

# Translating Plans to Development

Impact and Effectiveness of Urban Planning  
in Tanzania Secondary Cities



October 2018

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This report was prepared by a core team led by Chyi-Yun Huang and comprising Dr. Ally Namangaya of Ardhi University, MaryGrace W. Lugakingira, and Isabel D. Cantada. Various spatial analyses and data were contributed through the support of the Earth Observation for Sustainable Development (EO4SD) Urban Project, a partnership between the European Space Agency and the World Bank, and for this study executed primarily by GAF Germany, led by Sharon Gomez and Thomas Hausler, together with Amelie Broszeit and Daniela Angelova. The team would also like to thank Prosper Tugonzomukama and Xiang Xu for their technical inputs, and Roderick Babijes for his administrative support. The report benefited from guidance and support from Andre Bald, Program Leader of the Tanzania Country Management Unit, and was developed under the overall leadership of Bernice K. Van Bronkhorst, Practice Manager of the East and South Africa Region Urban and Disaster Risk Management Unit.

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# Contents

- List of Acronyms.....vii
- Executive Summary..... 1
- 1. Background and Study Scope .....4
  - Rationale for Study .....4
  - Scope of Study .....5
  - Organization of the Report.....7
  - Endnotes .....7
- 2. Development Context.....8
  - Urban Development Context .....8
  - Policy and Institutional Context.....13
  - Endnotes .....25
- 3. Key Findings.....27
  - Land-Use and Land-Cover Conformity to Master Plans and Detailed Area Plans.....27
  - Observable Spatial Development Trends and Analysis of Secondary Cities .....35
  - Endnotes ..... 48
- 4. Key Takeaways.....50
  - Endnotes .....53
- 5. Recommendations .....54
- References and Bibliography..... 61



## List of Figures

Figure 1.1: Phases of the Study .....	6
Figure 2.1: Census Data Population (1988–2017) .....	8
Figure 2.2: Decomposing Urban Change into Natural Growth and Migration (2002–12). ....	9
Figure 2.3: Share of Employed Population by Main Occupation in Case Cities .....	10
Figure 2.4: Characteristics of Current Urban Planning Framework and Mechanisms. ....	17
Figure 2.5: Urban Planning Solutions and Strategies at the National, City, and Neighborhood Levels. ....	19
Figure 3.1: Arusha: Conformity to 1985 Master Plan. ....	28
Figure 3.2: Conformity of Major Land Uses in Mid-2010s with Master Plans .....	29
Figure 3.3: Mwanza: Conformity to 1992 Master Plan .....	32
Figure 3.4: Level of Conformity for Economic Land Uses in Core Urban Area .....	33
Figure 3.5: Arusha: Conformity to Detailed Area Plan .....	34
Figure 3.6: Size and Expansion Comparison of Arusha, Dodoma, and Kigoma. ....	36
Figure 3.7: Urban Growth Type and Rate of Arusha, Dodoma, and Kigoma, 2000 to 2015 .....	36
Figure 3.8: Discontiguity Index Results of Arusha, Dodoma, and Kigoma (2000–15) .....	39
Figure 3.9: Population Density Comparison .....	42
Figure 3.10: Changes in Planned and Unplanned Settlement Areas (Arusha, Dodoma, Kigoma) between 2005 to 2015 (percent of residential land area) .....	45
Figure 3.11: Presence of Housing on No-Build Areas and Flood-Prone Areas .....	4

## List of Tables

Table 2.1: State of Infrastructure and Services in Selected Cities .....	11
Table 2.2: Characteristics of Formally Planned and Unplanned Settlements (observed in Dar es Salaam) .....	12
Table 2.3: Key Urban Sector Development Policies in Tanzania .....	15
Table 2.4: Summary Status of Master Plan Development in the Case Cities .....	20
Table 2.5: Status and Nature of Master Plan Development in the Case Cities (since independence) .....	21
Table 3.1: Conformity of Major Land Uses with Arusha 1985 Master Plan and Dodoma 1976 Master Plan across Time .....	30
Table 3.2: Conformity of Major Land Uses in Mid-2010s with Detailed Plan Samples .....	33
Table 5.1: Summary of Recommendations .....	54

## List of Boxes

Box 2.1: The Role of Draft GPSs .....	25
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## List of Maps

Map B2.1.1: 1976 versus 2010 Land-Use Maps .....	25
Map 3.1: Typical Land-Use and Land-Cover Conformity Analysis Performed for Case Cities, Showing Arusha .....	27
Map 3.2: Changes from Agricultural Areas to other Land-Cover Classes between 2005 and 2015, Core Urban Area of Arusha .....	30
Map 3.3: Unplanned and Planned Residential Areas for Mwanza Core Urban Area .....	31
Map 3.4: Example of a Detailed Area Plan in Arusha .....	34

Map 3.5: Growth Analysis 2000–2015 for Arusha, Dodoma, and Kigoma. . . . .	37
Map 3.6: Directional Distribution of Arusha, Dodoma, and Kigoma Over Time (2000–15). . . . .	41
Map 3.7: Spatial Distribution of Changes from Agricultural Areas to Other Land Use between 2005/06 and 2015/16 (at similar scale) . . . . .	43
Map 3.8: Changes in Road Networks in Selected Cities, from Mid-2000s to Mid-2010s. . . . .	44
Map 3.9: Changes in Planned and Unplanned Settlement Areas in Arusha from 2005 to 2015. . . .	46
Map 3.10: Service Network Analysis on Access to Health Facilities, Schools, and Urban Parks, Example of Kigoma . . . . .	47





# List of Acronyms

DPS	detailed planning scheme
EO4SD	Earth Observation for Sustainable Development
FAR	floor area ratio
GIS	geographic information system
GPS	general planning scheme
KGTF	Korea Green Growth Trust Fund
LGAs	local government authorities
LGRCIS	Local Government Revenue Collection Information System
MLHHSD	Ministry of Lands, Housing and Human Settlements Development
MP	master plan
mtaa	subward division
NBS	National Bureau of Statistics
NLUFP	National Land-Use Framework Plan
PO-RALG	President's Office of Regional Administration and Local Governments
pph	people per hectare
ROWs	right-of-ways



# Executive Summary

*Translating Plans to Development* is a study investigating the impact and effectiveness of urban planning on city spatial development in seven Tanzania secondary cities: Arusha, Dodoma, Kigoma, Mbeya, Mtwara, Mwanza, and Tanga. It was conducted in support of the Tanzania Strategic Cities Project.

The study employed a combination of desk research and literature review, site visits, and interviews in all of the case cities. Spatial metrics and analysis using satellite and remote sensing imagery were also undertaken. The team's first wish is to contribute to data and information on secondary cities' urban growth and developments in Tanzania, which are currently lacking. The study also aims to provide insights into the key urban planning tools—master plans, general planning schemes, and detailed planning schemes (DPSs)—that have been used in (or are absent from) these cities, and understand how these tools influenced the trends, patterns, and modality of urban growth. The detailed city-by-city information and analyses also serve as useful information for local policy makers and technical staff to understand how their cities are growing or developing spatially, thereby allowing them to identify potential problem areas or to inform locational decisions about future intervention or investment choices. Gathering from the study's key observations and findings, we further strive to provide some concrete and action-oriented recommendations to key stakeholders in three main areas: (i) urban planning and development (plan formulation, plan quality, and key implementation strategies), (ii) development controls and enforcement, and (iii) economics and financing. In the process, a rich set of spatial and qualitative data was collected and created; these are supplied as the background papers to this study—the “Background Profile of Tanzania Secondary Cities” and “Atlas of Tanzania Secondary Cities” to inform future research or study.

We observed that early master plans are somewhat successful in providing broad guidance on each city's population projections and main structural forms. However, they were implemented only to a limited extent or proved rather ineffective in concretely guiding development, especially in terms of major land uses and supporting infrastructure and facilities. For example, actual development in core urban areas exhibited around 35 to 45 percent of land-use and land-cover conformity to early master plans, while that in peri-urban areas varies greatly. Further, cities with master plans existing from earlier decades did not show better conformity compared to cities that adopted master plans later, and over time, this conformity did not change or improve significantly. However, notably, residential conformity in core urban areas is generally high (ranging from around 48 percent to 78 percent conformity), while economic uses (considering mainly of commercial and industrial areas) have relatively lower levels of conformity—averaging around 17 percent and 25 percent, respectively.

The ineffectiveness of master plans is also reflected in cities experiencing substantial unplanned growth and lack of infrastructure and services. Further, many cities face increased fragmentation and

dispersion, with the urban expansion process strongly aligned with development of major roads, forming ribbon developments or leapfrogged islands. Severe infrastructure and facilities backlogs exist, and new investments are not growing fast enough to match the pace of urban growth. This is evidenced in the fact that less than half of the case cities' populations have adequate access to health facilities, schools, and urban parks (defined as within one kilometer distance, or a 20-minute walk). In addition, the case cities all have sizeable unplanned settlement areas and continue to experience significant expansion of these areas (from around 20 percent to 30 percent growth), with little conversion into planned settlements. The already low service accessibility is, unsurprisingly, worse for unplanned settlements. Less than 10 percent of serviced areas in all observed settlements are in unplanned areas.

Tanzania's secondary cities are developing at extremely low density and low floor area ratio (FAR)—with a median gross population density of around 21 people per hectare (pph) in the case cities at the ward level, compared to a UN Habitat recommendation of more than 150 pph for viable communities. The extremely low densities and FAR makes them inefficient and costly to service, and exacerbates sprawl and loss of benefits from agglomeration. Notably, guidance on density is not sufficiently detailed in master plans. Similarly, master plans lack sufficient granular guidance and considerations for disaster risk management; case cities see sizeable developments on high-risk and flood-prone areas. On average, an estimated 13 percent of houses in our case cities are within legally defined “no build” areas, and around 6 percent of houses are in flood-prone areas.

The study also found that certain aspects of master plans themselves were weak and hence rendered implementation implausible. The challenges in the quality of master plans are especially evident in their need to (i) be more realistic and base the proposed land uses on more robust analysis and considerations, such as recognizing and planning for unplanned settlements; (ii) provide better and more detailed guidance on density, urban resilience, and disaster risk management; (iii) consider urban mobility and public mass transport options; (iv) be more granular or establish mechanisms and systems to allow the formulation of the next level of plans; (v) plan for realistic sources and amounts of financing and hence better estimate the time required for implementation; and (vi) better consider market forces and private sector contributions to implementation.

One critical reason for the lack of effectiveness or implementation of master plans is the disconnect between (i) *economic plans* (the three-to-five-year strategic plans, the one-year budgets summarized in medium-term expenditure frameworks, and work plans coordinated and monitored by each municipality's economics department; (ii) *urban plans* (master plans and detailed planning schemes); and (iii) *sector or infrastructure plans* (utilities, roads, water, and electricity). The lack of effective development controls, planning review system and mechanisms and ability or resources for enforcement also contributes greatly to ineffectiveness of plans.

Interestingly, the samples of inner-city area detailed plans used in this study were found to be more effective in guiding development, demonstrating much better land-use conformity (overall ranging from almost 50 percent to 94 percent), although their coverage is generally low (only small areas of the city have detailed plans) and not readily available in city planning offices. This apparent higher conformity to the DPS could be attributed mainly to its inherent affiliation with the formal planning process (the adoption of a DPS classifies an area as planned) and/or the less developed or orderly

nature of the areas selected for detailed planning. The more detailed and granular nature of DPSs also enables municipalities to better enforce actions against nonconforming development. However, the majority of DPSs are currently being led by the private sector and not developed according to a strategic sequence or with the goal of serving the wider public; thus, they may not produce optimal outcomes. The government should play a more active role in collaborating, guiding, and supporting private-sector-led DPSs.

From the key findings, we recommend innovative yet practical approaches and solutions to enhance the implementation and effectiveness of urban plans. Fundamentally, the quality of master plans and the process of their formulation could be improved, while the coverage of DPSs could be increased. Densification of currently developed areas should be aggressively pursued through infill or regeneration or redevelopment. Further, the development of major roads and key utilities should be intentionally used as a strategic tool to lead and induce developments. Vertical and horizontal coordination could be improved through perhaps (i) setting up a regional or metropolitan administration or zonal authority or core working groups consisting of planners, key sector experts, and economists or municipal finance experts; (ii) conducting regular coordination meetings; and (iii) instituting standard protocols for internal consultations among these departments during the formulation process of various urban, sector, and economic plans. More can be done to empower local authorities and increase the reliance on and leverage of ward and subward (or mtaa)-level efforts by devolving some development control to them, as they have the keenest on-the-ground knowledge of specific transactions and developments in their areas.

Some effective short-term measures could include systematically demarcating road networks and plot boundaries through physical markers, which creates awareness and allows easier enforcement. Improving communication of information and data among stakeholders and the public is also essential. For the medium and longer term, there needs to be an honest exploration of establishing sustainable financing options for plan implementation and enforcement vis-à-vis the overall municipal fiscal position and own-source revenue situation for each city. Further, the development of planned neighborhoods could be piloted through more innovative models, such as land pooling or public-private partnerships, which have proven to be successful in previous instances.

There is much more we wish to explore on this topic, but unfortunately there is always the constraint of time and resources. Foremost, the spatial analysis could be deepened. For example, we are looking forward to continued support from the Earth Observation for Sustainable Development (EO4SD) Urban Project to complete the in-depth spatial analysis for Mtwara, Mbeya, Tanga, and Mwanza. The results can be dissected in a multitude of ways to explore different angles of analysis, which may yield further insights. Future possible research topics could include creative econometric studies that build on the extension of current data to tease out causality and weight of factors that may affect the implementation and effectiveness of plans. Improvements in institutional framework and structure, alignment of various levels of policies and guidance, as well as financial and fiscal aspects of urban planning are other potential areas of interests.

# 1. Background and Study Scope

## Rationale for Study

Tanzania is urbanizing rapidly and its cities are the country's engines for economic growth. The country's urban population share increased from 5.7 percent to 29.1 percent from 1967 to 2012, and it is projected to exceed 50 percent by 2050. Cities already produce more than half of the country's gross domestic product and accounted for around 56 percent of its economic growth from 1990 to 2004 (Kessides 2006). They also account for most of the country's physical, financial, human, academic, and technological capital. But as for many countries in Africa, more can be done for Tanzania to better capture the benefits of urbanization in terms of economies of scale and agglomeration.

Cities in Tanzania are largely growing informally, owing much to the lack of strategic and integrated spatial guidance, as well as ineffective coordination of land uses, infrastructure, services, and jobs. This is further exacerbated by insufficient enforcement of development control and generally limited resources in and supply of affordable land and housing. Furthermore, most cities have been developing without spatial guiding tools such as master plans or detailed local area plans.<sup>1</sup> The urbanization process needs to be better managed to improve cities' economic efficiencies and livability.

General and detailed planning schemes are intended to guide future development direction and preferences by coordinating land uses, development density, and strategic sector plans and investment priorities. The purpose of the general planning schemes (GPS) is to guide the physical development of land by indicating main land-use zones such as for residential, commercial, industrial, institutional, recreational, and agricultural use, as well as by coordinating and safeguarding provisions for trunk transportation, utilities, and other network services. Detailed planning schemes (DPSs) are then prepared following the broader guidance of the GPS, with further defined density, detailed land-use types, and local infrastructure and services, to coordinate detailed development activities and enable a clear set of guidance for enforcing development control.

However, most cities in Tanzania have been without a GPS since the country's independence, and there is low coverage of DPSs. Many Tanzanian cities have seen extended periods of urban development without a functioning GPS in place. Tanzania's current urban form is largely the product of growth in the absence of plans and enforcement over decades. Even those with existing plans have developed beyond their purview. The absence of general and detailed plans and the resulting unchecked organic growth is locking in inefficient land use that will make future service provision more challenging and costly.

There is a renewed focus on development and adoption of urban plans in the past decade, but there is also a need to understand the impacts of historic and existing plans alongside the reality of

implementation on the ground. Tanzania's Ministry of Lands, Housing and Human Settlements Development (MLHHSD) and the President's Office of Regional Administration and Local Governments (PO-RALG) recognize the need to be more responsive and practical in their approach to urban planning. Particularly in the past decade, there have been renewed efforts to encourage and support completion of GPSs in all cities, with the collaboration of local government authorities (LGAs). In addition, DPSs for peri-urban and new areas in various cities, as well as regularization schemes and central area redevelopment schemes for existing urban areas, seem to increase in number as well. However, whether these plans are of good quality, sufficiently coordinated and consulted, and could be meaningfully implemented remain in question.

Knowledge on the spatial development impacts of master plans and the reality of implementation progress on the ground are not well researched or documented in Tanzania, especially for secondary cities. A better understanding of this will enable more effective policy, planning, and enforcement efforts moving forward and contribute to regional development around the country.

In this context, the World Bank conducted this study to investigate the impact and effectiveness of urban planning on city spatial development in Tanzania cities in seven selected secondary cities (Arusha, Dodoma, Kigoma, Mbeya, Mtwara, Mwanza, and Tanga). The study seeks to enhance the urban development agenda and inform policies and development strategies of cities in Tanzania by gaining insights on the urban planning system and development processes and the effectiveness of master and detailed urban plans. It also aims to enhance the appreciation of practitioners and local authorities for the importance of urban plans for guiding urban growth and mitigating the potential problems and higher costs of retrofitting unplanned development. Further, it attempts to assess the tools available to urban practitioners for the implementation of adopted plans, while informing policy that might strengthen enforcement mechanisms. Finally, the study is meant to add to the growing literature in this area, particularly to inform the understanding of secondary cities, for which information is lacking.

## Scope of Study

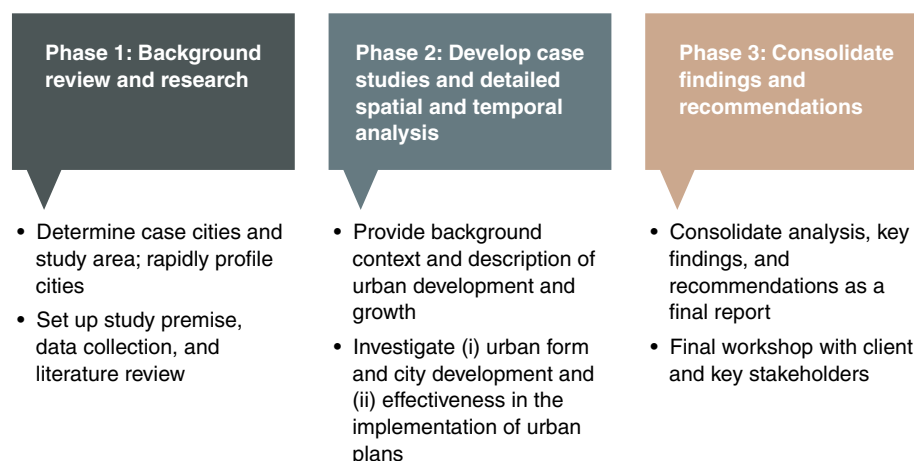
The study investigated the spatial development characteristics of Tanzania's cities with and without urban plans—that is, GPSs and/or DPSs<sup>2</sup>—and attempted to assess the impact and effectiveness of such urban plans. The study was conducted through three phases (figure 1.1): (i) background review and research, (ii) development of case studies and detailed spatial and temporal analysis of selected cities, and (iii) consolidation of findings and recommendations.

The study carried out the following main tasks:

- Through a combination of site visits and interviews conducted with all case cities, as well as desk research and literature review:
  - Provide background context and qualitative and empirical descriptions of cities, including (i) geography and physical characteristics, (ii) demographic and social context, (iii) economic conditions and financing, (iv) infrastructure and services, (v) environmental



**FIGURE 1.1:** Phases of the Study



conditions, and (vi) urban planning context, related institutions, and political economy, which exert significant influence on urban growth and development.

- Examine the prevailing planning practice, national and local level institutional elements, relevant policies and mechanisms, and other factors that may impact the effectiveness of urban plans.

■ Employing spatial metrics and analysis and satellite and remote sensing imagery (on both historical and current imagery):

- Investigate the conformity of actual urban spatial structures and spatial development patterns with current and past planning schemes (that is, intended or recommended vis-à-vis actual urban structure, infrastructure, and land use).
- Characterize actual growth and spatial development patterns (for example, infill development, urban expansion or leapfrog development, planned versus unplanned settlements) and changes in the urban fabric and pattern, land-cover, and land-use dynamics over time.<sup>3</sup>
- Analyze spatial conditions of service coverage and accessibility and levels of socioeconomic development.

(The detailed methodology and various definitions used in the study are discussed in a background paper for this study “Detailed Methodology and Other Detailed Spatial Analysis Explored for Tanzania Secondary Cities.”)

This report consolidates all the analysis and findings from the first two phases and proposes some lessons learned and policy recommendations to MLHHSD, PO-RALG, LGAs, and other stakeholders. In addition, a rich set of spatial and qualitative data was collected and created in the process of the study and these are presented in background papers, the “Background Profile of Tanzania Secondary Cities” and “Atlas of Tanzania Secondary Cities” to this study to inform any future research or study.

## Organization of the Report

After the initial introduction on the background, rationale, and scope of the study, a summary of the urban development context and policy and institutional context is provided. Section 2, “Development Context,” is important in that it provides the backdrop and introduces readers to pertinent issues around urban development (including urbanization trends as well as the state of the economy, employment, infrastructure, services, and land) as well as policies and institutions that affect the way Tanzania’s cities are developing spatially and interacting with the plans and policies in place. Section 3 then highlights key findings that emerged from the study. This is further grouped in two main areas in Section 4: (i) an analysis of whether and how urban development conformed to the plans and guidance (GPS and DPS) and (ii) actual observable spatial development trends and analysis. Finally, Section 4 draws from the study to derive key takeaways and Section 5 provides action-oriented recommendations.

## Endnotes

1. In Tanzania, and throughout this paper, local area plans are referred to as either detailed planning schemes (DPSs) or town planning schemes; master plans are in some cases referred to as general planning schemes (GPSs), consistent with Tanzania’s urban planning legislation.
2. DPSs may be short- or long-term physical development schemes for renewal or redevelopment of any part of the planning area. The purpose of DPSs is to coordinate all development activities, control the use and development of land, including intensive use of urban land, and, in particular, inform vertical and compact urban development (Tanzania Urban Planning Act of 2007).
3. Due to resource and time constraints, this detailed growth and spatial development analysis was performed as a pilot only for three case cities: Arusha, Dodoma, and Kigoma so as to illustrate the possibilities of the analysis. It is our hope to scale this up to include all case cities and beyond in the future.

## 2. Development Context

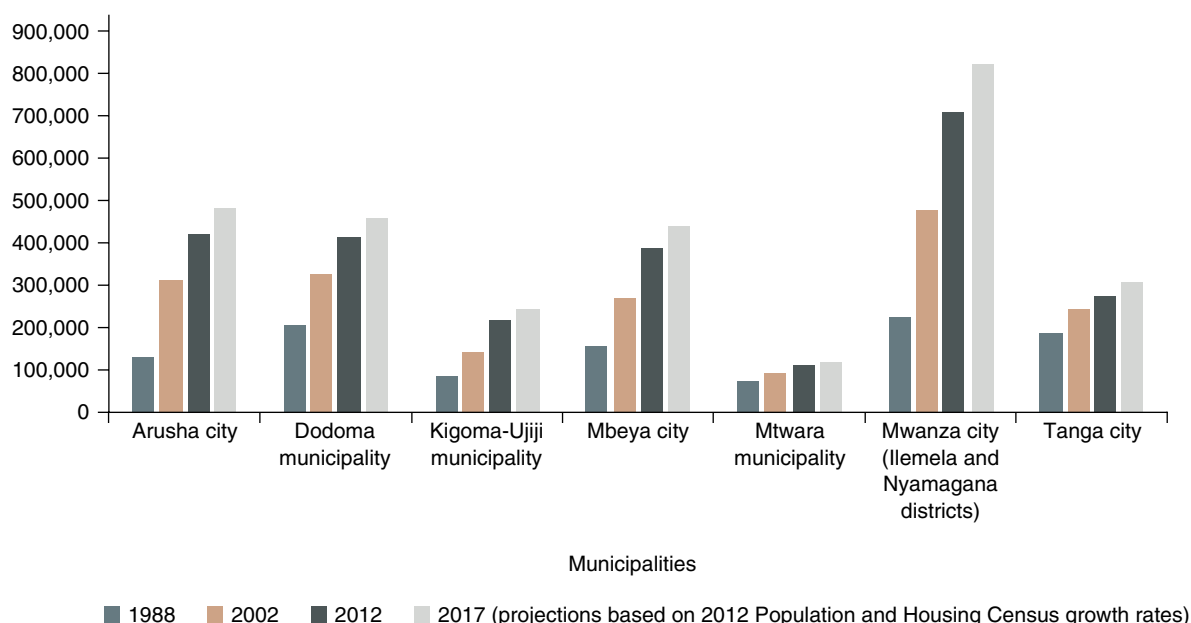
### Urban Development Context

#### *Urbanization trends and prospects*

Tanzania's urban population is growing rapidly. Between 1988 and 2012, urban areas in Tanzania's secondary cities experienced an overall rapid increase in population, with an estimated total of 1.46 million people added to the seven case cities during the period (figure 2.1). The population growth rates from 2002 to 2012 for these cities ranged from 1.2 percent in Tanga to 4.0 percent in Kigoma-Ujiji (Census 2012), and these trends are expected to continue.

Three different perspectives on *urban* have been adopted in mainland Tanzania that imply different urbanization levels: (i) a political-administrative perspective adopted by the PO-RALG focuses on geographic boundaries of local government authorities and classifies them as cities, municipalities, or town councils; (ii) a human settlements perspective used by the MLHHSD defines urban areas based on population size, level of services, economic bases, and financial budget; and (iii) a statistical perspective adopted by the National Bureau of Statistics (NBS) applies the concept of urban to enumeration areas—the smallest statistical unit of analysis on census data. These perspectives do not explicitly

**FIGURE 2.1:** Census Data Population (1988–2017)



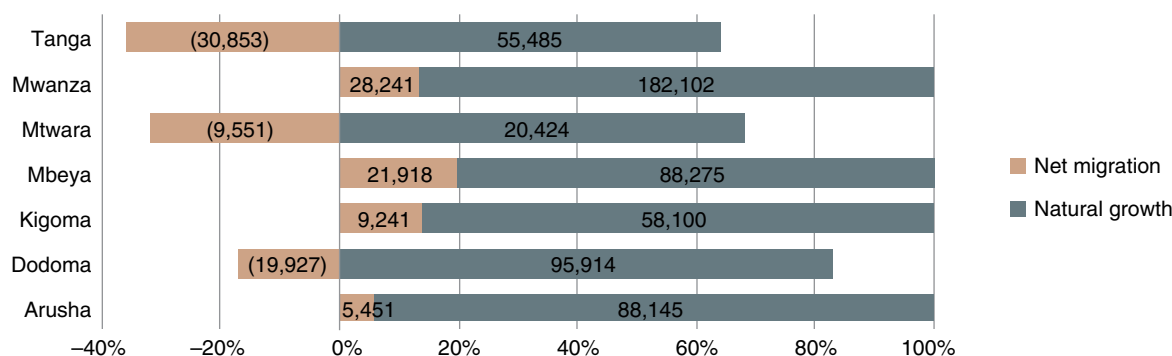
Source: Tanzanian National Bureau of Statistics (NBS), census 2012.

account for population density, thereby running the risk of estimating different levels of urbanization and having weak or ineffective policies and plans (Muzzini and Lindeboom 2008).

Rapid urban growth in Tanzania is mainly attributed to natural population growth and not rural urban migration. There are three sources of urban growth: statistical changes, whereby changes in the administrative boundaries or more places being recognized as urban increase urban population; natural population growth; and rural-urban migration. Considering cities with more than 200,000 inhabitants, natural urban population growth contributes around 70 percent of total urban growth.

While all Tanzanian cities and towns have growing populations, some are experiencing net out-migration (yet are still growing due to high natural growth rates). This was the case for three of the cities included in this study—Dodoma, Mtwara, and Tanga (see figure 2.2). Reasons for out-migration are difficult to pin-point; however, interviewees generally attributed this trend to weak economic prospects in the concerned cities over the 2002–12 census period which was the basis for this analysis.

**FIGURE 2.2:** Decomposing Urban Change into Natural Growth and Migration (2002–12)



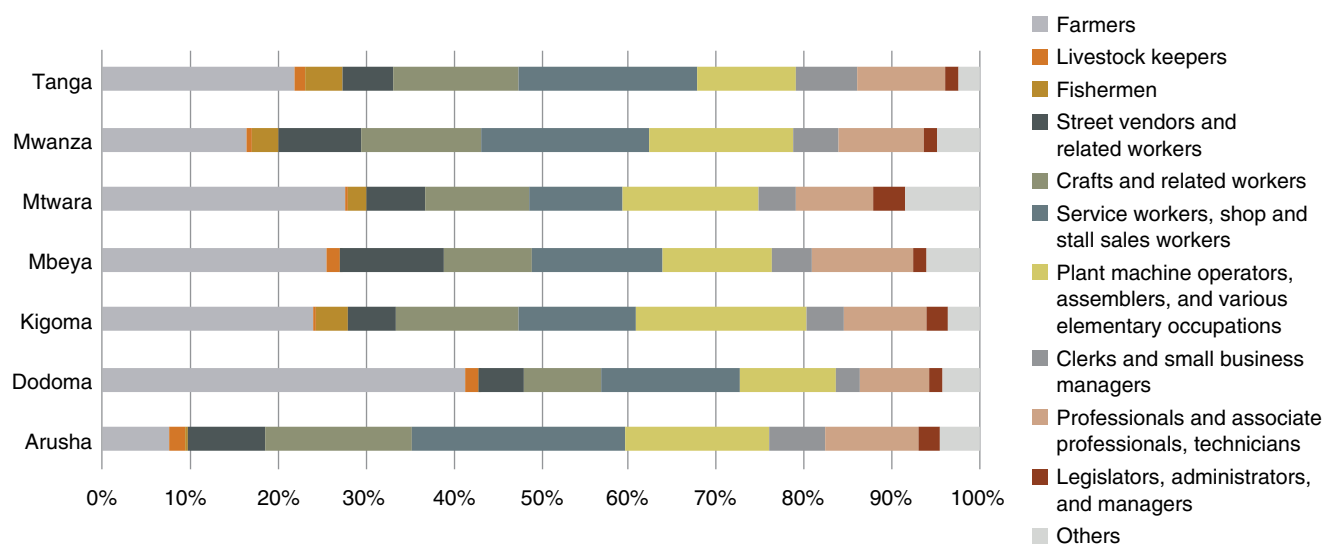
Source: Adapted from World Bank 2017; computed using NBS censuses 2002 and 2012.

## ***Economy and employment***

Despite rapid urbanization, a large share of jobs in cities is concentrated in small-scale (peasant) agriculture, which includes subsistence farming and gardening. There is a significant rural population not fully integrated into urban activities, which translates to a large share of households that still rely on subsistence agriculture and low productivity jobs. According to the 2012 census data, this averages around 25 percent in the case cities, and ranges from more than 40 percent in Dodoma to less than 10 percent in Arusha (figure 2.3).

Employment in Tanzania’s secondary cities is largely informal and in the nontradable sector. Beyond agriculture, workers are engaged in low productivity jobs mainly in services. The majority works in the informal services sector, producing only locally traded goods and services with limited returns and economies of scale. Examples of informal services are food stalls, tailoring shops, beauty salons, automobile repair services, and furniture production, among others. The ability to attract and establish larger firms and diversify the types of products and services in secondary cities seems constrained.

**FIGURE 2.3:** Share of Employed Population by Main Occupation in Case Cities



Source: NBS census 2012.

Household enterprises are growing as a major livelihood source. The household enterprise sector plays a significant role in the Tanzanian economy. Within the nonagricultural sector, its share in the labor force increased to over 50 percent for males and 75 percent for females. In 2006, household enterprises in urban areas employed a larger share of the labor force than wage employment: 40 percent, the largest category. These are uniquely placed within the informal sector, where they represent both conditions of informal employment and informal enterprise (Kweka and Fox 2011).

## Infrastructure and services

Key economic growth constraints of secondary cities in Tanzania are the quality and coverage of transport infrastructure. Cities and rural communities are interdependent for exchanges in goods, products, and services. However, poor transport linkages make exchange and trade costly and limit growth potential. Low-quality regional roads and deteriorated rail networks create a significant drag on trade logistics between cities. According to the Partnerships for Growth diagnostic, almost 76 percent of the rural population lives within two kilometers of an all-weather road. However, in some parts of western Tanzania, residents are more than 10 kilometers from the nearest road, and it takes farmers an average of over two hours to reach the nearest city with a population of over 100,000. Of the roads that exist, only 5 percent are paved and more than half of the total network is in fair or poor condition (World Bank 2016).

Access to infrastructure and services, particularly water, electricity, sewerage, and solid waste collection, are better in urban areas—but vary considerably within and across cities. Service levels in cities are generally higher than in rural areas. However, nominal access to improved drinking water, electricity, improved toilet facilities, and solid waste collection varies considerably across cities (table 2.1). Cities need to grow with compatible expansions of service networks to keep pace with rapid urbanization.

Cities are also not comprehensively planning for and managing their drainage systems, and are unable to capture, treat, and drain stormwater. Drainage networks in the case cities are essentially nonexistent.

**TABLE 2.1:** State of Infrastructure and Services in Selected Cities

Case cities	Access to improved drinking water sources <sup>a</sup> (%)	Access to electricity as primary source of lighting (%)	Access to improved toilet facilities <sup>b</sup> (%)	Access to solid waste collection <sup>c</sup> (%)
Arusha	94.6	52.1	87.6	60.0
Dodoma	75.6	32.0	53.9	12.6
Kigoma	66.5	39.8	51.1	25.5
Mbeya	95.8	46.3	71.9	28.0
Mtwara	91.5	31.6	49.0	14.8
Mwanza	90.3	42.5	76.5	20.8
Tanga	93.8	49.4	74.4	26.9
<b>National urban average</b>	<b>78.0</b>	<b>46.2</b>	<b>71.2</b>	<b>24.7</b>
<b>National average</b>	<b>53.6</b>	<b>18.9</b>	<b>32.8</b>	<b>8.3</b>

Source: NBS census 2012.

Note:

<sup>a</sup>“Improved drinking water sources” refers to piped water on premise, such as piped water into dwelling, piped water into yard or plot, public taps and standpipes, tube wells and boreholes, protected dug wells, and protected springs.

<sup>b</sup>“Improved sanitation facilities” include flush or pour to piped sewer system, flush or pour to pit latrine, ventilated improved pit latrine, pit latrine with washable slab with lid, pit latrine with washable slab without lid, and composting/ecosan toilet.

<sup>c</sup>“Solid waste collection” refers to both regular and irregular collection of refuse disposal.

Except for Tanga, case cities that participated in a Climate Risk Assessment survey conducted by the World Bank reported no drainage master plans or primary drainage system. No city surveyed has more than 40 percent of roads with proper drains. Drains that do exist are typically not well maintained, leaving them clogged with solid waste and siltation from stormwater runoff. In unplanned areas, most households depend on on-site sanitation, such as pit latrines and septic tanks, which tend to overflow when it rains. When uncaptured rain is mixed with untreated sewage and other pollutants, it could result in highly contaminated floods that damage property, cause traffic paralysis, inhibit access to businesses and social services, and make communities vulnerable to disease outbreaks during and after floods (World Bank 2015).

## ***Urban land development***

The urban growth pattern in most Tanzanian cities is predominantly monocentric; coupled with inadequate transportation and basic service networks and an insufficient mix of jobs, services, and residential areas, high costs result. Studies (Bertaud 2004) about large cities around the world reveal that their growth patterns tend to become less monocentric over time; many trip-generating activities have spread in clusters over a wide area outside the traditional central business district (CBD)—thereby losing the CBD’s primacy and dissolving progressively into a polycentric structure. This, however, is not

the case in Tanzania. Jobs, main services, and other central functions are still largely concentrated in CBDs or downtown areas of cities. (Further details on urban forms are discussed in Section 3 under “Observable Spatial Development Trends and Analysis of Secondary Cities.”)

Informal developments remain the main form of growth for cities, particularly in the urban fringe areas. Land-use development has emerged sporadically and horizontally in peri-urban areas (Kombe 2005). These settlement patterns are characterized by low-rise construction, smaller plot sizes, and unplanned and informal development. Some of the differences between residing in planned and unplanned settlements are observed in communal living, plot boundaries, residential licenses, access to roads, community spaces, access to water and sanitation, and enforcement of development controls (table 2.2). (This phenomenon is explored further in Section 3 through spatial analysis.)

**TABLE 2.2:** Characteristics of Formally Planned and Unplanned Settlements  
(observed in Dar es Salaam)

	Formally planned	Unplanned (informal)
<b>Tenure security</b>	Perceived security of tenure associated with favorable land policies	
<b>Structural quality of housing</b>	Use of permanent and modern building materials (for example, cement, tiles, baked or burnt bricks, concrete, stone, and metal sheets)	
<b>Communal living</b>	Existence of exclusive residential neighborhoods	Wide range of social and economic groups live side by side
<b>Plot boundaries</b>	Clearly demarcated and surveyed (that is, cadastral surveys)	Not physically demarcated but known to plot holders and adjoining neighbors and defined by hedges, trees, or other artifacts
<b>Residential licenses</b>	Relatively easy to obtain through right of occupancy and occupancy under letter of offer	May be obtained only once the area is regularized
<b>Access to roads</b>	Clearly demarcated and in compliance with design standards	Only obtained through “social regulation”; internal circulation is poor and dependent on nonstandardized and uncoordinated roads and footpaths
<b>Community spaces</b>	Provided for in the plan	Depends on what is stated in the “social regulation”
<b>Access to water and sanitation</b>	Varies from one settlement to the other and, when provided, is generally inadequate to meet demand	Varies from one settlement to another
<b>Development controls</b>	Enforceable	Preparation of planning layouts is cumbersome and difficult to enforce

Source: Derived from Sheuya 2010 and Kironde 1997.



Peri-urban areas are sprawling and poorly connected, resulting in high costs of public infrastructure and services provision and increasing environmental challenges. Low-rise and low-density development characterizing peri-urban growths make the provision of infrastructure, including piped water, electricity, sewerage, and roads, difficult and expensive. It also adds greatly to the costs of providing services such as education, health, and social assistance. In addition, the unchecked horizontal expansion of built-up areas has resulted in additional challenges, such as impingements on water resources and pollution where urban wastes are deposited without treatment, loss of agricultural land, and land speculation.

There is a large gap in the current system for monitoring land development and transactions. Only 5 percent of land in Tanzania is registered (Kironde 2006).<sup>1</sup> This is in contrast to 70–100 percent in Rwanda, 35 percent in Kenya, and 18 percent in Uganda (World Bank 2014). And majority of land transactions occur without review or approval, leading to unregulated land use and nonadherence to urban planning and building standards. There are formal procedures, requiring detailed steps, to have the land surveyed and registered. However, acquiring formal land titles incurs prohibitive costs and a lengthy approval process.<sup>2</sup> In parallel to this, there are alternative informal procedures and systems, which do not lead to a legal registration of the property but are considered socially legitimate and, in some cases, offer greater security, especially to informal settlement dwellers.

Urban plan implementation efforts are largely done through a conventional approach of mass land acquisition and compensation, followed by resale of planned and surveyed plots. All case cities reported that they have historically relied on this conventional model of delivering planned neighborhoods. This is not a sustainable model moving forward, since cities acknowledge that they are unable to apply this method at a scale sufficient to produce an entirely planned city and do not have sufficient funds to pay the required compensation. In response, several cities have begun to trial innovative alternatives to this conventional approach. In Mbeya, the planning department cooperates with communities to jointly develop a detailed planning scheme for the area. It then surveys plots and enters into an agreement with land holders that when plots are sold, 40 percent of the sale proceeds will go directly to the city government (which oversees the land sale and gives the sign offs necessary for approval and Certificate of Residential Occupancy documentation from the MLHHS). Mtwara has piloted a similar process, but instead splits the parcels themselves, with 60 percent of produced parcels resting with the original land holders to sell or keep as they see fit, and 40 percent of the produced parcels being handed over to the municipality to put up for sale. This method was discussed with interviewees in many cities. Most agreed that it was workable (although not without its challenges) and observed that private planners have been using this method for some time.

## **Policy and Institutional Context**

### ***Decentralization and local governments***

Tanzania has a long and uneven history of local government and administration with significant gains in decentralization achieved only in recent decades. Local governments in Tanzania were first established in 1926 during the British colonial period through the Native Authorities Ordinance. Authorities operated under a system of indirect rule, and by the 1940s grew to become elected representative

local bodies. As a result, the Municipalities Ordinance was enacted in 1946 followed by the Local Government Act in 1953. However, approximately a decade after the country's independence in 1961, district and urban authorities were abolished in the early 1970s and replaced by central government rule. Only in 1982 were local governments reestablished through a series of acts.<sup>3</sup> This was a response to the economic crisis in the late 1970s and 1980s that resulted in the rapid decline of infrastructure and services in urban areas.

Fiscal decision making and administration were transferred to local governments only in the late 1990s. Despite the reinstatement of local government authorities, at the beginning, they were not empowered to raise their own revenue, and whatever revenue they were able to collect they did so as agents of the central government. Decentralization-by-devolution reforms aimed at increasing responsibility by local governments were enacted later, under the 1996–2005 Local Government Reform Program. The decentralization of urban functions—including planning, infrastructure, and services—was accompanied by formula-based intergovernmental transfers and harmonization of tax and revenue guidelines across local governments (PO-RALG 2000). The central government also intended to improve central-local relations by moving from a top-down approach in which the central government dictated what municipal councils should do to a partnership between both levels of government.

Some trends toward recentralization have been observed in recent years and are reducing local governments' overall own-source revenue (OSR) as well as control over local budgets. Intergovernmental transfers increased from 79 percent of total LGA revenues in 2001/02 to 93 percent in 2006/07 (Sarzin and Raich 2012) and remained at approximately 90 percent over the period 2012 to 2015. The remaining 10 percent is collected through OSR, local taxes, levies, and fees (Mollel and Tollenaar 2013). In addition, the parallel structure of regional and district commissioners, combined with hiring and payment of municipal personnel by the central government, suggest a significant amount of central control over local government decision making and limitations on local autonomy. Recent policy changes<sup>4</sup> also recentralized the function of property tax administration (in 2016) and billboard taxes (in 2017) to the Tanzania Revenue Authority and imposed restrictions on other revenue sources,<sup>5</sup> while uncertainty remains over the redistribution of such revenue back to local governments. Hence, local governments' OSRs are likely to decrease if the trend continues, and local budget accuracy and predictability will be a challenge, ultimately impacting their ability and accountability to deliver infrastructure and services.<sup>6</sup>

Certain responsibility for local functions to deliver infrastructure and services is also being transferred to the national level. National agencies created recently, such as the Tanzania Rural and Urban Roads Authority, established in May 2017, took over local governments' responsibility for the development, rehabilitation, maintenance, and road reserve management of the rural and urban roads network in Tanzania. While the impacts are too early to be observed, there is worry that this may result in central priorities overriding that of local communities and stakeholders. These trends have a direct relation to the effectiveness and implementation of physical plans. With an eroding fiscal autonomy and a diminishing mandate to deliver on infrastructure and services, there is little alignment and motivation for or ability by local governments to both plan and implement their general and detailed plans.

## Urban planning policy and regulatory framework

**Legislation specific to urban planning has flourished only in the past two decades; it is supported by broader urban sector development policies.** Urban planning legislation constitutes a wide range of policies and acts to regulate land ownership and physical development (table 2.3). The Urban Planning Act and Urban Planning and Space Standards Regulations are the overarching policy instruments that guide future urban growth and development. They are based on the fundamental principles laid out in the National Land Policy and Human Settlements Development Policy. These policy instruments are still at a nascent stage and are continuously evolving. For example, the 2015 draft introduced consideration of minimum plot size for housing in unplanned settlement, which were otherwise not found in the adopted 2011 version (World Bank 2016a).

**TABLE 2.3:** Key Urban Sector Development Policies in Tanzania

Year	Policy	Major reforms
1995	National Land Policy	Seeks to establish, support, and guarantee a secure land-tenure system, which will facilitate the sustainable use of resources and land management. It also seeks to ensure that sensitive areas (forests, river basins, areas of biodiversity, and national parks) are not allocated to individuals for development activities. Land is owned by the president in trust for present and future generations. Finally, the policy recognizes two main types of tenure: customary land rights and granted right of occupancy.
1999	Land Act No. 4	Provides the basic law in relation to land other than the village land, the management of land, settlement of disputes, and related matters.
2000	National Human Settlements Policy	Envisions well-organized, efficient, healthy, safe and secure, and aesthetic sustainable human settlements. It puts a limit to physical growth by directing development to satellite towns, discouraging rural-urban migration, and facilitating the construction and operation of efficient transport systems in urban areas. It also calls for more participatory planning and encourages village land-use planning.
2007	Urban Planning Act	Provides for the sustainable development of land in urban areas, the preservation of basic amenities, and the framework for development control. Planning authorities (every city, municipal, and town councils as well as township authorities) are vested with the power to prepare a general planning scheme, to control the use and development of land in the interests of proper and orderly development, as well as to formulate bylaws to regulate zoning in respect of use and density of development.
2011	Urban Planning and Space Standards Regulations	Include standards for residential areas, unplanned settlements, building lines and setbacks, plot coverage and plot ratio, health facilities, education facilities, recreation facilities, beach facilities, golf courses, passive and active recreation, public facilities by planning levels, public facilities by population size, parking and road width, and agricultural show grounds.

Source: World Bank 2016a.

Currently, the National Land-use Framework (2013–33) is proposed to be the overarching guiding document for spatial and land-use planning.<sup>7</sup> The National Land-Use Framework Plan (NLUFP) was developed and updated by the National Land-Use Planning Commission to provide guidance for the determination of land uses of national concern—particularly protected areas, wetlands, and areas for agriculture, grazing, urban and rural settlements, and infrastructure. More important, it seeks to depart from the historical ad hoc planning practice to a more systematic and comprehensive approach by translating national priorities and development goals into spatial terms and minimizing existing and potential conflicts that arise from sectoral land uses and activities. In this way, the NLUFP is intended to serve as a guide for land-use planning and to create compatibility between land uses and land ownership—at zonal, special areas, regional, district, and village levels (URT 2013).

Even though national level policies and planning guidance exist, the quality and consistency of the policies and guidance, as well as the alignment of plans themselves to these policies, could be improved. In addition, the ability of national planning guidance in assisting the direction of development and managing urbanization are, at best, weak, as evidenced by the various economic, infrastructure, land, and other challenges discussed earlier. Analysis of the current urban planning framework (figure 2.4) suggests that there is a missing link—regional or metropolitan plans—required to translate national planning to the city level. The absence of such zonal, regional, and metropolitan plans compounds the issues of sprawl and lack of coordination and strategic thinking regarding trunk infrastructure and development priorities. In addition, there are few inbuilt mechanisms to ensure that services and infrastructure are developed according to plan.

Current national level planning standards may unintentionally prevent densification and application of suitable built forms according to specific local context. The 2011 Urban Planning and Space Standards Regulations is the one in effect currently, although revisions have been in the works. Among five East African countries reviewed, Tanzania has the highest minimum plot size (300–600 square meters) for detached housing in high-density residential areas.<sup>8</sup> It also limits a maximum plot ratio of 0.4, sets a maximum plot coverage of 40 percent, and defines setback distances (3.0 meters for the front, 1.5 meters for the side and rear) for this typology. Similar specifications are provided for terraced house and multistory and blocks of flats, where even the high-density multistory development allows only for a maximum plot ratio of 1.5. It is recommended that such regulation of very specific development controls be undertaken at a very local and granular level to allow adaptation to specific city context and localities within each city, instead of as a blanket requirement at the national level.

## ***Key stakeholders and coordination***

The primary responsibility for preparing, enforcing, and monitoring planning schemes rests with the local authorities. According to the Urban Planning Act, the institutional framework comprised (i) the Minister of Lands, Housing and Human Settlements Development, who is responsible for approving the planning schemes and ensuring that the national development vision is incorporated into plans at all levels of the planning process; (ii) the director of urban planning, who advises the minister on land-use planning issues and sets guidelines and standards to all planning authorities; and (iii) local planning authorities, that is, every city council, municipal council, town council, and township authority, who are

**FIGURE 2.4:** Characteristics of Current Urban Planning Framework and Mechanisms

National level	<b>National legislation regulating urban development</b> <ul style="list-style-type: none"> <li>Land Use Framework (2013–2033): facilitates the rational allocation of land resources and decision making on resources management while ensuring the sustainability of the natural environment</li> <li>Land Act: defines hazard lands including land within 60 meters of a river, defines role of LGAs in land administration, provides for granted rights of occupancy and derivative rights of occupancy (residential licenses)</li> <li>Urban Planning Act: enabling legislation for land use regulations, sets foundation for planning and space regulations</li> <li>Environmental Management Act: protects environmentally sensitive areas and hazard land</li> <li>Roads Act: established road rights of way</li> </ul>		
	<b>General planning scheme (master plan)</b> <ul style="list-style-type: none"> <li>Long-term (20-year time frame)</li> <li>City-wide</li> <li>Outlines development vision</li> <li>Establishes broad land use framework and investment priorities</li> </ul>	<b>Interim land-use plan</b> <ul style="list-style-type: none"> <li>Short and medium term general planning scheme, not to exceed 10 years</li> <li>Can serve a period with no master plan</li> </ul>	<b>Enforcement mechanisms</b> <ul style="list-style-type: none"> <li>Staff review and signs off on building permit applications</li> <li>Approval of building permit applications by Municipal Council committee</li> <li>Legal measures (stop orders, court cases)</li> </ul>
City level	<b>Detailed Planning Schemes</b> <ul style="list-style-type: none"> <li>Applies to a smaller geographic area (e.g. ward/mtaa/neighborhood level)</li> <li>Provides specific land use regulations, building height restrictions, allowable densities, etc.</li> <li>Includes infrastructure plan, as well as planning scheme action plan and budget</li> </ul>		
	<b>Detailed schemes for new areas</b> <ul style="list-style-type: none"> <li>Used in areas that are predominantly undeveloped</li> <li>Establish local road network; designates land for infrastructure and community facilities</li> </ul>	<b>Regularization schemes</b> <ul style="list-style-type: none"> <li>Used in informally developed settlements</li> <li>Plans to restructure existing land tenure arrangements to provide space for community facilities and basic infrastructure</li> </ul>	<b>Redevelopment schemes</b> <ul style="list-style-type: none"> <li>Urban renewal plans to guide public and private investment in an already built-out area</li> <li>Establishes revised planning and space standards and provides framework for changes in land use</li> </ul>
Ward/Subward/Neighborhood level	<b>Enforcement mechanisms</b> <p><i>Ward level</i></p> <ul style="list-style-type: none"> <li>Ward staff and elected officers sometimes report unauthorized development</li> <li>Ward development committees (specifically Urban Planning and Environment Standing Committees assigned with local planning and monitoring responsibilities)</li> </ul> <p><i>Mtaa level</i></p> <ul style="list-style-type: none"> <li>Mtaa executive officers and mtaa chairperson sometimes report unauthorized development</li> </ul>		

Source: World Bank 2016.

responsible for preparing, enforcing, and monitoring the progress of the planning schemes. In practice, however, MLHSD and PO-RALG frequently play a much more hands-on role in the development of urban plans.

It is also the local planning authority's duty to regulate and enforce development controls within its planning area, and to review or amend detailed planning schemes every five years—but in practice, this rarely happens.<sup>9</sup> In the first place, the coverage of detailed planning schemes is generally low in the case cities and not well documented in the local planning offices.<sup>10</sup> Further, extremely little is being done on a regular basis to ensure enforcement of development controls.<sup>11</sup> The minister has the authority to intervene when necessary; however, interventions at the ministerial level rarely occur (Lubuwa 2006).

Urban management suffers from institutional fragmentation and complex relationships among multiple governing bodies. Both national level and city level agencies are often still involved in the various

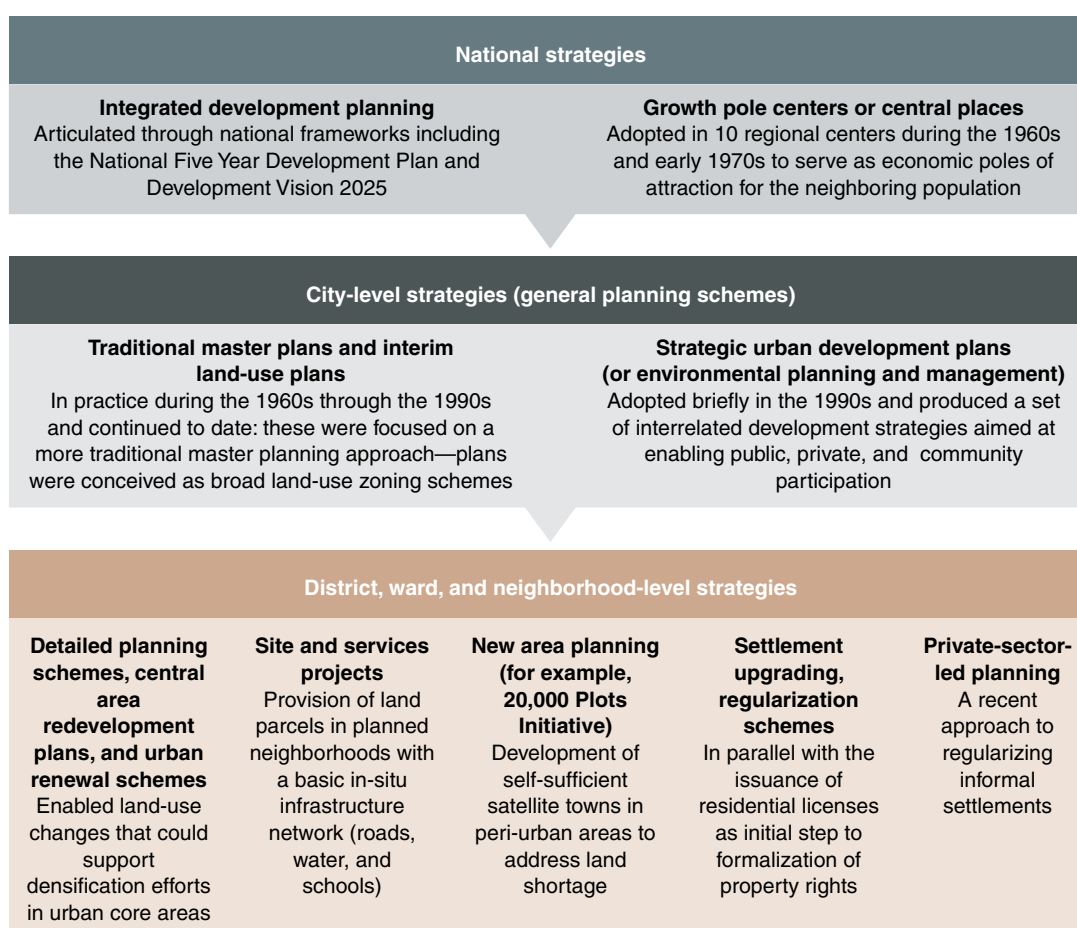
aspects of land and urban management and infrastructure and services provision with overlapping or unclear regulatory scope and responsibilities, whether it is according to legal mandates or adopted practice. This creates ambiguity in terms of accountability and complicates the processes for planning, implementation, monitoring, and enforcement in urban development. A silo mentality between different sectors and departments (very often seen among planners, engineers, economists, or environment and social scientists) also perpetuates the institutional fragmentation, working against a coordinated approach (World Bank 2016). For example, previous sections have discussed the central government's continued role in local fiscal administration; several central-level government agencies or national parastatals also play crucial roles in services provision (roads, water, electricity, drainage) under the jurisdiction of the LGAs (Kironde 2009).

Furthermore, investment decisions made by utility agencies are guided largely by financial viability considerations rather than coordinated planning or development priorities (as indicated in a GPS or DPS), as there are little incentive and no mechanism for them to do so. A criticism that urban planners commonly make of utility agencies is that the utilities extend infrastructure into unplanned settlements, even those in hazardous areas. During the field visit interviews conducted for this study, utility agency representatives were asked about the factors that guide their investments and network expansion decisions. They unanimously reported that such decisions are driven primarily by financial viability considerations. Utility agencies typically gauge where development is growing, note the prevalence of requests for service from various areas, and then extend infrastructure to those areas—with very little coordination or consultation with local governments, and generally without using GPS or DPS as guiding tools. Except for Dodoma, utility agencies in the case cities do not require building permits or formal land titles as a prerequisite to service extensions. Further, utility agencies rely heavily on subward (or mtaa) officials and their knowledge of local land tenure arrangements when placing service network infrastructure, as cadastral surveys or maps of property boundaries are very limited. Once services are provided, they grant a sense of legitimacy and permanence to unplanned development.

### ***Practical approaches to urban planning***

The government of Tanzania and planning authorities implemented a wide range of solutions and strategies at the national, city, and neighborhood levels—but these were primarily delivered as projects that come and go as resources are available, and have not been mainstreamed. The solutions and strategies (summarized in figure 2.5) were intended to direct future development and curb the growth of informal settlements. Other planning tools used to facilitate the government directive include demarcations or nontitle surveying, participatory or bottom-up planning, and land pooling or readjustment. These approaches are discussed in detail in the background paper to this study—“Background Profile of Tanzania Secondary Cities.”

**FIGURE 2.5:** Urban Planning Solutions and Strategies at the National, City, and Neighborhood Levels



Source: NBS census 2012.

## Status of master plan development

There is wide variation in the number of plans adopted, time periods covered and planning strategies developed for each of the case cities. Tables 2.4 and 2.5 illustrate the status and nature of approved and draft master plans. A combination of at least one city from each of the following “plan coverage categories” is included for analysis in this study:

- Cities that have most consistently been covered by master plans (had no, or only short, periods for which no plan existed) include Arusha and Dodoma.
- City that was not governed by a master plan for the majority of the 1970s and 1980s, but that did adopt a plan in the 1990s and 2000s includes Mwanza.
- Cities that adopted master plans in the 1970s and 1980s but did not replace (or have not yet replaced) these in later decades include Mbeya and Tanga.
- Cities that have had no master plans since independence include Kigoma and Mtwara.



**TABLE 2.4:** Summary Status of Master Plan Development in the Case Cities

City	Approved master plans				
	1970s	1980s	1990s	2000s	2010s
Mwanza			X	X	X
Arusha	X	X			*
Dodoma	X	X			*
Mbeya	X	X			*
Tanga	X	X			*
Kigoma-Ujiji		*		*	*
Mtwara				*	X

*Note:* X indicates prepared in year; brown highlighting indicates the decade was at least partially covered by a Master Plan; \* indicates plans being drafted.

Overall, many cities in Tanzania see extended periods of urban development without a functioning plan in place. Even for cities with some earlier GPSs, most of them have developed beyond the purview of these existing plans. Thus, the current form of Tanzanian cities is largely the product of growth in the absence of plans and enforcement over decades, locking in an inefficient spatial form and resulting in the proliferation of unplanned settlements. Cities are now playing catch-up to prepare GPSs. There are ongoing efforts by MLHHSD and PO-RALG to encourage the completion of GPSs for all Tanzanian cities, especially in the recent years. MLHHSD and LGAs as planning authorities have also recently prepared and approved detailed plot subdivision plans for peri-urban and new areas in several cities, as well as regularization schemes and central area redevelopment schemes for existing urban areas. While these efforts are encouraging, progress is overall slow with GPSs typically taking a few years to be prepared and adopted. In several cities, draft plans were prepared but never adopted, although in some cases these are implemented to some degree nevertheless (refer to Box 2.1).

**TABLE 2.5:** Status and Nature of Master Plan Development in the Case Cities (since independence)

Case cities	Available master plans					Other plans
	1970s	1980s	1990s	2000s	2010s	
Arusha	1977-1997 The main concern is to improve the standard of living by facilitating the provision of essential services, utilities, and infrastructure, and optimizing existing facilities and provision to meet future demand	1985-2005 Developed to support the city's urban growth trajectory by ensuring the economic viability and capacity of communication routes as well as municipal services			2015-2035 ( <i>under review</i> ) A comprehensive plan that integrates the strategies and proposals developed for the city's key areas of urban development: employment, housing, public amenities, road and mass transport, utilities and green infrastructure, food security and resilience, and tourism	2009 <i>Usa River Township Master Plan</i> Prepared to offset the negative impacts of previously unguided development in the area by establishing a framework that accentuates the town's development potential  2001 <i>Central Area Redevelopment Plan</i> Aimed to increase vertical development to meet the growing housing demand, and to promote greater mixed-use development
Dodoma	1976-1996 Strong vision to develop Dodoma as the national capital city—the administrative, economic, and political functions of which would be supplemented by a diversified industrial and commercial base and linear urban growth system for its population	1988-2008 <i>Structure Plan</i> Strategic plan developed to revise the 1976 master plan in view of the country's economic decline by rectifying its previous strategies, proposing a new town concept for its population, and continuing the relocation of government offices			2010-2030 ( <i>draft</i> ) Aimed at hastening the Capital Transfer Program through appropriate development control policies, effective legal enforcement, and a public-private partnership system to stimulate the city's social and economic development	

(continued)

Case cities	Available master plans					Other plans
	1970s	1980s	1990s	2000s	2010s	
Kigoma		1985-1995 <i>Interim Land-Use Plan (draft)</i> Implementation duration of 10 years, which only presented the existing conditions of the planning area with no new proposals developed (The plan was never formally approved but in effect it was used to guide development and detailed neighborhood planning.)		2008-2028 ( <i>draft</i> ) Meant to overcome the development changes during implementation of the 1985 Interim Land-Use Plan (It was never approved, because the plan failed to clearly map the existing situation of the planning area—for example, the special economic zone was mapped as an existing residential area.)	2017-2037 ( <i>draft</i> ) Provides a framework and spatial development strategies to improve access to basic infrastructure facilities and security of land tenure	2002 <i>Central Area Redevelopment Plan</i> Aimed to improve the physical infrastructure of the planning area (that is, buildings) by encouraging vertical development for future expansion  2009 <i>Land-Use Plan for Special Economic Zone</i> Aimed to assist and stimulate the growth of industries in the municipality through a broad zoning land-use plan  2013-2033 <i>Redevelopment Plan for Ujiji Historical Town (draft)</i> Developed strategies to assist the municipality to address the shortage of land to accommodate future expansion (It was never approved due to its poor quality—the existing situation was not mapped clearly.)

Case cities	Available master plans					Other plans
	1970s	1980s	1990s	2000s	2010s	
Mbeya	1974–1994 A direct product of the country's Second Five Year Plan—which selected Mbeya as one of the nine growth centers outside Dar es Salaam to concentrate urban development	1985–2005 <i>Mbeya Master Plan Review</i> Proposed new strategies (for example, cluster model, self-contained neighborhoods) where existing conditions and development trends were at variance with assumptions supported by the 1974 Master Plan				2003 <i>Central Area Redevelopment Plan</i> An integral part of the city's Strategic Urban Development Plan—the redevelopment scheme is intended to address the deterioration of the infrastructure system and dilapidation of houses in the central area
Mtwara				2008–2027 (draft) Never approved but aimed to assist in the control and guidance of developmental growth arising from high levels of rural to urban migration (It sought to provide growth direction and opportunities for hierarchical service centers within the planning area.)	2015–2035 (approved) Compact city approach and high-density mixed-use urban forms to achieve Mtwara's desire to become a “green city” (The core principles of this plan are resilience, livability, resource efficiency, inclusivity, and integration.)	1947–1954 <i>Layout Plan</i> Only approved master plan to date, was prepared in conjunction with the Port of Mtwara (Interviewees cite this plan as the guiding document of the city up until 2001.)  2001 <i>Central Area Redevelopment Plan</i> Developed to ensure that prime land urban areas were used effectively and efficiently and that manageable services and infrastructure were provided as well

(continued)

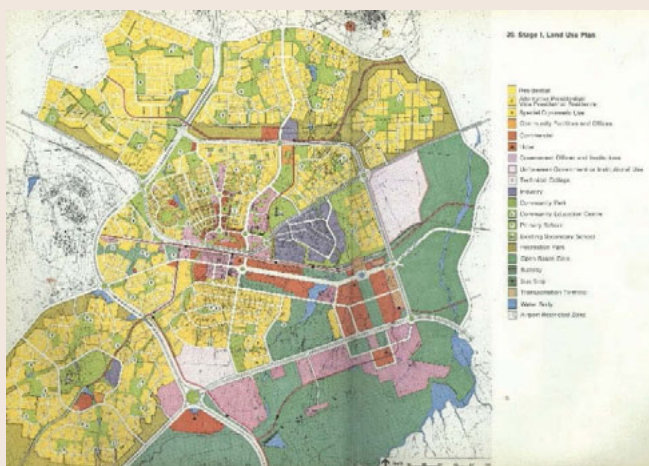
Case cities	Available master plans					Other plans
	1970s	1980s	1990s	2000s	2010s	
Mwanza			<p>1992-2012 Prepared to guide and promote the orderly growth and efficient utilization of land by grouping compatible land uses together and developing new neighborhoods and district centers (Illemela, Buswelu, and Nyegezi)</p>	<p>2008-2028 A guide for policy makers on future land use and infrastructure development because of rapid growth, city council's low capacity, ad hoc land-use changes in the city, changes in national policies and strategies, and attainment of "city" status</p>	<p>2015-2035 (approved) Envisions Mwanza as a "vibrant" and "picturesque" city by preserving and enhancing the city's image, prioritizing economic development, prioritizing specific areas for development, minimizing the need for acquisition, and integrating existing projects and planning initiatives</p>	<p>1993 <i>Central Area Redevelopment Plan</i> Intensify use of central area by proposing planning and capacity standards, circulation system, efficient land-use distribution, and measures to uplift skyline and townscape</p>
Tanga	<p>1975-1995 Direct product of the country's Second Five Year Plan—which selected Tanga as one of the nine growth centers by integrating different income groups, improving the distribution of facilities, and creating self-sufficient communities</p>	<p>1985-2005 Aiming at an overall reduction in density and more compact growth, as well as improvements in the level of services available to future residents over the planning period</p>			<p>2016-2035 (draft) Utilizing the concepts of "core city" and "satellite centers development" to ensure and guide orderly development in the city and absorb growth from the urban core and peripheries</p>	<p>1997 <i>Sustainable Tanga Programme</i> A product of the environmental planning and management process that sought to address the city's environmental issues through a participatory planning approach  2007 <i>Central Area Redevelopment Plan</i> Urban renewal plan seeking to strategically address the city's issues of dilapidating housing stock, increasing traffic density, lack of traffic signs, and conflicting land use in the central area</p>

### BOX 2.1: The Role of Draft GPSs

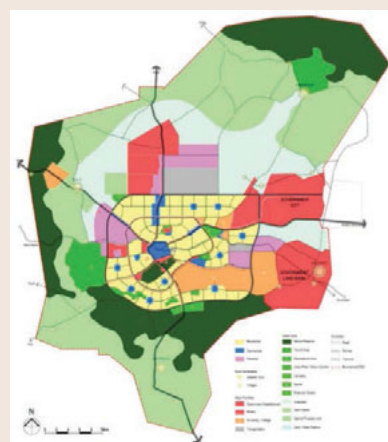
In some cases in Tanzania, draft plans are used to guide urban development despite not being formally approved and officially adopted. This was the case in Kigoma, where a draft land-use plan from 1985 was being actively used at the time of the study team's field visit in April 2017. In Dodoma, a draft master plan (MP) had been developed and was awaiting approval. Planners in the former Capital Development Authority office were using a hybrid of proposed land uses from the 1976 MP and the 2010 draft MP. Although their preference was to apply the proposed land uses from the 2010 draft MP, it was technically difficult due to the conceptual nature of the land-use map in that plan (it does not follow the actual road network and does not accurately reflect existing land uses). The proposed land-use map in the 1976 MP was far more detailed and realistic, and thus a more practical tool for planners, despite the fact that it was outdated.

### MAP B2.1.1: 1976 versus 2010 Land-Use Maps

a. Proposed stage 1 land uses, Dodoma MP 1976



b. Proposed land uses, draft Dodoma MP 2010



## Endnotes

1. This was the most recent and available figure that was found at the time of this report. However, it is to be noted that, since then, further efforts and different approaches have been employed to increase the delivery of formal land, such as through the Plots Development Revolving Fund from MLHHSD, or projects undertaken by the National Housing Corporation, local authorities, and the private sector.
2. Registering a property takes an average of 68 days, ranking Tanzania consistently among the lowest quartile of countries on this Doing Business indicator; some suggest even longer periods, up to years, for other land transactions, such as transferring and registering a property; for valuation, planning, surveying, and titling procedures; and for land allocation for urban purposes.
3. The laws enacted in this period included (i) The Local Government (District Authorities), Act 1982 (Act No. 7 of 1982); (ii) The Local Government (Urban Authorities), Act 1982 (Act No. 8 of 1982); (iii) The Local Government Finance Act, 1982 (Act No. 9 of 1982); (iv) The Local Government Service Act, 1982 (Act No. 10 of 1982); and (v) The Urban Authorities Rating Act, 1983 (Act No. 2 of 1983). These laws were subsequently amended in 1992, 1993, 1999, 2002, 2004, and 2006.

4. The Finance Acts of 2016 and 2017 that amend the Tanzania Revenue Authority Act (CAP 399) and the Urban Authorities (Rating) Act (CAP 289) provided the definitive legislative power that authorizes the TRA to assume responsibility for the administration of local government property rates. These legislative changes give TRA collection not only responsibility for property rates but full administrative control. The functions of valuation, identifying rateable properties, billing, and enforcement have also been transferred to TRA.
5. For example, the central government reduced the rate of the guest house levy from 20 percent to 10 percent; the maximum permitted service levy is 0.3 percent; the legally established 30 percent collections attributed to land rent (which is already criticized for being undercollected) would be retained (at least in part) by the central government.
6. The importance of linking who decides on revenues with who decides on expenditures (for accountability and to improve the level of services) has been emphasized in the literature (see, for example, Bird and Slack 2017). International experience tells us that the most responsible and accountable local governments are those that raise their own revenues and set their own tax rates (Bird 2011).
7. The legal basis of this plan are sections 19, 29, 34, 45 and 46 of the Land-Use Planning Act 2007, which stipulate the preparation, approval, and implementation of the National Land-Use Framework Plan.
8. The review included five countries—Kenya, Ethiopia, Uganda, Rwanda and Tanzania—with Ethiopia including a minimum plot range of between 75 and 300 m<sup>2</sup>.
9. Recent changes in the way municipal accounts are structured are reported to have made it more difficult to set aside and access the finances necessary to achieve planning priorities. In the past, planning departments generally had a designated account; however, a mandate from the central government has required that LGAs limit the number of accounts to just six, which resulted in the cancellation of the accounts previously designated for the planning departments alone. Heads and staff of planning departments report that all revenue that would previously have been earmarked for urban planning budgets now flows into their city's general fund, and that it is often immediately used for whatever the pressing priority is at the time it arrives.
10. The percentage of land area covered by detailed planning schemes varies substantially from city to city; however, planning staff in the majority of cities self-reported less than 50 percent coverage.
11. In practice, monitoring and enforcement of urban plans is handled by the municipal level of government. All cities pointed to insufficient numbers of staff and limited budgets as key barriers to effectively controlling development. Both municipal staff and officials at the ward and mtaa levels observed that devolution of responsibilities related to development control would greatly improve performance; however, concerted efforts to actually do this were limited. Currently, municipalities rely on occasional field visits by planning staff, or on more regular rounds made by a limited number of building inspectors. For example, in Kigoma there were just two building inspectors for the whole city, and planners reported that they have limited qualifications and there is no quality control over their work. Dodoma, again, is a notable exception. Here, both city-level (Dodoma Municipality and Capital Development Authority) staff and ward or mtaa officials observed that within planned neighborhoods, very limited illegal development occurs, as stop orders are quickly issued and are closely followed. Dodoma had divided the surveyed areas of the city into four building-inspection zones, each of which had one building inspector and two land rangers conducting regular patrols. In other cities, planning staff sometimes have strong relationships with the officers of certain wards or mtaa and they will report in an ad hoc way on illegal development activities, which the municipality will then follow up on with stop orders.

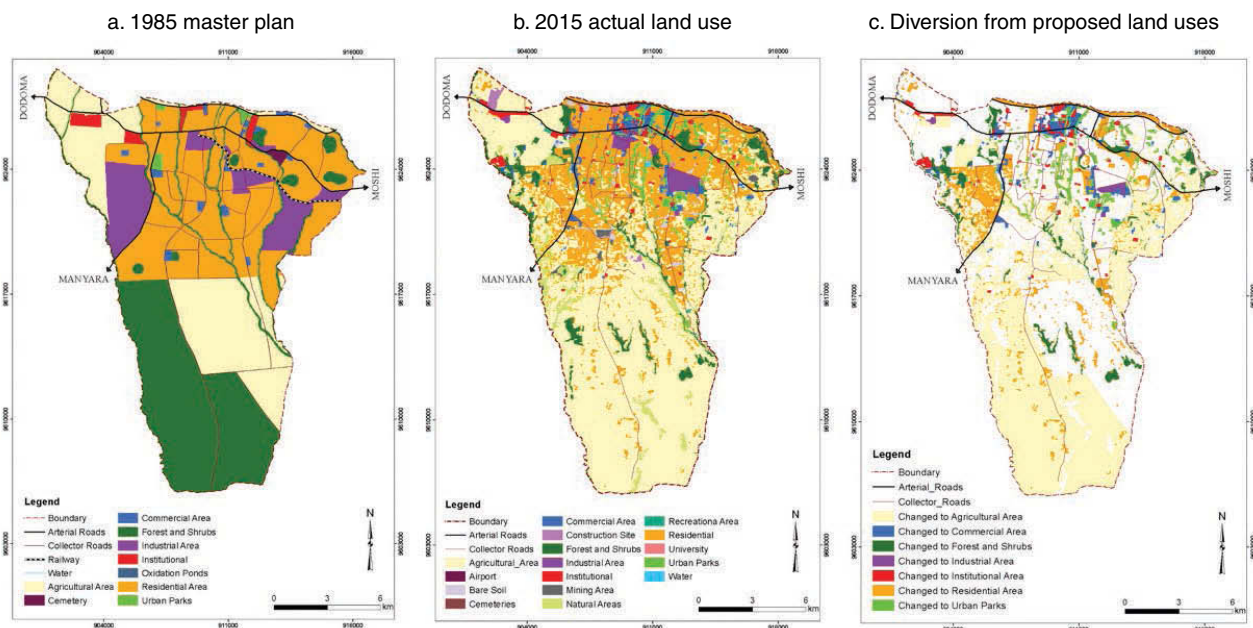


# 3. Key Findings

## Land-Use and Land-Cover Conformity to Master Plans and Detailed Area Plans

The level of land-use and land-cover conformity is used as one of the proxies to evaluate the degree of impact and effectiveness of master plans and detailed plans, since one main function of plans is to coordinate land-use developments spatially. Spatial analysis was conducted to compare major land uses from digitized master plans, with land cover deduced from satellite images to arrive at the levels of conformity.<sup>1</sup> This is further examined in terms of major land-use categories: urban parks, residential, institutional, industrial, forest and shrubs, commercial, arterial and collector roads, and agriculture. Differentiation was also made between core urban area and peri-urban area, as these exhibit vastly different characteristics and shed light on different types of strategies or policies required. (See map 3.1 and figure 3.1 for the example of Arusha, which demonstrates a typical land-use and land-cover conformity analysis performed for case cities. Detailed analysis for all seven case cities are provided in the background paper, “Atlas of Tanzania Secondary Cities” for this study.

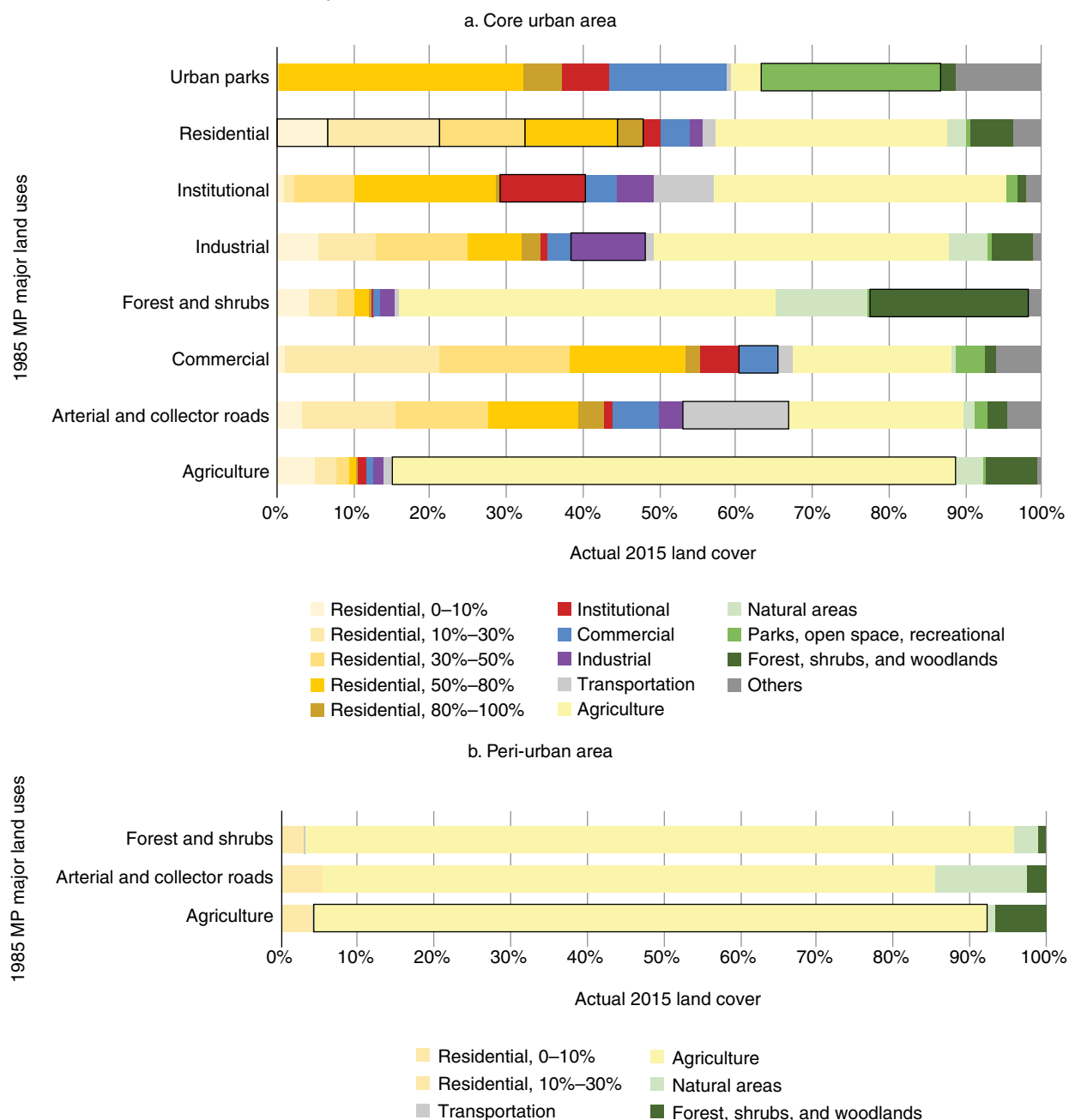
**MAP 3.1:** Typical Land-Use and Land-Cover Conformity Analysis Performed for Case Cities, Showing Arusha



Source: Satellite image, European Space Agency, World Bank and Ardhi team interpreted land cover using open source satellites and Local Government Revenue Collection Information System.



**FIGURE 3.1:** Arusha: Conformity to 1985 Master Plan



Source: Compiled from EO4SD operations report (for this study).

The level of land-use and land-cover conformity is only one of many pieces of the puzzle as to whether master and detailed plans are effective. It must be noted that while the ability of plans to guide development could be reflected to some extent as the realized land uses, the level of conformity is also determined critically by, inter alia, (i) the planning and implementation time horizon of the plan, (ii) actual speed of development, (iii) the quality of plans themselves (discussed in later sections), (iv) level of granularity of the plans, and (v) ability of the system and processes to allow timely adjustments or amendments to plans to reflect changing needs or situations on the ground. Hence, beyond

land-use conformity, we also examined other spatial development trends and characteristics in Section 3's "Observable Spatial Development Trends and Analysis of Secondary Cities" to further shed light on the effectiveness of plans.

## ***Land-use and land-cover conformity to master plans***

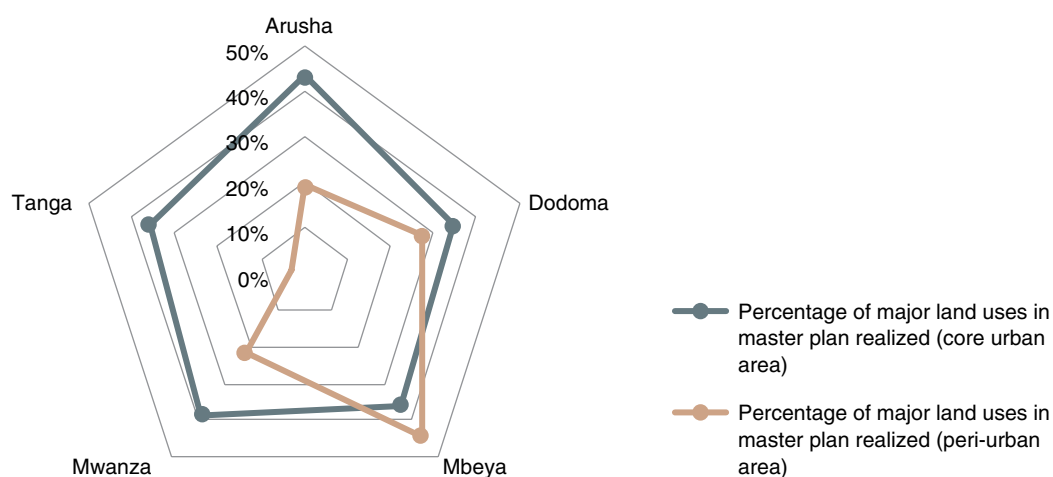
Actual development in core urban areas exhibited around 35–45 percent of land-use and land-cover conformity to early master plan proposals. Results from the spatial analysis comparing major land uses from previous master plans, with land cover deduced from satellite images (circa 2015), show generally low levels of conformity in the case cities (figure 3.2). For core urban areas, the results are fairly consistent—with around 35–45 percent of land-use conformity in all five cities.

However, in peri-urban areas, the rate of conformity varies greatly. Three of the cities cluster around 25 percent (which is significantly lower than in core urban areas), while it is higher in Mbeya (44.5 percent) and extremely low in Tanga (less than 3 percent). (The reasons for these exceptions in Mbeya and Tanga were better revealed when we dove deep into the conformity by land-use types, as discussed in later paragraphs.)

Cities with master plans existing from earlier decades did not show better conformity than cities that adopted master plans late. For example, Mwanza adopted its first GPS in the early 1990s, but overall its levels of conformity are similar to the other cities which had GPS since the 1970s. However, this could be due to a "late comer advantage," in which the master plans prepared were reflecting on-the-ground conditions in the 1990s.

Conformity to master plan land uses did not change or improve significantly over the years. For example, in Arusha and Dodoma, where conformity with land cover from satellite images was compared

**FIGURE 3.2:** Conformity of Major Land Uses in Mid-2010s with Master Plans



*Source:* Based on study calculations and EO4SD operations report for this study.

*Note:* For Kigoma and Mtwara, as there have been no master plans since independence, comparison on land-use conformity could not be performed.

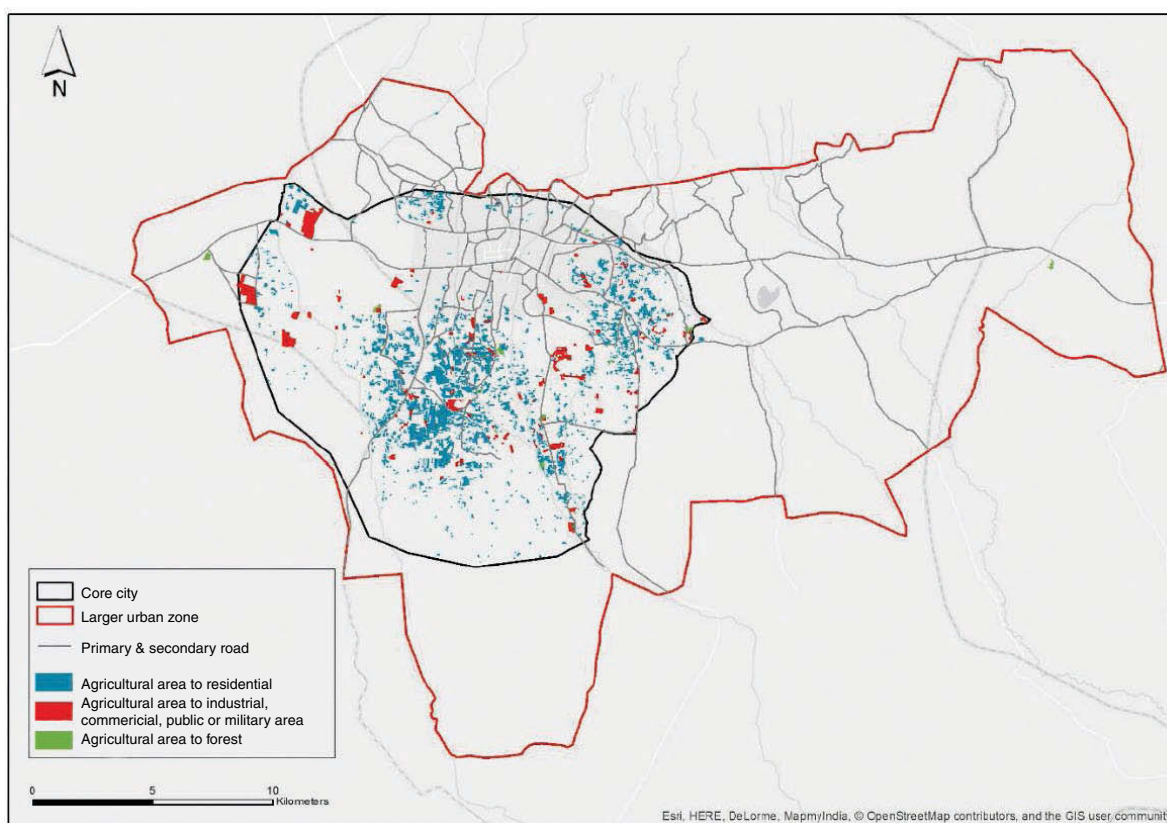
across two time periods (2005 and 2015 for the former, and 2006 and 2016 for the latter), very small changes were registered, whether in the core urban area or peri-urban area. The only exception is in the core urban area of Arusha, which seemed to have developed more in accordance to the master plan in the 2005 to 2015 period, seeing an improvement in conformity raising from 34.70 percent to 43.40 percent (table 3.1). This is mainly attributed to the conversion of agricultural areas to other uses, especially to residential (map 3.2).

**TABLE 3.1:** Conformity of Major Land Uses with Arusha 1985 Master Plan and Dodoma 1976 Master Plan across Time

Case cities	Major land uses in master plan realized (%)	
Arusha City	<i>2005 land cover</i>	<i>2015 land cover</i>
Core urban area	34.7%	43.4%
Peri-urban area	19.7%	19.8%
Dodoma Municipality	<i>2006 land cover</i>	<i>2016 land cover</i>
Core urban area	36.3%	34.6%
Peri-urban area	28.3%	27.2%

Source: Compiled from EO4SD operations report (for this study).

**MAP 3.2:** Changes from Agricultural Areas to other Land-Cover Classes between 2005 and 2015, Core Urban Area of Arusha



Source: EO4SD operations report for Arusha (for this study).

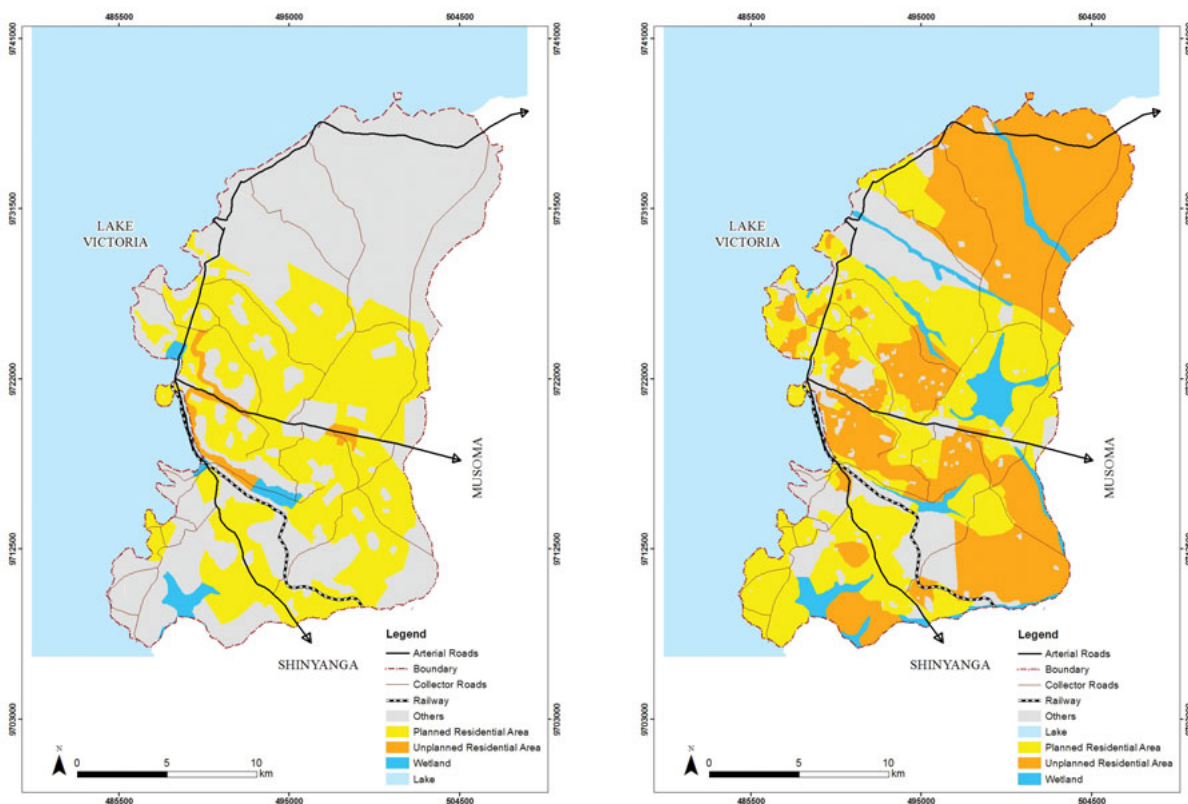
Further analysis was conducted for each type of land use and land cover to assess the different challenges for each land-use category. Main highlights from these are discussed as follows for the *core urban areas*:

1. Residential conformity is generally high (ranging from around 48 percent to 78 percent conformity). Of those with lower conformity, such as in Arusha and Tanga, a sizeable area of designated residential areas is occupied by agriculture use (30.2 percent and 19.9 percent, respectively). Further of interest, Mwanza's 1992 master plan included specific land-use categories for both planned and unplanned residential areas, which is a good first step in recognizing the existence of unplanned areas. In reality, while the planned and unplanned residential areas are not exactly where they are specified (and there are large areas of unplanned settlements in areas that are not designated for residential according to the master plan), there is substantial conformity as a residential category overall. Also notably, more than 20 percent of the designated "Hazard land and hills" area is occupied by unplanned settlements, and more than 15 percent by planned settlements. This likely reflects both encroachment (for the unplanned area) as well as lack of enforcement (for the planned area). See map 3.3 and figure 3.3.

**MAP 3.3:** Unplanned and Planned Residential Areas for Mwanza Core Urban Area

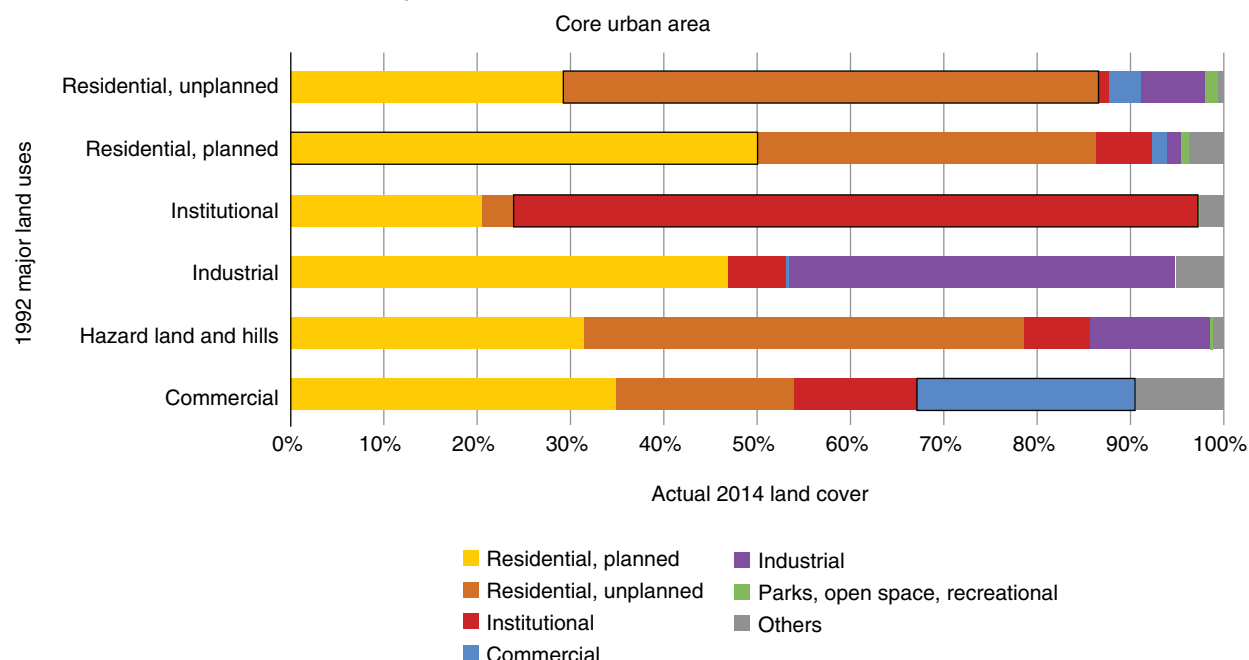
a. Mwanza general land-use plan, 1992–2012

b. Actual land-cover plan, 2014



Source: Satellite image; interpreted land cover using open source satellites and LGRCIS.

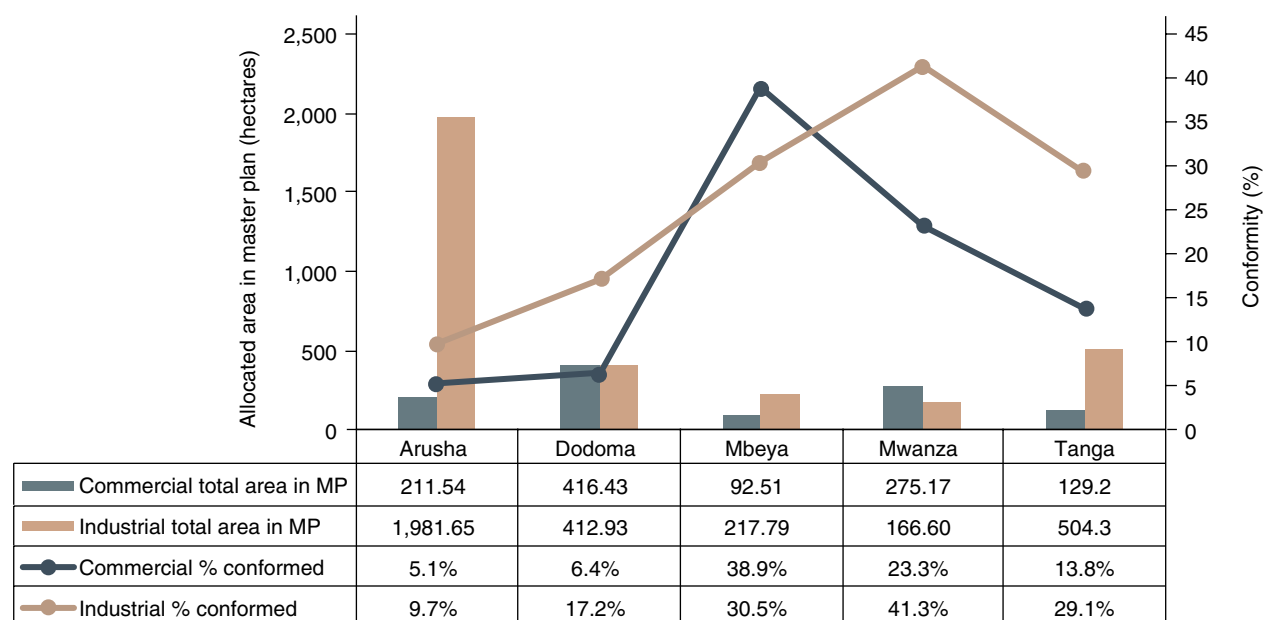
**FIGURE 3.3:** Mwanza: Conformity to 1992 Master Plan



Source: Satellite image; interpreted land cover using open source satellites and LGRCIS.

2. Economic uses (consisting mainly of commercial and industrial areas) have relatively lower levels of conformity (averaging around 17 percent and 25 percent, respectively) than residential and most other uses. Further, conformity for commercial uses is overall lower than those for industrial uses (except in Mbeya). Of the five cities, Arusha and Dodoma also do much worse than Mbeya, Mwanza, or Tanga in terms of conformity, with Arusha having a conformity of less than 10 percent for both commercial and industrial uses (see figure 3.4). In this case, the 1985 master plan envisioned very polycentric development for Arusha, with multiple commercial nodes distributed somewhat evenly across the core urban area. However, in reality, commercial activities are very concentrated in the existing downtown area and only a few small pockets of commercial spaces are beginning to emerge outside of the downtown. This could be due to multiple reasons, such as insufficient economic activities and lack of efficient connections to sustain sizable commercial centers outside of the downtown area. Further, Arusha's 1985 master plan also called for huge swaths of industrial areas (as compared to other cities). Such provisions may be unrealistic to begin with, and the largest chunks conceived to be located near the eastern and western edge are yet to be realized.
3. Consistent with secondary cities' primary economic activities, agriculture remains the dominant land use in both core urban areas (as seen for Arusha, Dodoma, Mbeya and Tanga) and peri-urban areas. However, different approaches were adopted in the master plans with respect to the intentions for agriculture development. For example, in Arusha, a significant area (3,741.58 hectares) was allocated for agriculture in the core urban area in the 1985 master plan (and conformity of this was very high at 73.7 percent); this is similarly observed for Mbeya and Dodoma. However, in Tanga, the master plan did not allocate for agriculture use at all in both the core urban area and peri-urban area. This is one main reason for Tanga's extremely low level of conformity (3 percent) in the peri-urban area, as mentioned earlier, because in reality, around

**FIGURE 3.4:** Level of Conformity for Economic Land Uses in Core Urban Area



Source: Compiled from EO4SD Operations Report (for this study).

58 percent of the peri-urban area remains in agricultural use. (This points to the issue of realism and quality of master plans.)

## Land-use and land-cover conformity to detailed plans

Sampled detailed plans overall have better conformity than master plans, ranging from almost 50 percent to 94 percent. For each city (except for Mtwara),<sup>2</sup> one detailed planning scheme in the downtown area was selected for analysis (see example of Arusha in map 3.4 and figure 3.5, and detailed analysis for other case cities in the background paper “Atlas of Tanzania Secondary Cities” for this study). Based on these sample detailed planning schemes examined, actual land-use and land-cover conformity at the neighborhood level are much higher than in the cases of master plans (table 3.2). In most cases,

**TABLE 3.2:** Conformity of Major Land Uses in Mid-2010s with Detailed Plan Samples

Detailed plans	Wards approximately covered	Year of actual land uses compared	Major land uses realized (%)
<i>Arusha (1997)</i>	Ngarenaro, Levulosi, Kaloleni	2015	86.7
<i>Dodoma (2006)</i>	Ipagala, Tambukareli, Makole	2016	87.6
<i>Kigoma (2003)</i>	Kigoma	2014	59.9
<i>Mbeya (1997)</i>	Sisimba, Mbalizi Road, Forest, Nzovwe, Iyela	2014	76.6
<i>Mwanza (2003)</i>	Mirongo, Nyamagana, Pamba	2014	49.4
<i>Tanga (2005)</i>	Makorora	2014	94.0

Source: Satellite imagery and various detailed plans; study-interpreted land cover using open source satellites and LGRCIS.

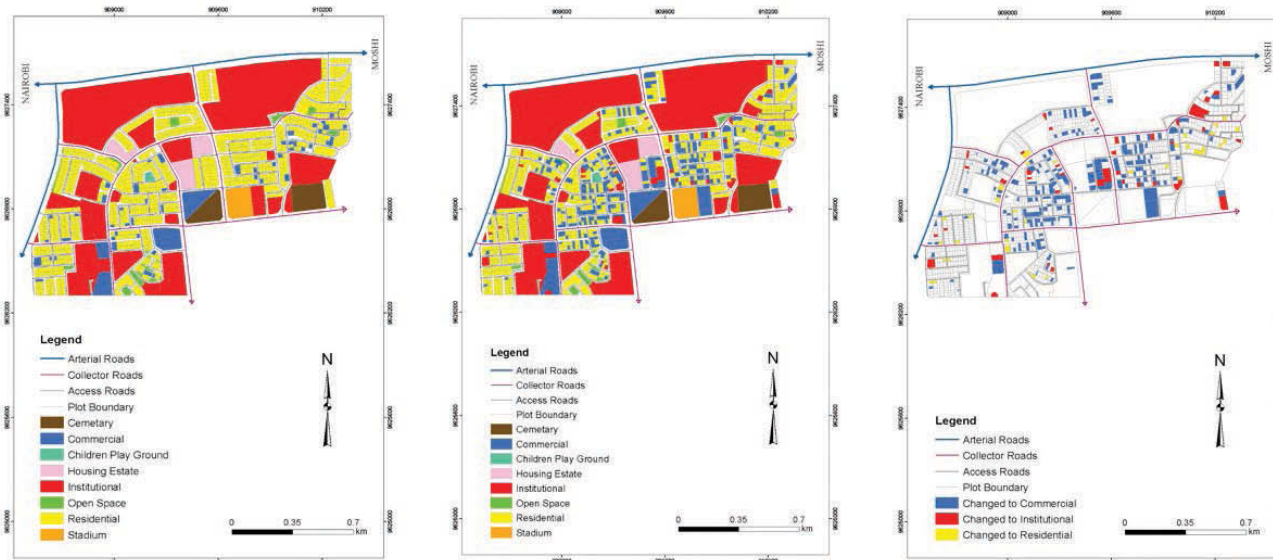


**MAP 3.4:** Example of a Detailed Area Plan in Arusha

a. 1997 detailed area plan

b. 2015 actual land use

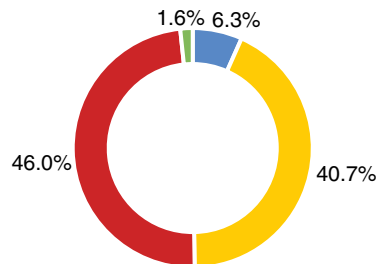
c. Diversion from proposed land uses



Source: Satellite image, European Space Agency, World Bank and Ardhi team interpreted land cover using open source satellites and Local Government Revenue Collection Information System.

**FIGURE 3.5:** Arusha: Conformity to Detailed Area Plan

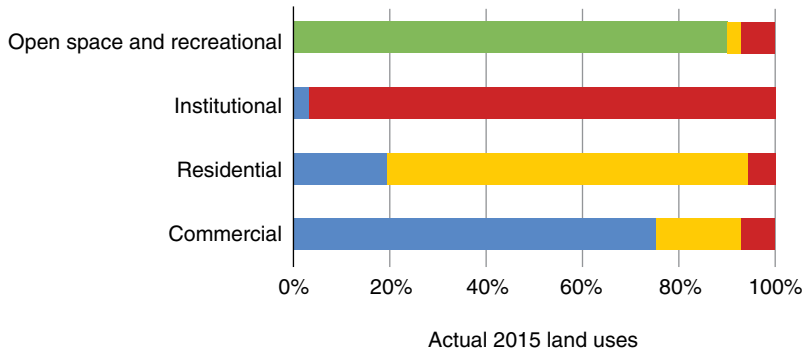
a. Share of land-use categories in Arusha 1997 detailed area plan



1997 detailed plan major land uses

- Open space and recreational
- Commercial
- Residential
- Institutional

b. Conformity sample taken from Ngarenaro, Levulosi, Kaloleni wards



Actual 2015 land uses

- Open space and recreational
- Commercial
- Residential
- Institutional

the actual development of the neighborhood followed the structure of the detailed plans closely, as well as the location of major allocated land uses. The least level of conformity is seen frequently in the commercial areas, open spaces, and vacant land. In reality, commercial areas are greater in number and spread more evenly across the planning area than was stipulated in detailed plans.

However, the coverage of detailed plans is low and not well documented in LGA planning offices. The percentage of land area covered by detailed planning schemes varies substantially from city to city. However, planning staff in most cities self-reported less than 50 percent coverage. Further, from our

interviews and visits to cities' planning offices, there is rarely an up-to-date and comprehensive record of all the DPSs for the city. This poses challenges in the enforcement of the DPSs as well as the development of new ones (to coordinate coverage, alignment of infrastructure, and so forth). Dodoma, however, is a notable exception. City staff attribute their relative planning success to the fact that so many DPSs exist in Dodoma. New schemes are not developed in isolation but instead connect to neighboring schemes (which connect in a similar fashion to the way pieces in a puzzle interlock).

## **Observable Spatial Development Trends and Analysis of Secondary Cities**

Beyond comparing the conformity of land use and land cover for each city, overall spatial development trends were observed for the case cities to shed light on the way they are developing over the years. Specifically, detailed spatial analysis for three of the case cities was performed to look at trends in urban size and expansion and the patterns of growth (such as whether growth takes place in the form of infill, extension or leapfrogging, or the level of fragmentation, and compactness and dispersion), as well as, direction of growth. In addition, aspects on development density, access to infrastructure and services and a special focus on urban parks provision and urban resilience were analyzed for all the case cities. At various instances, the reasons behind these growth patterns and service provision levels were discussed. This section provides useful information for local policy makers and technical staff to understand how their cities are growing and vis-à-vis the service provision levels spatially, thereby allowing them to identify potential problem areas or to inform decisions about future intervention or investment choices.

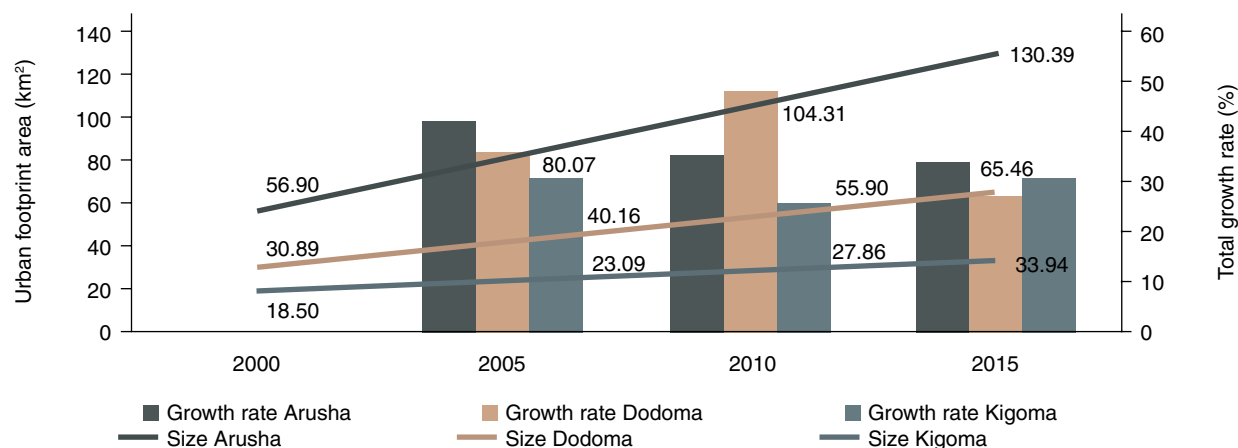
### ***Trends of urban size and expansion, fragmentation, and compactness and dispersion***

In-depth spatial analysis was performed for three case cities—Arusha, Dodoma and Kigoma—including their rates of growth and expansion, as well as patterns and mode of growth. The three cities are inherently different, demonstrating a spectrum of population sizes and areas, location and geographic attributes, as well as institutional capacity and governance. Spatially, all three cities have been growing but at different rates (figure 3.6, bars, right axis) and extents (lines, left axis). Arusha, the biggest city in terms of build-out, shows the highest growth rates, while Kigoma, the smallest city, exhibits the lowest growth rates. Dodoma lies in between. Dodoma accelerated its growth from 2005 to 2010, but apart from that exception, all three expansion processes run more or less linearly. Overall, the size of the urban footprint has grown steadily since the year 2000 for all three cities. In Arusha and Dodoma's case, the urban footprints have roughly doubled since then, while Kigoma's urban footprint grew by nearly 80 percent. The amount of land that was converted to urban area (proxied by impermeable surface observed from satellite imagery) during the 15 years sums up to 73 square kilometers in Arusha, 35 in Dodoma, and 15 in Kigoma.

Arusha, Dodoma, and Kigoma exhibit varying degrees of edge and infill growth versus leapfrog growth (figure 3.7 and map 3.5). The expansion analysis described in this study divides each city's growth into two main categories—edge expansion (including infill) and leapfrog expansion. Leapfrog growth



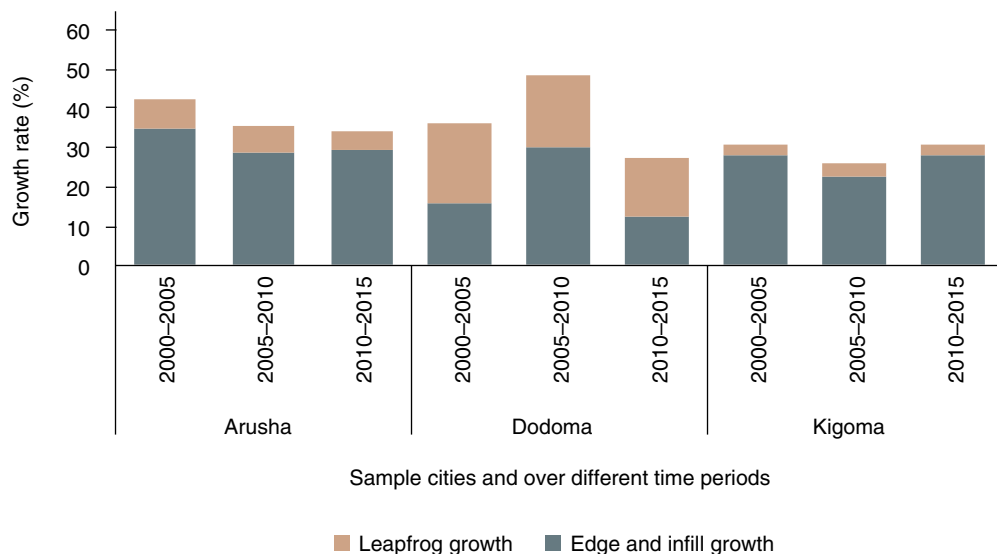
**FIGURE 3.6:** Size and Expansion Comparison of Arusha, Dodoma, and Kigoma



Source: EO4SD urban metrics final report (for this study).

often triggers urban fragmentation and poses various problems (such as costly infrastructure provision), while infill growth (and depending on specific cases—edge growth) generally promotes a more compact city shape. The patterns and range vary across the three cities and between 2000 to 2015. Overall, Arusha and Kigoma have a higher edge and infill growth rate (around 30 percent) in this period, while Dodoma has a much smaller corresponding one, except for a surge in 2005–10 (which corresponds with its growth rate changes). Nevertheless, inside the core area of Dodoma, densification and compaction are observed. For Arusha, significant edge growth can be observed in the central area, which is a more desirable type of growth. However, many new patches of edge growth are also occurring far away from the city center, expanding from settlements in the outskirts, which already existed before 2000; these may not be desirable, as they promote a more sprawling form.

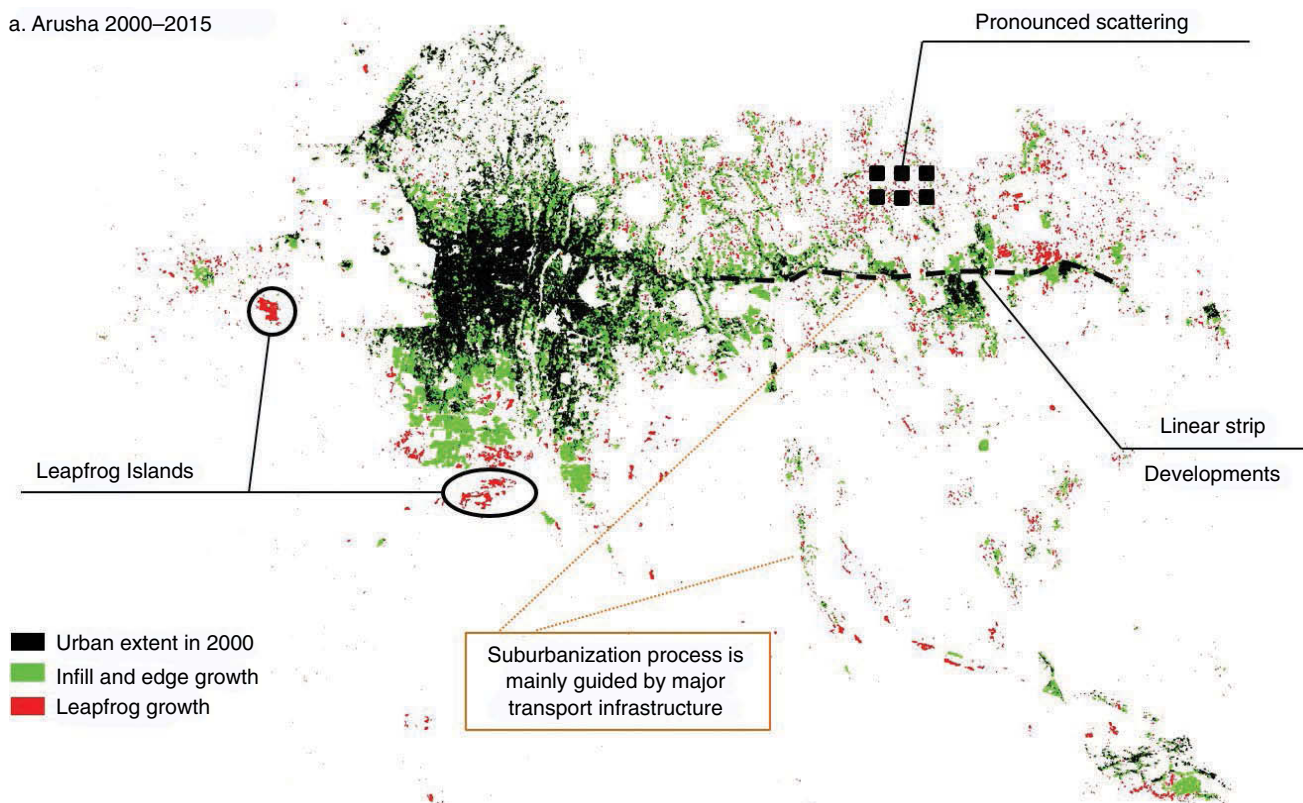
**FIGURE 3.7:** Urban Growth Type and Rate of Arusha, Dodoma, and Kigoma, 2000 to 2015



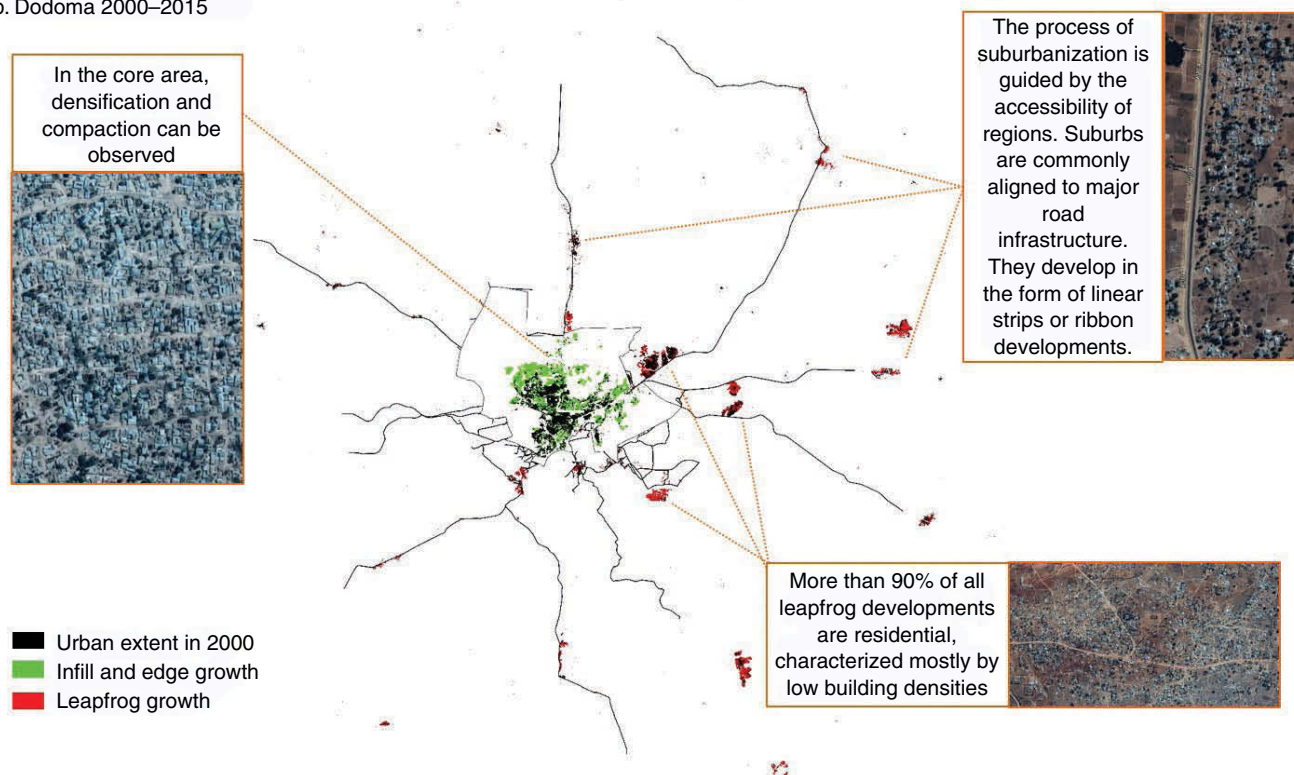
Source: Compiled from EO4SD operations report (for this study).

**MAP 3.5:** Growth Analysis 2000–2015 for Arusha, Dodoma, and Kigoma

a. Arusha 2000–2015



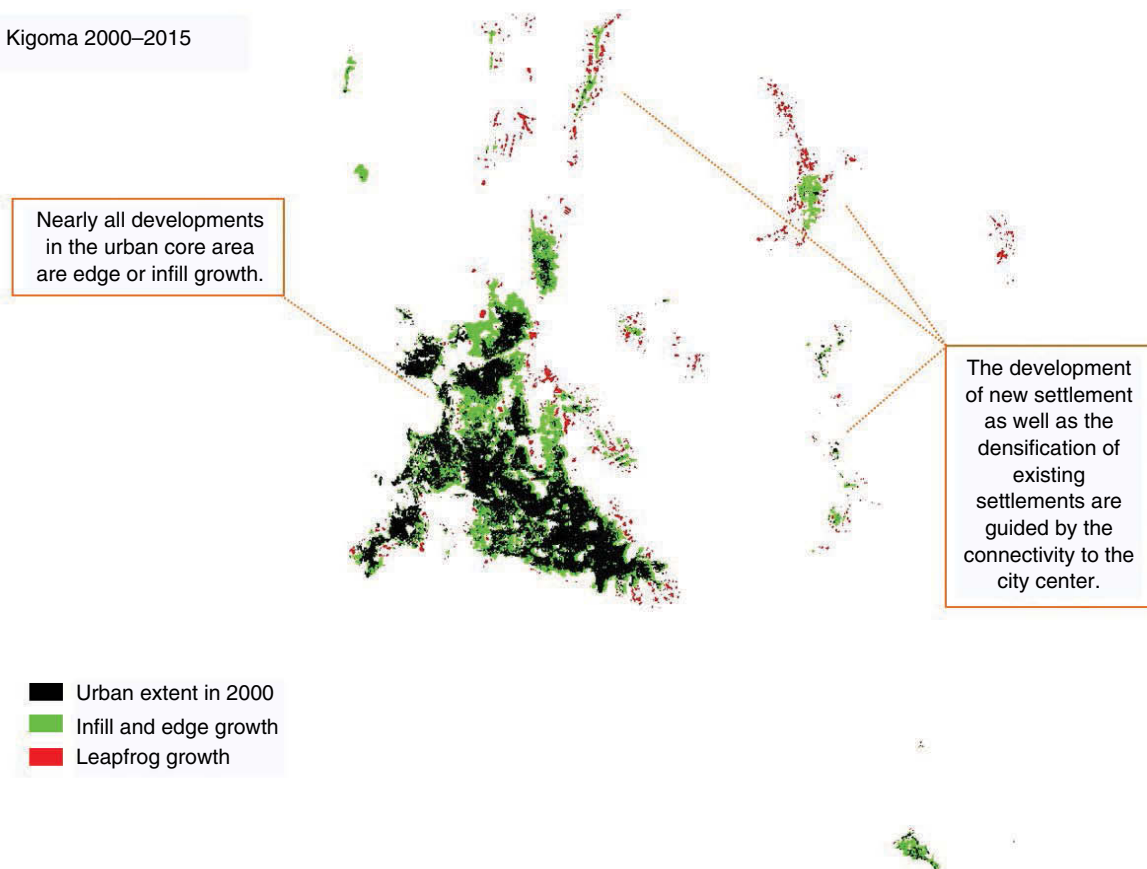
b. Dodoma 2000–2015



(continued)

### MAP 3.5: Continued.

c. Kigoma 2000–2015



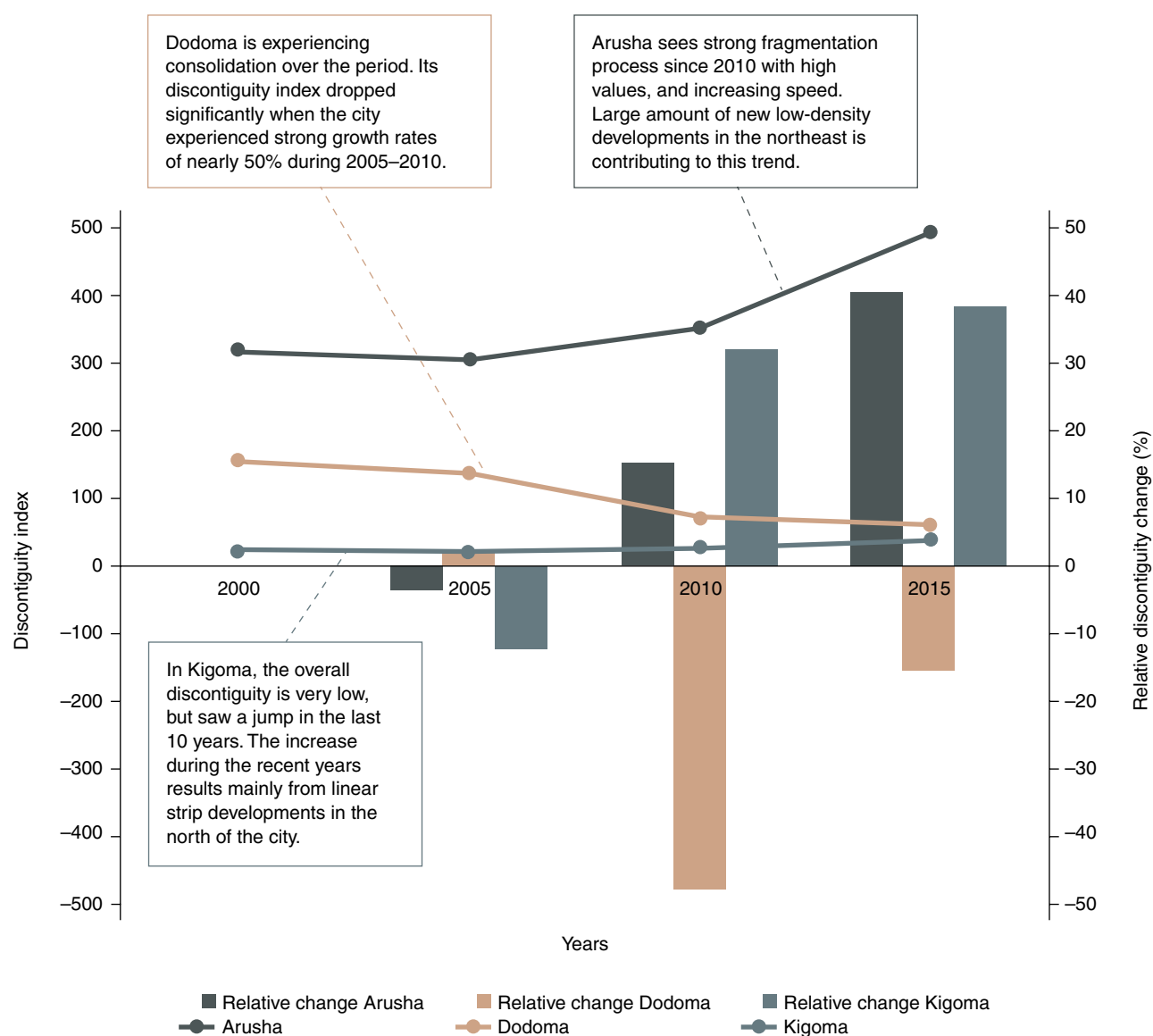
Source: EO4SD operations report for Arusha, Dodma, and Kigoma (for this study).

While Dodoma has a comparatively much more significant leapfrog growth rate overall (ranging from 15.2 to 20.5 percent) than Arusha or Kigoma (ranging from 4.5 to 7.2 percent for Arusha and 2.9 to 3.1 percent for Kigoma), it does not experience a strong scattering type of sprawl, but rather individual growing ‘islands’ in the outskirts. This could be attributed to the relatively large peri-urban area of Dodoma, and most of these leapfrog “islands” may be considered individual villages. (More than 90 percent of all Dodoma leapfrog developments are residential—characterized mostly by low building densities.) This categorization is not necessarily negative in this case. In Arusha, the leapfrog islands could be due to other reasons. For example, the westernmost island observed is due to the setting up of a textile factory. As for Kigoma, leapfrogging was not very pronounced during the 15-year period except in some outlying settlements in the north.

In all three cities, the urban expansion process is strongly aligned with development of major roads, forming linear strips or ribbon developments. For example, in Arusha, linear strips are forming toward the east and southeast—especially along Arusha-Himo Road. Similarly, in Dodoma and Kigoma, settlements are developing in the form of linear strips along major roads, and the spatial analysis clearly shows that the process of urban expansion is guided by the reachability (or connectivity) of outer regions to the main city. This is one of the most common phenomena in rapidly growing secondary cities of developing countries around the world.

Arusha and Kigoma are facing challenges of fragmentation, while Dodoma shows trends of consolidation. Fragmentation is a key attribute of urban sprawl. Fragmented urban footprints are characterized by unused or vacant land interpenetrating the city, resulting in a more scattered and/or leapfrogged form. The *discontiguity index* measures the relative size difference between discontinuous urban clusters, weighted by the size of each cluster, thereby measuring the cities' fragmentation. The discontiguity indexes for Dodoma and Kigoma for the years 2000, 2005, 2010, and 2015 are illustrated in figure 3.8. Arusha overall faces a fragmentation challenge; it has comparatively high values of discontiguity (observed as the construction of low-density residential subdivisions in isolated locations such as satellite towns),<sup>3</sup> and the pace of this has increased from 2000 to 2015. In contrast, Dodoma's discontiguity index shows a decreasing trend of fragmentation or a consolidation, which means that infills or densification processes are taking place. In fact, when Dodoma was experiencing a high growth rate

**FIGURE 3.8:** Discontiguity Index Results of Arusha, Dodoma, and Kigoma (2000–15)



Source: EO4SD urban form metrics report for Arusha, Dodoma, and Kigoma (for this study).

of nearly 50 percent during 2005–10, its discontinuity dropped by almost 50 percent. Finally, Kigoma’s absolute discontinuity numbers are the lowest among the three, although they are showing signs of increasing in the past 10 years.

While the fragmentation metric targets the number and size of discontinuous patches, the dispersion metric describes the average distances between such separated parts of a city and is another important indicator for sprawl. Compactness and sprawl can be interpreted as the two extremes on a scale that describe urban form and development patterns. The dispersion metric provides information about urban compactness and can be visualized in an abstracted manner with standard deviational ellipses. The resulting maps (see map 3.6) support this metric by illustrating the spatial characteristics of each city and their changes over time: centralizing tendency, dispersion, and directional trend.

More pronounced dispersions are observed for Arusha and Kigoma. In Arusha, the standard deviations of distances between new residences and the city’s core are growing, which indicates a dispersion or decompaction of the overall shape. Due to Mount Meru as a natural obstacle in the north, the settlements have not expanded in this direction, while new buildings in the east contribute to an overall elongation of the city’s shape in the eastern direction. Dodoma’s newly developed settlements overall have resulted in very little changes in the standard distances. There are also no significant modifications of eccentricity observable, and spatial extension proceeded more or less similarly in all directions. Growth mostly took place at the edges of already existing development. Since Dodoma’s buildable land is not really restricted by natural obstacles, the city exhibits a circle-like shape. Kigoma, which is bordered by Lake Tanganyika to the south and west, is experiencing a notable change in its ellipse rotation. Its leapfrogging development elongated the overall shape into the northeast and triggered increasing dispersion rates in this direction, while the northwest-southeast extent remains more or less unchanged. Nonetheless, overall dispersion is relatively low and the direction of expansion is natural, considering the geographical constraint of the waterfront to the city’s west and south.

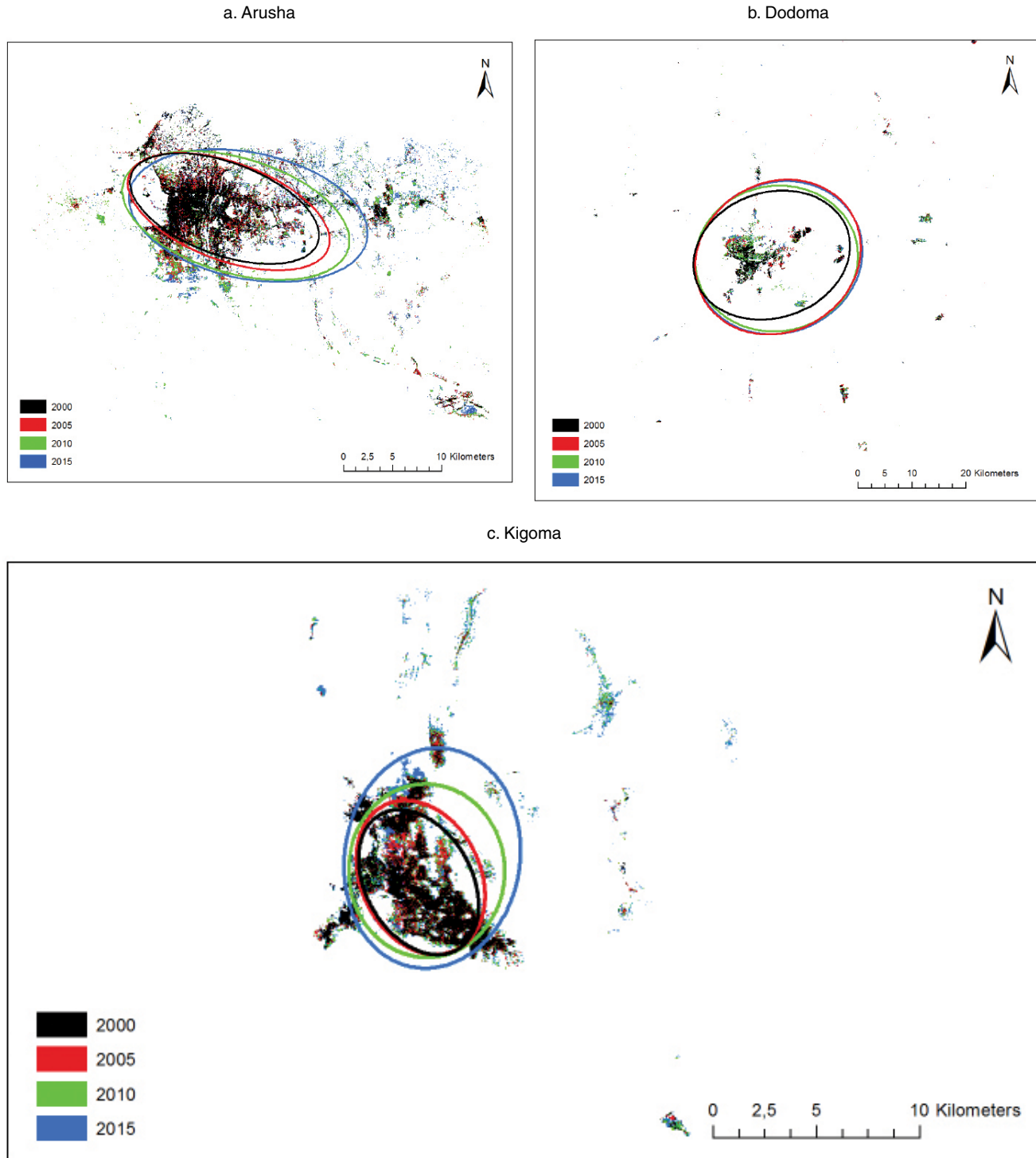
## ***Development density***

Overall, Tanzania’s secondary cities are developing at very low density—and low floor area ratios (FARs)—which are inefficient and costly for servicing. The median gross population density for the case cities studied (at the ward level) is around 21.15 people per hectare (pph),<sup>4</sup> with the highest observed in Madukani ward in Dodoma of around 209 pph and lowest in another Dodoma ward of around 0.5 pph. UN Habitat advises that high density communities should exceed 150 pph to be viable (figure 3.9).<sup>5</sup> In the case cities, only Dodoma’s central area and Arusha’s inner-city neighborhood achieved this density requirement. Further, the FAR, which reflects building density, is also extremely low,<sup>6</sup> ranging from 0 to a maximum of 0.71 in Iyela ward in Mbeya, with most wards hovering around 0.1–0.2 FAR. (More details about population and building densities for each case city are found in the background paper “Atlas of Tanzania Secondary Cities” for this study.)

The current extremely low development densities create high costs for infrastructure and service provision; there is abundant room for densification to rein in sprawl and encourage more livable cities. Reinforced by our earlier findings on the rapid growth in cities’ urban footprint, patterns of leapfrog growth, and trends of increasing fragmentation and dispersion, this current low development density

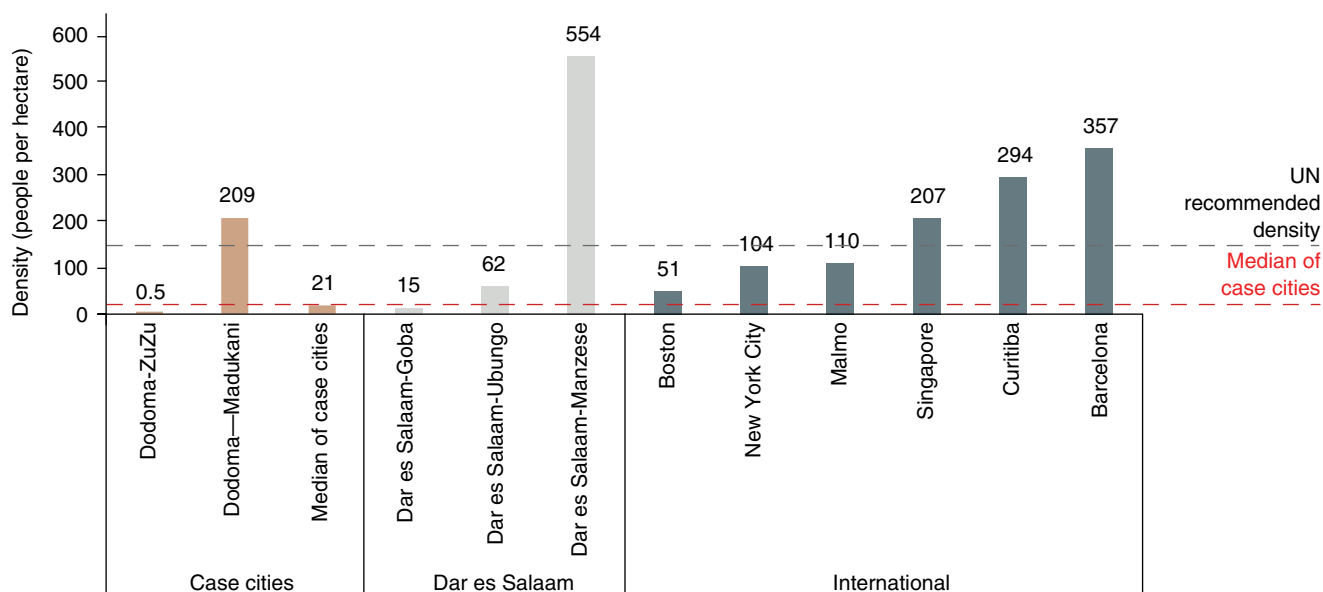


**MAP 3.6:** Directional Distribution of Arusha, Dodoma, and Kigoma Over Time (2000–15)



Source: EO4SD urban form metrics report for Arusha, Dodoma, and Kigoma (for this study).

**FIGURE 3.9:** Population Density Comparison

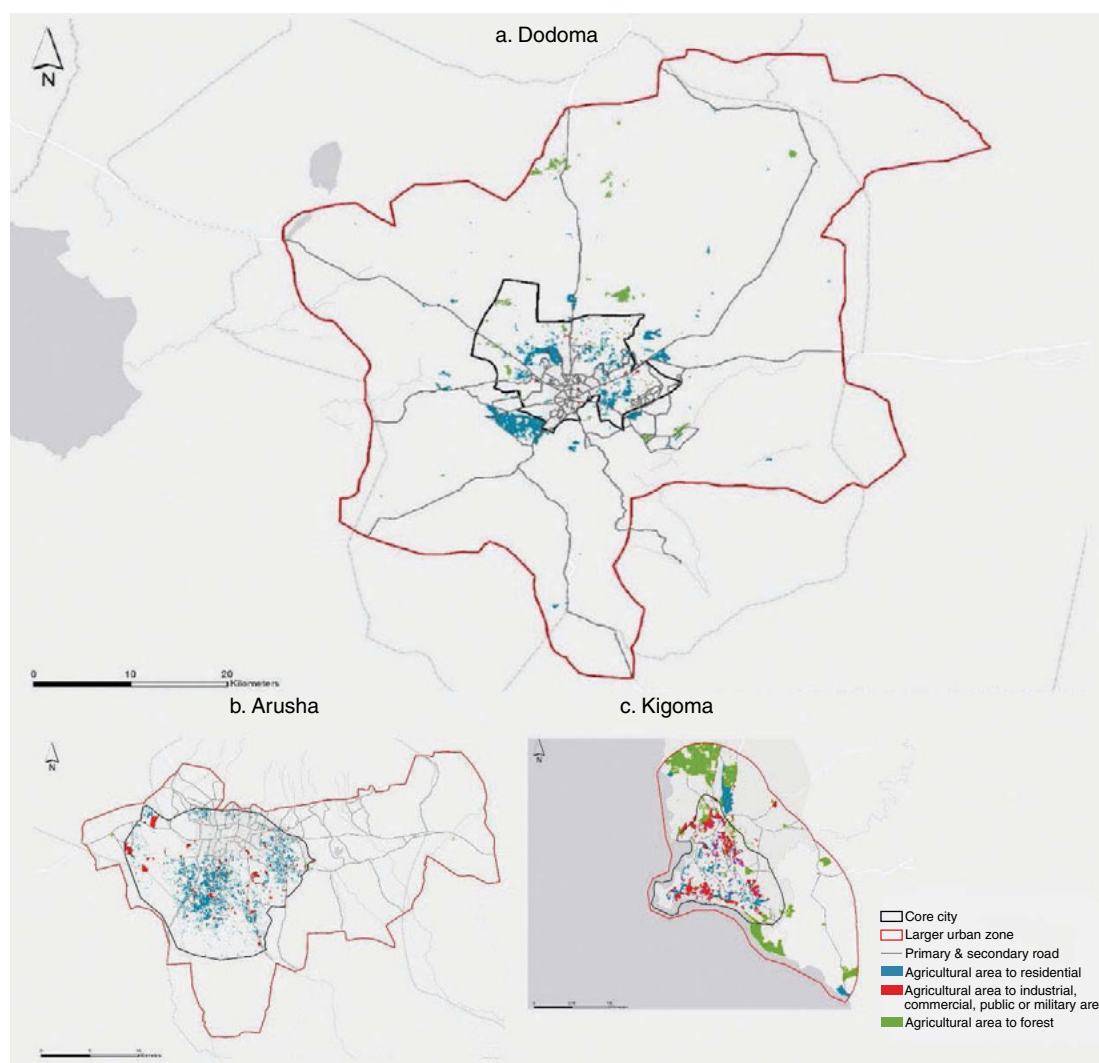


Source: Compiled for study from various sources.

is highly unsustainable. This highlights the critical importance of increasing development density, especially through infill development (such as inner-city densification, regeneration, or redevelopment). The benefits go beyond economies of scale and the associated savings on infrastructure and services. Densification through infill development could also reduce environmental burdens such as encroachment into ecologically sensitive lands. It could also enhance social interaction, improve access to jobs, and create a more livable city overall.

The very low development densities in our case cities are partially due to continued high prevalence of agriculture use. However, this appears to be changing quickly. Case cities experienced an overall increase in the conversion of agricultural land to other land-use classes, particularly in the urban core areas over a 10-year period, but mostly due to an increase in residential uses. A spatial change analysis was performed in both urban core and peri-urban areas for Arusha, Dodoma, and Kigoma, which identifies the change of agricultural area to (i) residential; (ii) industry, commercial, public, or military area; and (iii) plantations and forest (map 3.7). In the case of Arusha, agricultural conversion was mainly caused by residential extension (88.41 percent) and reforestation (6.23 percent). This was true particularly in the southwestern part of the city, where large agricultural areas were replaced by urban settlements. Similarly, Dodoma's agricultural areas were mostly converted to residential, especially in the northwest and southeast. The case is slightly different in Kigoma, where agricultural conversion largely took place in the peri-urban area because of natural or artificial reforestation (or perhaps abandonment of farms). This conversion type (in green in map 3.7) is seen pervasively in the northern part. Within the core urban area, however, agriculture uses were again mostly converted to residential areas and had mainly taken place along the main roads and are scattered throughout the city.

**MAP 3.7:** Spatial Distribution of Changes from Agricultural Areas to Other Land Use between 2005/06 and 2015/16 (at similar scale)



Source: EO4SD urban form metrics report for Arusha, Dodoma, and Kigoma (for this study).

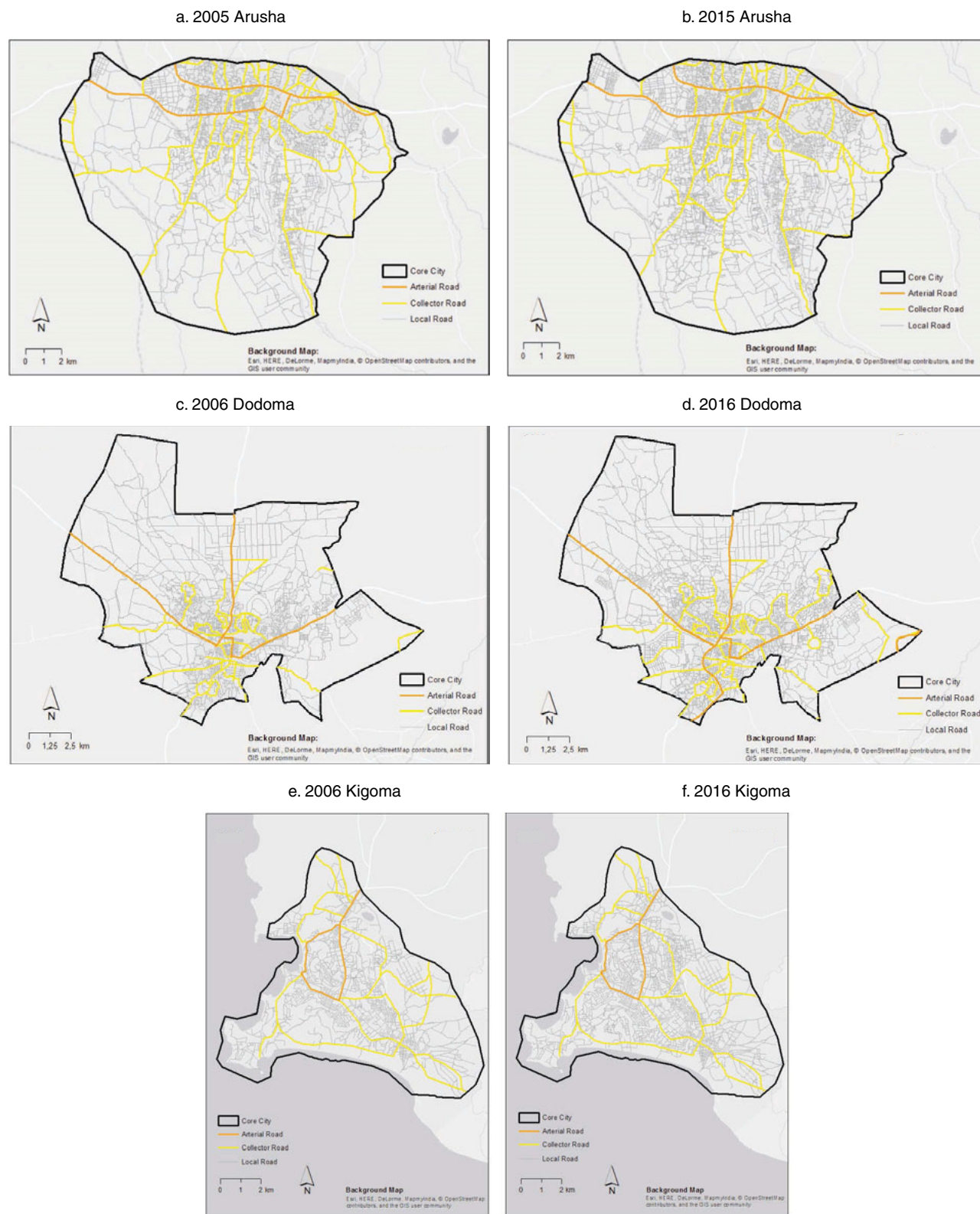
## ***Connectivity and urban mobility***

Critical road infrastructure, especially arterial and collector roads, have hardly increased or densified from the mid-2000s to mid-2010s in the case cities and do not keep pace with urban growth and expansion. Taking the example of Arusha, Dodoma, and Kigoma, it is observed that there were minimal changes and increases in arterial or collector roads, while some densification in local roads has occurred (map 3.8).

The average distance from residential areas to industrial sites, central business districts, and second-order commercial centers is approximately six kilometers in the case cities, much longer than common standards in other cities around the world. Average commuting distances from residences to jobs (institutional, commercial, and industrial areas) were spatially analyzed in the case cities. The results



**MAP 3.8:** Changes in Road Networks in Selected Cities, from Mid-2000s to Mid-2010s



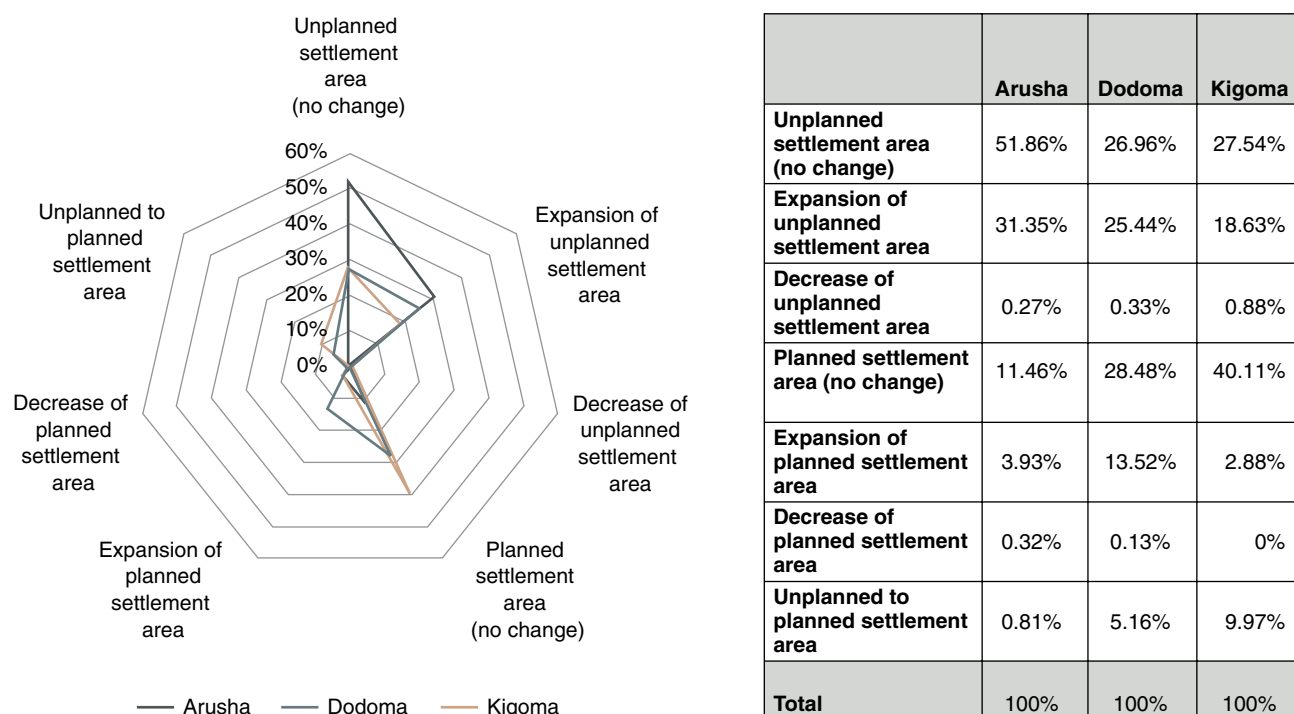
Source: EO4SD operations report for Arusha, Dodoma, and Kigoma (for this study).

are, on average, greater than current standards in other countries, which is around four kilometers (see Peng 1977; Boussauw, Neutens, and Witlox 2010). Further, on the average, according to spatial analysis performed for this study, only about 20 percent of residential developments are within one kilometer to a commercial center in our case cities.<sup>7</sup>

## ***Planned and unplanned settlements and their access to infrastructure and services***

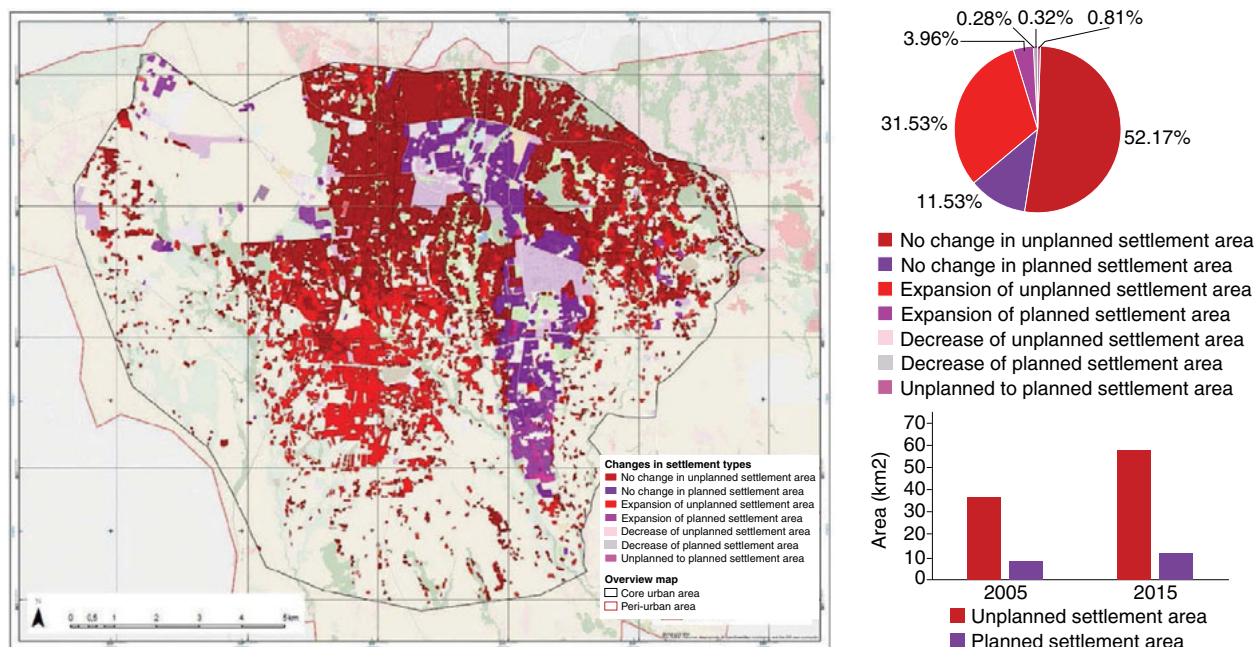
The case cities all have sizeable unplanned settlement areas, and they exhibited similar trends but varying degrees in their expansion or conversion. For example, a close examination of the changes of planned and unplanned settlements in three case cities—Arusha, Dodoma, and Kigoma—between 2005 and 2015 showed that all have significant expansion of unplanned areas (the largest being in Arusha, at around 30 percent, to around 25 percent in Dodoma and 18 percent in Kigoma). In addition, there is observable expansion in planned settlements, but only significantly so in Dodoma (around 13 percent). Interestingly, some conversion (or upgrading) of unplanned to planned areas has taken place as well, and this is sizeable foremost in Kigoma (around 10 percent) as well as in Dodoma (around 5 percent). The spatial location of these trends is useful to inform each city’s decision for service provision or upgrading actions (see figure 3.10 and map 3.9 and in the background paper “Atlas of Tanzania Secondary Cities” for this study).

**FIGURE 3.10:** Changes in Planned and Unplanned Settlement Areas (Arusha, Dodoma, Kigoma) between 2005 to 2015 (percent of residential land area)



Source: EO4SD operations report (for this study).

**MAP 3.9:** Changes in Planned and Unplanned Settlement Areas in Arusha from 2005 to 2015



Source: EO4SD Arusha operations report (for this study).

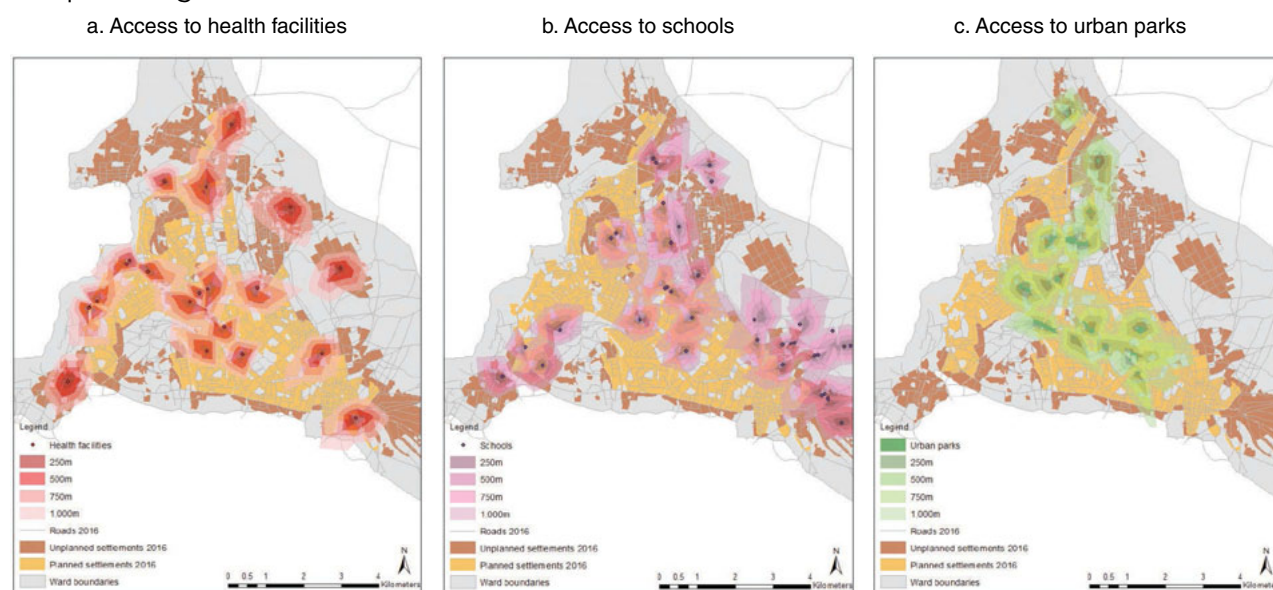
Overall, less than half of the case cities' populations have adequate access to health facilities, schools and urban parks; this already low service accessibility is, unsurprisingly, worse for unplanned settlements. For the case cities in general, less than half of cities' populations are within one kilometer (approximately equivalent to 20 minutes walking distance)<sup>8</sup> of a health facility, school, and urban park. Apart from Arusha, access to these services is higher in planned and nonresidential settlements. Less than 10 percent of serviced areas in all observed settlements are in unplanned areas. Such service accessibility conditions are related to a city's population density, size, and connectivity overall and to the nearest city center or downtown where most of the facilities are located. The analysis provided here has significant planning and provision implications to help improve the support for the needs of residents, particularly in the unplanned areas, and for the marginalized and most vulnerable. (See the example of Kigoma in map 3.10). Detailed service accessibility data and maps are provided in the background paper "Atlas of Tanzania Secondary Cities" for this study.

## Urban resilience

Tanzanian cities are increasingly vulnerable to disasters and climate-related hazards. Government statistics reveal that urban areas have witnessed widespread flooding in recent decades. Dar es Salaam and Mwanza (the two largest cities in the country) are especially impacted by river floods. Arusha, Mbeya, and Mwanza, which have more rugged terrain and steep slopes, are affected by landslides, although to a lesser extent. Coastal municipalities including Tanga and Kigoma are potentially vulnerable to sea level rise and coastal flooding (World Bank 2016). With future conditions expected to become increasingly variable,<sup>9</sup> climate impacts will likely exacerbate floods and droughts and increase the occurrences of diseases like cholera, which could present an undue social and economic burden on



**MAP 3.10:** Service Network Analysis on Access to Health Facilities, Schools, and Urban Parks, Example of Kigoma



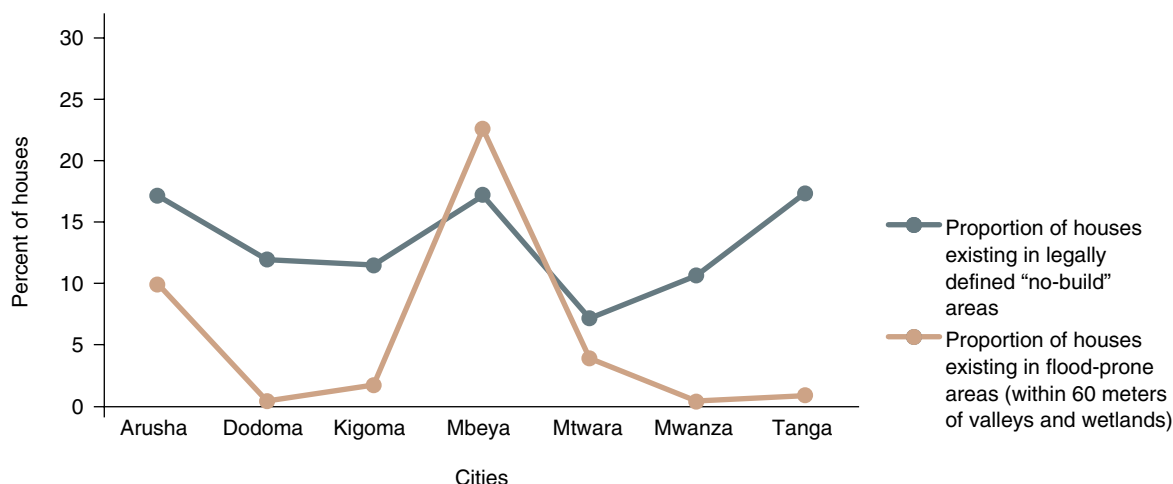
Source: Study interpretation based on EO4SD data, NBS census 2012, satellite imagery, and LGRCIS.

cities and households. The ability of cities to adapt, mitigate, and learn from acute shocks and chronic stresses resulting from climate change is therefore critical.

Case cities see substantial development on legally defined “no-build” and flood-prone areas. National legislation through the Land Act prohibits development within 60 meters of rivers, hazard lands, and other sensitive areas.<sup>10</sup> Subsidiary legislation to the Tanzania Roads Act of 2007 designates right-of-ways of up to 30 meters (but not less than 12.5 meters), depending on a road’s classification. However, development on these no-build and flood-prone areas such as river valleys and wetlands is widespread in Tanzania—on average, an estimated 13 percent of houses in the case cities are within legally defined no-build areas, and around 6 percent of houses are located in flood-prone areas (figure 3.11). Typically, these residents are driven by land and development costs. Proximity to jobs is also a significant consideration, as the only cheap and vacant land close to city centers are found in hazard-prone areas.

Enforcement has been insufficient or ineffective to either prevent encroachment into hazard-prone areas or to ensure that developments occur according to adopted master plans. The analysis suggests the importance of physically demarcating no-build zones and the need to adopt stronger enforcement mechanisms to prevent encroachment from occurring in the first place. Municipalities reported having bylaws to prevent unplanned settlements, as well as enforcement mechanisms including building inspection and penalties for violating land-use laws, and building codes, among others. However, the study notes significant constraints in enforcing these plans and regulations effectively. Nearly all cities reported political interference as a major issue in enforcing informal settlements and encroachment on hazard lands (World Bank 2016).

**FIGURE 3.11:** Presence of Housing on No-Build Areas and Flood-Prone Areas



*Source:* Study calculations and interpretations based on various data, satellite imagery, and LGRCIS.

*Note:* The legally defined standards for no-build areas are (i) arterial roads using right-of-way of 60 meters, (ii) collector roads using right-of-way of 30 meters, (iii) railway by buffering 60 meters, and (iv) rivers by buffering 60 meters. Figure calculations do not consider areas with rugged terrain and steep slopes, which may underestimate data.

Increasing the share of public green spaces or using green infrastructure solutions will assist in reducing flooding vulnerability. As seen earlier, there is overall a low provision of and low access to green open spaces in the case cities.<sup>11</sup> Green open spaces provide many environmental and physical benefits in cities: formal and informal sport, leisure and recreational activities, and preservation of natural environments—which are necessary to provide healthy habitats for humans, wildlife, and plants, especially in densely built areas. Further, such green spaces combined with green infrastructure solutions (such as swales, rain gardens, and retention ponds) would assist in addressing flooding vulnerability. To illustrate, retention ponds are naturally low-lying areas that can flood during extreme storm events and function as public green spaces during non-storm events. These lessen peak water flows during floods, thereby reducing the risk of inundation and potential consequences to surrounding and downstream communities, as well as potential resulting resettlement (World Bank 2016).

## Endnotes

1. The spatial analysis was performed to varying depth for different groups of cities due to constraints on resources. For Arusha, Dodoma, and Kigoma, two different time periods (2005/06 for Arusha and 2015/16 for Dodoma and Kigoma) of land cover were developed from satellite images, while for the other cities (Mbeya, Mwanza, and Mtwara), only the 2015 period was developed. While comparing the derived land-cover types with master plan land-use categories, we focused on doing so for eight major land-use categories: urban parks, residential, institutional, industrial, forest and shrubs, commercial, arterial and collector roads, and agriculture. Other land-use categories were omitted either because they are relatively insignificant (for example, cemeteries) or greatly distort the analysis (for example, water bodies). For the conformity analysis, boundaries from the master plans were used as the limiting outer boundary (although satellite images covering a larger area were typically examined). Differentiation was also made between core urban area and peri-urban area. Further, for Kigoma and Mtwara, as there have been no master plans since independence, comparison on land-use conformity could not be performed. However, later sections will compare

the various urban development characteristics (for example, prevalence of informality, access to services and amenities etc) across all seven cities. For detailed methodology, please refer to the background paper, “Detailed Methodology and Other Detailed Spatial Analysis Explored for Tanzania Secondary Cities” for this study.

2. For Mtwara, no formally adopted detailed plan was made available for analysis.
3. This type of scattering development is characterized by few buildings, occupying large parcels.
4. Calculated based on 2012 census data.
5. Internationally, most urban built-up areas have average population densities ranging between 70 and 90 pph. This is lower in U.S. cities, with 20–25 pph, and higher in Chinese and Indian cities, with more than 140 pph. Other studies suggest similar figures, such as the lower range of urban population density should be at least 40–50 dwelling units per hectare, approximately, or 160–200 pph assuming average household size to be four (Gordon and Richardson 1997).
6. Data derived from LGRCIS core data and ward map 2014.
7. Percentage in terms of number of houses. Commercial centers were identified by looking at the aggregated building with primary use having commercial and institutional use with a presence of major or collector roads.
8. The analysis assumes that typical walking speed is five kilometers per hour.
9. More details are found in the World Bank’s Climate Change Knowledge Portal, <http://sdwebx.worldbank.org/climateportal/index.cfm>.
10. This Land Act was adopted in 1999. The appropriateness and realism of this guidance being applied uniformly across the board is debatable, especially in denser urban areas.
11. Land-use categories defined in this study includes open space, urban parks, forest and shrubs, recreation, wetlands, natural areas and/or reserves, and cemeteries.

## 4. Key Takeaways

Early master plans are somewhat successful in providing broad guidance on each city's population projections and main structural forms. Many of the early master plans provided rather accurate and realistic population projections, which formed the foundation for estimates in land use, employment, and infrastructure needs in these plans. Further, the development of arterial and collector roads (where realized) were overall similar to the layout prescribed in the master plans, which provide a foundational structural form for the cities.

However, master plans were only implemented to a limited extent (or conversely, master plans were rather ineffective in guiding development), especially in terms of major land uses and supporting infrastructure and facilities. As discussed earlier, actual development in core urban areas exhibited around 35–45 percent of land-use and land-cover conformity to early master plan proposals, while development in peri-urban areas varies greatly. Further, cities with master plans existing from earlier decades did not show better conformity as compared to cities that adopted master plans later, and over time, this conformity did not change or improve significantly. However, notably, residential conformity in core urban areas is generally high (ranging from around 48 percent to 78 percent) while economic uses (consisting mainly of commercial and industrial areas) have relatively lower levels of conformity—averaging around 17 percent and 25 percent, respectively. At the same time, agricultural use remains a dominant function even in core urban areas, despite much earlier aspirations and this not being the most productive land use for urban core areas. Infrastructure and facilities provision are both much lacking and not growing fast enough—less than half of the case cities' populations have adequate access to health facilities, schools, and urban parks (within one kilometer distance or a 20-minutes walk).

The ineffectiveness of master plans is also reflected in cities experiencing substantial unplanned growth, many facing increased fragmentation and dispersion; at the same time, the urban expansion process is strongly aligned with development of major roads, forming ribbon developments or leapfrogged islands. The case cities all have sizeable unplanned settlement areas and continue to experience significant expansion of these areas (from around 20 to 30 percent growth) and with little conversion into planned settlements. The already low service accessibility is, unsurprisingly, worse for unplanned settlements. This challenge is exacerbated by the spatial growth pattern of these cities—especially observed in Arusha and Kigoma, where there are increased fragmentation and dispersion (an interesting exception being Dodoma). Further, spatial analysis clearly shows that the process of urban expansion is guided by the development of major roads—providing reachability (or connectivity) of outer regions to the main city centers.

Tanzania's secondary cities are developing at extremely low density and low floor area ratio (FAR), which renders servicing inefficient and costly as well as exacerbates sprawl and loss of benefits from agglomeration; guidance on density is not adequately provided in master plans. As discussed earlier, the median

gross population density for the case cities studied is around 21.15 people per hectare (pph),<sup>1</sup> which is extremely low for an urban context where the UN Habitat recommended density is around 150 pph. Notably, master plans generally do not provide guidance on density or FARs at the block or even neighborhood level,<sup>2</sup> and this is left to detailed plans (which, as we noted, have very low coverage).

Similarly, master plans lack granular guidance and considerations for disaster risk management, and case cities see sizeable developments in high-risk and flood-prone areas. On average, an estimated 13 percent of houses in our case cities are within legally defined “no-build” areas, and around 6 percent of houses are in flood-prone areas. While national-level guidance on the definition of no-build zones exist, the old master plans typically did not have analysis or explicit guidance and spatial specifications in this area.

While the majority of the case cities have established right-of-ways (ROWs), they are not well enforced and are subject to encroachment. While these ROWs are recorded in plans (usually paper based) or in laws (for example, the Roads Act of 2007), they are rarely demarcated on the ground, making awareness and enforcement of no-build regulations challenging. During the field visits, the study team found that, aside from Dodoma, the cities with the seemingly best-established road networks (Kigoma 2016; Mtwara 2016) were also those that have not had a formal master plan since the country’s independence. Planning staff in these cities noted that, in the past, demarcation-only methods of planning were applied, in which road networks and plot boundaries were established and physically marked throughout the majority of the city.

The study also found that certain aspects of master plans themselves were weak, hence rendering the implementation implausible; master plan quality could be improved. Examples of challenges faced include the following:

1. Lack of appropriate data or failure to use available data
2. The need to be more realistic and base the proposed land uses on more robust analysis and considerations, for example:
  - a. There is typically an overemphasis on residential provision (average of 70 percent versus standard of 40 to 50 percent), while productive functions (commercial and industrial) are underplayed (or with huge variations of provision across master plans).
  - b. Further emphasis needs to be placed on economic uses. For example, industrial land is sometimes underprovided for, or the provided locations are not necessarily appropriate; this is also the case for commercial centers. Similarly, the needs of ports and associated industries (including surrounding land uses and connective infrastructure) are many times not considered.
  - c. There is a need to recognize and identify unplanned areas in master plans and provide corresponding appropriate planning guidance and regulations; some master plans do not even acknowledge the prevalence of unplanned areas.
  - d. There is inadequate consideration of major infrastructure besides roads—such as water treatment plants or power stations and their associated buffer areas.
3. The need to provide better guidance on density, especially to encourage urban regeneration and more appropriate density coupled with efficient servicing
4. Lack of guidance on urban resilience and disaster risk management issues (for example, most master plans did not consider high-risk zones or demarcate no-build areas)



5. Critical need to consider urban mobility and public mass transport options, which have mostly been absent
6. The need for proposed land-use maps to be more granular or mechanisms and systems need to be established to allow the formulation of the next level of plans (for example, detailed plans)
7. Unrealistic sources and amounts of financing available and hence large underestimation of time required for implementation, and insufficient consideration of market forces and private sector contributions to implementation
8. Disconnect between various levels of guidance and development or planning standards—from national-level policy to city-level master plan and neighborhood detailed plans
9. The need for stakeholder consultations to happen earlier in the process—during existing situation analysis stage and before a draft is developed

One critical reason for the lack of effectiveness or implementation of master plans is due to poor alignment of these spatial plans with budgeting and investment planning decisions, and lack of coordination and agreement among key agencies and parties. One of the most common and prevalent problems identified in this study is the disconnect between *economic plans* (the three- to five-year strategic plans, one-year budgets summarized in medium-term expenditure frameworks, and work plans coordinated and monitored by each municipality's economics department) and *urban plans* (master plans and detailed planning schemes). Master plans often place the responsibility of implementation on each city's five-year development plan (and other sector plans) and rely on these to integrate with the guidance laid out in the master plan. However, when such economic plans are formulated, more often they do not refer to the master plans. Hence, in reality, there is often a major disconnect, especially a spatial and economic one, between the master plan and the budgeting and investment decisions for implementation. The master plans were not able to directly inform cities' strategic plans and capital budget programs.

Other commonly noted constraints in the implementation of master plans as noted by local officials and municipal planners include (i) limited human resources and skills for enforcement, (ii) insufficient data and sharing of knowledge,<sup>3</sup> (iii) competing interests and political intervention, (iv) limited greenfields available for development, and (v) lack of alignment with government priorities. However, it is important to note that there is a common misconception and a prevalent expectation of planners having the ability to plan and implement in a command economy. Another damaging misconception is that planning can happen only where planners or local authorities first acquire land, resettle existing users, survey, and then sell surveyed parcels. Poor coordination among planning authorities, private developers, and parastatals (such as the water and electric utilities) also exacerbate this issue.

The lack of effective development controls, planning review systems and mechanisms, and resources for enforcement contributes greatly to ineffectiveness of plans. Enforcement has been insufficient or ineffective to ensure that developments occur according to adopted master plans. Municipalities reported having bylaws to prevent unplanned settlements, as well as enforcement mechanisms, including building inspection and penalties for violating land-use laws, and building codes, among others. However, the study notes significant constraints in enforcing these plans and regulations effectively. Nearly all cities also reported political interference as a major issue in enforcement. Overall governance and institutional failures in enforcing law affect the enforcement of physical planning proposals.

Detailed plans were found to be more effective in guiding development (demonstrating much better land-use conformity, ranging from almost 50 percent to 94 percent), although their coverage is generally low and not well documented. The percentage of land area covered by detailed planning schemes (DPSs) varies substantially from city to city; however, planning staff in the majority of case cities self-reported less than 50 percent coverage. Further, from our interviews and visits to cities' planning offices, there is rarely an up-to-date and comprehensive record of all the DPSs for the city. This poses challenges in the enforcement of the DPSs as well as the development of new ones (to coordinate coverage, alignment of infrastructure, and so forth).

The apparent higher conformity to detailed plans could be attributed to a variety of reasons. First, the adoption of a DPS classifies an area as planned. This inherently affiliates such areas' developments with the formal planning process, often resulting in regularization of unplanned informal developments. The more detailed and granular nature of the detailed plans also enables municipalities to enforce various mechanisms in planned areas (unplanned areas are without a DPS and are typically not regulated by municipal councils). In addition, there is greater ownership and willingness in the community to come together in these areas perhaps because the majority of DPSs are being led by the private sector, as was revealed during some of the field visits and interviews conducted with private landowners.

Government should play a more active role in collaborating, guiding, and supporting private-sector-led DPSs. Private-sector-led DPSs, in themselves, are neither good nor bad; it can be argued that, at the moment, the private sector is almost entirely driving the agenda of where DPS should be developed and what land uses they contain. While private sector demand for planning is an asset, urban plans should be equally driven by strategic interest and public priorities, which would be guided by a shared vision for the city. Hence, it is critical for the government to acknowledge the growing role of the private sector and provide guidance and support, where necessary, to make the urban land market process effective and efficient by mainstreaming emerging best practices led by the private sector. This includes planning without acquisition of land by local authorities and owners contributing land for planning and surveying costs and infrastructure provision.

## Endnotes

1. Calculated based on 2012 census data.
2. The density provisions in early master plans tend to be broad-stroked and general, recommending a density figure for "residential areas" or "central areas." For example, the 1976 Dodoma plan mentions "Recommended average net residential density of 152 persons/hectare" and the 1974 Mbeya plan states, "The proposed gross density in all new residential areas, except Sites and Services projects, is 100 people per hectare" and "The population density in central areas for mixed commercial/residential use should be 150 people per ha or more (consequently, multi-storey structures are required)."
3. The degree to which electricity, water, sewer, drainage, and road networks are mapped—either digitally in AutoCAD/geographic information system (GIS) or on paper—varies from city to city. This is also true for urban plans: while more recent master plans typically have associated GIS shapefiles designating proposed land uses, older master plans and detailed planning schemes are generally not digitized. (Dodoma's detailed planning schemes are digitized on AutoCAD, however.) Where electronic shapefiles do exist, they tend not to be shared with other agencies unless they were requested as inputs for preparing recent master plans. Otherwise, they would be requested on a "friendly" basis by or from lower level staff as opposed to via official channels.

# 5. Recommendations

Innovative approaches and practical solutions to urban planning, development controls and enforcement, economics and financing, and coordination need to be adopted at the city level. Based on the study's key findings and takeaways, recommendations on specific actions are provided to various levels of government and key stakeholders in three main areas:

1. Urban planning and development (plan formulation, quality, and key implementation strategies)
2. Development controls and enforcement
3. Economics and financing

Each recommendation includes an indication of whether they are likely to be implementable in the short to medium or long term. They are summarized in table 5.1.

**TABLE 5.1:** Summary of Recommendations

Areas of recommendation		Key recommendations	Elaboration	Potential time frame		
				Short term	Medium term	Long term
<b>Urban planning (plan formulation, quality, and key implementation strategies)</b>	1	Improve the quality of master plan and the process of their formulation.	<ul style="list-style-type: none"> <li>Note specific areas of weaknesses observed in the Key Takeaways section, and mainstream specific countermeasures for each.</li> </ul>			
	2	Expand the coverage of detailed plans for better implementation and enforcement, supported by local governments.	<ul style="list-style-type: none"> <li>Use practical and contextual solutions.</li> <li>Consider formulating scaled-down GPSs for smaller cities or an interim land-use plan developed at the ward level as a step between the GPS and DPS.</li> <li>Municipal councils should be playing a leading role in the development of DPS—even if they do this in partnership with the private sector.</li> </ul>			

Areas of recommendation		Key recommendations	Elaboration	Potential time frame		
				Short term	Medium term	Long term
	3	Densify currently developed areas aggressively through infill or regeneration and redevelopment.	<ul style="list-style-type: none"> <li>● Given current extreme low density, there is large scope available for densification to optimize infrastructure and services, rein in sprawl, and encourage more livable cities.</li> <li>● Couple with appropriate densification of infrastructure and services, noting areas that are currently lacking.</li> <li>● Regeneration and redevelopment efforts should carefully consider social and environmental impacts, especially on existing communities.</li> <li>● Focus on appropriate upgrading of unplanned settlements.</li> <li>● Review national-level planning standards, which may unintentionally prevent densification; allow application of appropriate density and suitable built forms to be determined at the local level according to specific local context.</li> </ul>			
	4	Ramp up development of major roads, but carefully and strategically.	<ul style="list-style-type: none"> <li>● Development of major roads could be a tool and perhaps a shortcut in leading and signaling the desired development direction.</li> <li>● However, this needs to be carefully balanced with regeneration and densification efforts (see above).</li> <li>● This further needs to be integrated and coordinated with the other land uses and necessary services.</li> </ul>			

(continued)

Areas of recommendation		Key recommendations	Elaboration	Potential time frame		
				Short term	Medium term	Long term
	5	Use provision of utilities as a strategic tool to lead and induce development.	<ul style="list-style-type: none"> <li>● Similar to the function of major roads, utilities and services are a useful tool to lead and signal the desired development direction.</li> <li>● Develop structure to allow cascading levels of utility plans and provision—from GPS to DPS.</li> <li>● Further detailed analysis is required (and see below on economics and financing of utilities).</li> </ul>			
	6	Explore viability of a regional or metropolitan administration or zonal authority.	<ul style="list-style-type: none"> <li>● Further detailed analysis is required.</li> <li>● However, generally there is a missing link that translates national-level planning to the city level.</li> <li>● Potentially, having a regional or metropolitan administration or zonal authority could play a significant role in guiding development at sub-national levels. This is critical for integrative thinking and improved coordination across cities.</li> </ul>			
	7	Improve capacity, in terms of staff strengths and skills.	<ul style="list-style-type: none"> <li>● There is an overall critical shortage in the number of skilled planners and enforcers in all case cities.</li> <li>● A critical minimum of staff (in number and capacity) is required for day-to-day effective urban planning functions, management, development control, and enforcement.</li> <li>● While cities may continue to rely on external consultants for the formulation of plans, necessary training, skills development, and capacity need to be developed to enable plan implementation and enforcement.</li> </ul>			

Areas of recommendation		Key recommendations	Elaboration	Potential time frame		
				Short term	Medium term	Long term
<b>Development controls and enforcement</b>	8	Empower local authorities and establish a realistic and coherent system and mechanisms of development control and enforcement.	<ul style="list-style-type: none"> <li>● Increase reliance on and leverage of ward and subward or mtaa-level efforts by devolving some development control to lower levels of government. (This is particularly useful at the subward level, as mtaa leaders can follow land transactions closely and are well informed of any construction preparations in their area.)</li> <li>● Provide copies of GPS and DPS in every ward and mtaa office.</li> </ul>			
	9	Emphasize responsibility and accountability of relevant planning and enforcement authorities.	<ul style="list-style-type: none"> <li>● Develop channels to systematically inform developers of available guidelines (land uses if planned and road/infrastructure right-of-ways) in respective jurisdiction.</li> </ul>			
	10	Physically demarcate right-of-ways and high-risk, no-build zones.	<ul style="list-style-type: none"> <li>● Systematically establish physical markers to demarcate road networks and plot boundaries, to create awareness and allow easier enforcement.</li> </ul>			
	11	Strengthen data collection, sharing, and management—both for formulation of GPSs and DPSs as well as for enforcement and development control.	<ul style="list-style-type: none"> <li>● Explore setting up a joint mapping platform to consolidate various sector maps and plans (electricity, water, sewer, drainage, and road networks) with land-use and other master plan layers.</li> <li>● Possibly build on the existing LGRCIS, through collecting, uploading, and maintaining more robust data.</li> </ul>			

(continued)

Areas of recommendation		Key recommendations	Elaboration	Potential time frame		
				Short term	Medium term	Long term
<b>Economics and financing</b>	12	Strengthen links among urban plans, sector plans, and economic plans.	<ul style="list-style-type: none"> <li>● Institute mainstream protocols for the development of economic plans (capital investment plans, budgeting plans, medium-term expenditure frameworks, and so forth) that refer and establish links with GPSs and DPSs; where not followed, appropriate considerations and justifications should be provided.</li> <li>● Develop and share standard material, simplified summary and key maps from GPSs and DPSs and build in regular education and awareness raising sessions for all key departments of city government, especially the economic and financial ones.</li> <li>● Establish regular coordination meetings, as required when issues emerge, between economic branches, sector units, and urban planning units.</li> <li>● Establish protocols for internal consultations during the formulation process of various urban, sector, and economic plans.</li> <li>● Establish core working group or secretariat consisting of planners, key sector experts, and economists or municipal finance experts from the city council for better coordination.</li> </ul>			



Areas of recommendation		Key recommendations	Elaboration	Potential time frame		
				Short term	Medium term	Long term
	13	Explore establishing sustainable financing options for plan implementation and enforcement.	<ul style="list-style-type: none"> <li>● Further detailed analysis is required.</li> <li>● However, overall enhancement in own-source revenue and first estimating costs for implementation, as well as development control and enforcement, followed by dedicating and safeguarding of funds for these purposes in the regular budget, would be helpful.</li> </ul>			
	14	Pilot innovations in developing planned neighborhoods.	<ul style="list-style-type: none"> <li>● Explore alternatives to the conventional approach of mass land acquisition, compensation, and resale.</li> <li>● Alternative models such as different forms of land pooling or public-private partnerships have seen successful implementations (for example, in Mbeya and Mtwara) and could be further supported, refined, adopted, or scaled up.</li> </ul>			
	15	Reconcile national-level policies with local fiscal situations.	<ul style="list-style-type: none"> <li>● Further detailed analysis is required.</li> <li>● However, as a first step, dialogues and channels between national and local governments need to be established to discuss the local fiscal situation for cities' development vis-à-vis local government budgets and mandates, mindful of the various recentralization policies of previous local government revenue sources.</li> </ul>			

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Areas of recommendation		Key recommendations	Elaboration	Potential time frame		
				Short term	Medium term	Long term
	16	Align incentives of utility agencies with development priorities rather than have them guided only by financial viability.	<ul style="list-style-type: none"> <li>● Further detailed analysis is required.</li> <li>● However, currently utility agencies provide services largely based on financial viability and in the absence of sufficient or comprehensive and objective information.</li> <li>● Strategies and mechanisms to align such service provision with development intentions and perhaps user fees or other financial means should be explored.</li> </ul>			

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