

Dar es Salaam: the unplanned urban sprawl threatening neighbourhood sustainability

Ibrahim Msuya, Irene Moshi, Francis Levira

Ifakara Health Institute, Dar es Salaam, Tanzania

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This study analyses the internal structure of Dar es Salaam, Tanzania, to support better understanding of the physical changes, neighbourhood formation, population growth and distribution, and segregation in the city over time.

It explores the impact of these on health and education, and uses qualitative approaches to examine the balance of social, economic and environmental sustainability of neighbourhoods.

KEY FINDINGS

- Dar es Salaam is the second fastest growing city in the world and the fifth largest city in Africa. Over the past 20 years, the city has experienced substantial increases in both built-up areas and population size.
- The city is becoming densely populated. While the population is deconcentrating in and around the commercial business district (CBD), peripheral wards are seeing high population growth linked to both migration and a population shift from the CBD and its vicinity.
- This population shift is being driven by improved transport infrastructure such as ring roads, the Bus Rapid Transit project, bridge construction and resettlement schemes from hazardous areas of the city.
- Although the government is not involved to a high degree in acquiring land or planning and real estate development, it supports and monitors private firms that provide land survey services and regularisation of informal settlements.
- However, government investments in infrastructure and the workforce are not keeping pace with the rates of population growth and urban expansion in Dar es Salaam. From the perspective of residents, this represents a critical gap that threatens neighbourhood sustainability.

About the study

This study¹ investigates the internal structure of Dar es Salaam to understand spatial changes, neighbourhood formation, population distribution and growth, and segregation and disparities within the city.

Dar es Salaam is the second fastest growing city in the world, the fifth largest city in Africa and is expected to become a mega city (with 10 million residents) by 2030. The city is located in the south east of Tanzania, at a natural harbour along the Indian Ocean on the east coast of Africa. It supports major economic activities as a port, and also hosts leading financial institutions, higher education institutions and specialist referral hospitals. Dar es Salaam is prominent in the arts, fashion, music and media.

Dar es Salaam was the capital city of Tanzania during the colonial era and maintained this status after independence in 1961. However, in 1973, President Julius K. Nyerere declared centrally located Dodoma the new capital city and a plan was devised to shift the government from Dar es Salaam within 10 years. In reality, due to events such as the war with Uganda and the fall of the East Africa Community, the government did not formally move from Dar es Salaam until 2016. In the meantime, the city grew organically with rapid urbanisation and uncontrolled expansion – more than 70% of its residents live in informal settlements. Over time, different types of neighbourhoods have emerged that have unique needs in terms of access to quality housing, unemployment, water and sanitation, and quality health and education infrastructures.

This research uses remote sensing images to analyse land-use changes over time and census data from 2002 and 2012² to investigate the internal structure of the city, including population growth and distribution and neighbourhood segregation and disparities. Cluster analysis has been utilised to classify neighbourhoods on the basis of proxy indicators for income and wealth. Additionally, to capture qualitative data, we conducted focus group discussions in different neighbourhoods to explore factors relating to both physical and social development, including land use, building patterns and accessibility.

Research results

Land-cover changes and urban sprawl at city level

When Dar es Salaam was established as the capital city of Tanzania there were no concrete plans developed to manage its growth and formation.

For the new capital Dodoma, on the other hand, the Capital Development Authority (CDA) was established on 1 April 1978 with responsibility to develop and review long-term planning, and with oversight of the form and structure of Dodoma's expansion and change. The CDA developed a Master Plan and successfully contained informal development in Dodoma until recently³. In comparison, Dar es Salaam has expanded organically and is characterised by informality.

Despite the government relocating to the relatively well-planned capital city Dodoma in 2016, Dar es Salaam has remained the largest and most vibrant commercial city in the country. The government is aware of the realities of urbanisation through surveys and land-cover analysis, and thus has invested substantially in peripheral roads, bridges and rapid transport infrastructures that have increased built-up areas of the city. With respect to city land planning, the government is not highly involved in acquiring, planning and developing land; however, it supports and monitors private firms that provide land survey services and regularisation of informal settlements.

Our analysis of remote sensing imagery of Dar es Salaam from 1995 to 2018 shows a decrease in vegetation and bare land and a substantial increase in built-up areas from the centre of the city towards peripheral areas. Built-up areas increased by 7% between 1995 and 2000, by 23% between 2000 and 2015, and by 13% between 2015 and 2018. This increase is largely attributed to growth of private houses, the majority of which have developed in a horizontal sprawl pattern. The land-cover changes indicate that Dar es Salaam is sprawling from the city centre to peripheral areas, which has been driven by a population shift facilitated by government investment in transport infrastructure as well as migration.

Internal structure of the city: population and spatial distribution

Dar es Salaam is organised administratively from top to bottom by municipals, wards and streets. The 2012 census shows that the city has three municipals/districts (Kinondoni, Temeke and Ilala) and 90 wards.

In the span of 10 years, the population of Dar es Salaam almost doubled from 2.4 million people in 2002 to 4.3 million people in 2012. The 2012 census records a population density of 3,133 people per km²; the highest density in the country. Within the city, the population density at ward level ranges from 46 people to 47,000 people per km². Comparisons of ward-level populations between 2002 and 2012 show substantial negative growth in the CBD and its vicinity by up to – 23%, compared to significant positive growth of up to 665% in peripheral wards. These trends conform to the observed land-cover changes that show growth in built-up areas in the city periphery.

Our analysis indicates the city is becoming increasingly concentrated and dense at the centre – particularly in low-income CBD wards – while sprawling at the same time. The population shift towards the city's outskirts has been driven by improved transport infrastructure (e.g. ring roads, the Bus Rapid Transit project, peri-urban roads and the Kigamboni Bridge), resettlement schemes from hazardous areas to peri-urban neighbourhoods, planning projects (e.g. the project initiated by the Ministry of Lands, Housing and Settlement Development in the mid-2000s to allocate 2000 plots for development), and a shift in housing preferences from renting to affordable private houses.

Neighbourhood categorisation

Within wards, the city is administratively organised in streets, which we define in this study as neighbourhoods and use as our unit of analysis. Within streets, there is substantial social interaction between residents and access to services such as schools, dispensaries and markets, etc.

The population size of streets closely conform to a standard neighbourhood population size of 5,000 to 7,000 people. Each street has one government employee and one democratically elected chairman plus five street council members (of which two must be female). The street government is responsible for planning and implementing social and economic development, managing land use and acquisition, and managing and protecting environments.

Using cluster analysis of 2012 census data we categorised 452 streets into five neighbourhood types based on wealth/income. These were: 1) low-income (n= 69 or 15%); 2) mixed low – and medium-income (n=132 or 29%); 3) medium-income (n=111 or 25%); 4) mixed medium – and high-income (n=74 or 16%); 5) high-income (n=66 or 15%). Most low-income neighbourhoods are located within peripheral areas of the city. The majority of residents in these neighbourhoods live in slum areas, populated unplanned wards and wards located at the outskirts of the city. Census data indicate that most residents here are dependants or migrants who are educated to primary level or who are illiterate. These residents have inadequate access to social security and there is low coverage of vital registration (e.g. birth certificates). High-income neighbourhoods are located closer to prime beaches or around the CBD districts of Ilala, as well as in elite and wealthy wards including Kivukono, Kisutu, Makongo, Mikocheni and Msasani to mention a few. These neighbourhoods comprise well-educated residents with access to social security and a small number of dependants and migrants, and there is high coverage for vital registration.

Health and education

Health services are provided from the lowest level through dispensaries and health centres to the highest level through district and regional referral hospitals.

Dar es Salaam's health policy stipulates that each ward must have at least one health facility and each street at least one dispensary. Public health services are provided on a cost-sharing basis, with limited exemptions for maternal care, children under five years and the elderly.

The study documents considerable disparities in the distribution of health facilities across wards. The ward population per public and private health facility ranges from 6,000 to 180,000 and 5,000 to 143,000, respectively. Most health facilities are designed to serve a catchment population of around 50,000 residents. The mismatch between population growth and infrastructure development consequently affects quality of care, especially in public facilities where patients experience long waiting times, absences of personnel, drug stock-outs and shortages of healthcare supplies.

In terms of education services, primary and secondary (ordinary level) schooling is provided free of charge in Tanzania. This free education policy was effected in 2016 following the election of President Dr John J.P. Magufuli and has resulted in a significant increase in enrolment since that time. Prior to this policy, significant disparities existed in Dar es Salaam in the quantity and quality of school infrastructure, particularly in terms of classes. Analysis of 2012 census and administrative data indicates a primary school pupil-to-teacher ratio (PTR) of less than 25 in most CBD wards compared to 25–75 in peripheral wards, areas where the population is sprawling. Primary and secondary students are segregated by income, with wealthy parents tending to prefer high-quality and expensive private schools due to assurances of the quality of education offered as compared to in public schools.

Neighbourhood characteristics and the perceptions of residents

Our analysis reveals significant neighbourhood disparities and segregation which stem from location, socioeconomic conditions and neighbourhood history.

There are significant differences in the implementation of development projects and social service provision among neighbourhoods, with low-income neighbourhoods receiving minimal consideration.

Dar es Salaam is characterised by high levels of informality as a result of years of inadequate investment and prioritisation of urban planning in the city and Tanzania as a whole. Basic services such as solid waste management are still a huge problem in the city and tarnish the general appearance of certain neighbourhoods. Indeed, the spread of informal settlements in Dar es Salaam has reached the point where it is very hard to re-organise the city due to the high costs of land compensation. Increasing urbanisation coupled with a high unemployment rate has contributed to social challenges including a decline in parental care, moral decay and a breakdown in social bonds among neighbourhood and city dwellers.

It is essential to note that the population growth rate and expansion of built-up areas exceeds government investment in terms of infrastructure and workforce. Residents were critical of this gap in our qualitative research and reported that it poses a threat to neighbourhood sustainability. Limited access and poor-quality education and health provision also emerged as a common theme across a number of neighbourhoods, as pointed out by residents and leaders. Another common theme was the diversity of socioeconomic profiles within neighbourhoods, which impact social behaviours and were cited by respondents as having a significant effect on neighbourhood security and crime rates, especially in low-income and informal neighbourhoods. The sustainability of most neighbourhoods was also reported by respondents as being highly dependent on availability and access to scarce economic opportunities.

Increasing urbanisation coupled with a high unemployment rate has contributed to social challenges including a decline in parental care, moral decay and a breakdown in social bonds among neighbourhood and city dwellers.

Way forward

Our analysis of the social, economic and environmental situation in Dar es Salaam in relation to the United Nations New Urban Agenda and the three Sustainable Development Goals (SDGs) on health (SDG3), education (SDG4) and sustainable cities (SDG11) shows that most neighbourhoods in the city do not have a sustainable future. This conclusion is based on observed socioeconomic disparities and segregation that limit health and education opportunities in many neighbourhoods.

Infrastructural developments, resettlement schemes and land surveys in peripheral areas have resulted in unsupervised growth of informal settlements with inadequate services. This imbalance influences life chances in many neighbourhoods.

Infrastructural developments (e.g. roads and transport systems), resettlement schemes and land surveys in peripheral areas of the city have resulted in unsupervised growth of informal settlements with inadequate provision of health and education services. This imbalance substantially influences the livelihoods and life chances of residents in many neighbourhoods. Further, the city's largely informal structure has contributed to the devastating impact of frequent floods, which often destroy properties, and cause loss of life and financial hardship for some city residents. Thus, better urban planning, infrastructural development and provision of basic services are essential in increasingly urbanised areas of the city – Dar es Salaam's informal neighbourhoods should be upgraded, and substantial planning and investment are needed in the outskirts of the city where neighbourhood sustainability remains questionable.

¹This paper summarises key findings of a report on the city as part of an international comparative study coordinated by the Centre for Sustainable, Healthy and Learning Cities and Neighbourhoods (SHLC). The wider study examines urbanisation and sustainable development in 14 cities in Africa and Asia and this part explores patterns of neighbourhood distribution and changing socio-spatial structures in response to recent urban expansion and migration. Geographic information system (GIS) data and remote sensing image analysis have been used to explore land-use changes and urban sprawl at city level and official statistics such as the population census and other secondary data have been used to map internal structural changes.

²<https://www.nbs.go.tz/index.php/en/census-surveys/population-and-housing-census>

³The CDA was dissolved in May 2017 following confusion around service provision between the CDA and the former Dodoma Municipal Council.

⁴Nassoro, M. M., Chetto, P., Chiwanga, E., Lilungulu, A., Bintabara, D. and Wambura, J. (2020) 'Maternal mortality in Dodoma Regional Referral Hospital, Tanzania', *International Journal of Reproductive Medicine* (<https://doi.org/10.1155/2020/9082179>).

⁵<https://unhabitat.org/about-us/new-urban-agenda>

⁶<https://sdgs.un.org/goals>

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Cover photo: Dar es Salaam's new bus transit system. Credit: World Bank.

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GCRF Centre for Sustainable, Healthy and Learning Cities and Neighbourhoods (SHLC)

University of Glasgow
Rm 710, Adam Smith Building
Glasgow
G12 8RS

✉ shlc-info@glasgow.ac.uk

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