

POLICY BRIEF

Informal settlements in Lusaka

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Informal settlements in Lusaka: Key messages

Over the past two decades, the number of Lusaka's residents living in highly dense informal settlements has nearly tripled to about 1.4 million as of 2020, which is nearly 62% of Lusaka's current population.

Approximately 38% of Lusaka's land that is in residential use is informal. This is spread across the city's 94 townships or compounds, with 22 of these townships having more than one-quarter of their land in informal or atomistic settlements.

Lusaka's informal settlements are denser than the surrounding townships, and have become more so over the years: in 2000, they had a density of 126 people per hectare. By 2020, this had increased to 148 people per hectare — significantly higher than the city-wide built-up density of 95 people per hectare.

The cost of formal housing in Zambia is significant: the cheapest newly built formal house in Zambia is equal to about 25 years of salary for an average urban household.

The government has taken action to improve the quality of life in some settlements, most notably through declaring some as 'improvement areas' where residents receive occupancy licences. However, more investments are needed, given the scale of the challenge. Cross-country evidence on the design and implementation of upgrading programmes can provide important inputs into future interventions.

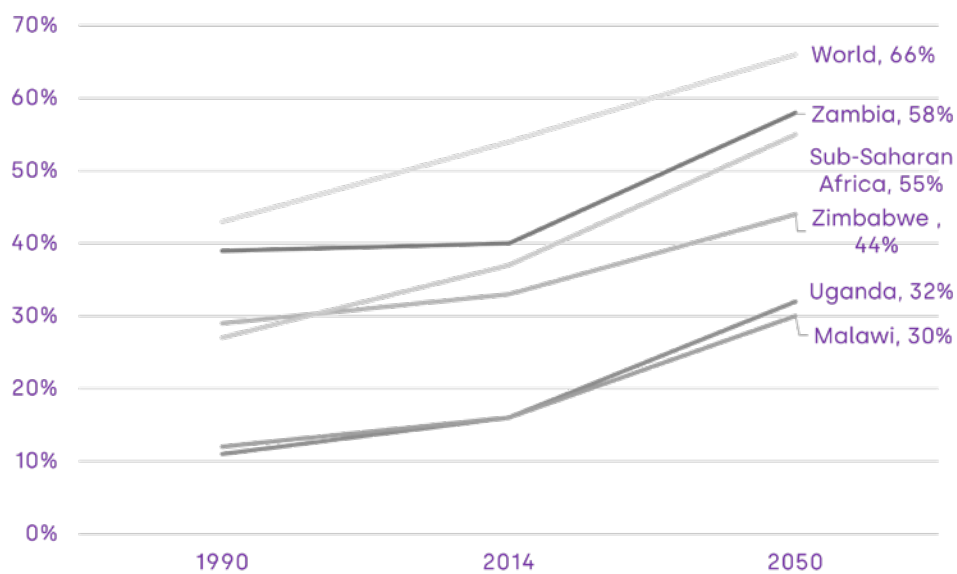
Equally critical are the structural issues that restrict formal housing supply in Lusaka, such as restrictive construction regulations and a lack of long-term land-use planning. Of particular value would be undertaking investments to prepare lands for urban expansion to accommodate anticipated future population growth, which is currently being housed in informal settlements. Secure, legally enforceable and marketable land rights underpin successful urban development.

I. Introduction

Zambia is one of the most urbanised countries in Africa. This is likely to remain the case: by 2050, nearly 6 in 10 Zambians (or 58%) will live in cities, above the sub-Saharan Africa average of 55% (see **Figure 1**). This provides Zambia with an opportunity: a well-managed urban transition can unlock economic growth by connecting people and firms together in dense environments, as long-established research shows. However, benefiting from this urban transition requires proactive investments that build vital urban infrastructure and institutions to keep up with the increasing number of urban dwellers.

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Figure 1: Urbanisation in Zambia and peer countries¹

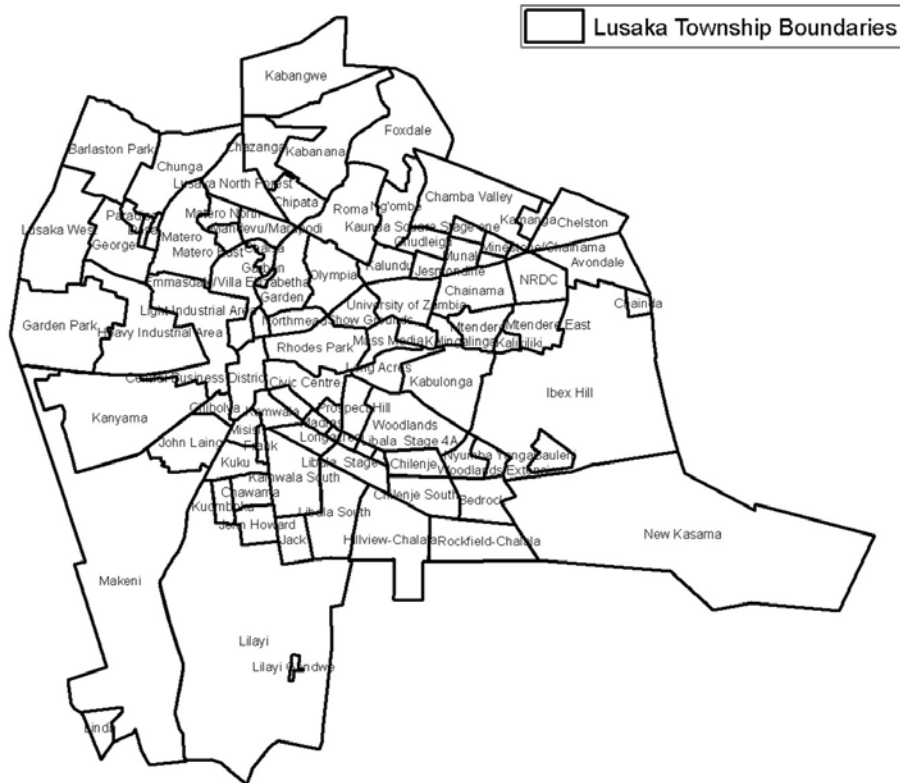


A key manifestation of this lack of basic urban infrastructure is the proliferation of informal settlements. At their core, informal settlements reflect cities' inability to absorb increasing urban populations in the formal housing supply. There are a multitude of reasons for this, including weak land rights, rapid urban growth, ineffective land-use planning, and unrealistic building standards (see **Figure 3**).² Lusaka is an example of this: over the past two decades, the number of Lusaka's residents living in informal settlements has nearly tripled to about 1.4 million as of 2020 — which is nearly 62% of Lusaka's current population, according to an analysis of satellite imagery conducted for this policy brief.

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¹ Data: United Nations, Department of Economic and Social Affairs, Population Division (2014). World Urbanization Prospects: The 2014 Revision, Highlights (ST/ESA/SER.A/352).
² Collier, P., Glaeser, E., Venables, T., Haas, A. and Wani, S. (2020). Designed to succeed: building authorising environments for fast-growing cities.

Figure 2: Lusaka township boundaries and names

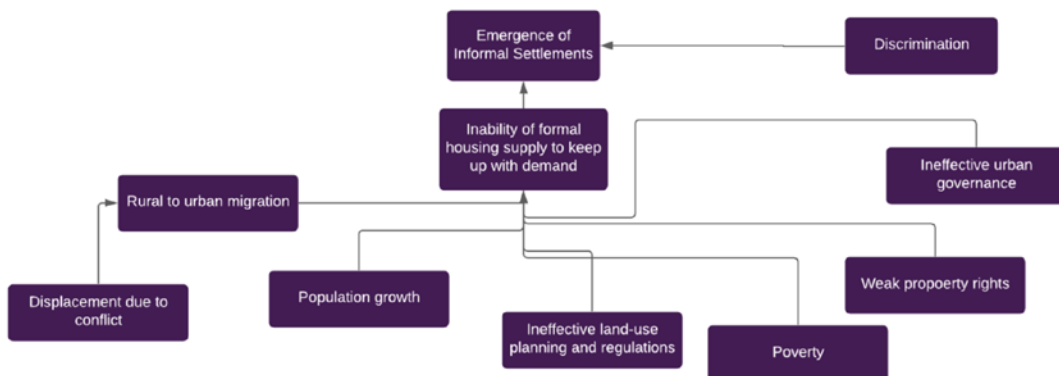


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Recognising this trend, one of the core policy objectives conveyed by the Ministry of Local Government is their focus on informal settlements: both upgrading existing settlements by providing targeted improvements in public services, along with proactive planning to prevent further growth of informal settlements.

However, relevant and up-to-date spatial data on these vulnerable areas is lacking. This policy paper responds to this gap by providing a spatial-based analysis of current informal settlements in Lusaka and outlining first-order policy directions for policymakers to consider, both to manage current informal settlements and prevent future ones. The benefit of this focus is clear: well-targeted investments that improve infrastructure and public services can provide the foundation for building a more prosperous and liveable Lusaka, and by extension, unlock economic gains for Zambia through higher productivity.

Figure 3: Why informal settlements emerge?



This paper is structured as follows:

- **Section II** provides a spatial analysis of current informal settlements in Lusaka;
- **Section III** provides policy options for policymakers to improve existing informal settlements and prevent future ones; and
- **Section IV** concludes by stressing the importance of cities for national economic prosperity.

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BOX 1: ARE INFORMAL SETTLEMENTS POVERTY TRAPS?

Some economists have argued that informal settlements are a transitory phenomenon: allowing rural migrants short- or medium-term housing until they eventually move to formal housing. In this school of thought, slums provide migrants the first leg into urban life; they eventually set up businesses, find jobs, and move to better housing as they benefit from urban economies, all making them better off in the long run. However, others have argued that slums might be “traps” for their residents. This is because poor health and sanitation infrastructure, combined with overcrowding, leads to poor health outcomes that drag down income. The fact that many slum-dwellers rent their homes also restricts their resident's ability to save: **in Nairobi's Kibera slum, researchers found nearly a third of non-food expenditure went to housing rents.**³

It is also fundamental to recognise that whether an informal settlement becomes a poverty trap has much to do with what is occurring around it – are there opportunities for people to move up into low-cost formal sector housing? Can small businesses grow and expand without encountering burdensome restrictions? Are educational opportunities available for youth, and can ordinary people access lending? Many of these issues come down to land, and whether the supply of land is sufficiently ample to allow lower-income people access to it – for public open spaces, schools, new homes, and, businesses. These issues make for policymakers to invest in informal settlements even more urgent.

II: Analysis of informal settlements in Lusaka

Through the use of satellite imagery, existing informal settlements within the administrative boundary of Lusaka have been analysed by the research team based at the India Urban Expansion Observatory and led by Patrick Lamson-Hall. The analysis suggests the following key takeaways:

- The number of people living in Lusaka's informal settlements has nearly tripled over the past two decades to about 1.4 million as of 2020, which is nearly 62% of Lusaka's current population.

³ Marx, B., Stoker, T. and Suri, T. (2013). The economics of slums in the developing world. *Journal of Economic perspectives*, 27(4), 187-210.

- Approximately 38.3% of Lusaka's land that is in residential use is informal. This is spread across the city's 94 townships or compounds, with 22 of these townships having more than a ¼ of their land in informal or atomistic settlements.
- Lusaka's informal settlements are denser than the surrounding townships, and have become more so over the years: in 2000, they had a density of 126 people per hectare (about 1.26 people per square kilometre). By 2020, this had increased to 148 people per hectare (or 1.48 per square kilometre). The city as a whole has a built-up density of 95 people per hectare.
- The growth of informal settlements has occurred in all directions: mainly to the north, south, and west, with some growth towards the southeast.

1. Where are Lusaka's informal settlements located?

For this analysis, 419 distinct residential areas in Lusaka City were identified and grouped into six core types based on shared characteristics. The resulting typology is defined using observed variations relating to the structure of the buildings, parcels, and the neighbourhood road layouts in each residential area. Box 2 elaborates on these characteristics.

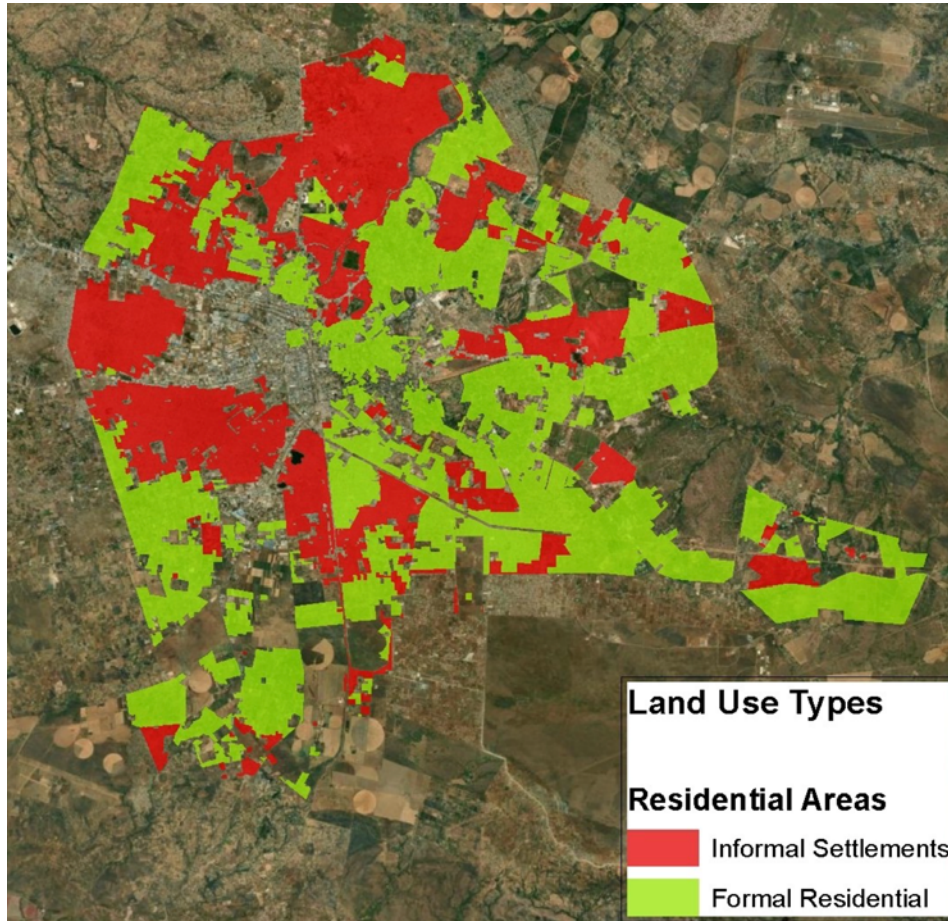
BOX 2: BACKGROUND ON METHODOLOGY

This spatial analysis, conducted by Patrick Lamson-Hall and the India Urban Expansion Observatory, grouped individual parcels within the administrative area of Lusaka into zones comprised of other, similar parcels and small areas. Groupings were bounded by parcel edges or roads and used the following key questions to differentiate zones from each other:

Structure characteristics	<ul style="list-style-type: none"> What are the roofs made of? How many structures are on a parcel? How big are the houses (largest structure)? How are the houses oriented compared to the road? How similar is the size and orientation of each house to the houses on adjacent parcels?
Parcel characteristics	<ul style="list-style-type: none"> Are the parcels square, or symmetrical on at least one axis? How much of the typical parcel is covered by the largest structure? Are the parcels the same shape and size as the adjacent parcels? How are the parcels oriented compared to the road?
Neighborhood characteristics	<ul style="list-style-type: none"> Does the neighbourhood comply with the known development norms for Lusaka? Do the roads have a pattern? Are there predominantly 3-way or 4-way intersections? What is the road width? Is it consistent? What is the road material? Is it consistent? What other services are visible? Are there streetlights? Fire hydrants? Sidewalks? Is there an arterial network in the area? How does the neighbourhood network intersect with the arterial network? Is there vegetation?

Broadly, **the areas shown in red in Figure 4 correspond to informal settlements.** The areas that are not covered either fall beyond the jurisdiction of Lusaka city or are in non-residential use.

Figure 4: Informal and formal settlements in Lusaka



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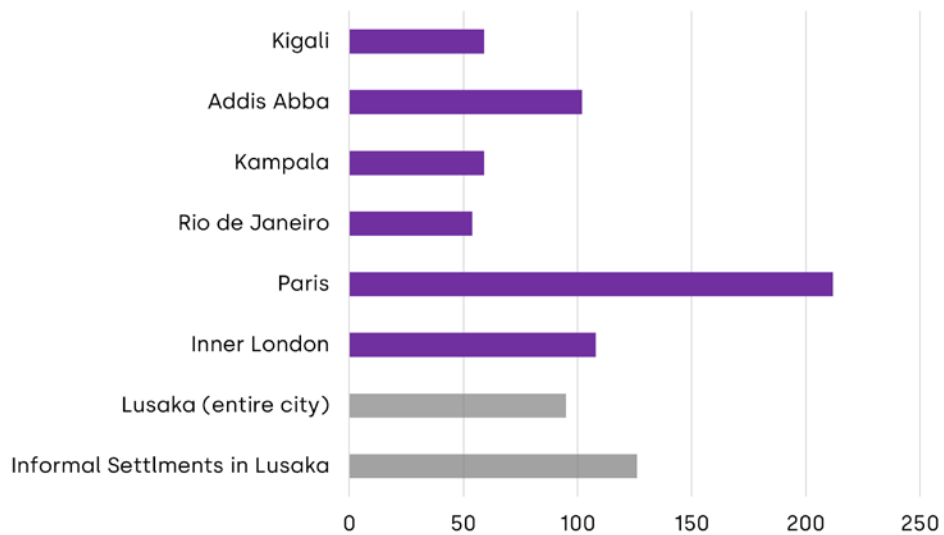
2. How have informal settlements in Lusaka grown?

Lusaka has grown rapidly between 2000 and 2020, both doubling the population and the built-up area of the city.

- The total area where informal settlements in Lusaka are located grew from 4,391 hectares in 2000 to 9,430 hectares in 2020 – nearly doubling the total area covered up by informal settlements.
- The population living in those settlements nearly tripled from 553,000 in 2000 to 1,407,000 in 2020. The density in those settlements increased from 126 persons per hectare to 148 persons per hectare – an increase of 17.5% within two decades. In comparison, inner London has a density of 108 people per hectare (see **Figure 5** for density comparisons with other regional and global cities).



Figure 5: Density (persons per hectare) in Lusaka versus other cities⁴



People collect water at a water point in the “compound” township on the outskirts of Lusaka on November 12, 2014. GIANLUIGI GUERCIA/AFP via Getty Images

- The broader city of Lusaka has also grown rapidly over the past two decades: **the city's total urban extent more than doubled from 17,992 hectares in 2000 to 41,490 hectares in 2020 – or by 1.3 times.** The built-up area within this urban extent increased from 11,368 hectares in 2000 to 29,009 hectares in 2020. The saturation, or ratio of built-up area to urban extent, increased from 63% to 70% over the same period of time, indicating that open space within the city – including land for public spaces and land for infill development – is diminishing rapidly. The city's population more than doubled from 1.08 million in 2000 to 2.25 million in 2020.

⁴ Data of Inner London, Paris, and Rio de Janeiro from GLA Report 2016 'Lessons from higher density development' is of 2015 figures. Data for Kigali (2014), Addis Abba (2010), and Kampala (2015) is from the Atlas of Urban Expansion.

Figure 6: Expansion of informal settlements in Lusaka



The expansion of built-up area in informal and formal settlements of Lusaka between 2000 (far left), 2010 (center) and 2020 (far right).

- The direction of growth of informal settlements has been towards the North, South, and the West, with some growth towards the Southeast.

3. What are the core characteristics of informal settlements in Lusaka?

- Informal settlements are denser than typical settlements, with an average built-up density of 148 persons per hectare, as against the built-up density in the city at large of 95 persons per hectare.
- Informal settlements are dominated by structures of less than 50m² based on the size of rooftops. Most of the roads have informal layouts with very few high-capacity arterial roads. On average, more than 50% of a typical parcel is occupied by structures and there are few open spaces, public or private.

Three types of settlements dominate Lusaka's informal areas, as shown in **Table 1**.

Table 1: Settlements that dominate Lusaka's informal areas:

Settlement type	Structure	Parcel characteristics	Neighbourhood characteristics	Examples of settlements
Atomistic Development	Small houses (<40m ²) with tin roofs, set irregularly and with no consistent relationship to each other.	Parcels are irregular, not orthogonal, with no axis of symmetry and no clear layout with regard to one another. Coverage of the parcels is high (>50%).	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 do they meet perpendicularly. There are no arterial roads.	Kuku, Misisi, Frank, Chawama, Kanyama, Kailingalinga, Bauleni, Kamanga, Kabanana, Chazanga.
Informal Subdivision	Small houses (<50m ²) with tin roofs, set regularly and in more or less straight lines, parallel to each other.	Parcels are essentially rectilinear with some variation but with clear axis of symmetry and a clear layout with regard to other parcels. Coverage of the parcels is high (>50%).	The neighbourhood is organised into blocks that have some irregularity but contain many 4-way intersections. The 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.	Garden Park, Kanyama, John Laing, Jack, Kalikiliki, Mtendere East, Ng'ombe, Matero North, Matero East, George, Chunga.
Basic Subdivision	Small or medium-sized houses (<100m ²) with tin or painted tin roofs. Structures sit parallel or perpendicular to adjacent structures.	Parcels are rectilinear and properly surveyed with clear axis of symmetry and a parallel or perpendicular relationship to adjoining parcels in most cases. Coverage of the parcels is high (>50%).	The neighbourhood is organised into consistently sized blocks and mainly meet in 4-way intersections. The 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 neighbourhoods.	John Howard, Avondale, Chelston, Kuanda Square Stage One, Mandevu/ Marapodi, Lusaka North Forest

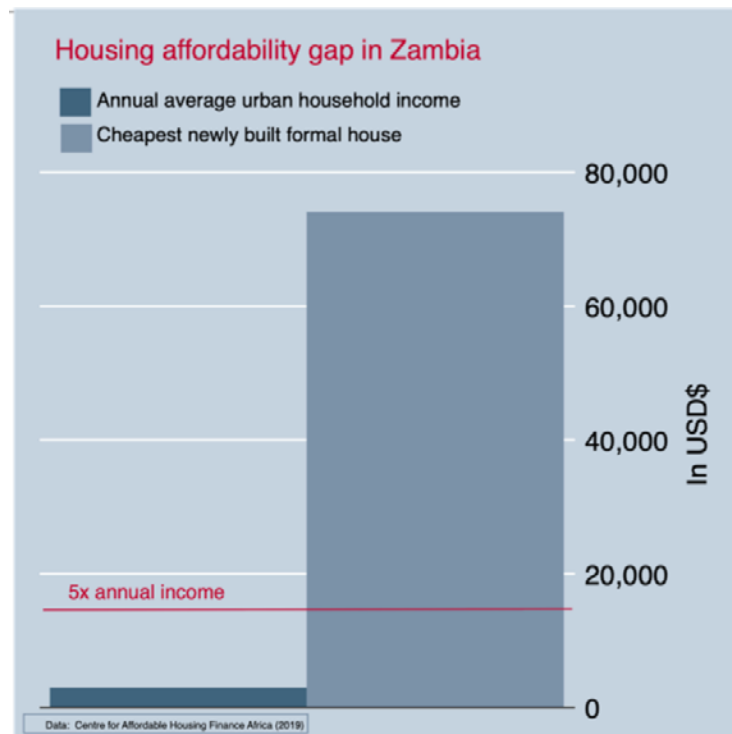
III: Preventing future informal settlements

Informal settlements are typically the result of underlying institutional issues that result in inadequate and costly formal housing supply.

As a benchmark, it is estimated that an affordable house costs approximately 3-5 times the buyer's annual income (although this can be relaxed where formal mortgage markets are widespread and interest rates are low). But houses in many cases can cost far beyond this. While data is scarce, this is likely the case in Zambia: one estimate puts the cheapest newly built house by a professional developer, on average, at

ZMW950000 (US\$ 73,918) in 2019, while urban household income is about ZMW3152 (US \$245) a month, on average.⁵ That means that **the cost of the cheapest newly built formal house in Zambia is equal to about 25 years of salary for an average urban household**. This is illustrated in **Figure 7**. This estimated cost of a formal house is significantly higher than the estimated cost of building a house in Lusaka (US\$ 28,426), likely because the formal housing market is focused on providing housing for higher-income groups. This contributes to the fact that approximately 60% of urban households in Zambia rent and the majority reside in informal settlements.⁶

Figure 7: Housing affordability gap in Zambia⁷



Policymakers can consider several policy options to increase the housing stock in Lusaka:

- By planning ahead for urban expansion to reduce housing costs by making more land available for urban growth;
- Improving urban governance institutions, such as land rights and construction regulations; and/or
- Providing public housing.

⁵ <http://housingfinanceafrica.org/app/uploads/V18-Zambia-profile-final-18-Nov-2019.pdf>

⁶ <http://housingfinanceafrica.org/app/uploads/V18-Zambia-profile-final-18-Nov-2019.pdf>

⁷ Data from CAHF. (2017). "Benchmarking Housing Construction Costs in Africa." from <https://housingfinanceafrica.org/documents/benchmarking-housing-construction-costs-africa/>. Graph by authors

Planning ahead for urban expansion

This is a significantly lower-cost approach of building up formal housing stock over time: both because it does not necessarily require large initial investments, and because it saves retrofitting infrastructure once people have settled, which is estimated as three times more expensive and administratively very challenging.⁸ The following are a few steps to consider:

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- **Acquire land for services in the area of future expansion:** the government can identify areas of future urban expansion and acquire land for rights of ways on roads and other public infrastructure in those areas. This will use public lands to organise the private land, creating orderly development even in areas that are informal. For example, this policy is already used in Hargeisa, where 30% of land purchases on the urban periphery are required to be set aside for the municipality.⁹

BOX 4: PLANNING FOR ETHIOPIA'S URBAN EXPANSION

Ethiopia's policymakers and experts at New York University have been working together since 2013 to prepare Ethiopian cities for their inevitable expansion. They have used mapping tools to identify areas on the outskirts of four fast-growing cities where population can settle over the next 30 years. In these areas, policymakers acquired land for a 1kmx1km grid of arterial roads, and a hierarchy of public open spaces. These land reserves defined the growth areas of the city and made it cheaper and faster to provide infrastructure, including to informal areas. As of 2018, a total of 570 linear kilometres of arterial roads have been constructed or secured (either with markers or with trees).¹⁰

The total cost of this project was on the order of US\$ 8 million per city, amortised over several years.

- Following land acquisition for corridors, the government can more easily **provide trunk-level infrastructure** to neighbourhoods, such as water, sanitation, and energy. To protect this land from squatting, the government can earmark it as reserved for public infrastructure, as in the case in Valledupar, Colombia, where the city has planted trees to outline the future road grid, providing a visible and popular signal of proactive planning for urban growth.¹¹
- If funds are available, the government can go beyond this and **provide on-plot infrastructure**, such as water, sanitation, and electricity connections to homes themselves. This land can be

8 Fernandes, E. (2011). "Regularization of Informal Settlements in Latin America", Lincoln Institute for Land Policy.

9 Harman, O. (2021). "Key considerations for government housing provision in lower income contexts" International Growth Centre, Cities that Work Policy Brief.

10 https://marroninstitute.nyu.edu/uploads/content/Urban_Expansion_concept_overview_22_Sepember_2020.pdf

11 Collier, P., Glaeser, E., Venables, A. J., Blake, M. and Manwaring, P. (2018). "Land rights – unlocking land for urban development", International Growth Centre, Cities that Work Policy Brief.

used by families to incrementally build their own housing (see **Box 5**). This 'sites-and-services' model – that provides land and basic infrastructure to people – can help cities better prepare for urban expansion.

BOX 5: SUPPORTING INCREMENTAL HOUSING

An estimated 20-70% of houses in developing cities are already constructed incrementally – that is, people build up their houses over time in phases.¹² This reduces the up-front costs of building houses and allows owners to design them according to their own needs. This typically happens without any government intervention or support. In some places, governments have attempted to proactively support it: the Chilean National Housing Program, for example, has provided incremental housing through constructing “half of a house” in a well-located area, with space left between houses for expansion for low-income residents. The Chilean experience suggests that the most expensive and technically fundamental elements of the house should be provided, while cheaper elements should be left to residents to create over time based on their preferences.¹³



Incremental house, Santiago de Chile, by Elemental (Left: Initial House Delivered. Right: Personalised Houses After Time). Source: Wainer, Ndengeyingoma, and Murray (2016)

Improving urban governance

Another set of policy options concerns the improvement of urban governance, especially land rights and land-use regulations that act as underlying constraints to formal housing supply.

1. Improving land rights

Ideally, land rights need to be secure, legally enforceable, and marketable. Doing so results in increased investment, unlocks significant land market activity, and increases land market transactions so that the land moves to its most efficient use. However, in many cities in developing countries, land rights are highly contested and cannot be easily sold, which disincentivises people from making substantial

¹² Wakely, P. and Riley, E. (2011). The case for incremental housing. Cities Alliance.

¹³ Wainer, L.S., Ndengeyingoma, B. and Murray, S. (2016). "Incremental housing, and other design principles for low-cost housing". International Growth Centre.

property investments, accessing finance, or transferring land to those best placed to develop it.¹⁴ Improving land rights has been politically and financially challenging as they require formal demarcation of plots, up-to-date cadastral records, and navigating complex land disputes.

Despite the administrative challenges in doing so, improving land rights is of critical importance for cities to function well. Evidence shows, for example, that the presence of a traditional land tenure system in Uganda skews land-use towards informal housing and away from business and commercial activities.¹⁵ Thus, improving land markets can yield significant benefits. This also requires corresponding investments in land administration systems.¹⁶ In Peru, a large-scale land registration programme in Lima led to a 60% increase in housing investments and a 134% increase in land market transactions.¹⁷ **Table 2** outlines the common form of tenure systems.

While Zambia has made attempts to improve urban land rights, significant challenges remain. Occupancy certificates, currently the predominant form of tenure security in Lusaka, can be classified as an 'intermediary' system of tenure. This is the case in settlements that have been declared as 'improvement areas', where dwellers are able to secure a 30-year occupancy right.¹⁸ Whilst they are relatively easy to implement and enable ownership to be legally enforced, they cannot easily be leveraged as collateral for banks, and are difficult to transact at market-related values. On the other hand, the long-term 99-year leaseholds, which are in use in formal areas of Lusaka, can capture the full benefits of secure, legally enforceable and marketable land rights when accompanied by well-functioning legal and administrative systems.

However, significant administrative issues exist that severely restrict efficiency of land rights. It is estimated that land title to a plot that is not in the cadastral system can take as much as a decade to process, as the land system is highly centralised. This is further restricted due to lack of up-to-date spatially referenced data on land. **Even for registered plots of land, transferring ownership can take at least 39-45 days and cost, on average, 9.7% in the form of property transfer tax.**¹⁹ For this purpose, a non-encumbrance certificate, the draft purchase and sale agreement, state's consent to the sale, and evidence of property transfer tax are needed before the seller can lodge the process at the Land and Deeds Registry for an additional fee. Once the ownership has transferred, the owner needs to then apply to the Planning Authority, the Lusaka City Council and the Ministry of Lands to provide services to the plot – although there is no guarantee that this will be fulfilled.²⁰

14 Collier, P., Glaeser, E., Venables, A., Blake, M., and Manwaring, P. (2019). "Policy options for informal settlements" Version 1. IGC Cities that Work Policy Framing Paper.

15 Bird, J. and Venables, A.J. (2020). Land tenure and land-use in a developing city: A quantitative spatial model applied to Kampala, Uganda. *Journal of Urban Economics*, 119, p.103268.

16 Collier, P., Glaeser, E., Venables, A., Blake, M., and Manwaring, P. (2019). "Policy options for informal settlements" Version 1. IGC Cities that Work Policy Framing Paper.

17 Field, E. (2005). "Property Rights and Investment in Urban Slums". *Journal of the European Economic Association* no. 2-3: 279-90.

18 Mwamba, J. and Peng, Z. (2020). Analysis of Informal Urban Settlement Upgrading: The Case of Ng'ombe Slum Upgrading in Zambia. *Current Urban Studies*, 8, 509-532. doi: 10.4236/cus.2020.84028.

19 <http://housingfinanceafrica.org/app/uploads/V18-Zambia-profile-final-18-Nov-2019.pdf>

20 Ministry of Lands and Natural Resources. 2017. National Land Policy (Draft).

Table 2: Types of tenure systems

Informal land tenure	Freehold and long-term leasehold titles	Intermediate forms of tenure characteristics
'Informal land tenure' is an umbrella term for tenure systems that are not formally recognised by the state within the legal system. This can range from de facto rights obtained by long-term occupancy, to well-established customary systems of tenure. Development	Under freehold tenure, a private owner, such as an individual or corporation, has full and perpetual rights to develop, collateralise, and sell the land they own. Under long-term leasehold tenure, a landowner, typically the government, issues a lease conveying such rights to a leaseholder for a period typically lasting 49-99 years.	These are various types of legal recognition of differing forms of tenure. These include short-term occupancy certificates or collective ownership titles which are often relatively easy to implement, and enable ownership to be legally enforced.

2. Reforming land-use planning and construction regulations

Often, stringent land-use regulation can significantly raise the cost of land and push people into informality by limiting the provision of affordable formal housing. An example of such regulations are minimum plot requirements that restrict ownership to people who have the financial means to afford a much larger piece of land. Large parcel sizes also drive up the cost of housing, as land is typically the most significant portion of the cost of a house for a low-income person. For example, in Dar es Salaam, Tanzania, the minimum housing plot size is 375 m² – as compared to 30 m² in Philadelphia, USA at a similar stage of economic development. Table 3 outlines the Planning Standard Guidelines that set similarly stringent parameters in Lusaka. Additionally, other rules in Zambia establish that any habitable room in any form of a building should be 90 square feet (8.361 square metres).²¹

Table 3: Minimum plots sizes in Zambia²²

Area classification	Dimensions (metres)	Area (square metres)
Low density	30 x 45	1350
Medium density	18 x 30	540
High density	12 x 24	288

Similarly, regulations on local building materials or incremental housing restrict formal construction options for low-income residents in many cities.²³ In Zambia, building regulations, set up under the Public Health Act, set a high standard for formal buildings that many developers do not meet and many citizens cannot afford. This is, in part, because of restrictive construction requirements and limits placed on the use of local materials, a fact recognised by Zambia's National Housing Policy.²⁴ For example, while the low-cost stabilised soil blocks provide similar

21 U.N Habitat. (2012). Zambia Urban Housing Sector Profile. Nairobi, Kenya.

22 U.N Habitat. (2012). Zambia Urban Housing Sector Profile. Nairobi, Kenya.

23 Wainer, L, Ndengeingoma, B. and Murray, S. (2016). "Incremental housing and other design principles for low-cost housing." International Growth Centre Final Report C-38400-RWA-1

24 U.N Habitat. (2012). Zambia Urban Housing Sector Profile. Nairobi, Kenya.

strength requirements to other more expensive materials, they are not allowed under the current building regulations. Reforming the building regulations to be based on strength requirements of the building material rather than the exact type of material could lower costs of construction.²⁵

More broadly, active spatial and land-use plans need to be credible and realistic to shape subsequent human settlements. They can also help coordinate investments made by private actors. Often, these plans are made in silos – at times by external consultants – that are improperly suited for local conditions. Typically, the following principles allow for better urban planning:

- Realistic planning for public investments requires a clear understanding of budget constraints faced by the government.²⁶ Plans that require public investments beyond the public fiscal capacity are unlikely to achieve much.
- If plans are designed without considering how affordable they are for citizens to comply with, or for the government to enforce, they are unlikely to be realistic. Plans that assume plot sizes or transport modes that are incompatible with current income levels are likely to simply drive more people into informal land use; in turn, breaching official plans.²⁷
- For a city to make and implement effective spatial planning, it needs a conducive urban institutional structure with clear assignment of responsibilities and accountability between actors – in other words, a strong urban authorising environment. For example, under ineffective authorising environments, the responsibility for land management may fall under the remit of several agencies who might be unable or unwilling to cooperate. Such is the case in Zambia where the Ministry of Lands, Ministry of Agriculture, Ministry of Local Government, the Vice President’s office, Ministry of Tourism and Arts, and Ministry of Chiefs and Traditional Affairs all play a role in land management.

Provide public housing

The provision of public housing is typically part of high-profile government initiatives that construct houses on undeveloped land to increase the housing stock. A notable country that has provided large-scale public housing is Singapore, where high state capacity has allowed the city-state to house 8 in 10 residents in its state-provided mixed-income housing.²⁸ Singapore has also followed a fiscally sustainable model by selling houses at the market rate with some cross-subsidies provided through commercial real estate projects.

25 U.N Habitat. (2012). Zambia Urban Housing Sector Profile. Nairobi, Kenya.

26 Collier, P., Glaeser, E., Venables, A., and Manwaring, P. (2020). Urban land use planning as an enabler of economic growth. IGC Cities that Work Policy Framing Paper.

27 Collier, P., Glaeser, E., Venables, A., and Manwaring, P. (2020). Urban land use planning as an enabler of economic growth. IGC Cities that Work Policy Framing Paper.

28 For a quick overview of Singapore’s case, please see: Jha, A. (2018). “But what about Singapore?” Lessons from the best public housing program in the world.” World Bank.

However, most other countries have struggled to do the same. Many countries find such investments too expensive to be built at a scale that meets (or even puts a dent in) housing deficits. In Zambia, it is estimated that 1.3 million new dwellings are needed to accommodate the new urban households between 2000 and 2030.²⁹ Between 2000 and 2011, only 120,000 were provided.³⁰ If the government attempted to build houses to fill this deficit, **it would cost the government tens of billions of dollars and require citizens to wait years to receive a house.**³¹ Table 4 below provides a breakdown of the cost needed to close the housing gap of 1.3 million dwellings, based on what a single dwelling cost estimate would cost.

Table 4: Likely cost of the housing needed in Zambia between 2011 and 2030³²

Cost of a single dwelling (USD)	Total cost (USD)
10,000	\$13 billion
12,000	\$15.6 billion
20,000	\$26 billion
28,426 ³³	\$33.5 billion
30,000	\$39 billion
40,000	\$52 billion

Where governments do provide direct public housing, their locations are at times too far from the city, undermining their demand. This is the case in South Africa, where the government spent US\$ 30 billion on heavily subsidised units, although many remain empty due to their inaccessible location.³⁴ This is because governments struggle to find undeveloped land in accessible locations, and fail to recognise the importance of location and connectivity in residents' choice of housing. There is also evidence that well-located and well-built public housing meant for low-income groups can be captured by the better off as they crowd out lower income residents.

29 U.N Habitat. (2012). Zambia Urban Housing Sector Profile. Nairobi, Kenya.

30 U.N Habitat. (2012). Zambia Urban Housing Sector Profile. Nairobi, Kenya.

31 U.N Habitat. (2012). Zambia Urban Housing Sector Profile. Nairobi, Kenya.

32 U.N Habitat. (2012). Zambia Urban Housing Sector Profile. Nairobi, Kenya.

33 Data from CAHF. (2017). "Benchmarking Housing Construction Costs in Africa." from <https://housingfinanceafrica.org/documents/benchmarking-housing-construction-costs-africa/>.

34 Buckley, B, Kallergis, A. and Wainer, L. (2016) "Addressing the Housing Challenge: Avoiding the Ozymandias Syndrome." *Environment and Urbanisation*, 28 (1): 119-138.

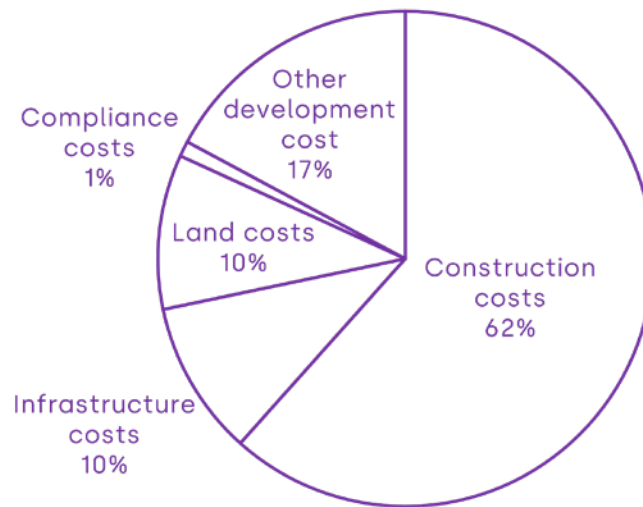
BOX 6: DELHI'S PLAN TO MOVE SLUM DWELLERS DID NOT WORK

Between 2007 and 2019, India built 31,424 flats to relocate thousands of slum dwellers from Delhi to new housing blocks in the city's outskirts ahead of the Commonwealth Games. However, by 2019, according to the Indian Express, a prominent Indian newspaper, only 2,000 of these flats were occupied by residents.

A key reason of this under-occupancy is that these blocks are located outside the core city and are not connected to Delhi's transit system, which weakens the incentive for people to move because they would now be required to spend additional time and money on transportation in order to access jobs and services.³⁵

More fundamentally, providing public housing might not tackle the root of the problem: the high costs of formal housing production. These high costs are typically due to underlying structural issues such as stringent building regulations, high input costs, and lack of proactive investment in core urban infrastructure, as discussed above.

Figure 8: Breaking down the cost of building a house in Lusaka³⁶



³⁵ <https://indianexpress.com/article/cities/delhi/home-truths-housing-for-poor-slums-5829371/>

³⁶ Data from CAHF. (2017). "Benchmarking Housing Construction Costs in Africa." from <https://housingfinanceafrica.org/documents/benchmarking-housing-construction-costs-africa/>.

III: Policy options for managing existing informal settlements

Policymakers can consider broadly two sets of options when improving the management of existing informal settlements: either upgrade them, or resettle the people in formal settlements.

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In-situ informal settlements upgrading

One approach to improve the quality of informal settlements is improving the provision of services to informal settlement residents on the same land they are currently residing on. Rather than destroying communities and building them elsewhere, in-situ slum upgrading leverages existing infrastructure (such as buildings) and social infrastructure (such as community ties).

Typically, in-situ upgrading includes a combination of the following:

- **Providing greater tenure security to residents**, through outright titling or more intermediate forms of tenancy such as occupancy licenses.
- **Providing or improving basic public infrastructure** such as water pipelines, paved roads, and sewerage systems to the settlement.
- **Improving housing and neighbourhood quality**, for instance, by assisting in making the building structure more permanent to withstand climatic conditions, and building facilities such as parks and schools in the settlement area.
- **Providing targeted development assistance** that helps improve the socio-economic status of the residents such as through microcredit to expand local businesses and acquire new skills.

Combined, in-situ informal settlements can have the following benefits and disadvantages:

- **Enables density without overcrowding and improves liveability:** in Orangi, Karachi, community-led in-situ upgrade programmes reduced infant mortality from 128 per 1000 in 1983 to 37 per 1000 in 1992 through improved sanitation systems, and helped increase density to 2,800 people per hectare through allowing residents to incrementally upgrade their housing to 3-4 storey buildings. **Figure 9** shows the network of underground sewers built by the residents as part of this project.³⁷

³⁷ Hasan, A. (2006). Orangi Pilot Project: the expansion of work beyond Orangi and the mapping of informal settlements and infrastructure. *Environment and Urbanization*, 18(2): 451-480.

Figure 9: The sewers in Orangi, Karachi, financed, managed, and maintained by the residents³⁸



- **Cost-effective:** As this does not require an outright process of destroying settlements and seeking to rebuild them elsewhere, this is less costly. Policymakers can also sequence such investments depending on resources. For example, policymakers can start by providing on-site sanitation provision, and follow it up with waste collection, cement floors, and other core infrastructure.³⁹

³⁸ From Orangi Pilot Project—Research and Training Institute via Hasan, A. (2006). Orangi Pilot Project: the expansion of work beyond Orangi and the mapping of informal settlements and infrastructure. *Environment and Urbanization*, 18(2): 451-480.

³⁹ Collier, P., Glaeser, E., Venables, A., Blake, M., and Manwaring, P. (2019). "Policy options for informal settlements" Version 1. IGC Cities that Work Policy Framing Paper.

- **Maintains existing social networks and is politically less costly.** In-situ upgrading maintains social networks that exist between people and their proximity to work.
- **Keeps land to current, likely inefficient, use.** Upgrading programmes do not change the land use which might be inefficient from a city-level perspective if the land is better suited for other activities. However, if the upgrading programme provides marketable land titles to residents, the land-use transformation could happen organically as residents voluntarily sell their land to more productive users in return for a cash windfall.

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BOX 7: IN-SITU INVESTMENTS IMPROVED HEALTH OUTCOMES IN MEXICO

When done properly, in-situ investments can pay off: in Mexico, between 2000 and 2007, the government's Piso Firme programme installed cement floors in approximately 300,000 of the estimated 3 million houses in Mexico that had dirt floors. The cost per housing unit was only US\$ 150, 100 times less than that required to build a new house. The health impacts were also significant: parasitic infections and anaemia in young children fell by approximately 80%, and child cognitive development improved by up to 96%. Self-reported housing satisfaction by adults also rose approximately 60%.⁴⁰

While upgrading projects for informal settlements vary in scope, successful ones typically attempt to achieve the following goals:

- **Ensure community participation:** People who live in informal settlements are best placed to identify key priorities for investment. Projects led by or in conjunction with communities also lend higher legitimacy to such upgrading programmes. In Karachi, a community-led slum sanitation programme to lay sewerage piping cost approximately US\$ 70 per household, around one-sixth of the cost required by local governments to do the same work.⁴¹
- **Improve land rights alongside infrastructure investment:** Improved land rights enable residents to securely invest in their properties and access urban infrastructure. They can also set the city on a virtuous cycle: residents receive public services in return for the payment of property tax, and user fees to local governments and utility companies.

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40 Cattaneo, Matias D., Sebastian Galiani, Paul J. Gertler, Sebastian Martinez, and Rocio Titunik. (2009). "Housing, Health, and Happiness." *American Economic Journal: Economic Policy* 1 (1): 75–105. Quoted in Collier, P., Glaeser, E., Venables, A., Blake, M., and Manwaring, P. (2019) "Policy options for informal settlements" Version 1. IGC Cities that Work Policy Framing Paper.

41 Hasan, A. (2008). Financing the sanitation programme of the Orangi Pilot Project—Research and Training Institute in Pakistan. *Environment and Urbanization*, 20(1): 109-119.

BOX 8: NG'OMBE INFORMAL SETTLEMENT

In 1996, a group of local non-governmental organisations and Norwegian donors undertook an upgrading initiative in the Ng'ombe informal settlement. The initiative focused on using community participation to determine the priorities of the residents of Ng'ombe and subsequently organised investments to achieve these. With a small budget of US\$ 200,000, the initiative was able to achieve the following, amongst others:

- set up a 70m deep borehole to supply clean water and establish a community trust to manage water supply; however, the trust has struggled with a sustainable revenue stream.
- a 630m road with drainage.
- construction of a community health post.
- successfully advocated for the area to be declared as an Improvement Area by the government, thereby giving its residents the right to obtain occupancy licences.



The borehole hand pump constructed during this process. Source: Mwamba, J. S., & Peng, Z. W. (2020). Analysis of Informal Urban Settlement Upgrading: The Case of Ng'ombe Slum Upgrading in Zambia. Current Urban Studies, 8, 509-532. <https://doi.org/10.4236/cus.2020.84028>

Resettlement programmes

Alternatively, policymakers can clear the land occupied by informal settlements and compensate displaced residents with money or new housing.

- **Unlocks land that may not be optimal for residential use.** It allows governments to convert land into more efficient use, including paving the way for critical infrastructure projects such as new train lines and moving people out of unsafe land for habitation.
- **Resettlement programmes are very costly and hard to manage.** Adequate compensation can not only be very costly and a lengthy process, but the process opens up avenues for potential abuse, such as moving people forcibly for unnecessary reasons such as beautifying the city or placating vested interests. Hence, it is important to consider the costs of using this policy option – both for the government, but more importantly for people who stand to lose their homes, social networks, and access to employment.

Conclusion

Like other countries, Zambia's economic prosperity depends heavily on the prosperity of its cities, where people and firms can cluster together and unlock economic gains. The growth of informal settlements in Lusaka is a symptom of the city's inability to provide affordable and accessible formal housing. This unaffordability is stark: based on one estimate, **the cost of a newly built house by a professional developer in Lusaka is equivalent to about 25 years of salary for an average household**, thereby making formal housing out of reach for most people. This is why nearly 62% of Lusaka's current population lives in informal settlements presently, where housing is highly dense, with small parcels, and few open spaces.

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This brief outlines policy options to 'get ahead of the curve' by increasing the supply of affordable formal housing in Lusaka. These policy options include proactively making space for inevitable urban residents that will come and reforming regulations that make construction expensive. Such policies can prevent the future occurrence of informal settlements in the city; an inevitable path considering the lack of affordable housing in Lusaka today.

These investments should be combined with improving the existing informal settlements, principally through in-situ upgrading programmes that enhance tenure security and provide improved public service provision. Zambia has precedence on this such as in the Ng'ombe informal settlement and other 'Improvement Areas' declared by the government. Cross-country lessons here can provide valuable insight, such as working with residents in designing effective improvement projects.

Combined investments in improving informal settlements and alleviating the underlying reasons why they exist can pave the way for significant cross-sectoral improvement. A key area can be through tapping into the city's property tax potential that can provide a significant and recurring source of revenue for the government to make consistent public investments. Doing so requires expanding and updating the cadastral system, an area where spatial data provided in tandem with this brief, and developed with Ordnance Survey and the Commonwealth Association of Architects, can be leveraged.

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