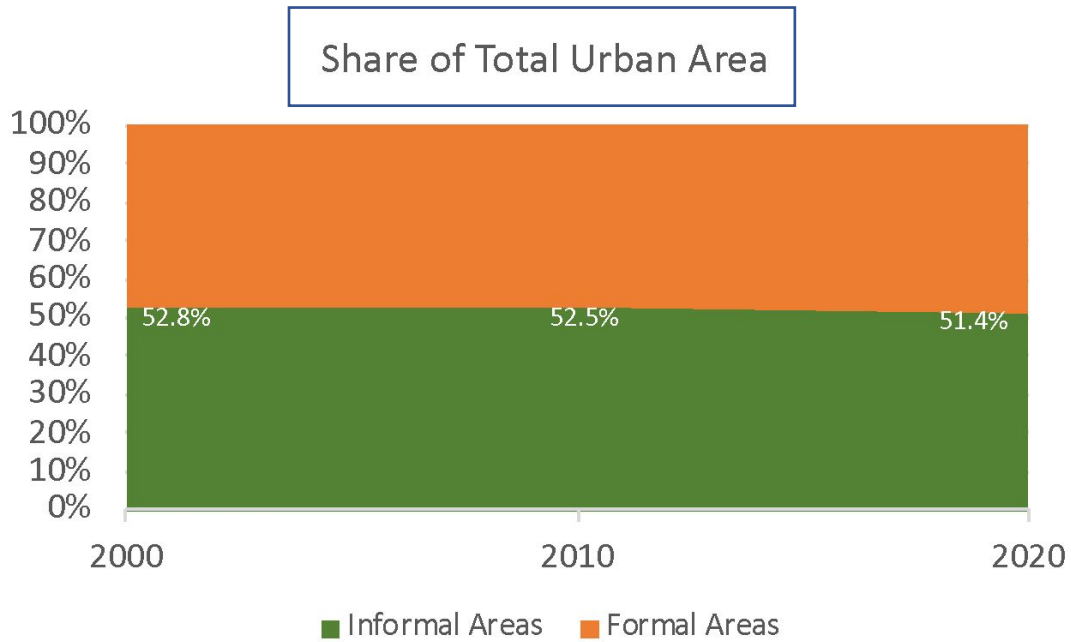
## 114% increase in size of informal settlements

Total area in informal settlements grew from 4,391 hectares to 9,430 hectares

## 155% increase in population of informal settlements

Total population in informal settlements increased from 553,000 to 1,407,000

## 17% increase in density in informal settlements

Average population density in informal settlements increased from 126 pp/hectare to 148 pp/hectare.

Share of Total Urban Area

52.8%  52.5%  51.4%

2000  2010  2020

■ Informal Areas  ■ Formal Areas

Share of Total Urban Population

51.0%  53.0%  62.0%

2000  2010  2020

■ Informal Areas  ■ Formal Areas

**Informal settlements have kept pace with the growth of Lusaka, and the population in informal settlements is increasing.**

(Data is from LANDSAT satellite imagery and ZamStats)

# Housing in Informal Settlements

# Low per-capita consumption of floorspace



## Higher Density than the city as a whole
- Population density is 148 persons per hectare versus average citywide population density of 54 persons per hectare.

## Smaller Structures
- Typically less than 50m$^2$ based on rooftops

## Low Building Height
- Usually one story, no more than two

# Layout of informal settlements



# Fragmented and disconnected

## Many 3-way intersections
- Lack of planning results in traffic-promoting neighborhood layouts

## Few Arterial Roads
- Lack of major roads that connect to different parts of the city and can carry public transit and trunk infrastructure

## Narrow streets with no sidewalks
- Neighborhood streets are between 4m and 10m and lack basic pedestrian facilities

# Greenspace in informal settlements



# Lack of green and open spaces

## High Coverage of parcels
- On average, more than 50% of a typical parcel is covered with structures.

## No parks or public facilities
- Most areas lack any parks, whether large or small

## Private greenspaces only
- Greenspaces that do exist are all privately owned or limited in accessibility

**Lusaka is growing rapidly, land consumption is increasing, and planning efforts are not resulting in visible changes on the ground**

1. **Lusaka is a rapidly growing city with declining density.**
Total population increased 2.1-fold and total area increased 2.2-fold over twenty years. Although densities in informal settlements rose, these gains were offset by declines in higher income areas.

2. **The urban area is characterized by widespread informality.**
More than half the urban population lives in areas that were <u>not</u> planned before settlement occurred. More than 2/3 of the population growth in Lusaka has occurred in informal settlements.

3. **As the city has grown over the last twenty years, the city has replicated its existing pattern of informality and disorder.**
The share of residential areas that are informal has not changed, and new informal residential areas have grown up on the urban periphery

4. **It is critical that government anticipate future growth with implementable plans on the urban periphery.**
Otherwise, it will continue to chase after informal developments with costly regularization and upgrading schemes.

**DENSIFICATION**

MAKING ROOM WITHIN THE EXISTING CITY

**ORDERLY URBAN EXPANSION**

MAKING ROOM IN NEW AREAS

<u>**Recommendation:**</u>

**Lusaka needs to**

**'Make Room' for**

**orderly urban growth**

Panama City, Panama — 1930 / 2009

Shenzhen, China — 1982 / 2007

Images via: Skyscraper City, Brian Gratwicke

Credit: *Over Hong Kong* (2007), Kaysan Bartlett

Densification and expansion: Rapidly growing cities with many poor residents will grow outward, consuming more land. As cities become wealthier and larger and begin growing more slowly, it becomes affordable and desirable to build vertically.
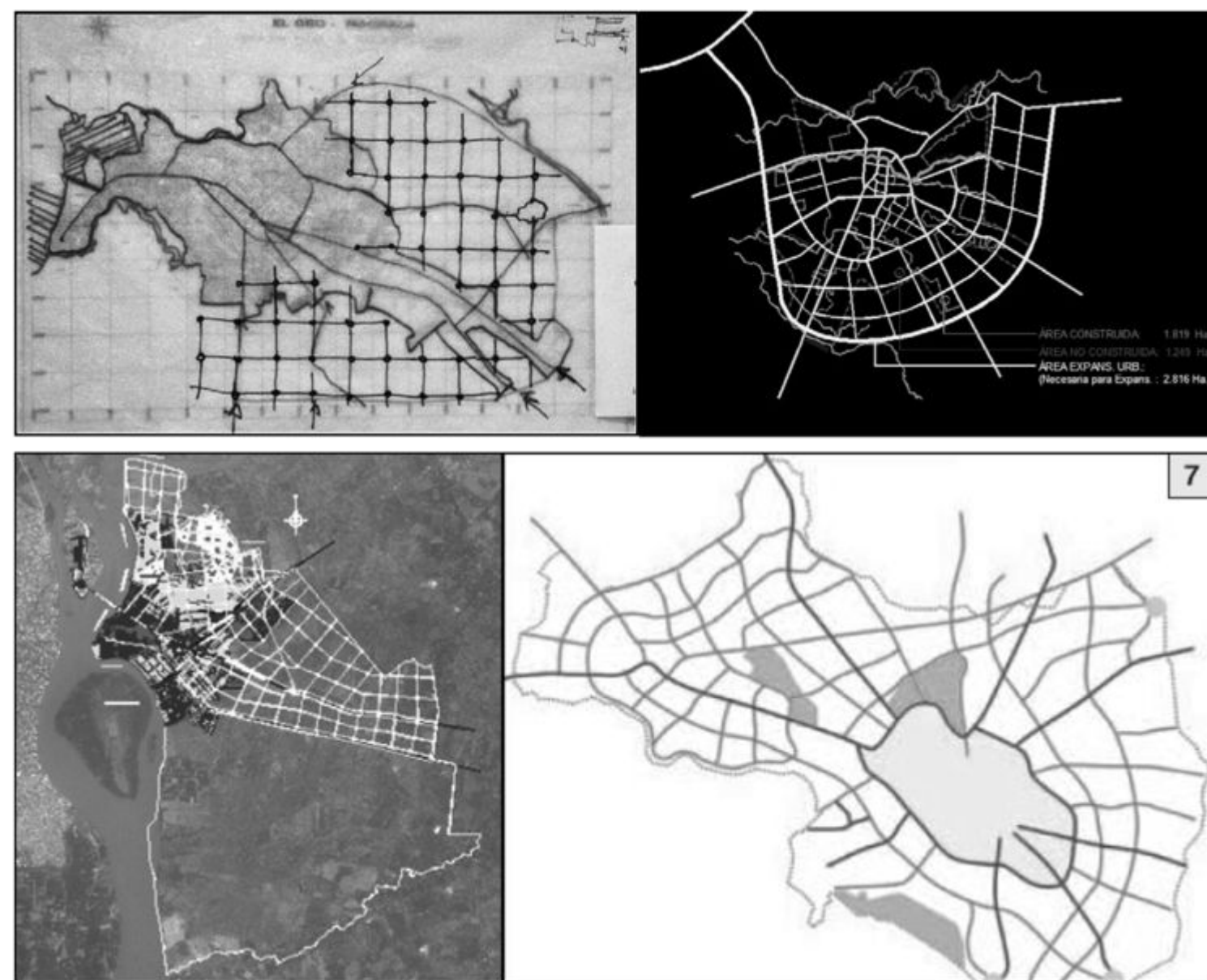
ORDERLY URBAN EXPANSION

# Key Concept: Land for Housing the Poor

- For poor people, especially new migrants to cities, the cost of land is the biggest obstacle to having a home.

- The cheapest land in cities is always on the edge, or periphery. This is where the poor often settle.

- Actions that make land more accessible and more available help address the housing challenge for the poor more than almost any other actions.

- Making land accessible can include a range of activities, but the most basic one is ensuring that enough land is reachable from the city to keep the price low.

# Key Concept: Accessibility

- Neighborhoods that aren't connected to the rest of the city become slums or poverty traps
- Neighborhoods that are connected will offer more opportunities to residents
- Evidence shows that making neighborhoods more connected in an orderly way also lowers the cost of providing basic services by giving infrastructure lines more efficient routes.

# Basic Arterial Road Plans for 30 years of growth



1. Promote orderly urban layouts.

2. Improve access to land on the urban periphery for building homes and businesses.

3. Connect the city together, creating a unified market for labor and goods and services.

4. Strengthen rural-urban linkages that benefit farmers.

The arterial road grid will carry the future network of services – not just cars, but also street lighting, water, drainage, and public transportation.

Protecting the arterial roads

Planning for urban expansion on the ground - Ethiopia

# Thank You!

plamsonhall@gmail.com