

The Urban Transition in Tanzania

Building the Empirical
Base for Policy Dialogue*

by
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ABSTRACT

In countries, where urbanization is a relatively new phenomenon, like Tanzania, building the empirical base to inform urban policies is a key challenge faced by government agencies. The study addresses selected urban-related empirical questions associated with the urban transition in mainland Tanzania, drawing on 1988 and 2002 census data. More specifically, the study aims to (i) discern what is “urban” from what is “rural” and capture the policy implications associated with different perspectives on “urban;” (ii) quantify the urban advantage in service provision, relative to rural areas; (iii) understand how the urban transition affects the spatial distribution of poverty; (iv) assess the contribution of internal migration to urbanization and the demographic and socio-economic profile of migrants; (v) explore the patterns of non-farm employment in proximity to urban centers.

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Foreword

This study has been prepared as part of the on-going Urban Review for mainland Tanzania carried out by the Africa Urban & Water Unit (AFTU1) in partnership with the World Bank Institute (WBI) and the Government of Tanzania.

The objective of the Urban Review is to document urban trends in mainland Tanzania and identify key challenges and opportunities associated with the urban transition, as a first step towards the development of an integrated urban strategy for mainland Tanzania. The Urban Review builds on and complements the Urban Development and Environmental Management (UDEM) framework which has recently been formulated by the Prime Minister's Office–Regional Administration and Local Government (PMO–RALG) in recognition of the need for managing the urban transition in Tanzania. As noted in the UDEM report, it is essential that, as the world becomes increasingly urban, “Tanzania embraces the power of urban centers as organizing agents and engines for national development.”

As one of the building blocks of the Urban Review, this study provides a comprehensive assessment of the micro-trends associated with the urban transition in mainland Tanzania based on census data. Of particular relevance is the comparison of urbanization patterns on the ground with the official categories of Local Government Authorities (LGAs), which suggests that urbanization may be happening off the radar screen of government agencies. The study also sheds light on the urban advantage in terms of access to basic services relatively to rural areas, the contribution of migration to urbanization and the socio-economic profile of migrants. The study has been conducted in collaboration with REPOA and under the oversight of the National Bureau of Statistics.

This is the first of a series of publications aiming at disseminating the findings of the Urban Review—other building blocks of the Urban Review include an assessment of the contribution of Tanzanian cities to economic growth and a GIS mapping exercise. With these

publications, we hope to spark policy dialogue on the challenges and opportunities posed by urbanization and to draw attention to areas where further research is warranted to inform policy recommendations.

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Executive Summary

1. The urban transition is well under way in mainland Tanzania: the urban population increased from a low base of 5.7 percent to 22.6 percent over the period 1967–2002, based on census data. In predominantly rural countries with the prospect of rapid urbanization, like Tanzania, government agencies face a steep learning curve in confronting the challenges associated with the urban transition. First and foremost, the challenge is to build an adequate empirical base to inform urban policies. This study focuses on selected urban-related empirical questions that government agencies are confronted with throughout the world, and more urgently in countries where urbanization is a relatively new phenomenon. This study has been prepared as an input to the diagnostic review of the urban transition in mainland Tanzania conducted by the World Bank in collaboration with the Government of Tanzania (GoT).

Key Issues

2. To develop a clear understanding of the challenges posed by urbanization, the study addresses the following questions:

3. **Discerning what is “urban” from what is “rural.”** The perspective on “urban” adopted by government agencies has key policy implications. Any gaps in the government perspective on urban may allow urbanization to happen off the radar screen of government agencies, reducing the capacity of government agencies to effectively respond to the challenges associated with rapid urbanization in mainland Tanzania. For example, earmarking fiscal resources to urban Local Government Authorities (LGAs), as proposed under the UDEM framework,

would provide urban LGAs with a definite advantage relatively to equally high density areas which are not officially recognized as urban.¹

4. There are three different perspectives on “urban” currently in play: a politico-administrative perspective embraced by the Prime Minister’s Office-Regional Administration and Local Government (PMO-RALG), a human settlements perspective adopted by the Ministry of Lands and Human Settlements Development (MLHSD) and a statistical perspective adopted by the National Bureau of Statistics (NBS). A common denominator of the three above-mentioned urban perceptions is that none of them explicitly accounts for population density. This study considered a fourth perspective of “urban” based on population density, to understand how this would differ, on the ground, from the government perspectives.

5. Characterizing urban advantages and disadvantages, relative to rural areas. To what extent does being “urban” translate into a distinct urban advantage in terms of access to basic infrastructure services, such as improved water supply, improved sanitation and electricity, as well as housing quality and human capital endowment? Has the urban advantage deepened or lessened over time? To what extent do different urban perspectives result in different urban profiles? An understanding of the relative advantages and disadvantages which are associated with different perspectives on “urban” is essential for formulating policies that can unleash the economic potential of urban centers and re-distribute resources in line with the objectives of the national development agenda.

6. Understanding how the urban transition affects the spatial distribution of poverty. To what extent is the urban transition bringing uneven gains in poverty reduction? Is the belief that urban areas are pockets of wealth relatively to rural areas corroborated by empirical evidence? To what extent does the urban poverty line hide significant intra-urban poverty variation? These questions are critical for formulating and tailoring anti-poverty interventions to urban areas.

7. Understanding the demographic and socio-economic dynamics associated with the urban transition. Is urbanization mostly driven by natural growth and re-classification or internal migration? To what extent is migration shaping the urban transition? How is migration changing the demographic and socio-economic profile of urban areas? Is non-farm employment more prominent in close proximity to urban centers? Answering these questions is essential for government agencies to grasp the socio-economic transformation associated with the urban transition.

Results

8. The present study addresses the above empirical questions drawing on the 1988 and 2002 census data. The study endeavors to provide the analytical backing to spark

1. See PMO-RALG (2006). “National Framework for Urban Development and Environmental Management (UDEM) in Tanzania.”

policy dialogue on the challenges associated with the urban transition in mainland Tanzania and identify areas where further research would be warranted. It does not however aim to answer the afore-mentioned empirical questions in a comprehensive manner as this would require complementing the quantitative analysis with a more qualitative investigation of the facets of the urban transition. The main findings of the study are outlined below.

9. Empirical evidence indicates that about 17 percent of the population in mainland Tanzania lives in high-density settlements which are not officially recognized as urban. Not surprisingly, each perspective on “urban” yields a different level of urbanization—the largest gap in the level of urbanization is found between the politico-administrative perspective (under which Tanzania is 16.8 percent urbanized) and the density-based perspective (33.5 percent). About 17 percent of the population in mainland Tanzania live in high-density settlements which are not legally recognized as urban, suggesting that significant urbanization may be occurring off the radar screen of government agencies. This concern is also raised in PMO-RALG’s UDEM framework, which emphasizes how high-density settlements with no legal status risk becoming a ‘time-bomb,’ sprawling in an uncontrolled and incoherent fashion.²

10. This gap has important policy implications with respect to the design of the inter-governmental fiscal system. Earmarking fiscal resources to urban LGAs as proposed under the UDEM framework will not benefit high-density areas in LGAs which are not designated as urban despite the fact that the latter may have even higher investment needs than recognized urban LGAs. In light of this empirical evidence, more political awareness of the demographic and economic weight of high density settlements may be warranted to leverage the agglomeration benefits arising from economies of density.

11. The empirical findings suggest that there may be un-realized gains to be made from urbanization, particularly in high-density settlements with no legal urban status. Although recognized urban areas have generally better access to basic services, empirical findings point to substantial bottlenecks in urban service provision. For example, based on the statistical urban perspective access to electricity in urban areas is low (34 percent), compared to the Sub-Saharan African average (50 percent); in addition, access to piped water supply has not kept pace with urbanization, resulting in a decline in urban coverage from 80 to 70 percent over the period 1988–2002. The politico-administrative urban perspective yields the highest access rate to basic services, the density-based perspective the lowest. The results indicate that strategic deployment of scarce public resources at the local level is essential for addressing the infrastructure bottlenecks and thus unlocking the economic potential of urban centers. The findings also suggest that the growth and equity implications of earmarking fiscal resources to urban areas should be carefully weighed in the context of the overall national development agenda of the Government of Tanzania. For example, the proposal formulated in the UDEM framework of earmarking fiscal resources to urban areas seems incapable of addressing the capital investment backlog of high-density settlements, which are not legally recognized as urban.

2. See PMO-RALG (2006).

12. The findings do not support the thesis that urban areas are always pockets of wealth, relatively to rural areas. Building on the recently conducted poverty mapping, inter- and intra-urban poverty rates are compared across twelve urban centers, which are selected to be representative of the geographical and size distribution of urban centers in mainland Tanzania. The analysis finds that urban centers, whose boundaries are approximated by the urban EAs of the districts, have poverty ranging between 12 and almost 50 percent, against a national urban poverty rate of 26 percent (excluding Dar es Salaam) based on the statistical urban perspective. A third of the selected urban centers have poverty rates higher than the surrounding rural areas, belying the thesis that urban areas are always pockets of wealth, relative to adjacent areas. Even in urban centers exhibiting lower poverty rates than the surrounding rural areas, a significant share of the urban population lives in wards with higher poverty rates than the adjacent rural areas.

13. One-size-fits-all anti-poverty programs may be not be effective in addressing spatial differences in urban poverty. The results call for a more refined spatial analysis of urban poverty to inform anti-poverty programs, on the basis that different urban realities require different approaches to alleviate poverty. Urban centers that exhibit a pronounced urban-rural poverty gap and low intra-city inequality (for example, Mwanza) call for policy interventions mainly targeted to ensure that the poverty-reducing benefits of economic growth spill over to the surrounding rural areas. On the other hand, urban centers with a small urban-rural poverty gap and high intra-urban inequalities (for example, Mbeya) call for policy interventions mainly targeted to reduce inner city deep pockets of poverty.

14. Internal migration only modestly contributes to urban growth. Evidence suggests that migration is only contributing to 17 percent of urban population growth in mainland Tanzania, against an average 25 percent for Africa.³ In other words 83 percent of the growth of cities is natural growth or re-classification. It is also significant that most urban migrants are absorbed by a subset of existing households, which on average have better access to infrastructure services than the resident population. These findings suggest that at the current stage of the urban transition, internal migration is unlikely to pose an undue burden on infrastructure service provision. The results need however to be interpreted with caution given that they are based on the assumption that 2001–02 was a normal migration year, as only migration patterns observed over the period 2001–02 can be analyzed based on census data. In addition, the census only captures migration that occurs within the household context.

15. Low net migration conceals a much higher turnover. Net migration only accounts for 0.6 percent of the urban population in mainland Tanzania in 2002. However, the low migration conceals a much higher turnover: about 5.3 percent of the urban population moved to or from urban areas in the country in 2001, and an additional 2.6 percent of the urban population moved between urban centers. Such a high level of turnover indicates that migra-

3. The census questionnaire classifies the place origin of migrants in the following three categories: rural, from regional headquarters and from district headquarters. Regional and district headquarters are thus defined as urban areas for the purpose of recording migratory flows.

tion is shaping the urban transition, by affecting labor force composition and labor market outcomes.

16. Urban migrants are unlikely to be absorbed in the low-skill end of the urban labor market, as they are as skilled as the resident population (assuming that education is a good proxy for skill level). In light of this evidence, further research is warranted to explore how migration is changing the composition of the urban labor force and affecting labor market outcomes in both sending and receiving areas. The fact that a significant number of regional headquarters are unable to attract as many migrants as the urban areas of the region calls for further research on the capacity of regional headquarters to act as poles of economic growth and job creation.

17. Non-farm employment is not deeply rooted in the areas surrounding urban centers. The share of non-farm employment is an indicator of diversification out of agriculture. Non-farm employment is expected to be more prominent in close proximity to urban centers, under the assumption that the incentives for economic diversification spill over to the surrounding areas. Two complementary analyses of non-farm employment patterns are conducted in twelve selected urban centers. One analysis is based on the 2002 census, the other based on the 2002–03 small-holder sample from the Tanzania Agricultural Sample Census. The two analyses show consistent results at the aggregate level, pointing to a clear divide between urban and rural areas as far as non-farm activities are concerned. A more diverse picture however emerges at the level of individual urban centers. Based on the agricultural census survey results, most urban centers do not exhibit a smooth linear pattern in non-farm employment. In fact, four urban centers show some evidence of a reversed pattern, where the highest degree of concentration in non-farm activities is not found in close proximity of the urban centers. In light of this evidence, further research is needed to understand the key determinants of non-farm employment, such as access to infrastructure and to markets.

I. Introduction

18. Urbanization is a broad trend across the African continent and around the globe.

Tanzania is not exempted from the challenges and opportunities of urbanization. In light of the growing importance of urban centers in the national landscape, the Prime Minister's Office-Regional Administration and Local Government (PMO-RALG) has recently formulated an Urban Development and Environmental Management (UDEM) framework that explores some of the sectoral issues associated with urbanization. As noted in the UDEM framework, it is essential that, as the world becomes increasingly urban, "Tanzania embraces the power of urban centers as organizing agents and engines for national development." Despite the growing demographic and economic weights of urban centers in the country, there is not yet a comprehensive study of the urban landscape in Tanzania. Building on the existing UDEM framework, in October 2007, the World Bank, in collaboration with the Government of Tanzania, launched a diagnostic urban review for mainland Tanzania. This study is one of several inputs to the Tanzania urban review.

19. The objective of this study is to build the empirical and analytical base for understanding and fostering policy dialogue on the urban transition in mainland Tanzania.

More specifically, the study addresses the following questions: (i) what is "urban" and what is "rural"? To what extent do different perspectives on what constitutes urban imply different patterns of urbanization?; (ii) Is there an urban advantage in terms of access to basic services?; (iii) Does the characterization of urban centers as pockets of wealth withstand empirical scrutiny? How is urban poverty spatially distributed across and within urban centers?; (iv) What is the contribution of internal migration to the urban transition?; (v) How strong are urban-rural linkages based on non-farm employment patterns? The study is structured as follows: Section II presents four different perspectives or lenses through which urbanization can be examined, and their implications in terms of urbanization patterns and policy formulation; Section III compares the profile of the urban and rural population, based on selected household and population indicators, and discusses the extent to which different perspectives

on “urban” imply different urban profiles; Section IV compares poverty estimates across and within selected urban centers; Section V studies internal migration patterns and their implications for the urban transition; Section VI estimates distance-decay functions in non-farm employment for selected urban centers; finally, Section VII concludes.

II. What Is “Urban and What Is “Rural”? The Implications of Different Urban Perspectives

20. Estimating the level of urbanization in any country is difficult. There is no internationally accepted standard for identifying urban areas, and even within a given country there is often more than one definition in use at any given time. The United Nations argues that “given the variety of situations in the countries of the world, it is not possible or desirable to adopt uniform criteria to distinguish urban areas from rural areas.”⁴ This Section discusses four different perspectives through which the urban transition can be examined in mainland Tanzania, and their implications in terms of urbanization patterns and policy formulation.

II.a. Unraveling the Concept of “Urban”: The Politico-administrative, Human Settlements, Statistical and Density-based Perspective

21. **There are three different perspectives on “urban” currently adopted in mainland Tanzania:** a politico-administrative perspective adopted by the Prime Minister’s Office-Regional Administration and Local Government (PMO-RALG), a human settlements perspective embraced by the Ministry of Lands and Human Settlements Development (MLHSD) and a statistical perspective adopted by the National Bureau of Statistics (NBS). The three perspectives differ primarily in their spatial unit of analysis. PMO-RALG applies its own categorization of “urban” to politico-administrative entities, the Local Government Authorities (LGAs); the MLHSD focuses on settlements as the spatial unit of analysis, while the NBS applies the concept of “urban” to Enumeration Areas (EAs), the smallest statistical unit of analysis in the population and household censuses. A common denominator of the three above-mentioned urban perceptions is that none of them explicitly accounts for population density. A fourth designation of “urban” based on population density is thus examined for the sake of discussion in this study and contrasted with the three above-mentioned urban perspectives.

4. United Nations (2002), p 106.

22. The politico-administrative perspective. PMO-RALG's urban perspective has its legal base in the Local Government (Urban Authorities) Act 1982 (as amended) ("The Local Government Act"). The Local Government Act provides that "...the Minister may, by order published in the Gazette, establish in any area of Mainland Tanzania an appropriate urban authority." In exercising its functions, "the Minister shall comply with the national policy on the development of urban areas."⁵ Urban local government authorities (LGAs) with legal and autonomous status include cities, municipalities and town councils.⁶ The list of urban LGAs based on the politico-administrative classification is provided in Appendix 1.

23. The human settlements perspective. The MLHSD is the custodian of the National Human Settlement Development Policy 2000 (NHSDP). The NHSDP provides a classification of human settlements "based on population size, level of services, economic base and level of sustenance [*sic*] in annual budget" (NHSDP, Appendix 5). Based on the NHSDP, the urban hierarchy in Tanzania consists of four urban strata: cities, municipalities, towns and townships (or district headquarters). The MLHSD's list of urban authorities is provided in Appendix 1. While the first three urban strata based on the human settlements perspective overlap with the politico-administrative classification of urban centers, the MLHSD recognizes a fourth urban stratum, the townships or headquarters of the district councils. Townships operate under the district councils and have a semi-autonomous status (that is, they have an elected council, but they do not have an independent budget from the district council).

24. The hierarchy of urban centers laid out in the NHSDP is meant to "facilitate an equitable appropriation of resources and distribution of services within a country." The Government of Tanzania is expected to "facilitate availability of resources for provision of services and infrastructure to urban centers according to their rank and their development potential and attract investors to locate their investments there." (NHSDP, p. 32).

25. The statistical perspective. The National Bureau of Statistics (NBS)'s perspective on "urban" is more fine-grained than the two above-mentioned categorizations as it is based on a smaller spatial unit: the Enumeration Area (EA). The principle followed by NBS in delineating EAs is that "under no circumstance should an EA cut across the existing boundaries of regions, districts, wards and villages."⁷ This implies that politico-administrative boundaries can be re-composed for analytical purposes by aggregating EAs. NBS defines an EA as a geographical area or community with a population size of 300 to 900 individuals. EAs are classified as urban and rural. The decision as to whether an EA is urban or rural is made by the Region Census Committees. Urban EAs are located within a predominantly urban area, contain 300 to 500 individuals, and usually have their own markets and social service providers (for example, schools and health centers) serving the surrounding vicinity. Rural EAs lack these amenities and contain 700 to 900 individuals.⁸ NBS' classification of EAs is the

5. Local Government Act (Urban Authorities) 1982, Section V.

6. Local Government Authorities can be grouped into two: Urban Councils and District Councils; the latter have responsibility for rural areas.

7. NBS (2002). Population and Housing Census Report.

8. See World Bank (2006), p. 90.

basis for all nationally representative surveys relying on the National Sampling Framework for sampling purposes. See Box 1 for further details on NBS’ criteria for classifying EAs as applied to the 2002 Population and Household Census.

26. The density-based perspective. Population density is an important gradient in delineating the urban-rural nexus as it can generate the agglomeration economies that are defining features of urban centers. According to the OECD, a density-based definition of urban has also the advantage of being policy neutral. A fourth urban perspective based on the OECD population density threshold is examined for the sake of discussion in this study and contrasted with the three other urban perspectives. The OECD adopts a cut-off point of 150 people/km² for all OECD countries (with the exception of Japan), where all settlements with population density above the threshold are considered urban.⁹ Figure 1 presents average population densities for predominantly urbanized areas in OECD countries. See Box 2 for a description of OECD methodology.

Box 1. NBS Urban Perspective: Extract from Methodology Report, 2002 Household and Population Census

More than one criterion was used to define urban areas. All regional and district headquarters were by definition urban areas. The boundaries of these headquarters were identified by two pieces of legislation, namely, the Village Act, 1975, and the Urban Ward Act, 1976, which divided the entire country into urban and rural wards. Some wards adjacent to urban boundaries were also included in urban areas if it were felt that these wards had urban characteristics; that is, they exceeded certain minimal level of size-density criterion and/or they had “...specialist functions, generally of nonagricultural sort, with many of [their] inhabitants in non-agricultural occupations: many of [their] buildings used for non-domestic purposes (shops, garages, places of entertainment., factories, and so forth).” The size-density criterion was vague in so far as no specific numerical values of size and density were identified. The decision of inclusion or exclusion of such wards in urban areas was made by the District/Regional Census Committees. In addition to the regional and district headquarters, certain other areas were included in urban areas. The decision as to whether a certain area was urban or rural was made by the Regional/District Census Committees.

It is also important to note that at times the entire area of a ward other than the wards falling in a regional or district headquarters could not be categorized as urban or rural. These wards were designated as “mixed wards” for the purpose of the census. The Regional/District census Committees were authorized to identify which enumeration area(s) in such wards should be considered urban. To summarize, the following areas were included in the urban areas in 1978:

- (i) Regional and district headquarters with boundaries as identified by the Village Act, 1975 and Urban Ward Act, 1976.
- (ii) Areas which fell outside the boundaries of the headquarters but bore physical proximity to them and met (unspecified) size -density criterion and/or possessed other urban characteristics as laid out in an earlier paragraph.
- (iii) Areas which did not bear physical proximity to any other urban area but met (unspecified) size-density criterion and/or possessed other urban characteristics as laid out in an earlier paragraph.

Source: Extract from Population and Housing Census 2002, Methodology Report, Appendix 3.1.

9. OECD (1994).

Box 2. A Territorial Perspective: OECD Density-based Urban Perspective

The OECD treats urban as a spatial or territorial concept. As a result, OECD's classification of urban is not restricted to any particular use of land, economic performance, or agricultural-based definition. The OECD's territorial perspective was developed in the context of the Project on Rural Indicators ("the Project"), conducted in 1994 with the objective of creating a common international vocabulary and information pool for rural analysis and policy formulation. As part of this exercise, a conceptual framework was developed, establishing a territorial scheme and identifying a basic set of rural indicators. While the Project was primarily devoted to rural policy formulation, the underlying territorial scheme was structured neutrally, in such a way that could also be used for other purposes, such as for urban or regional statistics.

First, the OECD scheme identifies two hierarchical levels of geographic detail: local community level and regional level. The Project selected population density as the most relevant and practical criterion for identifying rural local communities, that is, the lowest hierarchical level of geographical detail. This approach is justified on the ground that population density has the advantage of being policy neutral, as it does not refer to any specific perception of what the rural problems and potentials are.

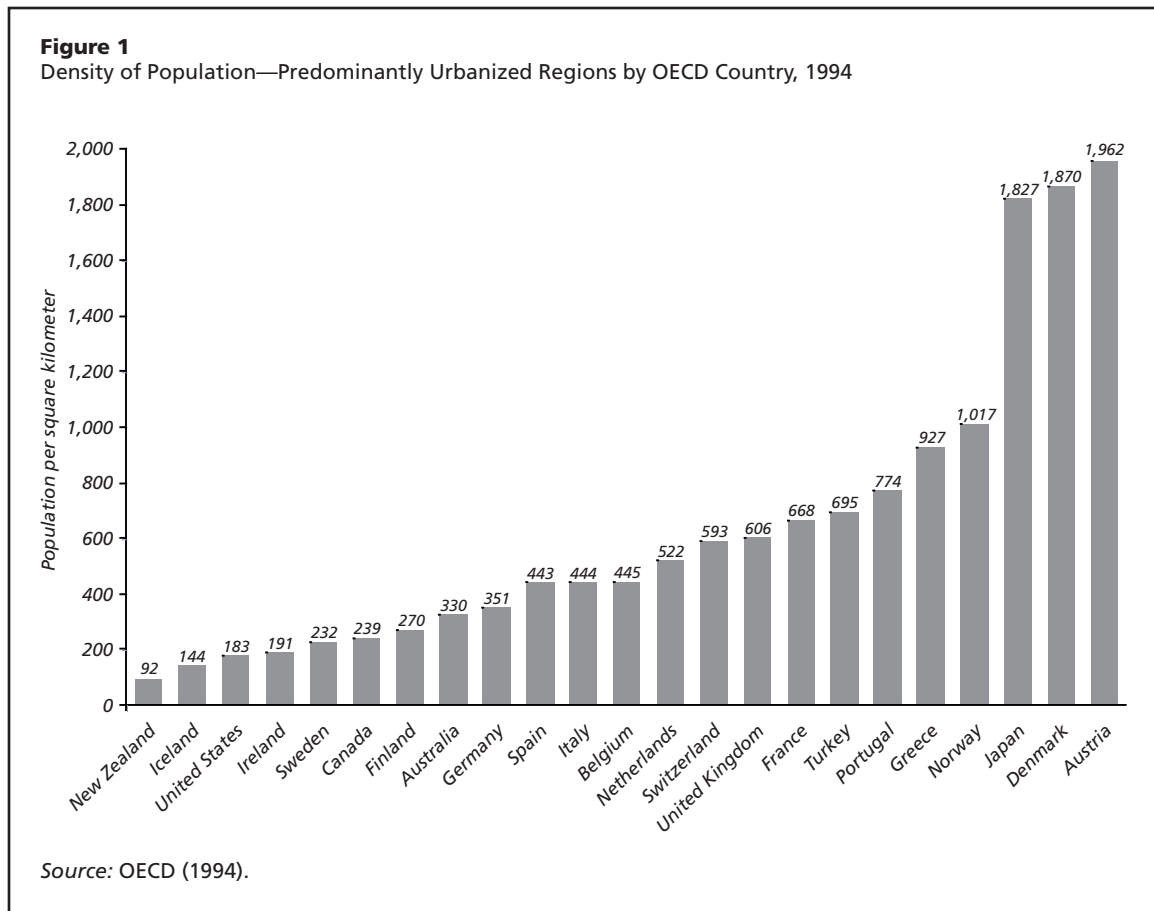
To distinguish between rural and urban communities, a quantitative density threshold was determined. The density threshold was set at 150 inhabitants per square kilometer for Europe, North America, Australia and New Zealand, and 500 inhabitants per square kilometer for Japan. While acknowledging that setting thresholds always involves some arbitrary judgment, the decision to use 150 (500 in the case of Japan) as the dividing line was based on a series of considerations that took into account the following:

- population density thresholds used by Member countries and other international organizations, such as Eurostat;
- the national distributions of local community population and area over a gradient of different population density classes;
- the wide range of settlement patterns across the OECD.

The share of rural population was not found to be sensitive to small changes in the threshold, as changing the thresholds to 100 or 200 per square kilometer did not lead to major changes in the share of rural population. As regions comprise both rural and urban communities, regions were classified for the purpose of the Project as "predominantly rural," "significantly urban," and "predominantly urban," based on the share of population living in rural communities. For the typology of regions, the following thresholds were used: "predominantly rural" if more than 50 percent of the population lives in rural communities, "significantly rural" if the share of rural population is between 15 and 50 percent; "predominantly urbanized" if less than 15 percent of the population is classified rural.

Figure 1 presents the average population density in predominantly urbanized areas, by OECD country.

Source: OECD (1994).

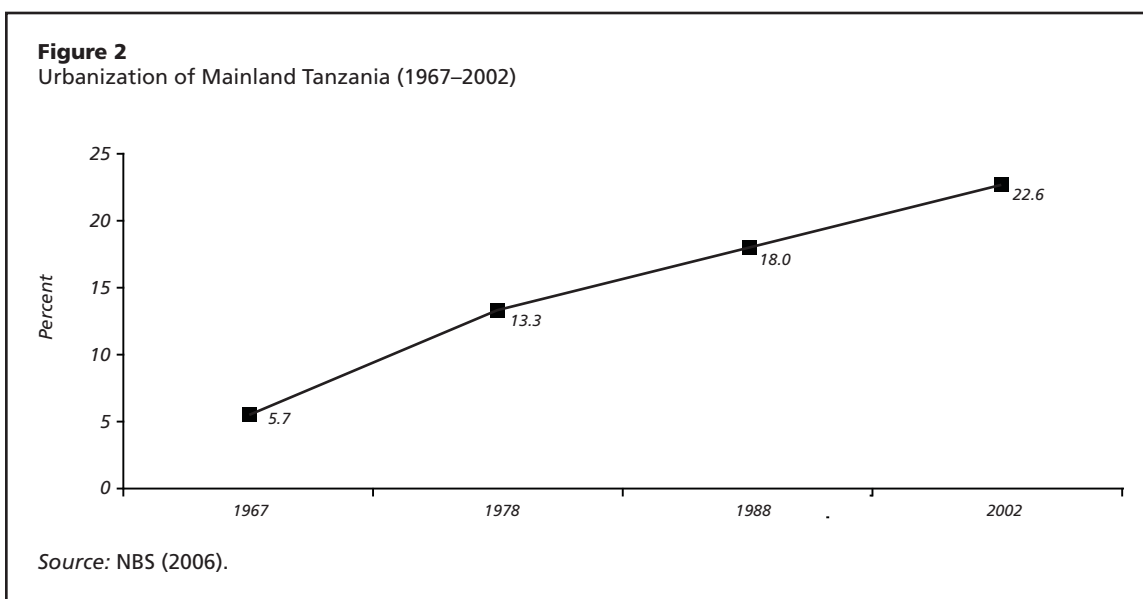


II.b. Urbanization Patterns in Mainland Tanzania

27. In this section, the four urban perspectives outlined in Section II.a are mapped, and the underlying urbanization patterns contrasted and compared, drawing on the population and housing census data.

28. The urban population in mainland Tanzania quadrupled over the period 1967–2002.

According to the latest four population and housing censuses, the urban population in mainland Tanzania increased from 5.7 percent in 1967 to 22.6 percent in 2002. Figure 2 displays the estimated urbanization levels, based on NBS urban classification of EAs. The comparability of the urbanization levels rests on the assumption that NBS’ methodology for defining urban EAs is consistently applied throughout the period 1967–2002. However, NBS’ reliance on predominantly qualitative criteria for EA classification suggests that methodological changes may have occurred since 1967 (see Box 1). Nevertheless, NBS data provides the best available estimates of urbanization trends in mainland Tanzania. As of 2002, urbanization exceeds the national average level (22.6 percent) in three regions: Dar es Salaam, Arusha and Morogoro, where 94, 31 and 27 percent of the population is estimated to live in urban areas, respectively. Kagera (6 percent) and Shinyanga (9 percent) are the regions with the lowest level of urbanization (see also Figure 6).



29. Different urban perspectives imply different urbanization levels, ranging from 16.8 to 33.5 percent (see Table 1). The politico-administrative and density-based perspectives result in the highest and lowest estimated urbanization, respectively. The human settlements and the statistical perspectives yield similar and intermediate urbanization levels. Figure 4 visually displays the spatial distribution of urban areas based on the four different urban perspectives. The statistical urban perspective, which is EA-based, has been mapped at the ward level, given that the ward is the lowest level of mapping resolution. As shown in Table 1 below, the adjustment does not affect the accuracy of the mapping exercise, given the very small difference in the level of urbanization between the EA- and the ward-based statistical urban perspective. The mapping is likely to slightly over-estimate urbanization of the human settlements perspective, owing to the adjustment made to fit the resolution of the maps.¹⁰ (See Appendix 2 for a summary of the main assumptions made for the mapping exercise). Sensitivity analysis has also been conducted to show how the urbanization level under the density-based perspective is affected by changes in the density threshold: the analysis indicates that urbanization is sensitive to changes in the minimum threshold, but significantly less so for density above 300 persons/km² (see Figure 3).

30. Both the statistical and politico-administrative urban perspectives fail to identify as urban a significant share of the population living in high-density settlements. Overlaying the statistical and density-based perspectives reveals some degree of overlap between the two perspectives: 18.7 percent of the population meet both urban definitions. On the other hand, 14.8 percent of the population live in high-density settlements which are not considered urban based on the statistical perspective. Hence, the statistical perspective fails

10. When townships' boundaries fall below ward level, the entire ward is mapped as urban.

to account for a significant portion of the population which would be categorized as urban based on a density criterion. Overlaying the politico-administrative and the density-based perspectives yields similar results: virtually all urban population based on the politico-administrative perspective live in high-density areas, on the other hand an additional 17.2 percent of the population in mainland Tanzania live in high-density areas which are not considered urban based on the politico-administrative perspective (see Figure 5 and Table 8 and Table 9 in Appendix 3).

Table 1
Urbanization Level by Urban Perspective, 2002

| Urban perspective | Urbanization (%) | Urban space | | Average density (population/km ²) |
|-------------------------|------------------|-----------------------|-------------------------|---|
| | | Total km ² | % of mainland territory | |
| Statistical | | | | |
| EA-based | 22.8 | — | — | — |
| Ward-based | 20.7 | 27,081 | 3.1 | 260 |
| Politico-administrative | 16.8 | 6,937 | 0.8 | 807 |
| Human settlements | 23.5 | 41,769 | 4.7 | 186 |
| Density-based* | 33.5 | 27,445 | 3.1 | 415 |

Source: Author’s calculations based on census data.
* 150 persons/km²

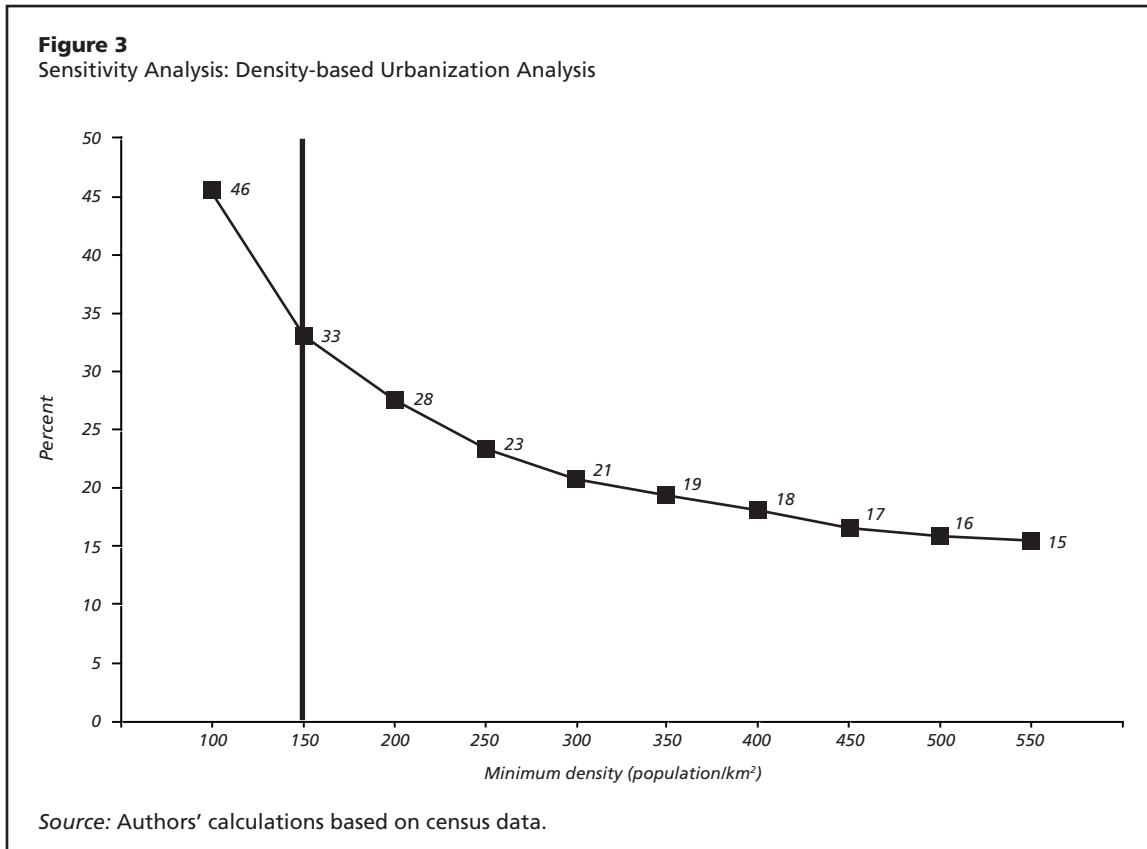
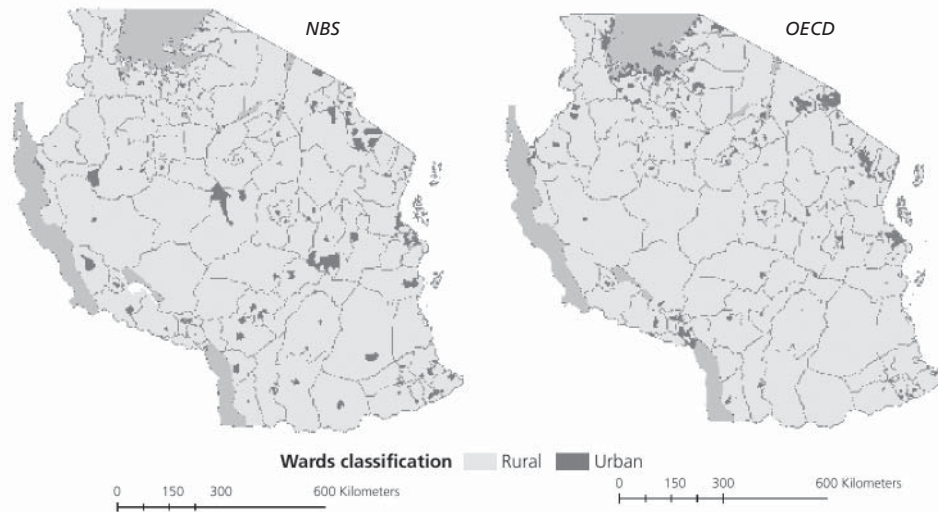


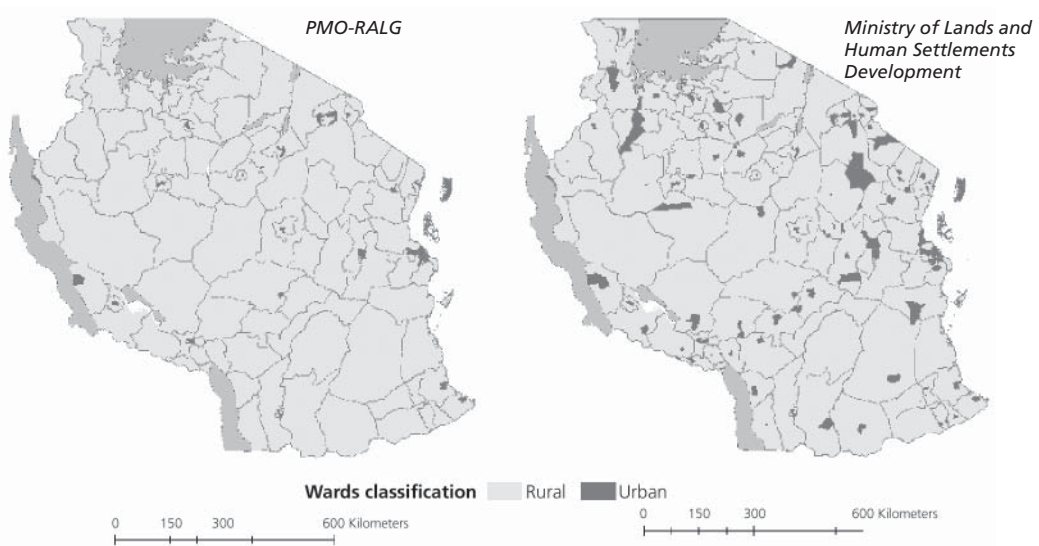
Figure 4
Urban Patterns in Mainland Tanzania by Urban Perspective, 2002

Statistical and density-based urban perspective

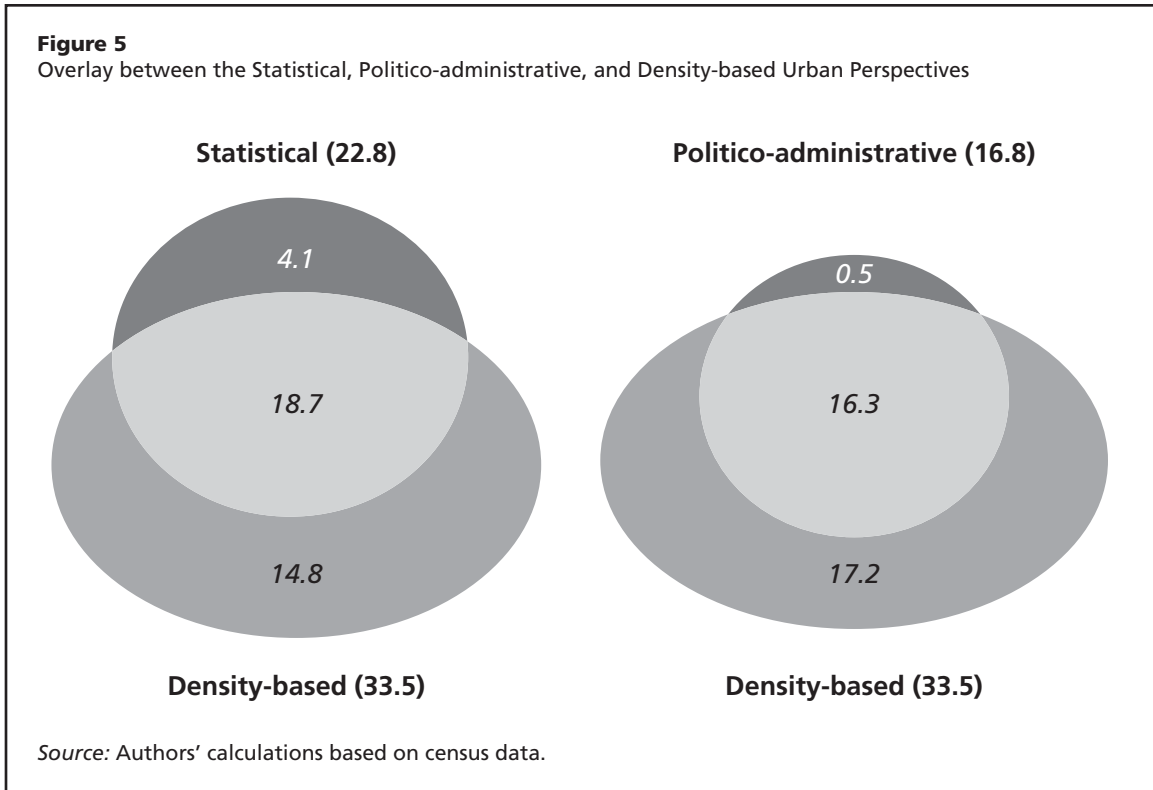


Source: Tanzania Population Census 2002.

Politico-administrative and human settlement urban perspective



Source: Authors' calculations based on census data.



31. Different urban perspectives also imply different average urban densities. The urban areas based on the politico-administrative perspective have the highest average density (807 people/km²), followed by the urban areas based on the density perspective (415 people/km²). Urban areas based on the human settlements and statistical perspectives have the lowest average density (260 and 186 people/km² respectively) (see Table 1). The findings imply that townships which are considered urban based on the human settlements perspective (but not according to the politico-administrative perspective) have significantly lower densities than politico-administrative urban areas, namely cities, municipalities and towns. More surprisingly, the results imply that most urban areas which are classified as urban based on the statistical and human settlement perspective may not meet the OECD threshold (150 people/km²), as they have on average lower densities than the urban areas based on the density perspective. Overall, the empirical findings suggest that (i) there is limited spatial overlap between the urban areas under the OECD perspective and the urban areas under the three other perspectives and (ii) the OECD threshold is set well above what is considered the minimum viable density for urban areas based on Tanzania standards, as proved by the fact that a significant portion of the urban areas based on the human settlements and statistical perspective have density below the OECD threshold. As a result of the variation in average density, there is also a striking difference in the urban space (in km²) across the four perspectives. As a share of the mainland territory, the urban space varies from 0.8 percent of the territory under the politico-administrative perspective to 4.7 percent under the human settlements perspective.

32. Different urban perspectives result in different ranking of regions based on urbanization levels. Figure 6 ranks regions by level of urbanization (from the most to the least urbanized), for each of the four urban perspectives (see also Table 2).¹¹ Different urban perspectives yield significant differences in the ranking. For example, Morogoro is the third most urbanized region based on the statistical perspective, but only ranks as the 11th most urbanized region when the density-based perspective is applied. At the other end of the spectrum, Kagera, which is the least urbanized region based on the statistical perspective, is the 9th most urbanized region based on the density perspective. Despite these differences at the two ends of the urban spectrum, the ranking is relatively stable with regard to the most urbanized regions: Dar es Salaam, Arusha, Mwanza are among the six most urbanized regions regardless of the perspective adopted.

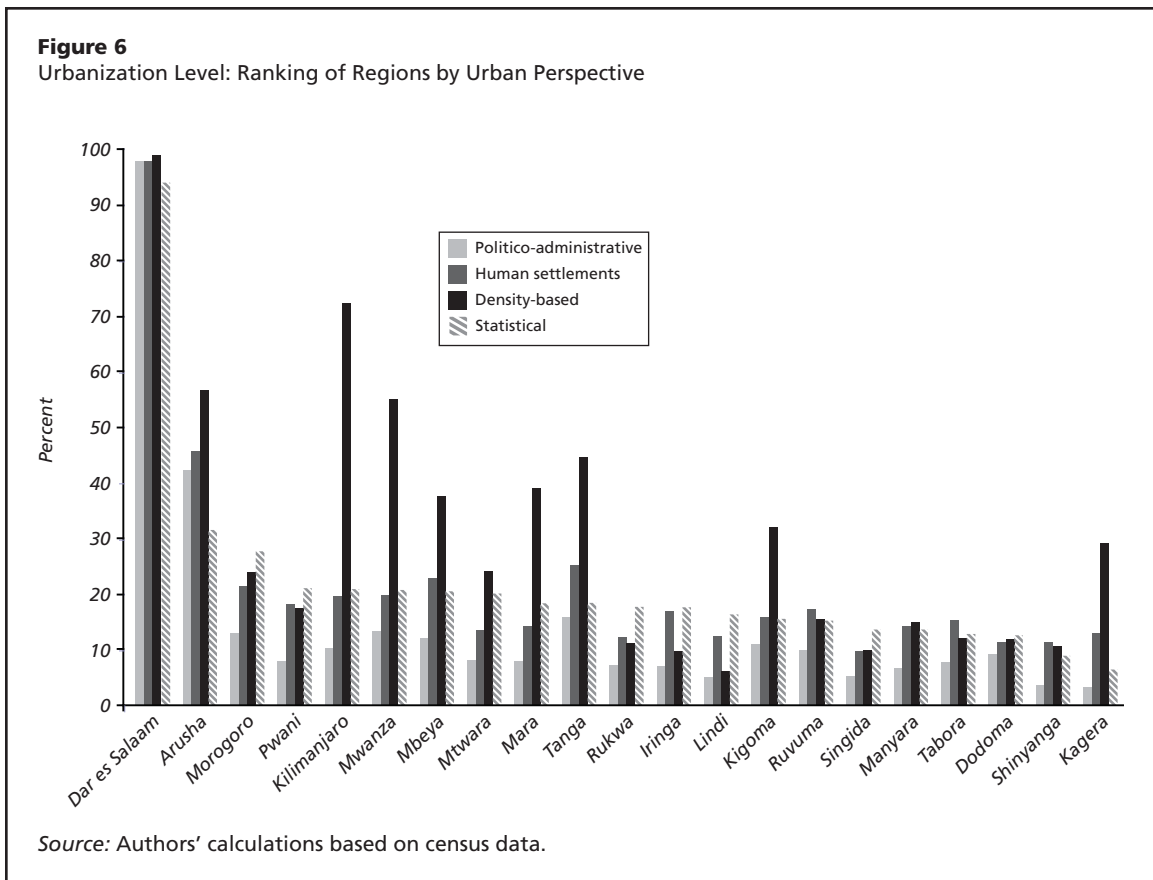
33. Different urban perspectives imply striking differences in the level of regional urbanization. As shown in Figure 6, regional urbanization varies to a great degree depending on the urban perspective adopted. The estimated urbanization differs significantly even for regions which have a similar rank in the “ladder of urbanization” across the four urban perspectives, especially for the highly urbanized ones. The most striking difference in the

Table 2
Urbanization Level: Ranking of Regions by Urban Perspective

| Rank | <i>Statistical</i> | | <i>Politico-administrative</i> | | <i>Human settlements</i> | | <i>Density-based</i> | |
|------|--------------------|------|--------------------------------|------|--------------------------|------|----------------------|------|
| 1 | Dar es Salaam | 94.0 | Dar es Salaam | 97.5 | Dar es Salaam | 97.5 | Dar es Salaam | 98.6 |
| 2 | Arusha | 31.4 | Arusha | 41.9 | Arusha | 45.5 | Kilimanjaro | 72.0 |
| 3 | Morogoro | 27.1 | Tanga | 15.7 | Tanga | 25.2 | Arusha | 56.5 |
| 4 | Pwani | 21.1 | Mwanza | 13.6 | Mbeya | 22.6 | Mwanza | 54.7 |
| 5 | Kilimanjaro | 20.7 | Morogoro | 12.7 | Morogoro | 21.3 | Tanga | 44.7 |
| 6 | Mwanza | 20.7 | Mbeya | 12.2 | Mwanza | 19.8 | Mara | 38.9 |
| 7 | Mbeya | 20.3 | Kigoma | 10.9 | Kilimanjaro | 19.5 | Mbeya | 37.6 |
| 8 | Mtwara | 20.1 | Kilimanjaro | 10.1 | Pwani | 18.1 | Kigoma | 31.9 |
| 9 | Mara | 18.5 | Ruvuma | 9.7 | Ruvuma | 17.1 | Kagera | 29.0 |
| 10 | Tanga | 18.3 | Dodoma | 9.1 | Iringa | 16.8 | Mtwara | 23.9 |
| 11 | Rukwa | 17.6 | Mtwara | 8.0 | Kigoma | 15.7 | Morogoro | 23.7 |
| 12 | Iringa | 17.3 | Pwani | 7.9 | Tabora | 15.1 | Pwani | 17.3 |
| 13 | Lindi | 16.7 | Tabora | 7.8 | Mara | 14.2 | Ruvuma | 15.3 |
| 14 | Kigoma | 15.5 | Mara | 7.8 | Manyara | 14.0 | Manyara | 14.9 |
| 15 | Ruvuma | 15.3 | Rukwa | 7.1 | Mtwawa | 13.5 | Tabora | 12.2 |
| 16 | Singida | 13.6 | Iringa | 7.0 | Kagera | 12.7 | Dodoma | 11.7 |
| 17 | Manyara | 13.5 | Manyara | 6.5 | Lindi | 12.5 | Rukwa | 11.2 |
| 18 | Tabora | 12.7 | Singida | 5.2 | Rukwa | 12.0 | Shinyanga | 10.3 |
| 19 | Dodoma | 12.4 | Lindi | 5.2 | Dodoma | 11.5 | Iringa | 9.9 |
| 20 | Shinyanga | 9.1 | Shinyanga | 3.3 | Shinyanga | 11.0 | Singida | 9.8 |
| 21 | Kagera | 6.6 | Kagera | 3.1 | Singida | 9.6 | Lindi | 6.1 |

Source: Author's calculations based on census data.

11. The population of Tanzania Mainland is distributed in 21 administrative regions of varying land area coverage.



level of urbanization across the four perspectives is found for the Kilimanjaro region, whose urbanization level ranges from 10 percent to 72 percent, followed by Mwanza, where urbanization ranges between 14 and 57 percent. The following regions feature a differential in urbanization across the four perspectives above 25 percentage points: Mara (9–39 percent), Tanga (16–45 percent), Kagera (3.1–29 percent), Mbeya (38–12 percent) and Arusha (31–57 percent) (see Figure 7).

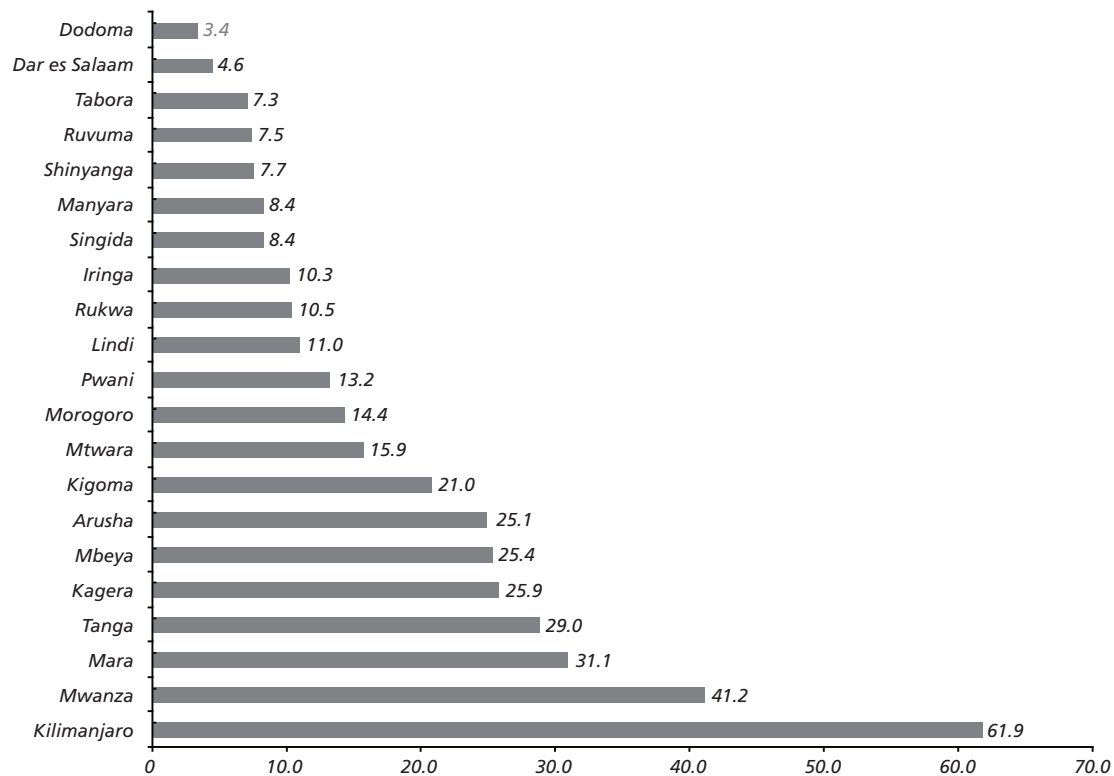
34. Failing to account for population density may significantly under-estimate urbanization, at least in half of the regions. The density-based urban perspective generates the highest level of urbanization in 11 of 21 regions. In addition, in all the seven above-mentioned regions where a strikingly high differential in urbanization rate is found across the four urban perspectives, the density-based perspective yields the highest level of urbanization. The findings suggest that accounting for population density yields consistently higher level of urbanization. When interpreting the results, one has to consider that urbanization based on population density would increase even further in the Kilimanjaro and Arusha regions, if one would exclude mountainous and protected areas.

35. The politico-administrative perspective may systematically underestimate urbanization. The politico-administrative perspective gives the lowest urbanization rate in 19 out

of 21 regions. In addition, in six out of the seven regions with the highest differential in urbanization is found across urban perspectives the politico-administrative perspective yields the lowest urbanization estimate. This suggests that the politico-administrative perspective may systematically under-estimate the level of urbanization, compared to the three other perspectives.

36. Different urban perspectives imply different spatial patterns of urbanization. The four different urban perspectives result not only in different urbanization levels but also in different spatial patterns of urbanization. As shown in Figure 4, the politico-administrative perspective features the most dispersed urbanization pattern, as well as the lowest number of urban centers. The highest degree of clustering of urban centers is observed when the density-based perspective is adopted. Based on the density perspective, clusters of urban areas are found in and around Dar es Salaam, Korogwe and Lushoto (Tanga Region), Kilimanjaro Region, Arusha Town (Arusha and Arumeru), on the shores of Lake Victoria, and in Rungwe and Kyela districts (Mbeya region) towards Lake Malawi. The statistical and human settlements urban perspectives result in similar spatial patterns of urbanization. As shown in Figure

Figure 7
Differential between Highest and Lowest Urbanization Level by Region (percent)



Source: Authors' calculations based on census data.

4, the two perspectives both identify an urban Southern belt from Morogoro along the road to Iringa and continuing to Mbeya. On the other hand, the human settlements perspective includes urban areas in the Sikongo district (Tabora Region) and in the Bokombe district (Shinyanga Region) that are not marked as urban in any of the other maps.

II.c. The Policy Implications of Different Perspectives on Urban

37. This section analyzes different urban perspectives and their implications for the urban transition. Different urban perspectives imply different levels of urbanization both nationwide and at the regional level. The largest gap in the level of urbanization is found between the politico-administrative (16.8 percent) and the density-based perspective (33.5 percent). The findings also suggest that (i) failing to account for population density may significantly under-estimate urbanization given that the density-based urban perspective generates the highest level of urbanization in 11 of 21 regions, and that (ii) the politico-administrative urban perspective may systematically underestimate urbanization as this urban perspective yields the lowest urbanization level in 19 out of 21 regions.

38. Urban perspectives—why they matter. The urban perspective adopted by government agencies has several policy implications. First, key policy decisions, such as inter-governmental transfers, are informed by the politico-administrative urban perspective - and even more so if fiscal resources are going to be earmarked to urban LGAs for urban-related investments, as proposed under the UDEM framework. Second, looking at urbanization from a density perspective may help identify areas of high potential for economic transformation and growth outside the mainstream urban space, as defined by the three urban perspectives currently adopted by government agencies in mainland Tanzania.

39. The current inter-governmental capital transfer formula compensates LGAs for the extra cost of serving highly dispersed areas, but it may not address the investment needs of high-density settlements. The Capital Development Grant (CDG) is the main formula-based block grant allocated by the Government of Tanzania to eligible LGAs. The CDG formula is based on population (70 percent), poverty (20 percent) and land area (10 percent). The land area share, albeit modest, compensate the largest LGAs for the additional cost of serving highly dispersed areas. However, the current inter-governmental formula may not adequately recognize the high cost of serving densely populated areas. In this context, further analysis is warranted to ascertain whether there is an economic justification for fine-tuning the current CDG formula to ensure that sufficient resources are channelled to unlock the economic potential of high-density settlements. This is particularly the case given that high-density centers with no legal urban status fare significantly worse than officially recognized urban LGAs with respect to access to basic services, in particular water supply and electricity, as discussed more in the next Section (see Section III.c).

40. Earmarking fiscal resources to urban LGAs will not provide sources of capital investment to high-density areas in LGAs which are not designated as urban. The proposal to earmark fiscal resources to urban LGAs has recently been put forward as part of the

UDEM agenda. The evidence based on the 2002 census points to systematic underestimation of nationwide urbanization when the politico-administrative urban perspective is adopted. Earmarking fiscal resources to urban LGAs would thus not provide additional capital investment finance to areas which are densely populated but not recognized as urban based on politico-administrative classification.

41. In high-density settlements, urbanization may be occurring off the radar screen of government agencies. Empirical evidence indicates that about 34 percent of the population in mainland Tanzania live in high-density settlements, which represent 3.1 percent of the national mainland territory. Population densities above a minimum threshold can generate the agglomeration economies that, if well managed, have the potential to trigger economic growth and transformation. Nevertheless, half of the population in high-density settlements is not legally recognized as urban. The emerging role of urban centers, minor settlements or trading centers with no legal urban status in the urban landscape is fully recognized in the UDEM framework: “By way of population densities and development challenges they face, they constitute an urban scenario in every respect... Such centers are so numerous and they are a ‘time bomb’ in respect to the proliferation of urban sprawl and unplanned urban settlements.”¹² Political awareness of the demographic weight, economic potential and challenges of high density settlements is a step in the right direction to leverage the economic opportunities generated by agglomeration economies. The next step would be to develop a policy agenda to support urbanization where it is happening, beyond politico-administrative boundaries.

12. See PMO-RALG (2006). UDEM, Vol. 1, p. 13.

III. The Urban Profile: Household and Population Characteristics

42. As the urban space takes on increasingly more demographic and economic weight in mainland Tanzania, there is growing policy interest in exploring the contrasts between the urban and rural space. Does being urban translate into a distinct urban advantage in terms of access to basic infrastructure services, such as improved water supply, improved sanitation, electricity and housing quality? Has the urban advantage deepened or lessened over time? To what extent does the urban advantage vary with the urban perspective adopted? What is intrinsically urban about small towns? This Section addresses the above questions focusing on selected indicators from the 2002 and 1988 population and housing censuses.

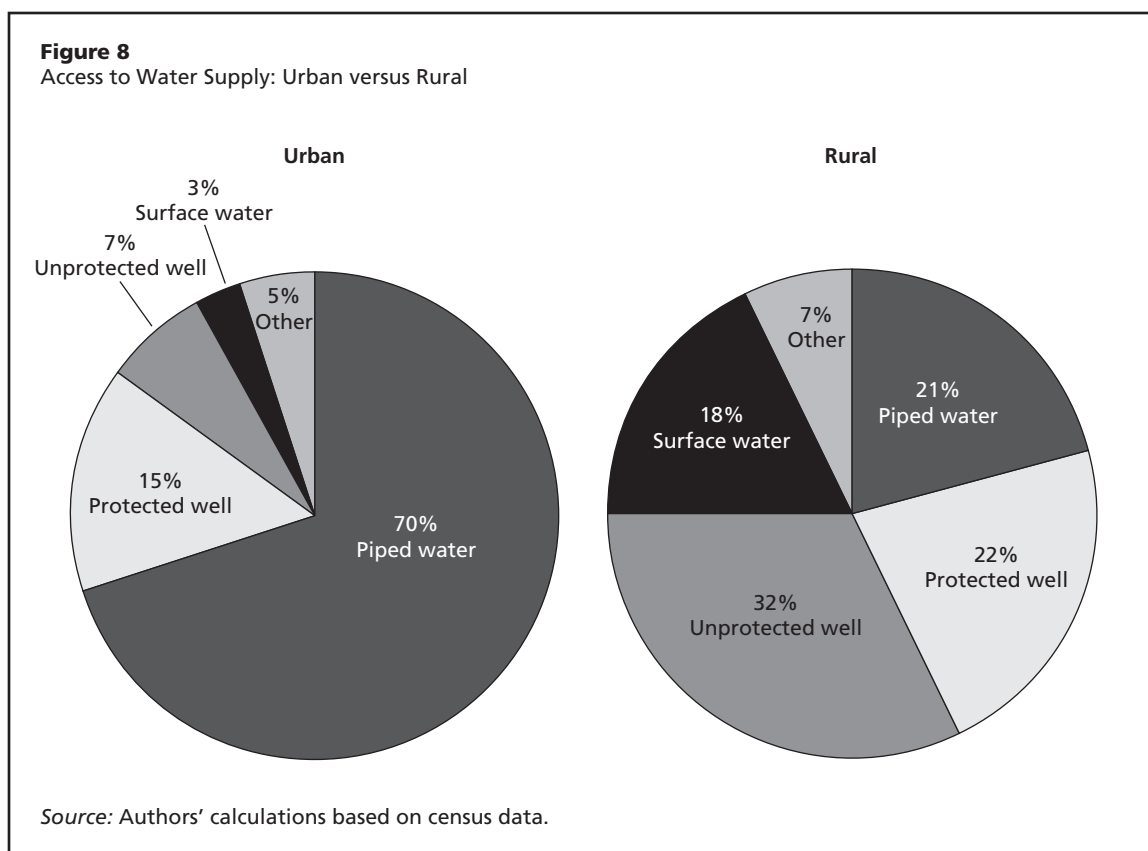
III.a. The Urban and Rural Profile

43. The statistics reveal a very marked gap between urban and rural areas in terms of access to improved water supply and electricity based on the statistical urban perspective.¹³ Rural households lag significantly behind urban households with respect to access to basic infrastructure services. In urban areas about 85 percent of urban households have access to improved water supply compared to 43 percent of households in rural areas (see Figure 8).¹⁴ Remarkable urban-rural differences also emerge with respect to electricity access: 34 percent of the urban population have access to electricity, against only 1.3 percent of the rural population.

44. Despite the substantial urban-rural gap in access to electricity, urban electrification is significantly low, compared to the Sub-Saharan African average. On average, about 50 percent of the urban population in Sub-Saharan Africa is estimated to have access to electricity, well above the 34 percent urban electrification rate for mainland Tanzania.

13. The comparison between household and housing characteristics between urban and rural areas is based on the original NBS (EA-based) definition applied to the 2002 census data.

14. Access to improved water supply is defined as either access to piped water supply or protected wells.

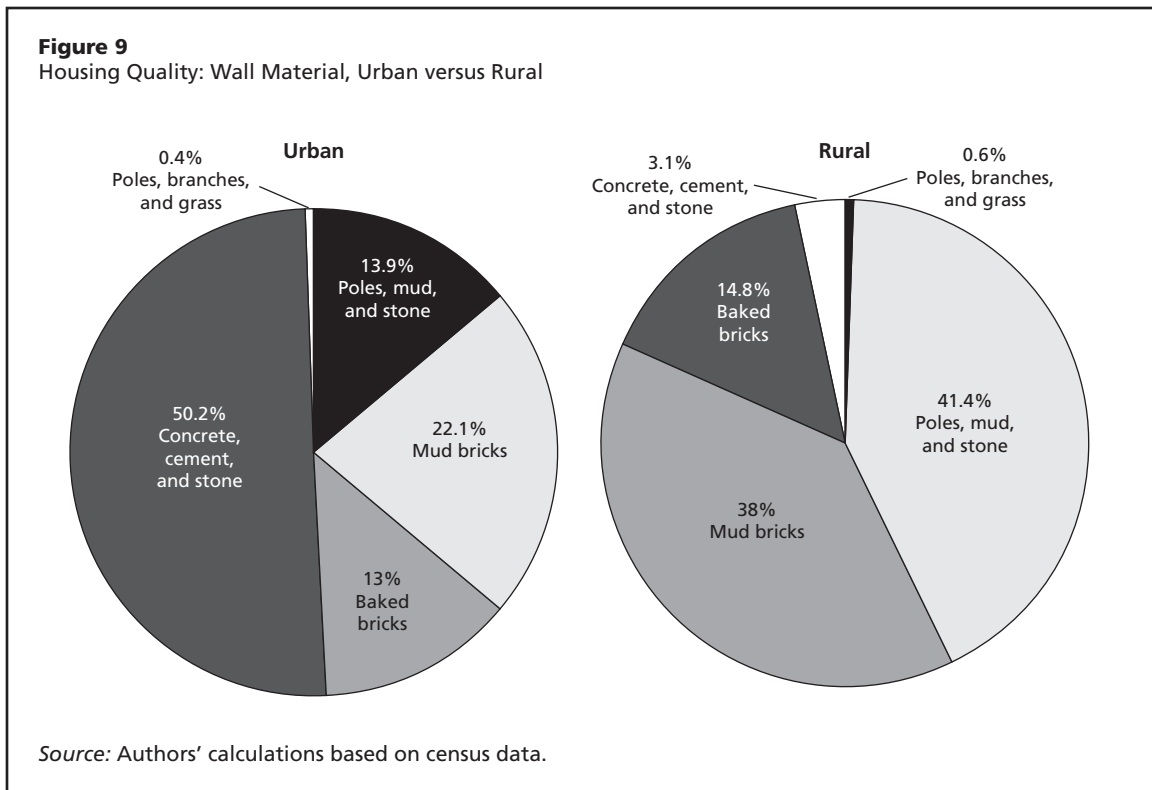


(Maxwell Donkor 2006). The low level of electrification may represent a serious impediment for unlocking the potential of the urban economies, by affecting productivity and firms' location decisions.

45. Access to improved sanitation is very low in both urban and rural areas, but there is a clear urban advantage. The majority of both the urban and rural population (83 and 88 percent respectively) rely on traditional pit latrines as a sanitation option.¹⁵ Still, access to improved sanitation is substantially higher in urban areas (16 percent) than in rural areas (1 percent). When interpreting the results, one has to consider that the census data may underestimate the urban advantage by failing to account for quality as well as actual usage of the facilities (see Table 11 in Appendix 4).

46. Urban households benefit from better housing quality than rural households. Major differences can be observed in the construction quality of the housing units between urban and rural areas. 50 percent of the urban population live in dwellings made of concrete, cement and stone, against only 3.1 percent of the rural population (see Figure 9). Urban

15. Access to improved sanitation is defined as either access to flush toilets or to improved pit latrines.

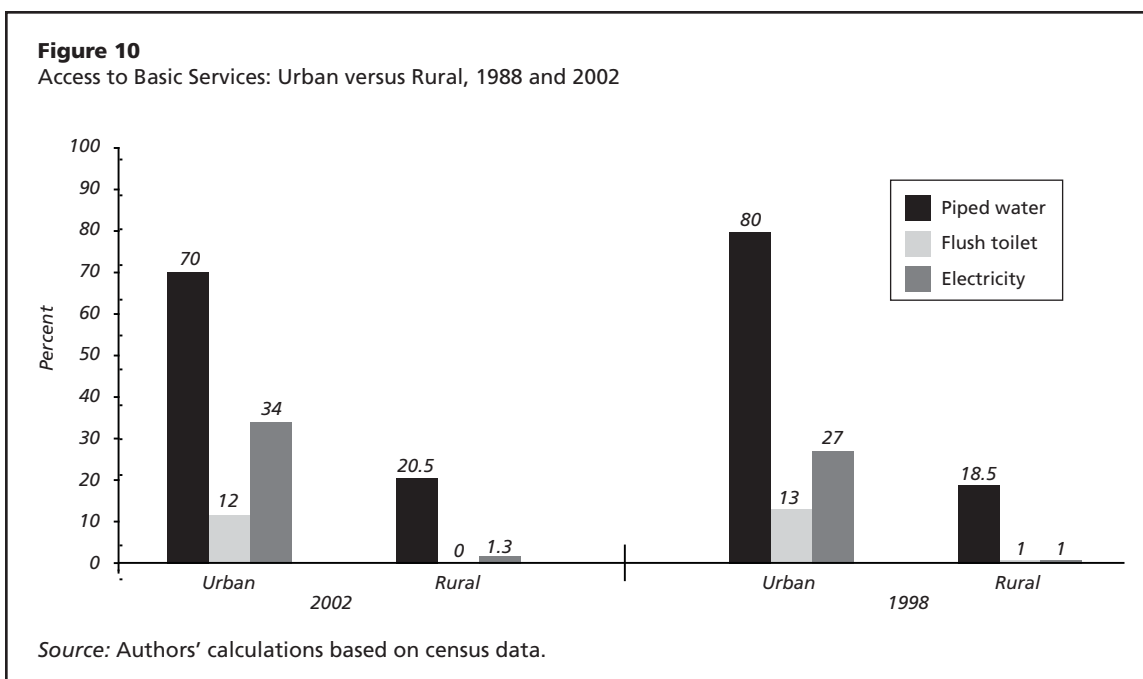


dwellers have also better roofing quality: 86 percent of the urban population relies on metal sheets for roofing, against 32 percent of the rural population (see Table 11 in Appendix 4).

47. There is a clear urban advantage with respect to human capital formation. Urban residents perform better, in terms of human capital formation, than rural residents (see Table 12 in Appendix 4). The urban-rural gap is evident in terms of both literacy rate and years of schooling. 82 percent of the urban population is literate, compared to only 57 percent of the rural population, while the average number of years of schooling is 5.4 in urban areas, compared to 3.2 in rural areas.

48. As expected, urban and rural population have a different employment profile. Urban residents are less frequently self employed and more often wage employed than rural residents (see Table 12 in Appendix 4). 4.2 percent of the urban economically active population is unemployed. In line with expectations, urban residents are more involved in non-agricultural activities than rural residents.¹⁶ However, agricultural activities are not completely absent in urban areas. There is indeed a grey zone at the fringe of urban agglomerations where rural activities still play an important role, as analyzed in more detail in Section VI.

16. Engagement in non-agricultural activities is based on answers to census question 19. People engaged in non-agricultural activities are defined as those not classified in categories 9 (farmers), 10 (livestock keepers) and 11 (fishermen).



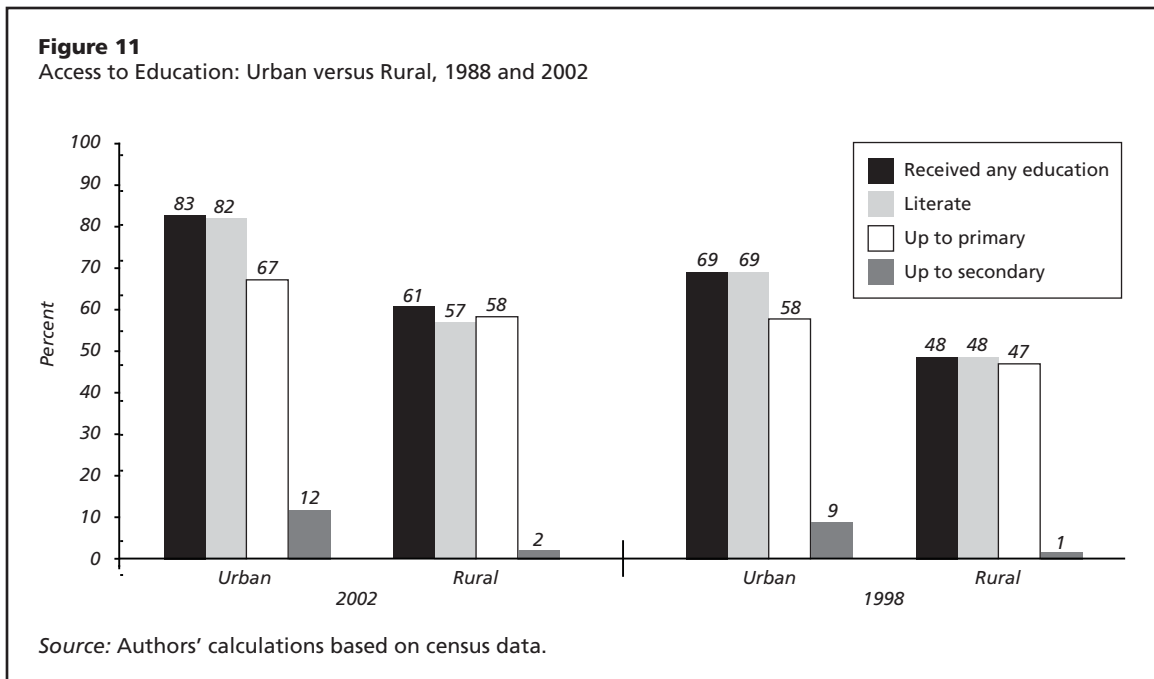
III.b. Trends in the Urban and Rural Profile

49. Modest gains have been made in enhancing urban access to basic services over the period 1988–2002. Urban access to piped water supply declined over the period 1988–2002, from 80 to 70 percent. Access to improved sanitation only slightly increased from 27 to 34 percent, while urban access to electricity remained constant at around 12–13 percent (see Figure 10). The lack of progress in enhancing urban access to basic services, particularly water supply, is likely to be related to the rapid urbanization which occurred in the inter-censal period 1988–2002 (from 18 to 22.6 percent). As a result of rapid urbanization, expansion of water service provision has not been able to keep pace with the growth in urban population.

50. No significant progress has been made in closing the urban-rural gap in access to basic services over 1988–2002. No significant improvement has been made in expanding access to basic services in rural areas over the period 1988–2002 (see Figure 10). As a result, the urban-rural gap in access to electricity and flush toilets remained constant, while the gap in access to piped water supply decreased (from 61 to 50 percentage points), due to the reduction in urban coverage.¹⁷

51. Access to education increased significantly in both urban and rural areas over 1988–2002. The percentage of literate population increased by 13 and 9 percentage points in urban and rural areas, respectively. Rural areas performed slightly better than urban areas relatively to primary enrolment: the percentage of population with primary education in-

17. Access to improved water supply and sanitation cannot be calculated based on 1988 data, because no distinction is made in the 1988 census between protected and unprotected well for water supply, and access to improved and traditional pit latrines.



creased by 9 and 11 percentage points in urban and rural areas, respectively. The urban-rural gap remained broadly constant over time, as a result of the parallel improvement in access to education in both urban and rural areas.

III.c. The Urban Profile across the four Urban Perspectives

52. To what extent do different urban perspectives result in different urban profiles?

Each urban perspective implies a different composition of the urban population, potentially including part of the population classified as rural under other urban perspectives. This Section compares the urban profile across the politico-administrative, human settlements, statistical and density-based urban perspective.

53. The urban advantage in terms of access to basic infrastructure services is the most pronounced under the 'narrower' politico-administrative perspective, while the density-based urban perspective yields the lowest urban advantage.

For example, 78 percent of urban households have access to piped water supply under the politico-administrative perspective, against 58 percent of the urban population under the density-based perspective—access to improved water supply shows however a less stark variation across the four urban perspectives, ranging from 77 to 89 percent (see Figure 13).¹⁸ Access to electricity also varies significantly according to the perspective adopted (Figure 14): 39 percent of the politico-administrative urban population has access to electricity, compared to 25 percent of the density-based urban population. These results are consistent with the 2005 Poverty and Human Development Report, reporting overall high access to electricity in urban centers,

18. Improved water access include piped water supply and protected wells.

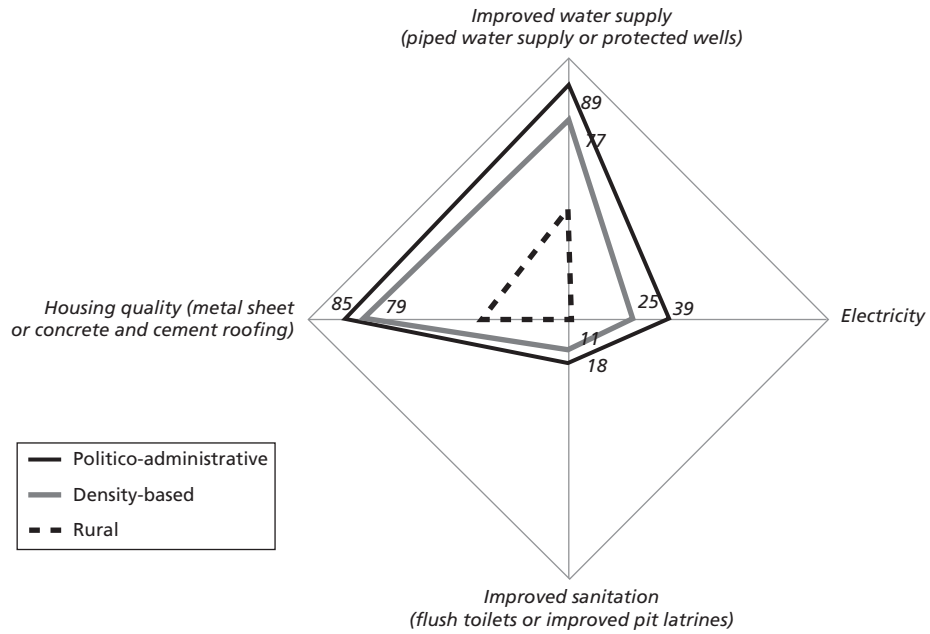
but lower access in some of the more densely populated areas which do not benefit from a legal urban status. For example, areas with a high population concentration in Shinyanga and Mwanza regions go without electricity. The difference across urban perspectives is less evident with respect to access to improved sanitation, which ranges from 11 percent (density-based perspective) to 18 percent (politico-administrative perspective) (see Figure 15). The politico-administrative urban population also benefits from higher quality of housing: 63 percent have houses built with concrete, cement and stones, compared to only 39 percent of the urban population under the density-based perspective.

54. The urban-rural gap in access to basic infrastructure service is wide, regardless of the urban perspective adopted. The urban-rural gap in terms of access to basic infrastructure services persists across all the four urban perspectives, including the density-based perspective, which yields the lowest access rates. For example, only 45 percent of the rural population has access to improved water supply, against a range of 77–89 percent for the urban population (Figure 13). Similarly, urban households, regardless of the urban perspective adopted, have far better access to electricity than rural households, who have virtually no access (Figure 14). The gap is also evident with respect to sanitation options (Figure 15): only 1 percent of rural households have access to improved sanitation, against an average of 15–18 percent in urban areas, depending on the urban perspective adopted. (See Figure 12 for a comparison of selected indicators of living conditions in politico-administrative, density-based urban areas versus rural areas).

55. The politico-administrative urban perspective is the most in line with the stylized urban profile, consisting of a relatively well-educated, generally wage-employed workforce. Under the politico-administrative urban perspective, urban residents show the highest literacy and education levels; they are also more likely to be wage employed and less likely to be self-employed than the urban population under the three other urban perspectives. Also, the urban population in politico-administratively urban areas are the least involved in agricultural activities (see Table 14 in Appendix 4).

56. Overall, densely populated urban centers have more an urban than rural profile. The urban population under the density-based perspective fare worse with respect to key livability indicators, such as access to basic services, than the urban population under the other three urban perspectives. On the other hand, the profile of the population living in high-density settlements is systematically different from the profile of the rural population: for example, 77 percent of the density-based urban population is literate, against 57 percent of the rural population. The results indicate that, despite the lower standards of living, high density urban centers resemble much more the ‘mainstream’ urban centers (that is, urban centers which are institutionally and administratively recognized as such), than rural centers, with regard to both access to basic infrastructure services, education and economic activities. To some extent, the results of the analysis corroborate the thesis that density is an important gradient in defining the urban space. Figure 16 shows how access to infrastructure services varies with changes in the minimum density threshold under the density-based perspective—the sensitivity analysis shows that access to services increases with the density

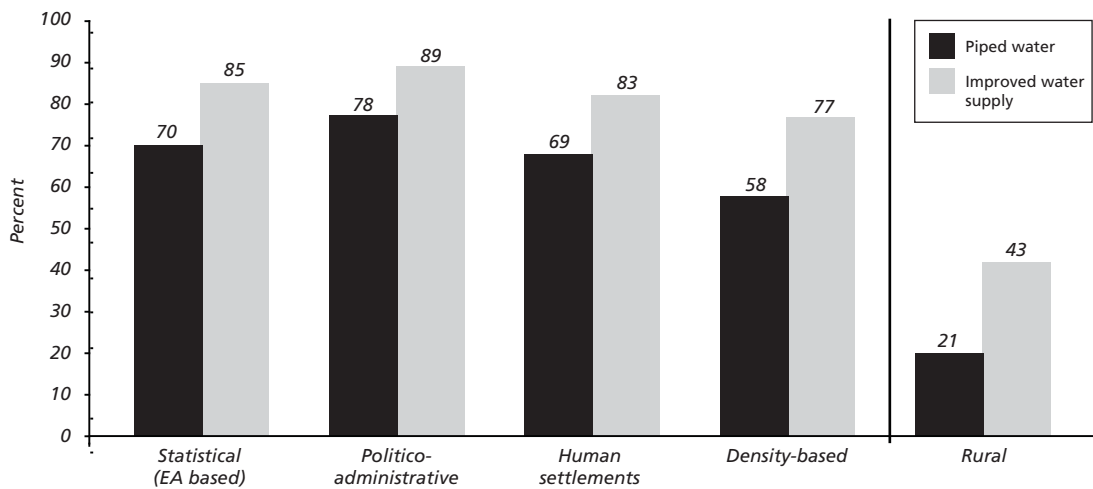
Figure 12
Living Conditions Indicators: Politico-administrative, Density-based Urban Areas versus Rural Areas (percent)



Source: Authors' calculations based on census data.

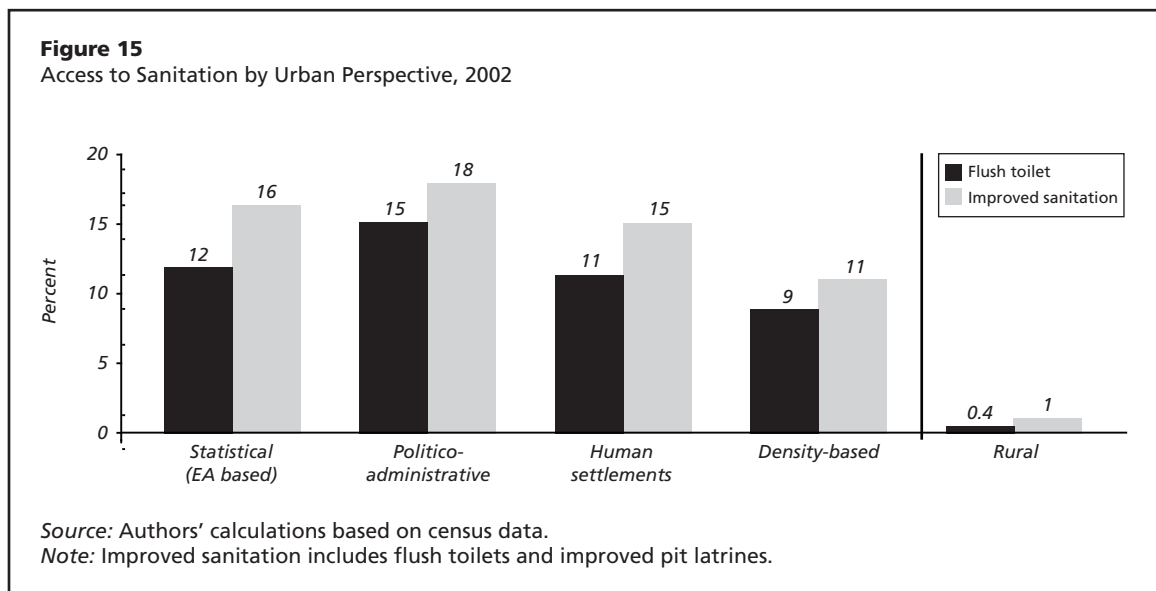
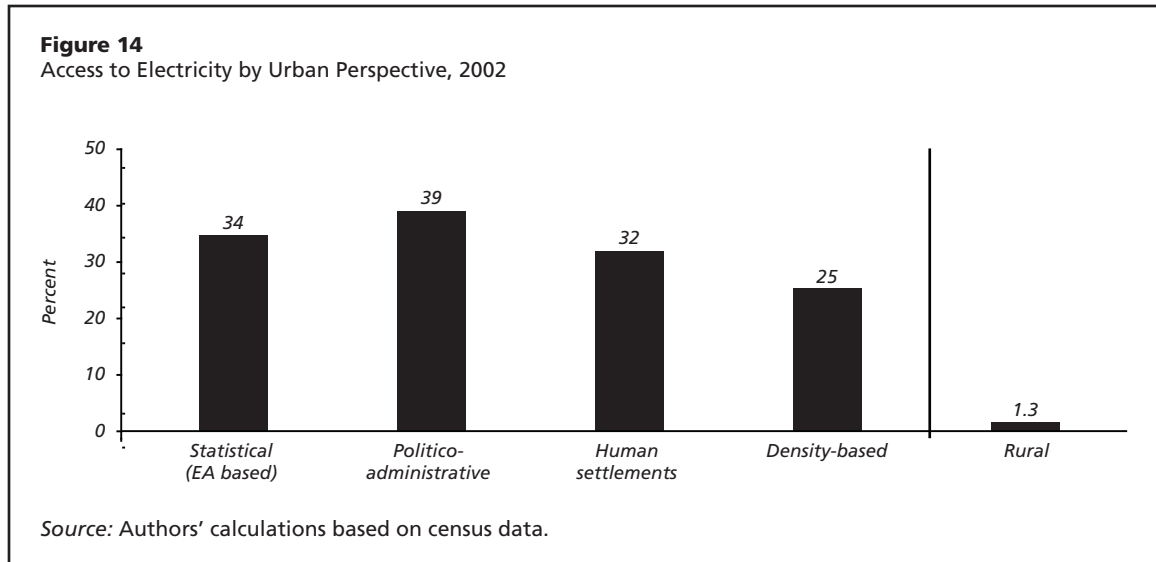
Note: Wall type is not used as a measure of housing quality because there are areas where houses are traditionally built of mud wall, so type of wall material is not always correlated with wealth.

Figure 13
Access to Water Supply by Urban Perspective, 2002



Source: Authors' calculations based on census data.

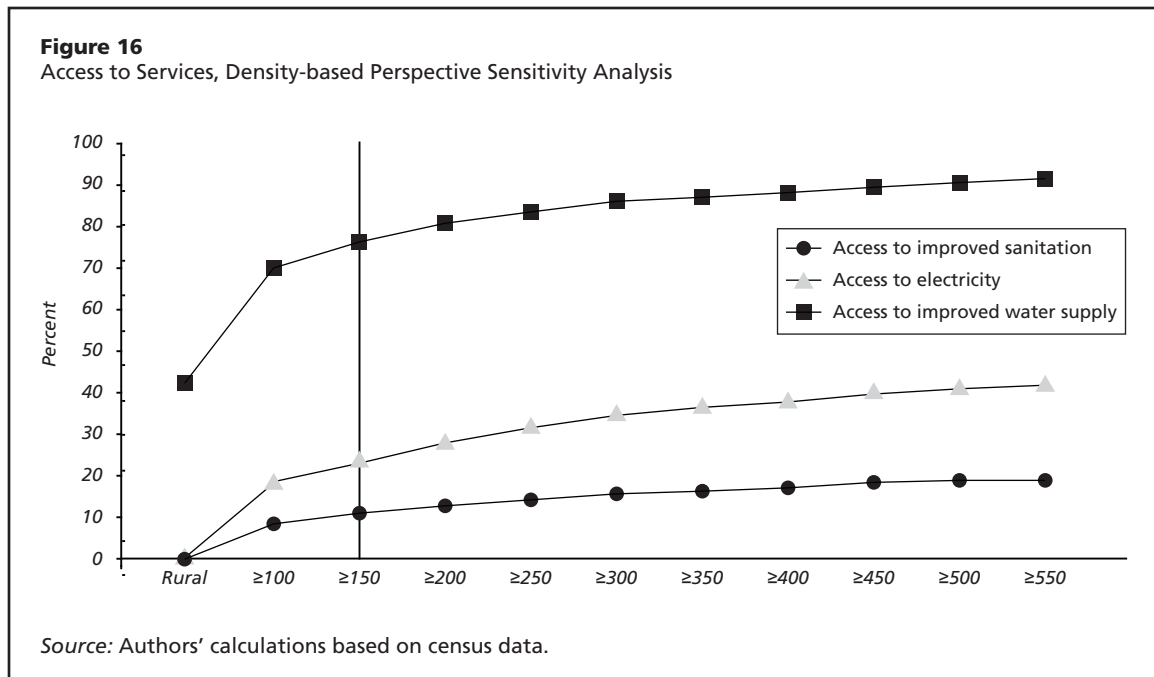
Note: Improved water supply included piped water supply and protected wells.



threshold, although the increase in access peters out at density thresholds above 300 persons/km².

III.d. The Urban Profile in Large and Small Urban Centers

57. Does the size of urban centers affect the urban profile? This section compares household and individual characteristics across large and small urban centers, based on the human settlements urban perspective. For analytical purposes, cities and municipalities are



classified as large urban centers, while towns and townships are classified as small urban centers.

58. There are significant differences in access to basic services and housing quality between small and large urban centers. Access to improved water supply in large urban areas is 90 percent compared to only 66 percent in small urban centers. In addition, 18 percent of the population has access to improved sanitation in large urban centers, relatively to 6.4 percent in small urban centers. Similarly, access to electricity differs by about 25 percentage points between small and large urban centers. A significant gap is also found with respect to housing quality: 64 percent of the population in large urban centers live in house whose walls are made of concrete, cement or stone, compared to 14 percent of the population in small urban centers (see Figure 17 and Table 15 in Appendix 4 for a comparison of selected indicators of living conditions in small and large urban centers).

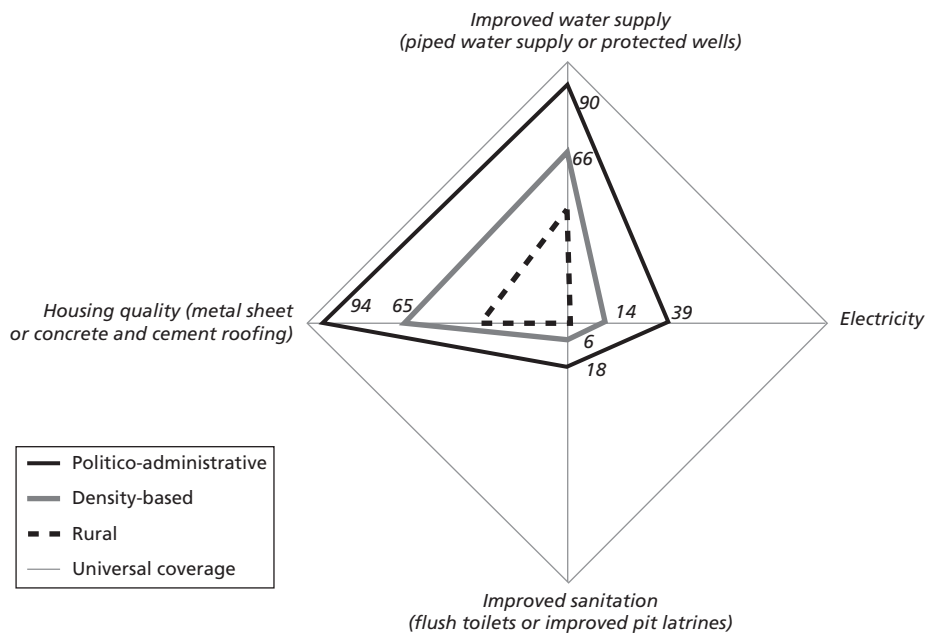
59. Small towns have an urban imprint with respect to access to services. Despite the gap in access between small and large urban centers, small urban centers perform distinctively better than rural areas with respect to access to basic services. For example, access to improved water supply is 43 percent in rural areas, compared to 66 percent in small urban centers.

60. Small urban centers fall between rural areas and large urban centers with respect to human capital formation. The urban population in small urban centers is significantly less educated than the urban population in large centers, but more educated than the rural

population. On average, 84 percent of the urban population in large urban centers is literate, compared to 68 percent of the urban population in small urban centers and 57 percent of the rural population. A similar gap is found with respect to the share of population that completed primary education (see Figure 18). Average years of education are 5.7, 4.5 and 3.2 in large urban, small urban and rural areas, respectively. (see Table 15 and Table 16 in Appendix 4).

61. Small urban economies rely significantly more on agriculture and self-employment than large urban economies. As expected, the population in small urban centers is more frequently self-employed (83 percent) than the urban population in large centers (61 percent). In addition, only 33 percent of the urban population in small centers is engaged in non-agricultural activities, compared to 77 percent of the urban population in large centers. Unemployment is also significantly lower in small urban centers (1.7 percent) than in large ones (5 percent). (see Table 16 in Appendix 4).

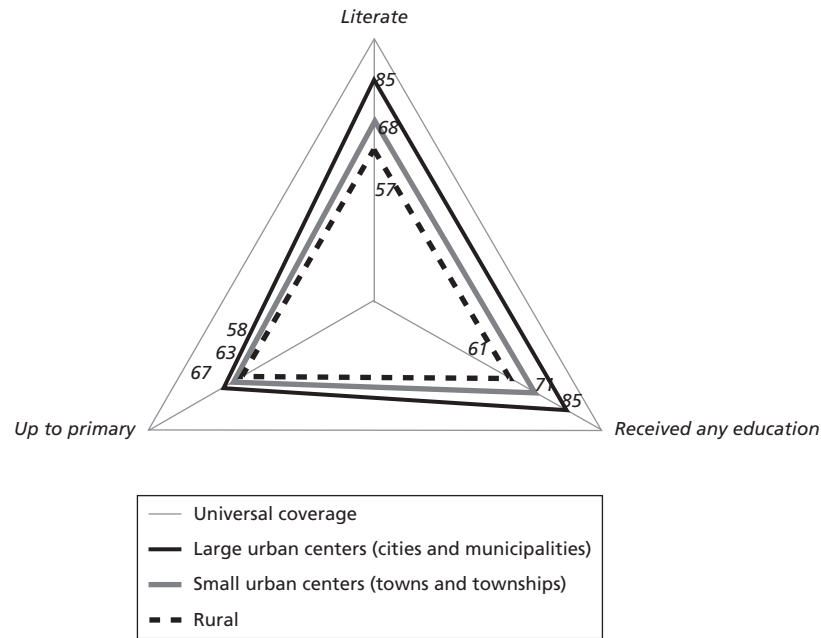
Figure 17
Living Conditions Indicators: Small versus Large Urban Centers (percent)



Source: Authors' calculations based on census data.

Note: Wall type is not used as a measure of housing quality because there are areas where houses are traditionally built of mud wall, so type of wall material is not always correlated with wealth.

Figure 18
Educational Attainment: Small versus Large Urban Centers (percent)



Source: Authors' calculations based on census data.

III.e. Implications for Policy and Further Research

62. This section compares the profile of the urban and rural population in mainland Tanzania, focusing on selected household and population indicators from the latest two censuses. The analysis reveals a significant urban-rural gap with respect to access to improved water supply, improved sanitation and electricity. Surprisingly, no significant gains have been made in improving urban access to electricity and sanitation over the period 1988–2002, while access to piped water supply declined from 80 to 70 percent over the same period. The politico-administrative urban perspective yields the highest access rate to basic services, the density-based urban perspective the lowest. Regardless of the urban perspective adopted, the urban-rural gap in access to basic service appears however to be wide. A large gap in access to basic services is also found between small and large urban centers. Despite the gap, small urban centers are shown to be closer to urban than rural areas as far as access to basic services is concerned.

63. The empirical findings indicate a clear urban advantage in term of human capital formation, with no significant reduction in the urban-rural gap over 1988–2002. The politico-administrative urban perspective yields the most stylized urban profile, consisting of a relatively well-educated, generally wage-employed workforce. Small urban economies falls somewhere

in the middle between urban and rural areas with regard to educational attainment; they also have a peculiar employment profile, relying relatively more on self-employment and agriculture and having a lower level of unemployment than large urban centers.

64. Infrastructure bottlenecks may prevent urban centers from taking full advantage of agglomeration economies, particularly in high-density settlements with no legal status. The benefits of urban agglomeration economies may not be fully captured in urban

**Box 3: High Density Settlements without Legal Status:
The Case of Himo Town in the Kilimanjaro Region**

Himo, a town in the Kilimanjaro region, began to emerge in the 1970s after the nationalization and dismantling of the sisal plantations when land was allocated as compensation to those who were moved from the valleys and water sources on Mount Kilimanjaro. Being on the main road from Dar es Salaam and Moshi to Kenya, Himo has grown steadily into one of the most important markets in the Kilimanjaro area.

Himo represents a typical case of high-density settlement with no legal status. Himo is a de facto town with about 80 bars and 70 shops and has already been declared a township; however, it is still run by a village government which does not have the resources to oversee such a large and complicated settlement. All revenues from Himo accrue to the District Council and Himo benefits only marginally in the redistribution of resources throughout the district. Despite its importance in terms of revenue creation, Himo is significantly under-represented in the District Council. Its anomalous position is summed up by the fact that its boundaries as a village are different from its boundaries as a town. The main challenges faced by Himo and the surrounding villages have been studied as part of a Sub-Saharan African research program on urban-rural linkages conducted by the International Institute for Environment and Development (IIED) in 2001. The Himo study explores how different groups rely on rural-urban interactions and linkages in and around the town of Himo in the Kilimanjaro region, based on stakeholder consultations and focus groups.* The research was carried out between September 1998 and April 1999 in Himo town and two surrounding villages (Marawe Kyura and Lotima).

The study found that, contrary to what might be expected, Himo Town is conspicuously lacking in social services, compared with the villages on the mountain. For example, Himo has no public health services and only one primary school, which is considered largely inefficient by Himo inhabitants, who prefer to send their children to school in nearby villages. The lack of social services may be partially related to the haphazard manner in which Himo has been developed. Water supply is also insufficient to meet the need of Himo Town. The focus groups revealed that the majority of the inhabitants had to pay for buckets of water from the river, as the bulk of water in the town is taken by the large traders who owned guest houses and bars and had reservoir tanks in their houses. The inability of Himo to control its own revenue collection severely constrains its ability to expand its water supply system. In addition, the lack of sanitation services causes pollution both in Himo and the villages below it. As a result, there has already been one outbreak of cholera.

The Himo case study illustrates the challenges of providing adequate service provision in high-density locations with no legal urban status. These challenges are likely to be particularly acute in the land scarce mountainous Kilimanjaro region, where a significant number of high density settlements with no legal status such as Himo town are concentrated.

Source: Diyamett, Bitrina et al. (2001). "The Case of Himo and its Region, Northern Tanzania." Rural-Urban Interactions and Livelihoods Strategies Series. IIED Working Paper No. 1.

* A similar study was conducted in and around the town of Lindi in southern Tanzania (Working Paper No. 2 in this series). Both projects were undertaken by researchers at the University College for Land and Architectural Studies and the Tanzania Gender Networking Programme of Dar es Salaam.

centers in mainland Tanzania. Infrastructure bottlenecks are likely to be one of the main impediments to urban economic growth. Despite the fact that urban centers perform significantly better than rural areas with respect to access to basic services, urban access to electricity is low (34 percent) compared to the Sub-Saharan African average (51 percent). This is particularly the case in high-density settlements and small urban centers, where electrification rates are only 25 and 14 percent respectively. The urgency of scaling up infrastructure investment in a context of fast urbanization is made evident by the fact that access to piped water supply has not kept pace with urbanization, resulting in a decline in coverage from 80 to 70 percent over 1988–2002. The challenges of providing infrastructure services in high density settlements with no legal status are exemplified by the case study conducted in the town of Himo in Northern Tanzania as part of a wider research program on urban-rural linkages in the Sub-Saharan Africa region (see Box 3).

65. Strategic deployment of scarce public resources at the local level is essential for unlocking the economic potential of urban centers. Urban centers may have to scale up investment in strategic infrastructure sectors to develop their full potential as poles of economic growth. The current Capital Development Grant (CDG) goes into the right direction by providing qualifying LGAs with formula-based grants which are not earmarked to specific sectors. In this context, it is important to build local government capacity to prioritize investments under hard-budget constraints to ensure scarce public resources are channeled to high return investments.

66. The growth and equity implications of establishing earmarked funds to urban areas should be carefully weighted in the context of the overall national development agenda. The proposal to earmark fiscal resources to urban LGAs may provide urban centers with the financial resources needed to fund strategic infrastructure investments which can leverage agglomeration economies. On the other hand, earmarking fiscal resources to urban LGAs may raise equity concerns, should local resources be channeled mainly to the education sector, as additional investment in education in an urban context is likely to further deepen the current urban-rural gap with respect to human capital formation. In addition, the proposed earmarked grant to urban LGA may not be sufficient to address the investment backlog in high-density settlements in LGAs which do not have a legal urban status (see also Para 23).

IV. Spatial Distribution of Urban Poverty: Evidence from Twelve Urban Centers

IV.a. Introduction

67. Understanding the spatial distribution of urban poverty is essential for targeting anti-poverty interventions efficiently. Building on the recently conducted poverty mapping, inter- and intra-urban poverty rates are compared across twelve urban centers (see Box 4 for a description of the poverty mapping exercise). The twelve urban centers are representative of the geographical and size distribution of urban centers in mainland Tanzania, as they are spread across the entire country and cover the whole urban spectrum, encompassing cities, municipalities, towns and townships. The list of selected urban centers, including three cities, two municipalities, two towns and five townships is provided in Table 3.

Table 3
List of Selected Urban Centers

| <i>Urban Center</i> | <i>Region</i> | <i>Population ('000s)</i> | <i>Status</i> |
|---------------------|---------------|---------------------------|---------------|
| Tanga | Tanga | 264 | City |
| Mwanza | Mwanza | 517 | City |
| Mbeya | Mbeya | 289 | City |
| Songea | Ruvuma | 131 | Municipality |
| Kigoma | Kigoma | 144 | Municipality |
| Lindi | Lindi | 41 | Town |
| Babati | Manyara | 59 | Town |
| Mwanga | Kilimanjaro | n.a. | Township |
| Kilosa | Morogoro | n.a. | Township |
| Rufiji | Pwani | n.a. | Township |
| Tarime | Mara | n.a. | Township |
| Nzega | Tabora | n.a. | Township |

Note: Population figures are from UDEM.
n.a. = not available.

Box 4. Urbanization and Poverty: A Methodological Approach

Reflecting the urgency attached to poverty alleviation by the Government of Tanzania, a poverty mapping exercise was recently undertaken by REPOA with technical support from the World Bank. The poverty mapping results are based on two data sources, the 2000–01 Household and Budget Survey (HBS) and the 2002 Population and Housing Census, both conducted by the NBS. The objective of the poverty mapping is to obtain district-level poverty estimates with a level of accuracy that is comparable to the regional-level estimates based on the HBS data only. The district-level poverty maps are presented in Figure 19 (see Kilama et al 2006 for a description of the methodology and Table 19 in Appendix 5 for a comparison of regional and district-level poverty rates).

Building on the existing poverty mapping exercise that provides district-level poverty estimates, this study goes a step further, estimating sub-district poverty rates for a selected number of urban centres, drawing on the same methodology used for the original poverty mapping exercise. Some caution is however needed in interpreting the results given that the EAs sampled for the long-form census questionnaire (representing 20 percent of the total EAs) are geographically representative at the district level, but not necessarily below the district level (for example, ward level).

IV.b. Inter-urban Poverty Rates: How Much Variation in Poverty Is There across Urban Centers?

68. A more refined spatial unit of analysis is adopted in this study, compared to the poverty mapping exercise. While the district-level poverty mapping exercise allows comparing poverty rates across urban and rural districts, the comparison does not give a truly accountable picture of urban poverty, given that the boundaries of urban districts may not necessarily coincide with the boundaries of urban centers, as urban districts often comprise large rural areas. This study provides a more refined picture of urban poverty for twelve selected centers, by estimating poverty rates for the urban parts of the districts only. More specifically, in each of the twelve districts urban poverty rates are estimated over the population living in urban EAs only, based on the NBS classification of EAs. The district population living in rural EAs is thus not counted as urban population for the purpose of this exercise. Table 4 compares the urban and rural district-level poverty rates, defined as the percentage of the population below the basic needs poverty line, for each of the selected urban centers. Box 5 provides a short summary of the most recent nation-wide urban and rural poverty trends.

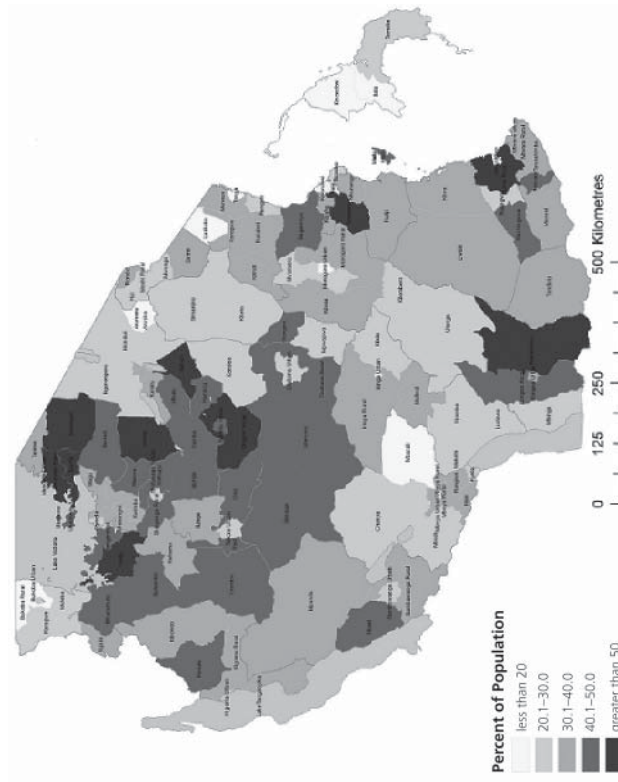
Box 5. Poverty Trends in Mainland Tanzania

Based on the 2000/01 Household Budget Surveys (HBS), about 36 percent of the Tanzanian population live below the poverty line, only 3 percentage points less than the 39 percent poverty rate estimated in 1991/92. Over the period 1992-2001, the incidence of poverty in rural areas is estimated to have decreased from 41 to 39 percent; over the same period, the incidence of poverty in urban areas (excluding Dar es Salaam) recorded a similar decrease from 29 to 26 per cent. In Dar es Salaam the reduction in poverty was much more pronounced, from 28 to 18 percent.

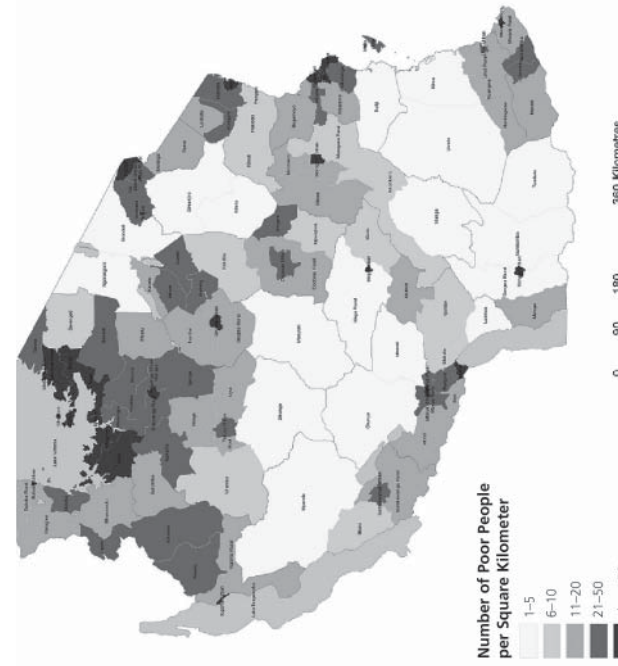
Source: Poverty and Human Development Reports 2002 and 2003.

Figure 19
District-level Poverty and Poverty Density, 2000–01

Percent of Population Below the Basic Needs Poverty Line
by District, 2001



Number of People Below Basic Needs Poverty Line per Square Kilometer
by District, 2001



Source: Tanzania Population Census 2002.

Table 4
Poverty Rate, Selected Urban Centers, 2001 (percent)

| Urban center | Status | District | Poverty rate | | | |
|--------------|--------------|--------------|--------------|-----------|------------|-----------|
| | | | Urban part | | Rural part | |
| | | | Estimate | Std error | Estimate | Std error |
| Tanga | City | Tanga | 15.8 | 1.5 | 20.6 | 3.2 |
| Mwanza | City | Nyamagana | 15.1 | 2.6 | —* | — |
| | | Ilemela | 24.3 | 3.6 | 28.4 | 6.8 |
| Mbeya | City | Mbeya urban | 12.2 | 1.5 | 13.4 | 2.2 |
| Songea | Municipality | Songea urban | 25.8 | 2.8 | 49.3 | 4.4 |
| Kigoma | Municipality | Kigoma urban | 27.4 | 2.7 | 18.3 | 5.6 |
| Lindi | Town | Lindi urban | 15.8 | 2.2 | 23.9 | 3.3 |
| Babati | Town | Babati | 40.8 | 5.1 | 51.7 | 2.8 |
| Mwanga | Township | Mwanga | 27.4 | 3.6 | 26.0 | 2.2 |
| Kilosa | Township | Kilosa | 24.0 | 1.8 | 31.9 | 3.5 |
| Rufij | Township | Rufij | 43.2 | 2.4 | 31.4 | 3.4 |
| Tarime | Township | Tarime | 49.0 | 5.2 | 29.0 | 5.2 |
| Nzega | Township | Tabora | 15.2 | 3.6 | 36.5 | 10.2 |

Source: Author's calculations based on census data and household and budget survey.

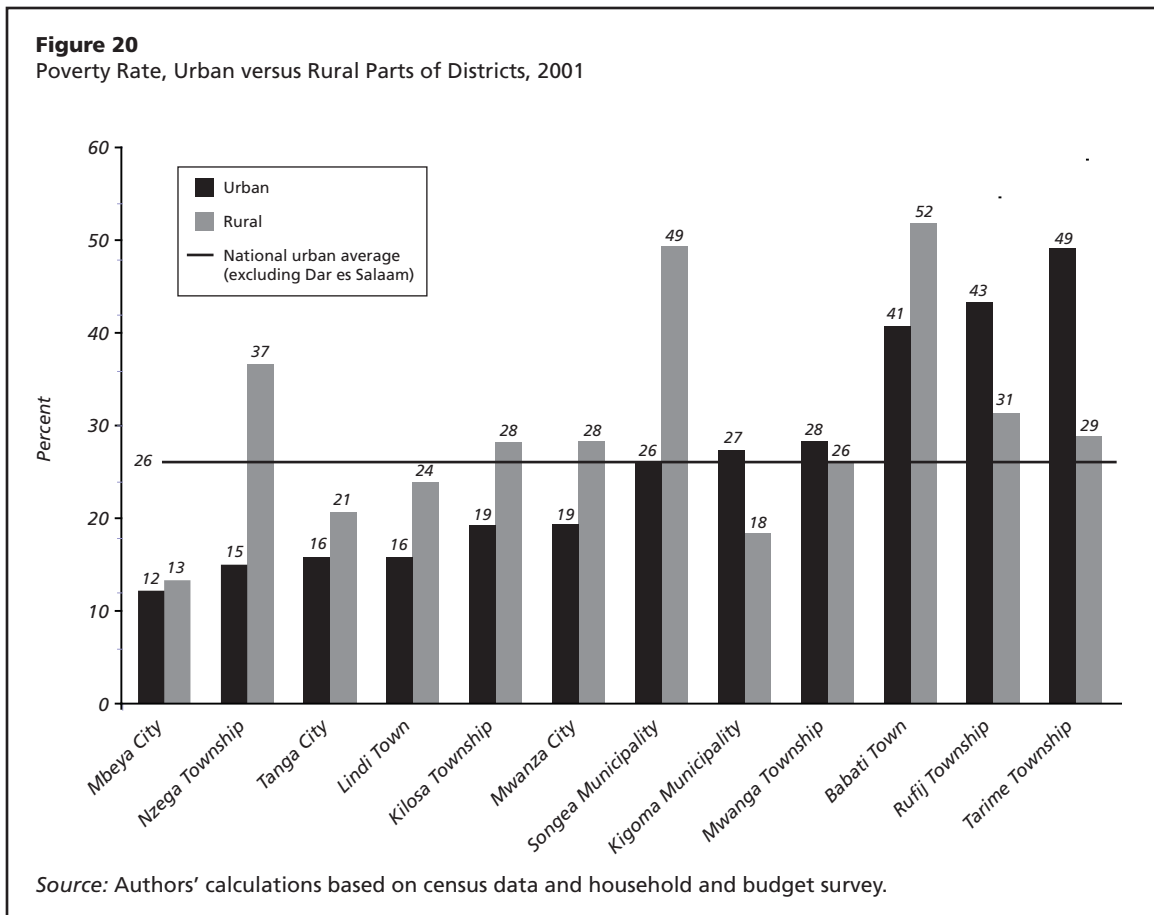
Note. Within each district associated with an urban center, urban population is defined as the population living in urban EAs, based on NBS definition. The rural population is defined as the district population living in rural EAs.

* Nyamagana is 100 percent urban.

69. There is a large variation in poverty rates across the twelve urban centers. In spite of the limited size of our sample, the analysis shows that the national urban poverty rate hides a diversified picture of urban poverty. There is significant variance in poverty rates across the twelve centers, ranging from just over 12 percent in Mbeya City to almost 50 percent in the township of Tarime, against a national urban poverty rate of 26 percent (excluding Dar es Salaam). Cities on average show the lowest poverty rates, townships the highest. On the other hand, significant variation in the level of poverty is also found across the sampled cities: for example, the two adjacent districts which together constitute Mwanza City show substantially different poverty levels, as Nyamagana district has a much lower poverty rate (15 percent) than Ilemela district (24 percent).¹⁹

70. Evidence shows that urban areas are not always pockets of wealth, relatively to the surrounding rural areas. The picture emerging from the district-level poverty mapping exercise is that rural districts tend to have higher poverty levels than urban districts (see Table 19 in Appendix 5). A rather more complex picture is however revealed by comparing urban and rural poverty rates within a given district. A comparison of poverty levels in the urban and rural parts of the selected districts indicates that in four out of the twelve urban centers

19. Due to the large standard errors of the some poverty estimates not all differences are however statistically significant at a 5 percent level. The 5.8 percentage point difference in urban poverty levels between Rufiji and Tarime is not statistically significant, while the 8.5 percentage point difference between Tanga urban and Ilemela is statistically significant.



the surrounding rural areas have lower poverty rates than the urban centers.²⁰ Differences are substantial in the township of Tarime, where rural poverty is estimated to be 20 percentage points below the urban poverty rate. In the rural part of Rufiji district the poverty estimate is around 31 percent, almost 12 percentage points below the poverty rate in the urban part of the district. In Kigoma the urban poverty estimates exceed poverty rates in the surrounding rural areas by 9 percentage points.²¹ Finally, Mwanza urban shows over 2 percentage point higher poverty levels than Mwanza rural (see Figure 20).

**IV.c. Intra-urban Poverty Rates:
How Much Variation in Poverty Is There within Urban Centers?**

71. The inter-urban comparison is complemented by an intra-urban analysis of poverty. Measuring intra-urban variation in poverty is essential for a complete picture of the distribution of urban poverty in the twelve urban centers. The unit of analysis for measuring

20. Rural areas are defined based on NBS' EA classification into urban and rural.
21. This result is however not statistically significant at 5 percent significance level.

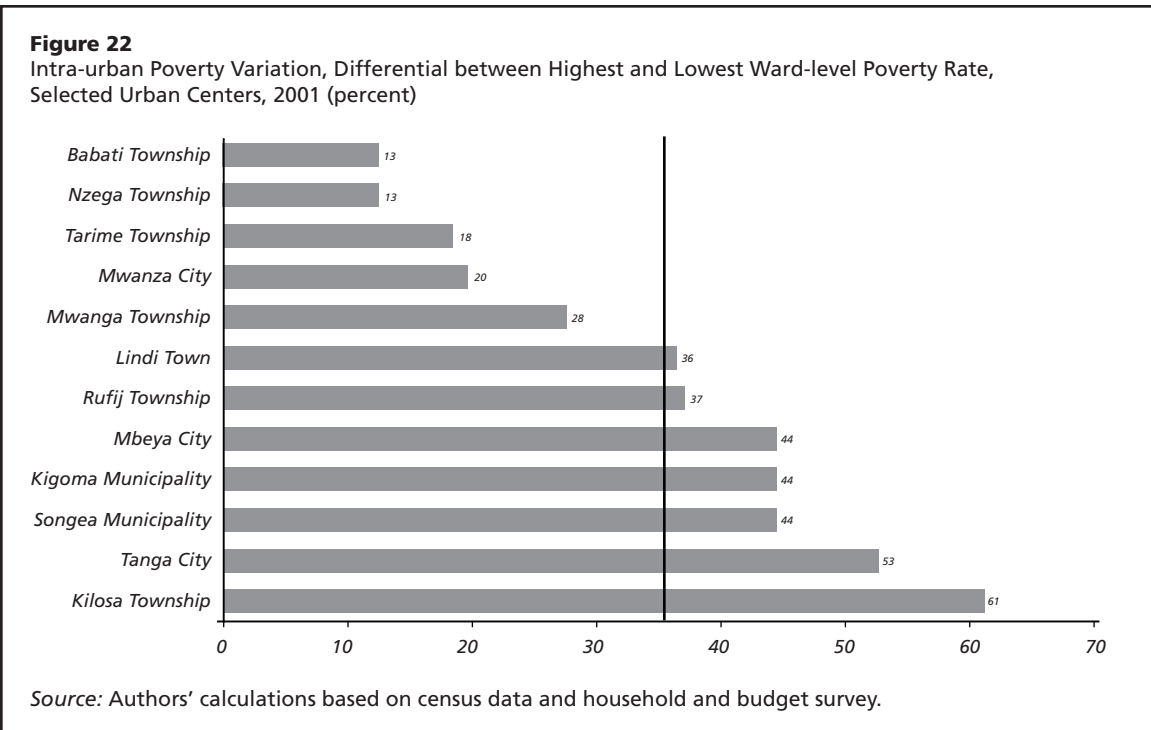
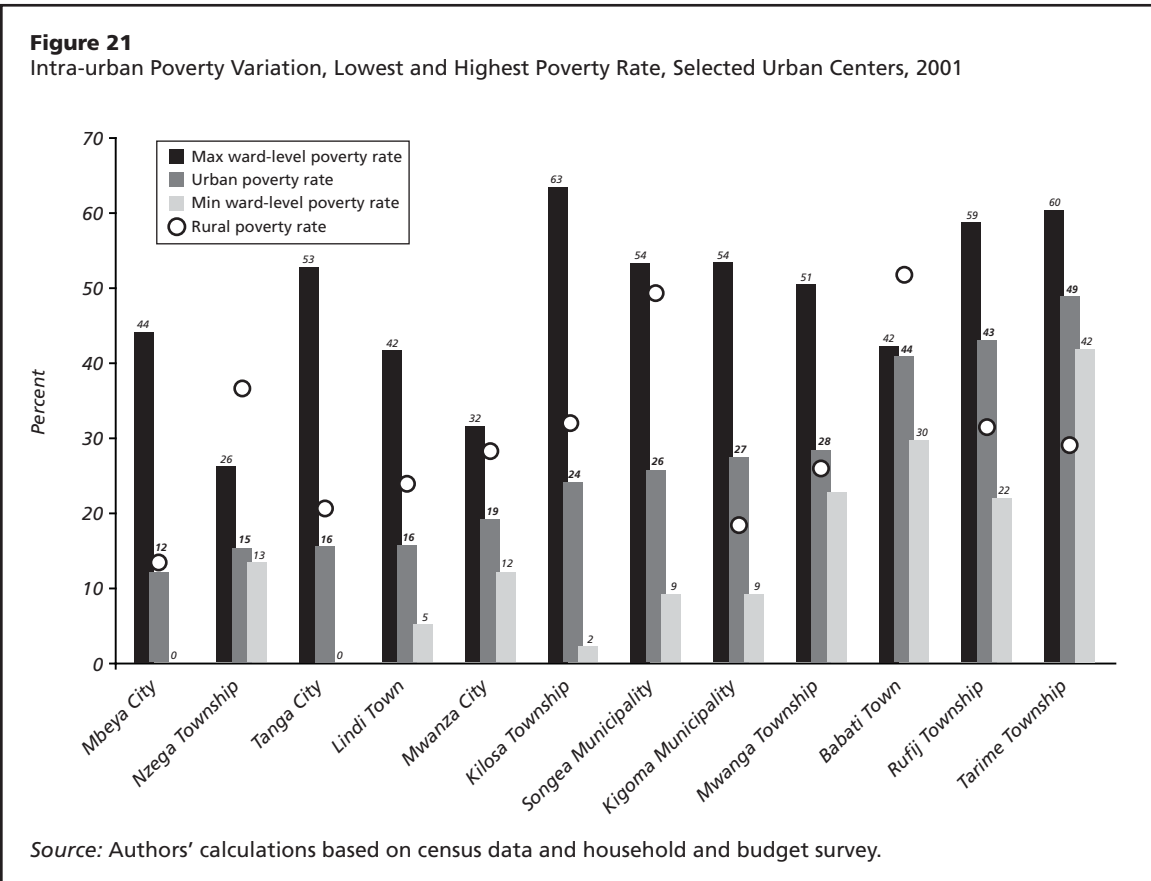
intra-urban variation is the ward level. Ward-level poverty rates are estimated for each of the twelve urban centers, based on the methodology used for the district-level poverty mapping exercise (see Figure 43 to Figure 54 in Appendix 5). Ward-level urban poverty rates are calculated over the urban population living in urban or mixed wards. Caution is however needed in interpreting the results given that ward estimates are substantially less precise than district estimates, with standard errors reaching over 10 percent in a few instances, and the EAs sampled for the long form census questionnaire are representative at the district level, but not necessarily at the ward level (see also Table 20 to Table 32 in Appendix 5).

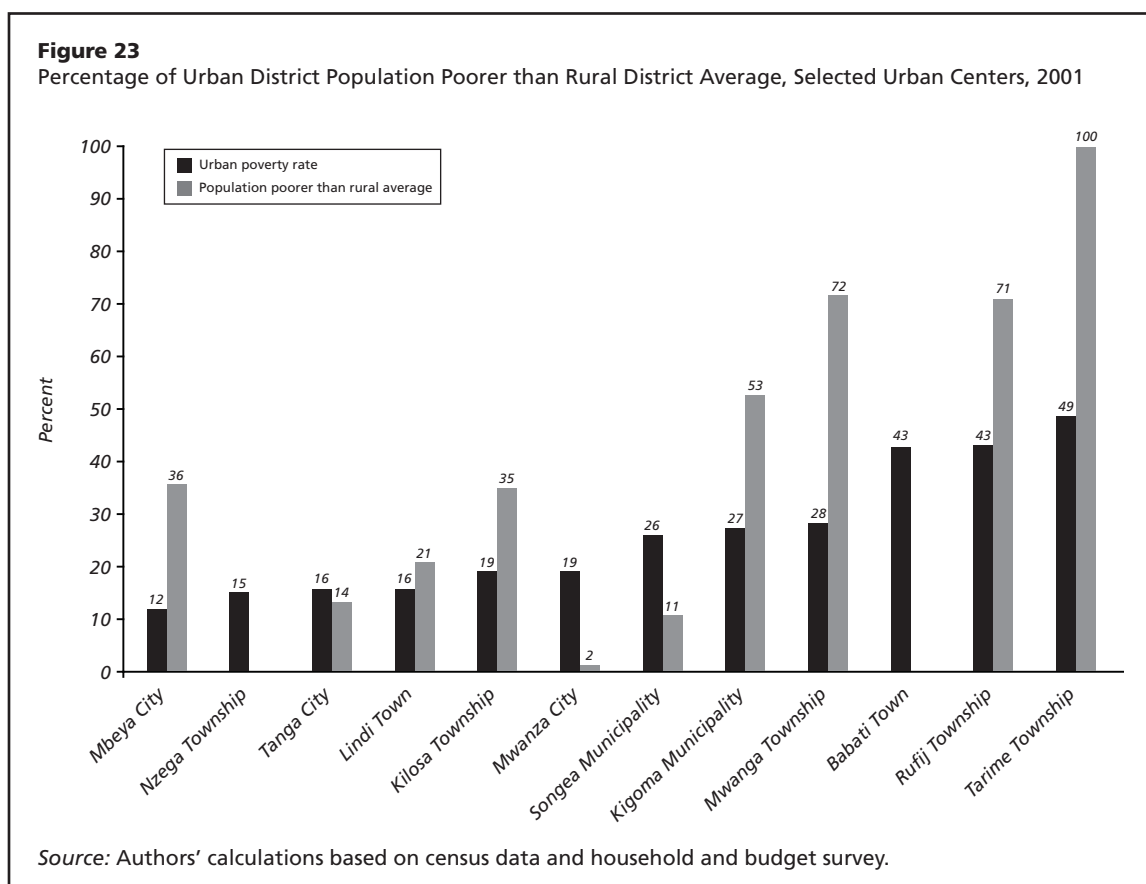
72. Even urban centers with relatively low poverty rates show substantial intra-urban variation in poverty. The analysis shows that urban poverty rates conceal significant intra-urban variation. On average, the differential between the lowest and highest ward-level poverty rate is 33 percent across the twelve urban centers. Kilosa is the urban center with the highest intra-urban variation in poverty, with poverty rates ranging from 2.3 percent in Kidido ward to 63.4 percent in Magubike ward, both of which are mixed wards. Mbeya and Tanga, the two cities with the lowest urban poverty rates among the selected cities, shows a much broader intra-urban spread in poverty rates than the average (see Figure 21). For example, Tanga City is the urban center with the second largest intra-urban poverty variation, with poverty rates ranging from as low as 0.3 percent to almost 53 percent (see Figure 22).

73. A significant share of the urban population lives in wards which are poorer than the surrounding rural areas. With the exception of Nzega township and Babati town, all urban centers have a number of wards with higher poverty rates than the surrounding rural areas in the district (see Figure 21). This implies that a significant share of the urban population in the selected urban centers lives in wards with poverty rates above the rural district-level poverty rate (see Figure 23). This is for example the case in the four townships, where on average almost 70 percent of the urban population lives in wards which are poorer than the surrounding rural areas. Mbeya, the city with the lowest poverty rate (12 percent), has also the highest share of urban population living in wards poorer than surrounding rural areas (36 percent) among the cities. This can be attributed to the relatively low poverty rate in the surrounding rural areas of Mbeya City (rural and urban poverty rate in the district are both 12 percent) as well to high intra-urban inequality (urban and mixed ward-level poverty rates range from 0 to 44 percent). It is interesting to compare the poverty profile in Mbeya City with that in Mwanza City. The latter has a higher poverty rate (19 percent) than Mbeya City but a much lower percentage of the population living in wards poorer than the surrounding rural areas (2 percent). This can be attributed to the fact that Mwanza has a significantly more pronounced rural-urban poverty gap (28 and 19 percent respectively) than Mbeya City and less intra-urban inequality (with urban and rural ward-level poverty rates ranging from 12 to 32 percent).

IV.d. Conclusions

74. The thesis that urban centers are pockets of wealth relatively to rural areas does not always withstand empirical scrutiny. This section compares inter- and intra- urban





poverty rates across twelve urban centers, building on the poverty mapping recently conducted by REPOA for mainland Tanzania. The analysis finds that urban centers, whose boundaries are approximated by the urban EAs of the districts, have poverty ranging between 12 and almost 50 percent, against a national urban poverty rate of 26 percent (excluding Dar es Salaam). A third of the selected urban centers have poverty rates higher than the surrounding district rural areas, belying the thesis that urban areas are always pockets of wealth, relatively to the adjacent rural areas. Even in urban centers exhibiting lower poverty rates than the surrounding rural areas, a significant share of the urban population lives in wards with higher poverty rates than the average district-level rural poverty rate. The results suggest that pockets of urban poverty, which are deeper than in the surrounding rural areas, can be found even in relatively wealthy urban centers.

75. The analysis shows that urban-rural interactions may lead to distinct poverty outcomes in different urban contexts. In the case in Mbeya City, the poverty-reducing impact of economic development appeared to have spilled over to the surrounding rural areas, leading to an equalization of poverty rates between the urban and rural parts of the district. On the other hand, the small urban-rural poverty gap, combined with the high intra-city inequality, results in a third of the Mbeya urban population living in wards which are poorer than the surrounding district rural areas. Such a context may warrant policy interventions to

reduce inner city pockets of poverty. On the other hand, urban centers which exhibit a more pronounced urban-rural poverty gap and lower intra-city inequality (e.g. Mwanza) may call for different policy interventions mainly targeted to ensure that the poverty-reduction benefits of economic growth spill over to the surrounding rural areas.

76. A more disaggregated spatial analysis of urban poverty is needed to inform anti-poverty programs. The high inter- and intra- urban variation in poverty levels suggests that one-size-fits-all anti-poverty programs may not be effective in countering urban poverty. Instead, a more disaggregated spatial analysis of urban poverty is warranted to understand the economic and social forces at work in different urban areas and the surrounding rural areas and their impact on urban poverty. In addition, the results highlight to need to monitor the inequality outcomes that may be associated with the urban transition across the urban spectrum.

V. Internal Migration: An Urban Perspective

77. There is widespread consensus that internal migration is strictly interwoven with urbanization. Understanding internal migration is essential for understanding urbanization. The importance of internal migration in shaping urbanization is well recognized among government agencies in mainland Tanzania. For example, the MLHSD highlights that “it is only through knowledge of the rural-urban migration phenomenon that an effective policy on human settlements can be developed.”²² Migration impacts urbanization through several channels. First, migration has labor-market implications. The skill profile of migrants affects the labor demand in the receiving urban centers. In addition, migratory pressures create additional demand for land, housing, basic infrastructure and social services to urban authorities.²³ While assessing the causal relationship between migration, labor market outcomes and infrastructure provision is beyond the scope of this work, the study aims to shed some light on the linkages between internal migration and the urban transition, by addressing the following questions:

- What are the main patterns of internal migration in mainland Tanzania?
- What are the main migratory flows to and from regional headquarters?
- What is the typical socio-economic profile of migrants and how does it differ from the profile of the non-migrant population?

78. Four patterns of internal migration can be identified based on the origin and destination of the migratory flows: rural-to-urban, urban-to-urban, urban-to-rural, and rural-to-rural. Only the first three patterns are of interest to this study, which focuses on the linkages between internal migration and urbanization. Rural-to-urban migration is the “natural” direction of geographical mobility, as economic growth is expected to induce a spatial shift in the distribution of economic activities in favor of urban centers, freeing up

22. Ministry of Lands and Human Settlements Development (2000), p. 14.

23. See Lall et al (2006) for a policy-oriented review of the existing theoretical models underpinning the phenomenon of internal migration.

Box 6. Migration in Mainland Tanzania: Methodological Approach

Migration is defined by comparing the usual place of residence ('the usual residence') with the place of residence one year prior to the census ('the previous residence'). People who reported a previous residence different from their usual residence are classified as migrants.

In the question on the usual place of residence, respondents were asked where they usually lived at the time of the census—the 2002 census is a 'de facto' population count (that is, individuals were counted at the location they were during the census night of August 24–25, 2002). In the question on place of residence in 2001, respondents were asked where they lived a year before the census. Both questions were included in the long census questionnaire, which was submitted to 20 percent of the EAs. The region (or country if outside Tanzania) and the location of the usual and previous residence was recorded. The location of residence was recorded based on the following classification:

1. Rural
2. Urban as regional headquarters
3. Other urban, that is, district headquarters.

The lack of detail in recording the location of the usual and previous residence limits the type of analysis that can be conducted. Intra-regional migration can only be registered if migratory flows take place from one location to another, that is, from rural to urban, or from a district headquarter to a regional headquarter. This implies that one can observe intra-regional migration between regional and district-headquarters, but not intra-regional migration which takes place between district-headquarters or between rural areas. At the regional level the regional headquarter is therefore the only spatial unit for which one can observe all in and out migratory flows.

A second limitation concerns the analysis of migrant household characteristics. In case the 'de facto' place of residence differs from the usual place of residence, individuals were not counted in their actual household (for example, if a rural-to-urban migrant usually living in an urban area went back to his place of origin during the month of August 2002, the migrant was actually not counted as part of his own household in the urban area). When this is the case, household characteristics cannot be directly linked to the migrant. Hence, rural-to-urban migrant household characteristics are tabulated only when the usual place of residence of the head of migrant household (in which the migrant was counted) was a regional capital, a district headquarter or another urban areas. In this context, it is safe to link migrant and households characteristics, as one can assume that the urban household is the household the rural-to-urban migrant usually lives.

Finally, the analysis only captures household-level migration, because the long-form questionnaire was only administered to households. Census migration does not capture migration which occurs outside the household context, for example, students moving to student hostels, migrant street children, soldiers or prisoners.

Two spatial units of analysis are considered: (i) the urban areas of the region (for example, urban Dodoma), whereas urban areas include both district and regional headquarters, and (ii) the regional headquarters of the region. The definition of migration and turnover adopted in this study is person-based, whereas any movement of people in and out of the spatial unit of analysis is accounted for as a migration flow and added to the turnover. For example, the following are accounted as migratory flows for urban Dodoma: all movements between urban Dodoma and rural areas (located within and outside the Dodoma region) and all movements between urban Dodoma and other urban areas (located *outside* urban Dodoma). Mobility within urban Dodoma is not counted as migratory flows as it does not lead to a change in the composition of the population in urban Dodoma. The same methodology is used to calculate migratory flows and turnover for the regional headquarters.

For the country as a whole, turnover is calculated by summing all movements between urban and rural areas. Urban-to-urban flows are not added to the turnover because they don't involve any change in the composition of the urban population for mainland Tanzania as a whole.

manpower that can be utilized by the urban economies. If migration is seen as a sequential (or step-wise), rather than a discrete choice, urban-to-urban migration can be regarded as the “second step” of rural-to-urban migration, as rural migrants may be moving first to small urban centers on a temporary basis to acquire the capital needed to settle in large urban centers. Urban-to-rural (or reverse) migration may occur at times and in places affected by economic recession, when retrenchment in urban centers frees up manpower that reverts to their original settlements for subsistence.

79. Only migration patterns observed over the period 2001–2002 can be analyzed based on census data. Given that the 1988 census does not include questions related to previous places of residence, migration patterns can only be analyzed for the period 2001–02, drawing on the latest census data. One has therefore to make the assumption that 2001–02 was a normal migration year in order to draw some conclusions on the role played by migration in driving urbanization. In addition, the census data does not allow distinguishing between different typologies of rural-to-urban migration, such as sequential migration, seasonal migration (that is, rural migrants moving seasonally to urban areas to gain a livelihood during dry seasons), circular migration (that is, young migrants moving to an urban area and then returning home at a later stage of their lives), or lifetime migration (that is, migrants moving permanently to urban areas).²⁴ In addition, the census does not capture migration that is occurring outside the household context. Box 6 describes in more detail the data sources and the methodology for the analysis.

V.a. Migratory Flows to and from Urban Areas

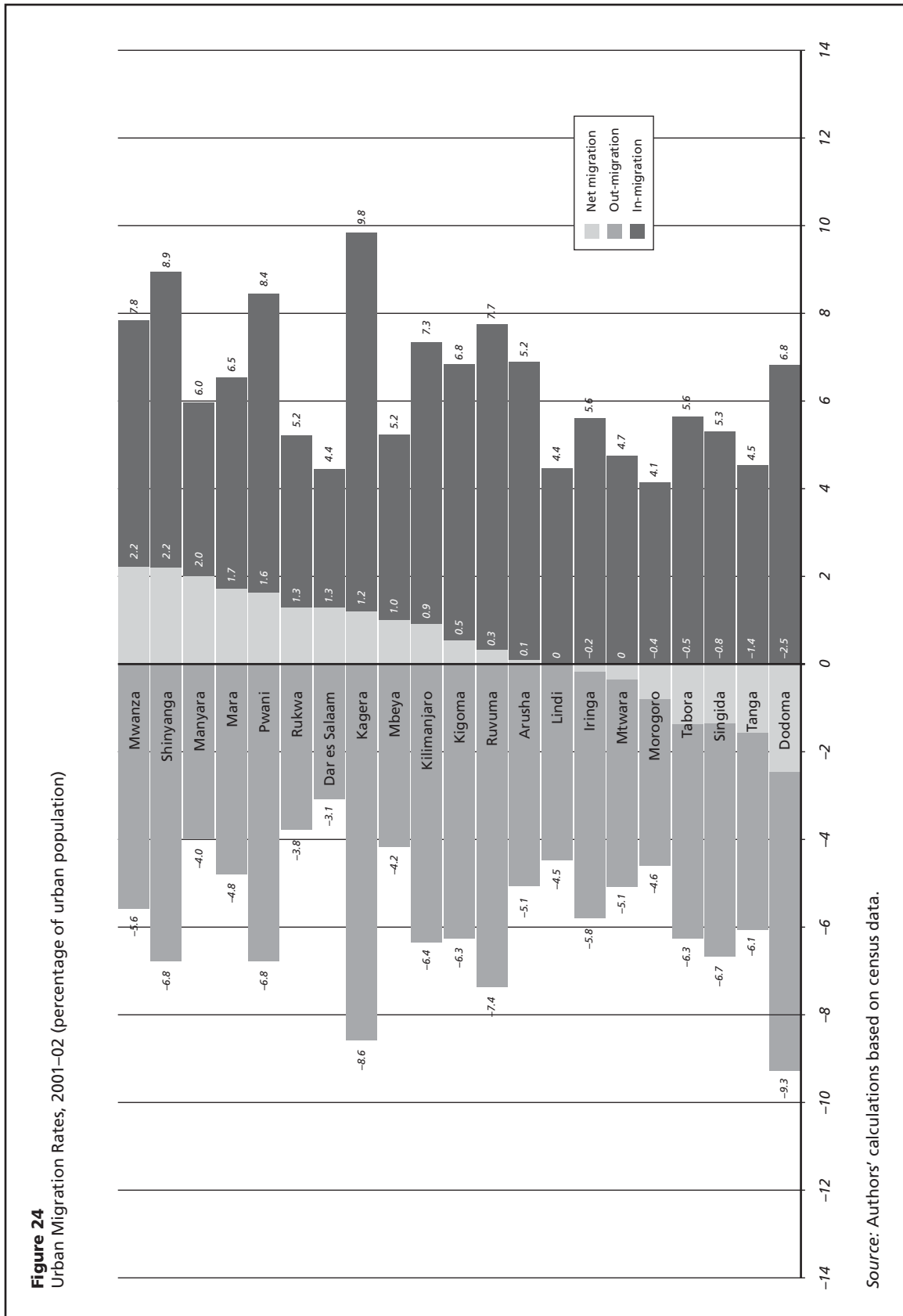
80. Net migration to urban areas is low, but turnover is high. Net urban migration only accounts for 0.6 percent of the urban population in mainland Tanzania in 2002.²⁵ The low net migration rate however conceals a much higher turnover: almost 389,000 individuals moved to or from urban areas in the country, accounting for about 5.3 percent of the urban population in mainland Tanzania.²⁶ In addition, 2.6 percent of the urban population moved between urban centers. While urban-to-urban migratory flows do not result into an increase or change in the composition of the urban population as a whole, they nevertheless signal a high level of geographic mobility within the urban space.

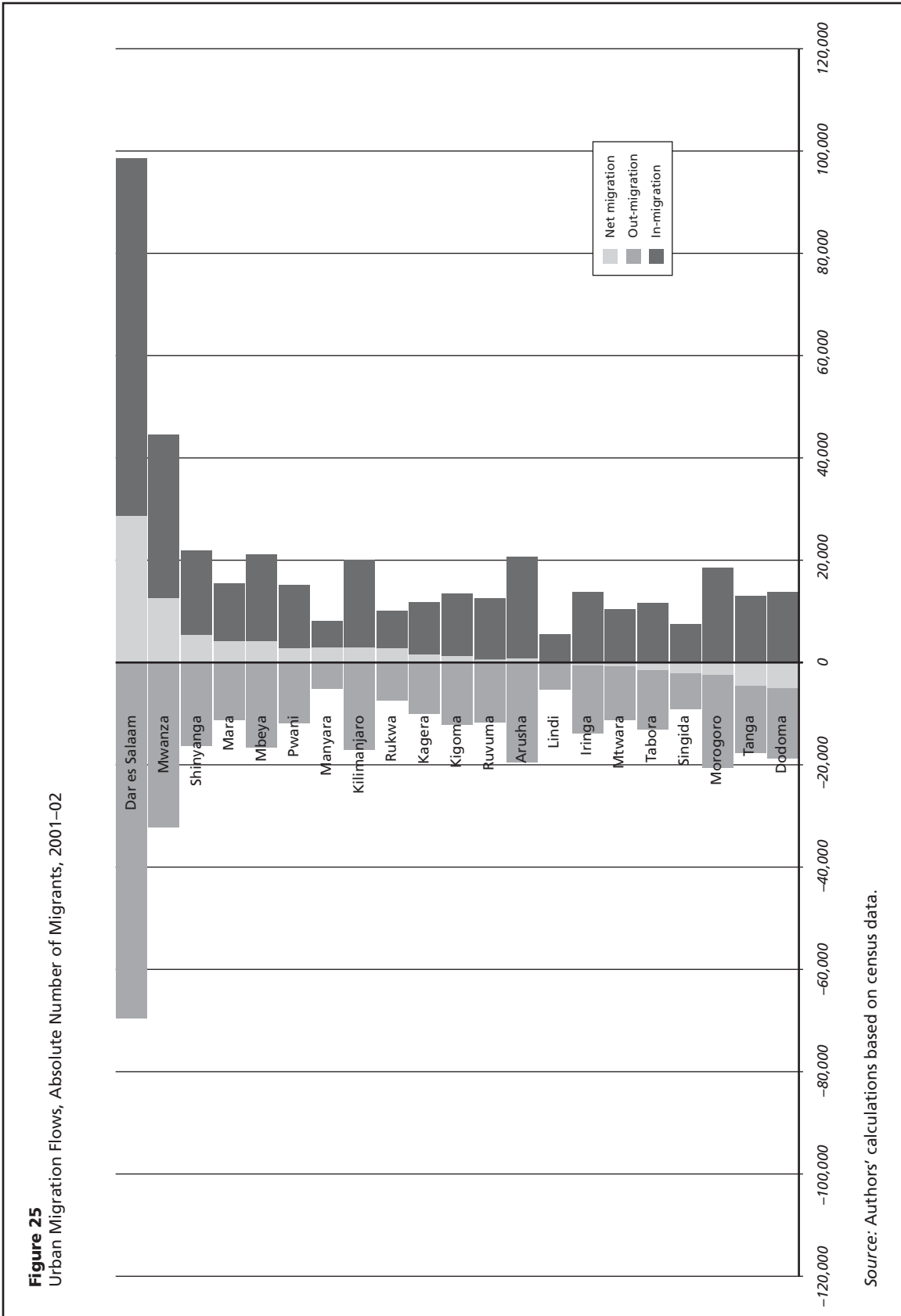
81. Net urban migration rates vary from 2.2 to –2.5 migrants per 100 inhabitants across urban areas. There is a significant variation in net urban migration across regions. Overall, 13 out of 21 regions gained urban population due to a surplus of in-migrants. The largest surpluses (as a percentage of the urban population) are registered in Shinyanga (2.2

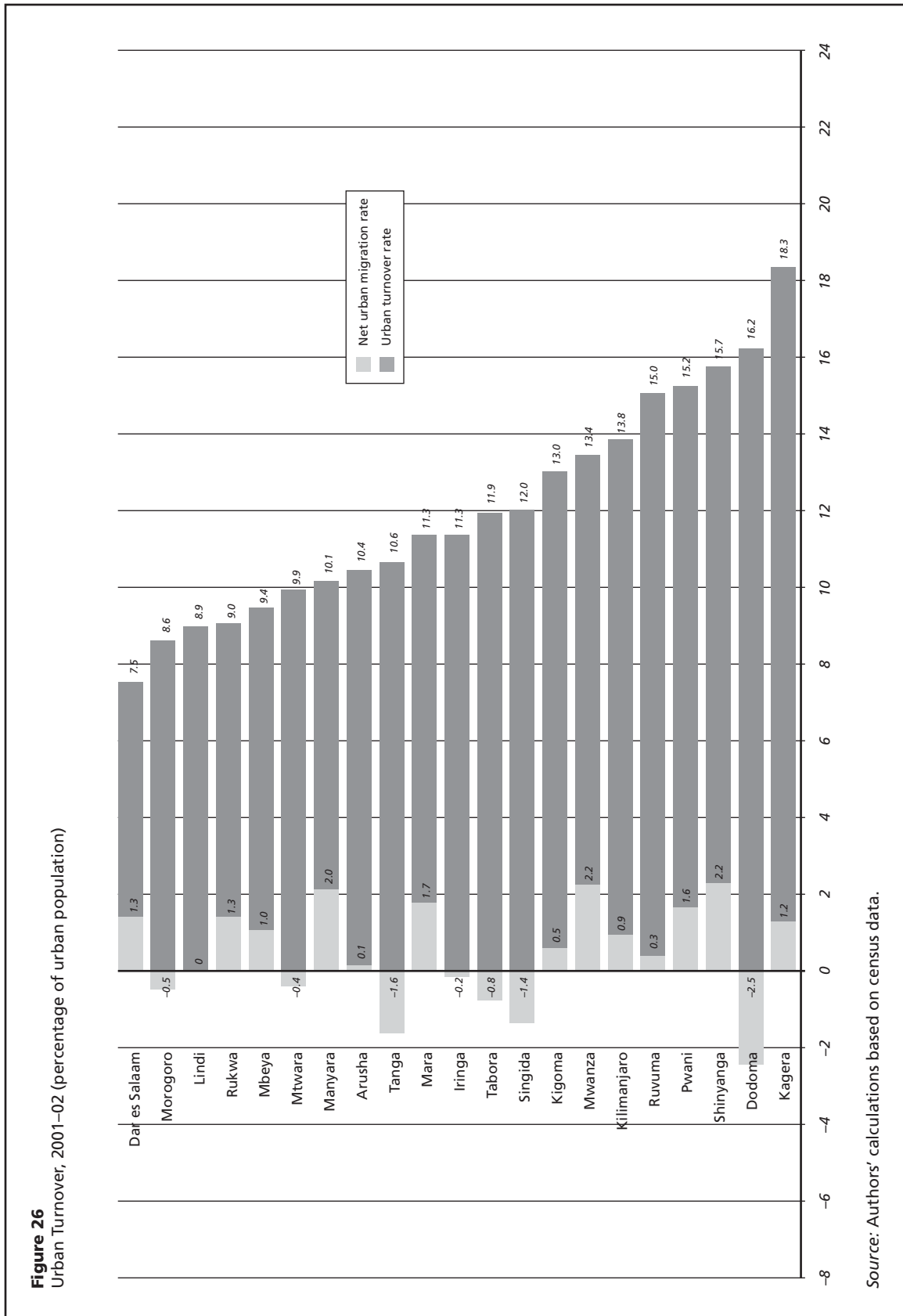
24. Lifetime migration statistics can be obtained at the inter-regional level from the 2002 census data based on information on respondents' place of residence at birth. However, it is not possible to characterize lifetime migrants based on the rural-urban dichotomy, given that the census only records the region of birth.

25. Net in-migration for mainland Tanzania is defined as the difference between rural-to-urban migration and urban-to-rural migration, while turnover is defined as the sum of the two flows. Urban-to-urban flows are not accounted for as they don't involve any change in the composition of the urban population in mainland Tanzania.

26. When calculating turnover for mainland Tanzania, the following migratory flows have been added: in-migration from rural areas, and out-migration to rural areas.







percent), Mwanza (2.2 percent) and Manyara (2.0 percent). In these regions formal mining is considered the main pull factor attracting in-migrants from rural areas. In Dar es Salaam, net migration accounted for 1.3 percent of the urban population. The main losers of urban population due to migration are the urban areas of Dodoma (–2.5 percent), Tanga (–1.6 percent) and Singida (–1.4 percent), with the latter two regions located in the Central zone of Tanzania. Figure 24 below shows migration rates in an out of urban settlements at the regional level (e.g. in and out of urban Shinyanga). (see Box 6 and Table 33 in Appendix 6).

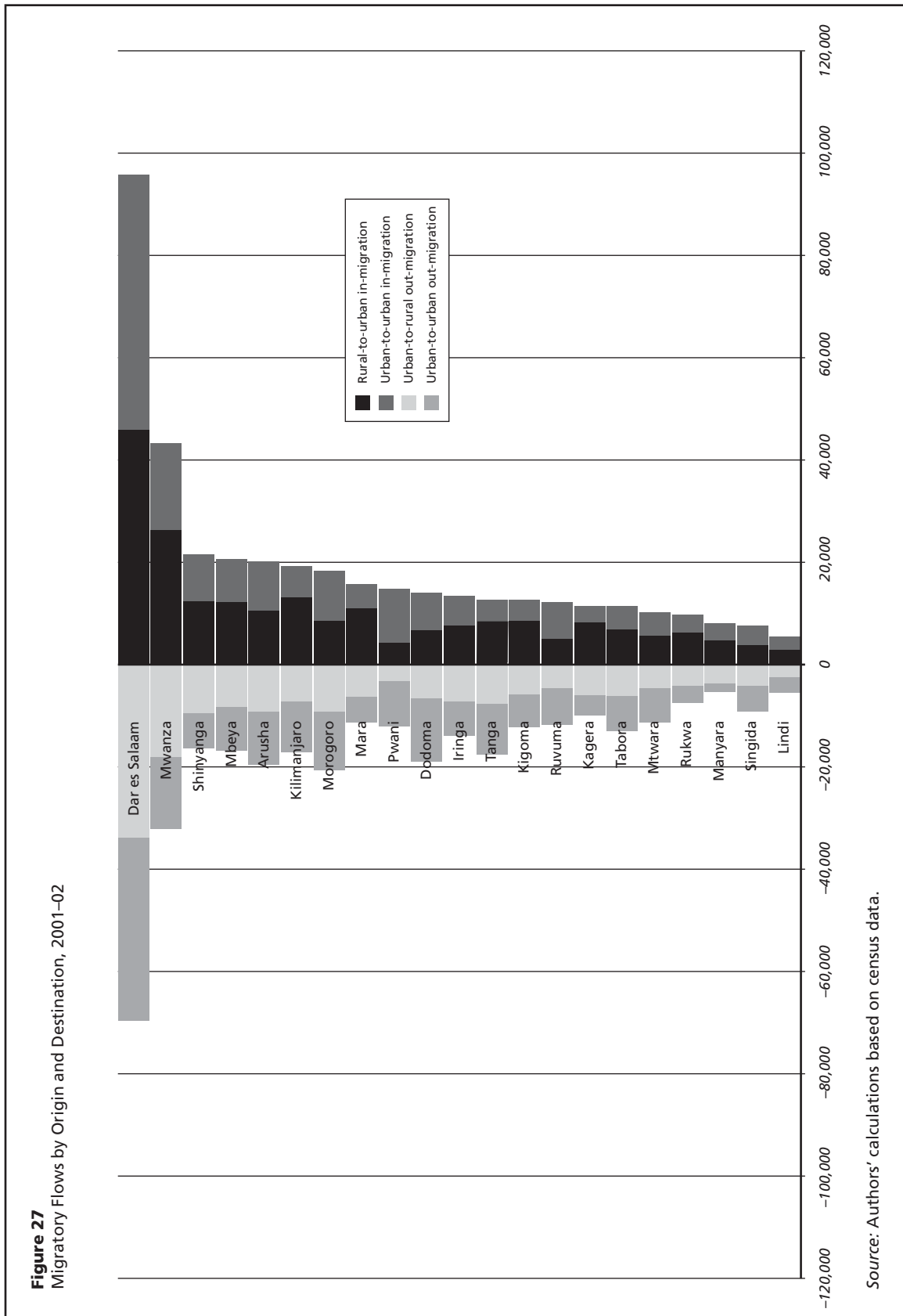
82. The ranking of regions based on net migration rates does not substantially differ from the ranking based on net migratory flows. The main exception is Dar es Salaam. In absolute numbers, Dar es Salaam attracted the largest net inflow of urban migrants, amounting to about 28,200 inhabitants, followed by Mwanza and Shinyanga (which also registered the largest net surpluses in percentage terms). When net migration is expressed in percentage terms, Dar es Salaam ranks only sixth. Dodoma and Tanga experienced the highest net outflow of migrants both in absolute numbers and as a percentage of the urban population. (see Figure 25).

83. Urban turnover ranges from 7.5 to 18 percent across regions, and is not highly correlated with net migration. As shown in Figure 26, there is a significant variation in turnover across urban areas, ranging from 7.5 to 18 percent. Surprisingly, Dar es Salaam exhibits the lowest turnover among the regions. Little correlation is found between net urban migration rates and turnover—for example, the largest inflow of in-migrants is observed in urban Kagera, where almost 10 percent of the population was an in-migrant in 2001–02, and almost 9 percent out-migrated, resulting in a net migration surplus of only 1.2 percent. Similarly, almost 9 percent of the urban population migrated in or out of urban Lindi in 2001–02, resulting in a net surplus of in-migrants close to zero.

84. Rural-to-urban and urban-to-urban mobility are both important driving forces of migration at the regional level. A breakdown of migratory flows by origin and destination shows that urban-to-urban and rural-to-urban mobility are equally important migratory flows. On average, rural-to-urban mobility represents 51 percent of the total turnover, while mobility between urban centers accounts for the remaining 49 percent of the turnover. These findings indicate that migration between urban centers accounts for a significant share of the mobility to and from urban centers, although it does not contribute to urbanization (see Figure 27).

85. Migration is one but not the main contributor to urban demographic growth. Urban areas have three main natural sources of population growth, namely natural increase (an excess of birth over deaths), migration (an excess of individual that move to urban areas over the number of individual that leave urban areas) and reclassification (whereby urban status is conferred on formerly rural residents and territory).²⁷ Net urban migration contributes to 17 percent to the overall urban growth over

27. The estimated contribution of urban growth due to re-classification and natural growth are combined, as it is not possible to separate them out.

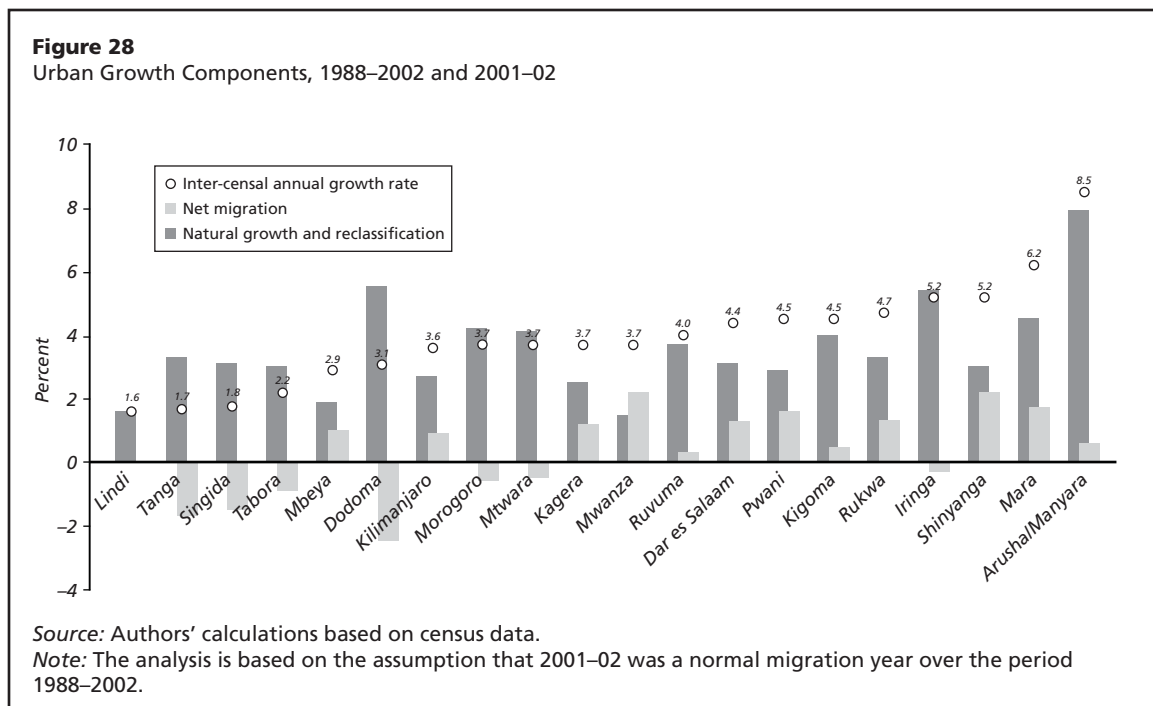


the period 1988–2001, implying that the bulk of urban growth is driven by natural growth and physical urban expansion. The estimated contribution of migration to urbanization in mainland Tanzania is slightly below the average for African countries: rural-to-urban migration is estimated to have accounted for about 25 percent of urban growth over the 1980s and 1990s in Africa (Brockerhoff 1995).²⁸ Caution is however needed in interpreting the results for mainland Tanzania, given that the analysis is based on the assumption that the 2001–02 was a normal migration year over the period 1988–2002.

86. On one hand, the relatively low contribution of migration to urban growth is not surprising given that geographical mobility between urban centers, which does not contribute to urbanization, accounts for a significant share of internal urban migration turnover. On the other hand, the finding contradicts the conventional wisdom among governmental agencies in Tanzania that migration is significantly contributing to urban demographic growth in the country. For example, NBS reports that “rapid urbanization in Tanzania has largely been a result of rural to urban migration rather than natural increase” (NBS 2006).²⁹ Similarly, the MLHSD highlights in the NHSDP that “the changing of places of living from rural areas to towns is one of the leading factors to the high annual growth rates of the urban population in developing countries.”

87. The contribution of migration to urban growth varies significantly by region.

The largest positive contributions of migration to urban growth are found in Mwanza, Shinyanga and Pwani, where migration accounts for 60 percent, 42 percent and 36 percent of

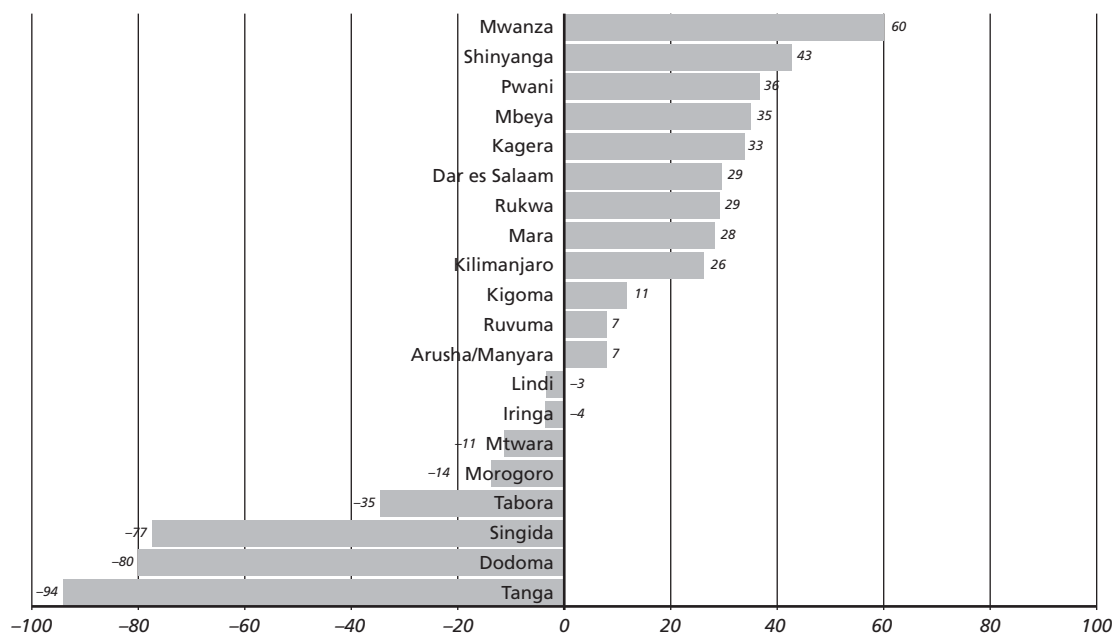


28. Rural-to-urban migratory flows are estimated to have slowed down recently. Migration however accounted for 50 percent of urban population growth during the 1960s and the 1970s in Africa.

29. National Bureau of Statistics (2006).

Figure 29

Relative Contribution of Migration to Urban Growth, 1988–2002 and 2001–02 (percentage of urban population)



Source: Authors' calculations based on census data.

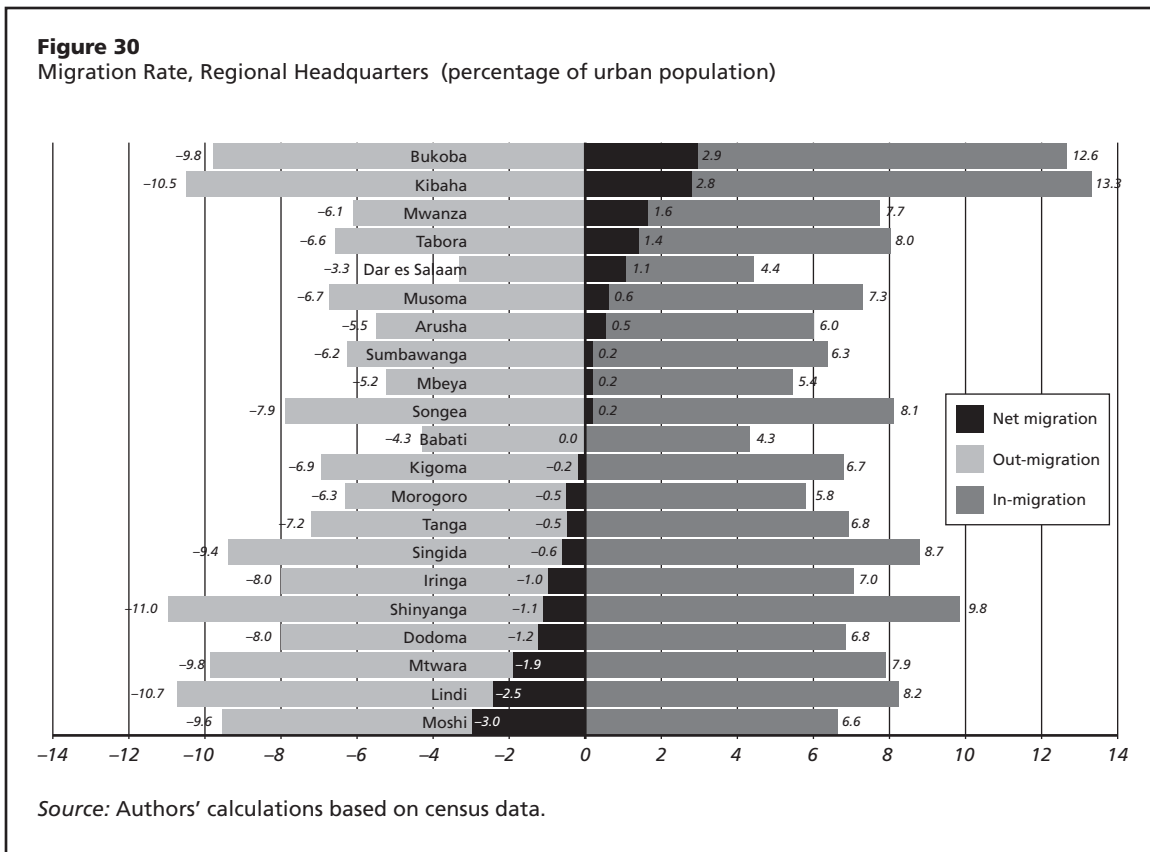
Note: The analysis is based on the assumption that 2001–02 was a normal migration year over the period 1988–2002.

urban population growth, respectively. The largest negative contributions of migration to population growth are observed in Tanga (–94 percent), Dodoma (–80 percent), Singida (–77 percent). Surprisingly, net migration only accounts for 29 percent of urban population growth in Dar es Salaam and for 7 percent of urban growth in Arusha/Manyara, the region which experienced the largest inter-censal urban population growth.³⁰ Figures 28 and 29 show the estimated contribution of migration to population growth in urban areas, compared to the contribution of re-classification and natural population growth.

V.b. Migratory Flows to and from Regional Headquarters

88. Net migration rates to regional headquarters ranges from 2.9 to –3 migrants per 100 inhabitants (see Figure 30). The range of net migration rates among regional headquarters is relatively broader than the range among the urban areas of the regions, which vary from 2.1 to –1.6 percent. Overall, 10 out of 21 regional headquarters experienced positive net migration rates. The data also suggest a negative correlation between the population size of the regional headquarter and net migration rate: small urban centers tend to attract migrants at a higher rate than large centers. On the other hand, larger centers are more likely

30. In 1988, Arusha and Manyara was one single region called Manyara.



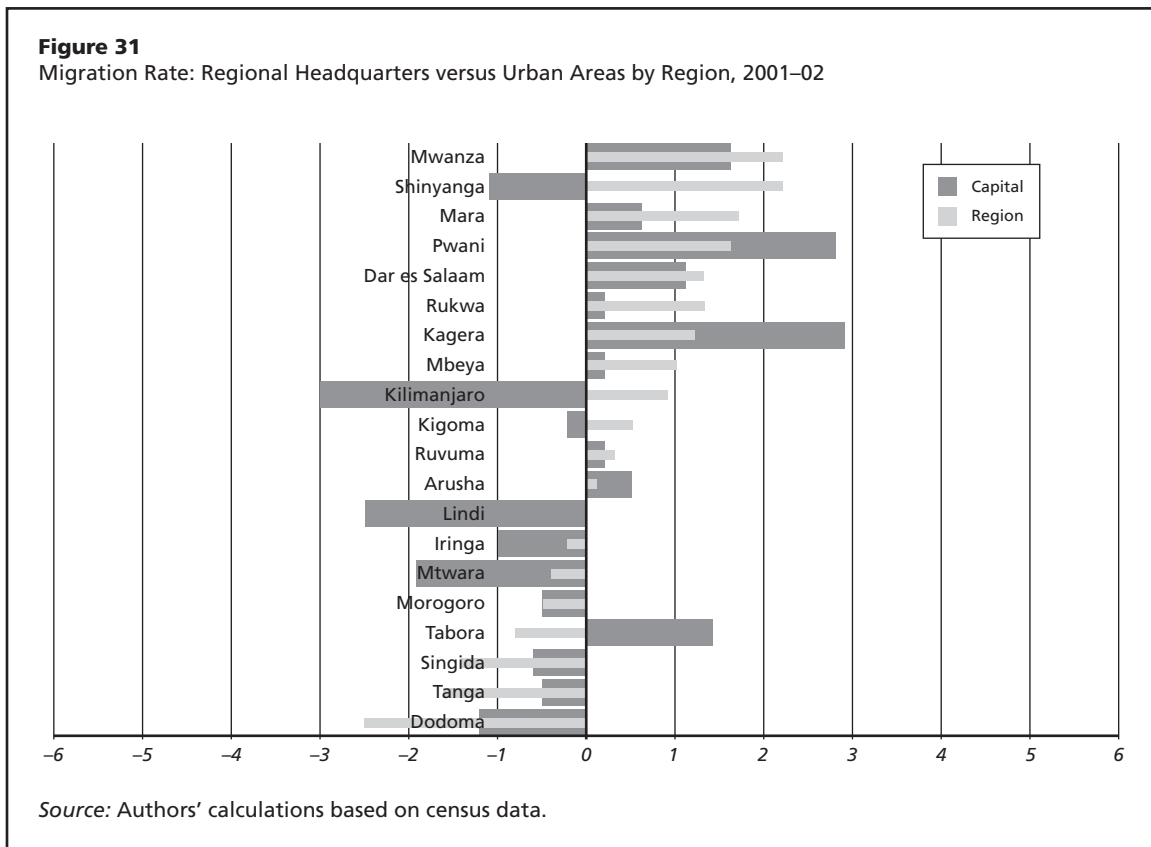
to be net gainers of migrants than small urban centers.³¹ In and out-migration patterns for each regional headquarters are shown in Appendix 6 .

89. In 11 out of 21 regions, the regional headquarters fare worse than the urban areas of the region as a whole in attracting migrants. Most regional headquarters show a distinct migration pattern than the urban areas of the region as a whole. In 11 out of the 21 regions, regional headquarters experienced a smaller surplus or a more drastic outflow of migrants than the urban areas as a whole (see Figure 31). The extreme case is found in the Shinyanga region, where the urban areas in the region received a net influx of migrants (accounting for 2.2 of the urban population), while Shinyanga headquarter lost -1.1 percent of its population through migration. A similar pattern is found in the Kilimanjaro region, where the urban areas of the region gained 0.9 percent of its urban population through migration, while Moshi, the regional headquarter, experienced a 3 percent outflow of the urban population. In Lindi, Iringa and Mtwara the regional headquarters experienced a larger net outflow of migrants compared to the urban areas as a whole. In Mwanza, Mbeya, and Rukwa the

31. The correlation between in-migration rate and population size is -0.36 (p -value = 0.108). The correlation between net-migration and population size is 0.21 (p -value = 0.348).

headquarters exhibited a smaller net surplus of migrants than the urban areas of the regions as a whole.

90. In four regions which experienced a net outflow of migrants, the regional headquarters saw a less negative migration pattern than the urban areas as a whole. The urban areas in Tabora, Tanga, Singida and Dodoma experienced a net outflow of migrants; nevertheless, their regional headquarters saw either a net in-flow (Tabora) or a smaller out-flow of migrants (Dodoma, Tanga and Singida) (see Figure 31). In Tabora, the regional headquarter exhibited a net surplus of migrants (1.4 percent), contrary to the urban areas in the region which experienced a net outflow of migrants (-0.8 percent). A similar, albeit not so extreme, differential is found in Dodoma, Tanga and Singida: while the three regions exhibited the largest outflow of migrants from urban areas (-2.5, -1.6 and -1.4 percent respectively) in mainland Tanzania, their headquarters lost a significantly lower share of their population through migration (-1.2, -0.6 and -0.5 respectively). The breakdown of migratory flows by origin and destination for regional headquarters can shed some light on these trends (see Appendix 6). For example, Tabora headquarter saw a very high influx of migrants from both urban and rural areas within the region (see Figure 84). Dodoma, Tanga and Singida headquarters on other hand received a net surplus of migrants from other urban areas in the region, while losing population to rural areas (see Figures 60, 64, and 82). These trends may imply that these headquarters are economically performing better than the urban



centers within the regions, in relative terms. Nevertheless, all four regions are losing competitiveness at the national scale, as signalled by the loss of urban population to more vibrant urban centers, first and foremost to Dar es Salaam.

91. In three regions which experienced a net inflow of migrants, the regional headquarters attracted a larger net surplus of migrants than the region as a whole. In Pwani, Kagera and Arusha both the headquarters and the urban areas as a whole attracted a net surplus of migrants. In these three instances, the headquarters performed better than the urban areas of the region (see Figure 31). In Kagera, for example, the region experienced an influx of migrants amounting to 1.2 percent of the urban population; Bukoba, the regional headquarters, attracted a net surplus of migrants equal to 2.9 percent of its urban population. The differential is mainly to be attributed to the very high net flow of migrants to Bukoba from rural Kagera (3 percent of the population) and from urban Dodoma (0.8 percent) (see Figure 92).

92. Dar es Salaam received a net surplus of migrants from most of the other regions in mainland Tanzania, but saw a net outflow of migrants to Kibaha. Dar es Salaam emerges as the main pole of attraction for urban migration. The capital received a net surplus of migrants from virtually all other regions in Tanzania (see Figure 69). On the other hand, Dar es Salaam experienced a new outflow of migrants to Kibaha, which is located only 40 km from the core center of Dar es Salaam and has started being absorbed in Dar es Salaam urban agglomeration (see Figure 67). The net outflow of migrants from Dar es Salaam to Kibaha may thus reflect the strict economic linkages between Dar es Salaam and the adjoining urban areas.

93. Bilateral flows of migration suggest strict economic linkages between urban centers. The major senders of migrants to regional headquarters are also major recipients of migrants from regional headquarters. For example, Dar es Salaam and the urban areas within the Dodoma region are both the largest senders of migrants to Dodoma regional headquarters as well as the most important recipients of migrants from Dodoma headquarters (see Figure 57 and Figure 69). These patterns suggest that there may be very strict economic linkages between urban areas and regional headquarters in a given region, as well as between regional headquarters and Dar es Salaam, and these linkages find their manifestation in migratory flows in both directions.

94. In a given region, urban-to-urban mobility is more important as a driving force of migration for regional headquarters than for the urban areas as a whole. A breakdown of migratory flows by origin and destination shows that mobility between urban areas accounts for 58 percent of the total turnover in regional headquarters, compared to 49 percent in urban areas as a whole (see Para 67). This implies that in a given region mobility between urban centers accounts for a higher share of population turnover in regional headquarters than in urban areas. This finding is consistent with the conventional wisdom that rural-to-urban migration is often a sequential process, with migrants moving first to small urban centers and subsequently to regional headquarters.

95. In a given region, regional headquarters have on average similar levels of turnover than urban areas as a whole. On average, there is no significant difference in the level of turnover between regional headquarters and the urban regions (that is, the urban settlements in a given region) with a few exceptions: in Kibaha, Lindi, Singida and Mtwara the regions headquarters experienced a significantly higher turnover than the urban areas as a whole in the region (see Figure 32).

96. The largest migratory flows take place within the region. As shown in Figure 33, intra-regional migration is an importance source of mobility in and out of regional headquarters. In Bukoba, Musoma, Kigoma, Babati and Sumbawanga intra-regional migration accounted for more than 50 percent of total turnover. As far as rural-to-urban migration is concerned, only four regional headquarters (Arusha, Moshi, Lindi and Kibaha) experienced inter-regional rural-to-urban flows that were similar (in absolute value) that intra-regional flows. For example, Arusha received an equal number of rural migrants from the adjacent region Kilimanjaro than from within the region.

97. Most of the in-migration to regional headquarters is from within the region or from adjacent regions. For analytical purposes, the geographic proximity between the region of origin and the region of destination can be used as a crude measure of distance travelled, as migrants from non-adjacent regions are expected to travel on average longer distances than migrants from within the region or from adjacent regions.³² The analysis indicates that the majority of migrants are either from within the region or from adjacent regions. As expected, large urban centers tend to attract higher proportions of migrants from non-adjacent regions than small urban centers. The correlation coefficient between the population size of the urban center and the percentage of migrants from non-adjacent regions is 0.77 including Dar es Salaam (0.34 excluding Dar es Salaam). Dar es Salaam is by far the headquarter receiving the largest proportion of in-migrants from non-adjacent regions (86 percent).³³ Regional headquarters attracting close to 50 percent of in-migrants from non-adjacent regions are Dodoma and Morogoro (47 percent), Songea (46 percent) and Arusha (46 percent). The regional headquarters that attract the largest proportion of in-migrants from within the region are Bukoba (66 percent), Kigoma, Tabora and Musoma (61 percent).

98. Higher in-migration rates are associated with larger gaps between poverty at origin and at destination. The hypothesis is often made that migration is a behavioral response to spatial differences in level of income. While the causal relationship between level

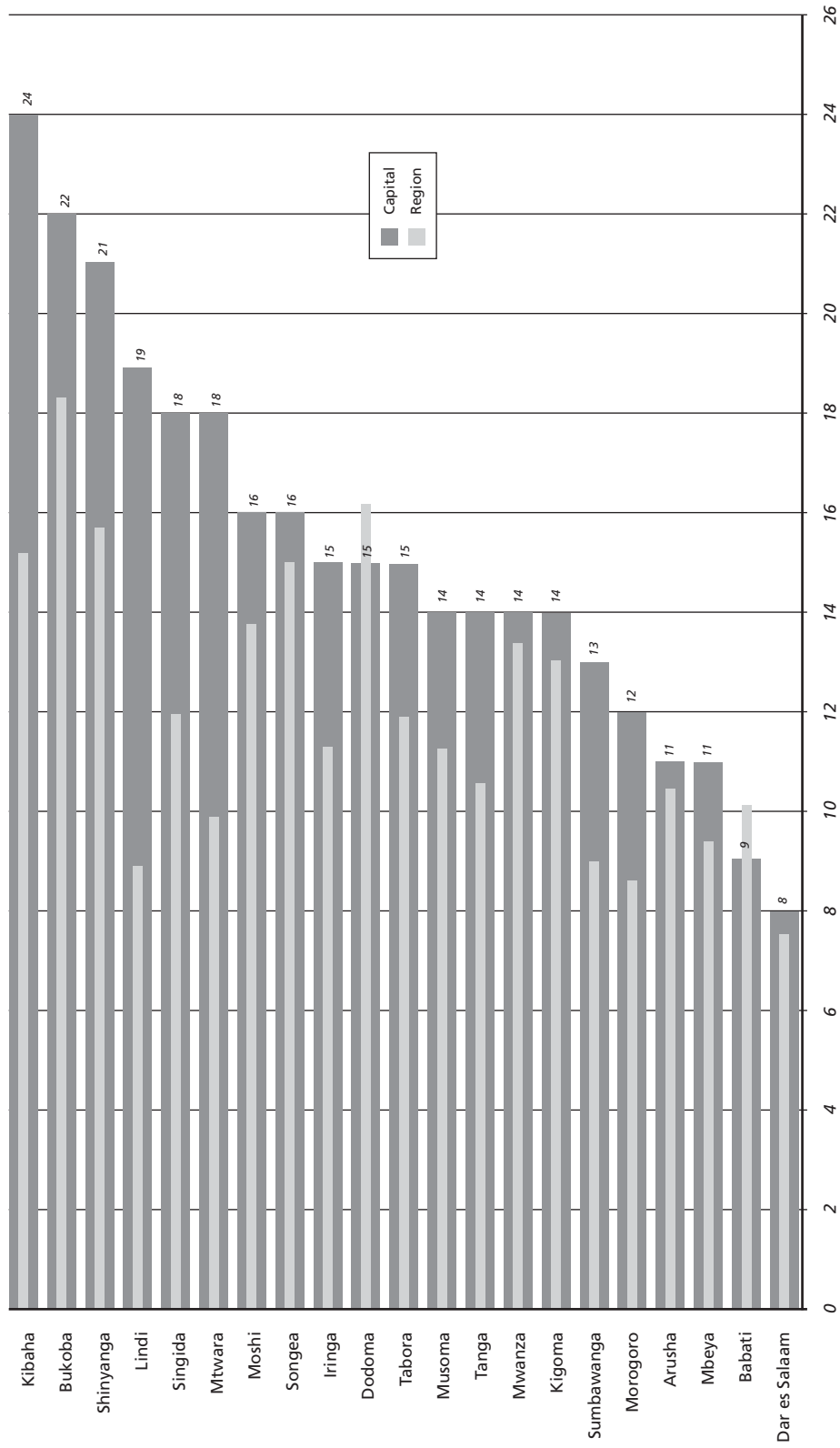
32. Since physical distance between the urban centre and previous place of residence cannot be established, a proxy was constructed, distinguishing three categories of migrants:

- 1 = migrants from within the same region
- 2 = migrants from adjacent region
- 3 = migrants from non-adjacent region.

The correlation between region of origin and distance is however imperfect. For example, this classification does not take into account connectivity, as well-connected remote locations may have lower relative distance than badly connected closer locations.

33. Excluding intra-regional urban migration.

Figure 32
Turnover Rate: Regional Headquarters versus Urban Areas, 2001–02



Source: Authors' calculations based on census data.

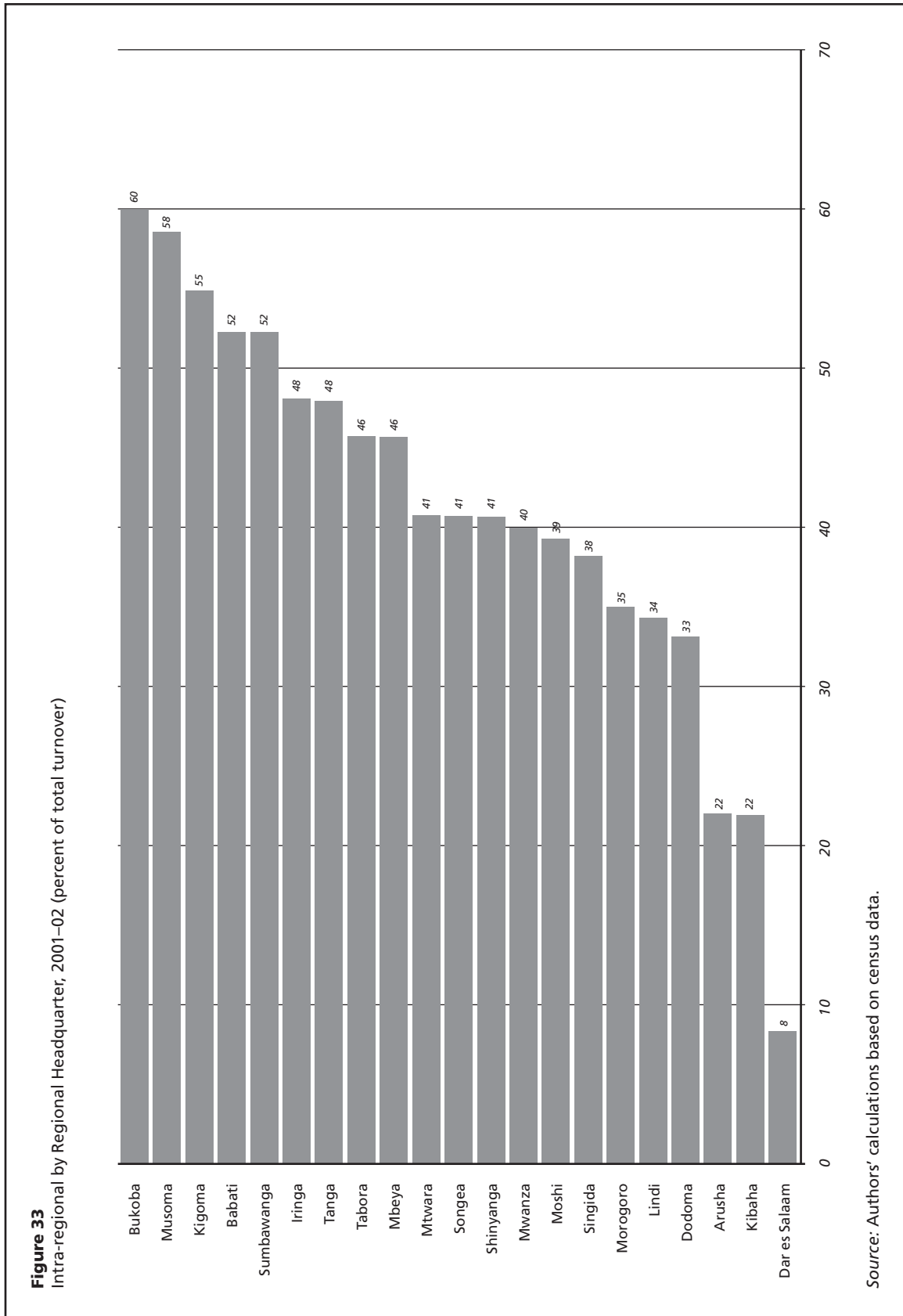
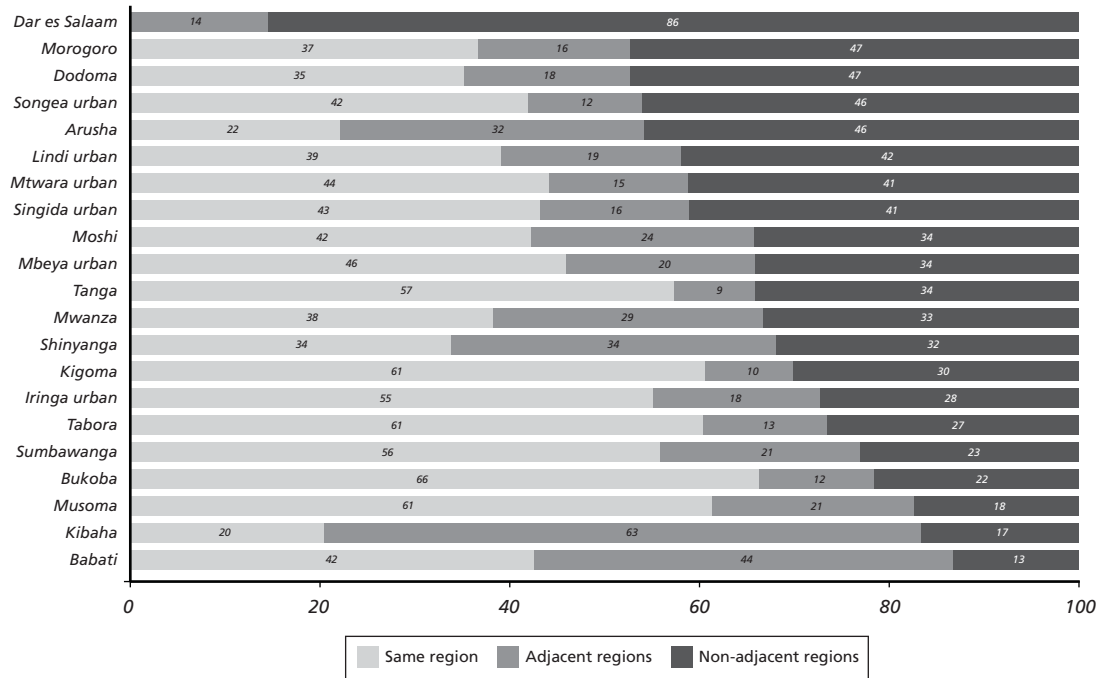
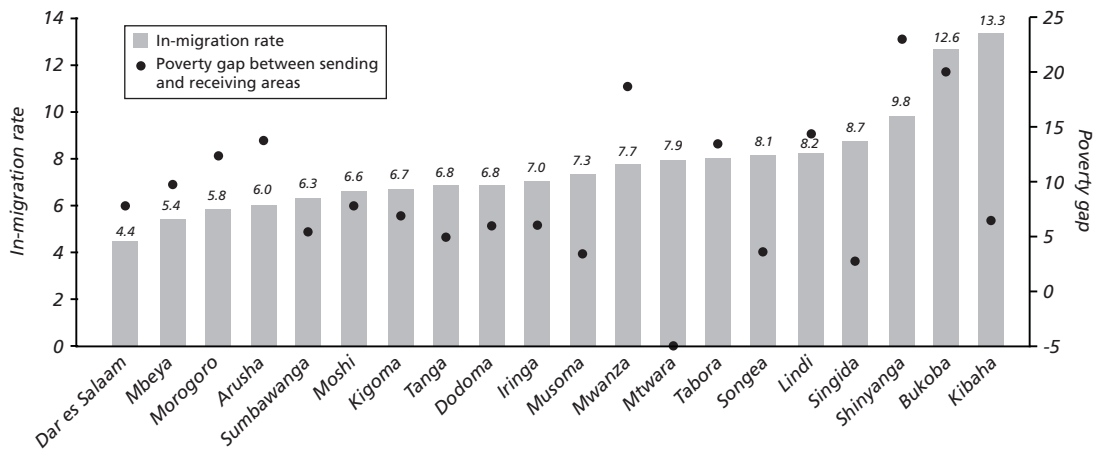


Figure 34
In-migrants by Migration Distance and by Regional Headquarter, 2001–02 (percent)



Source: Authors' calculations based on census data and household and budget survey.

Figure 35
In-migration Rate and Poverty Gap between Sending and Receiving Areas (percent)



Source: Authors' calculations based on census data and household and budget survey.

of income and the individual decision to migrate cannot be assessed in this study, a simple correlation analysis is conducted to assess whether the poverty gap between the sending and the receiving areas is positively correlated with in-migration rates. For analytical purposes, a poverty background variable is estimated to express the average poverty at the place of origin and compared with the poverty rate in the receiving regional headquarters.³⁴ A positive relationship is found between in-migration rates and the gap in poverty between area of origin and the receiving regional headquarter: higher in-migration rates are associated with larger poverty gaps between sending areas and the receiving regional headquarters.³⁵ Though the relationship is less strong, a negative correlation is also found between the poverty rate of the receiving urban center and its in-migration rates, suggesting that urban centers with lower poverty levels may be attracting more migrants (see Figure 35).³⁶

V.c. The Profile of Migrants

99. An assessment of the profile of migrants is critical to understand the socio-economic changes associated with spatial mobility. “The spatial mobility of a population affects not only the distribution of the population but also age and sex structure and other demographic, social and economic characteristics of the population” (NBS 2006). For example, in-migrants with a different socio-economic imprint than the receiving urban population may have difficulty integrating into the new urban context, eventually leading to some forms of segregation within the urban space.

100. The objective of this analysis is to shed some light on how and to what extent migration is changing the urban profile. This section compares the profile of migrants with the profile of non-migrants with regard to selected liveability and socio-economic indicators. The analysis is conducted for both urban migrants and rural migrants. When interpreting the results, one has to keep in mind that the analysis only captures the transition phase of migration, given that migrants moved to the receiving settlements sometime in the twelve months preceding the census. This implies that migrants may fare worse with respect to selected living indicators, such as housing quality and access to basic services, simply because they may have been living in precarious temporary accommodations while looking for a more permanent housing solution.

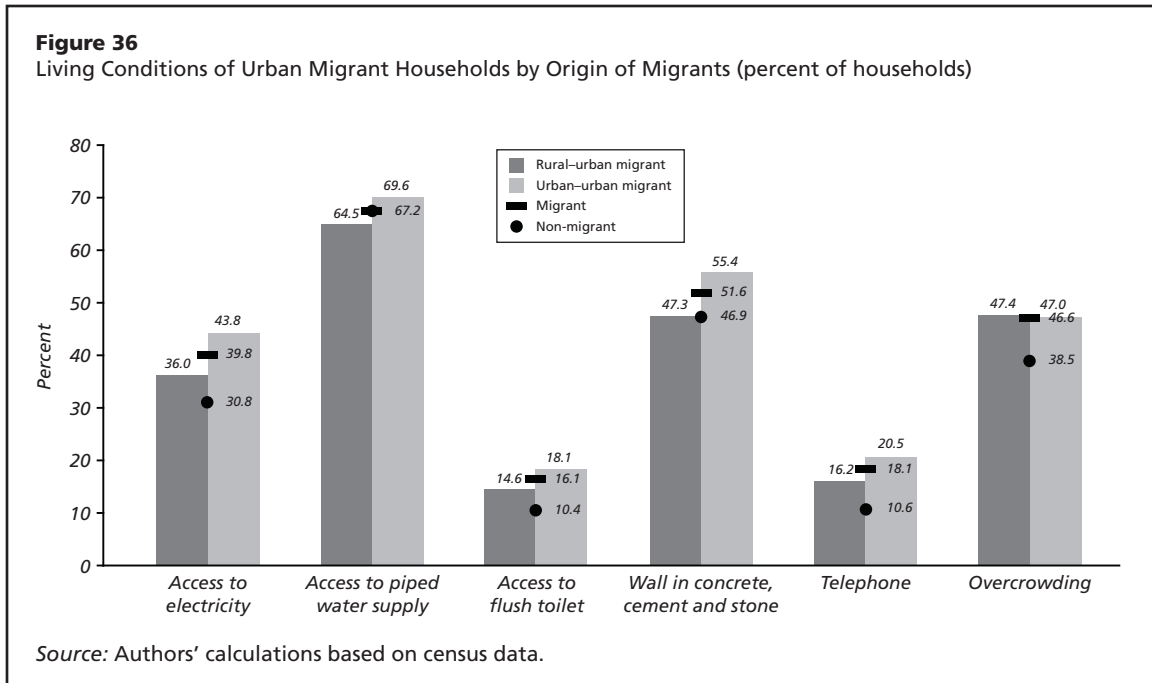
Urban in-migration

101. Most migrants to urban areas join existing households. When moving to an urban area migrants have two options: they can either join an existing household or establish a new household. Census data show that only 26 percent of migrant households are newly established (all-members migrants). The remaining 73 percent join existing households.

34. For the regional capital, the urban district poverty head count is used as a measure of poverty. For the areas of origin a weighted poverty rate is calculated based on regional urban and rural poverty rates.

35. The correlation between the poverty gap and in-migration rate is 0.363 (p -value = 0.105).

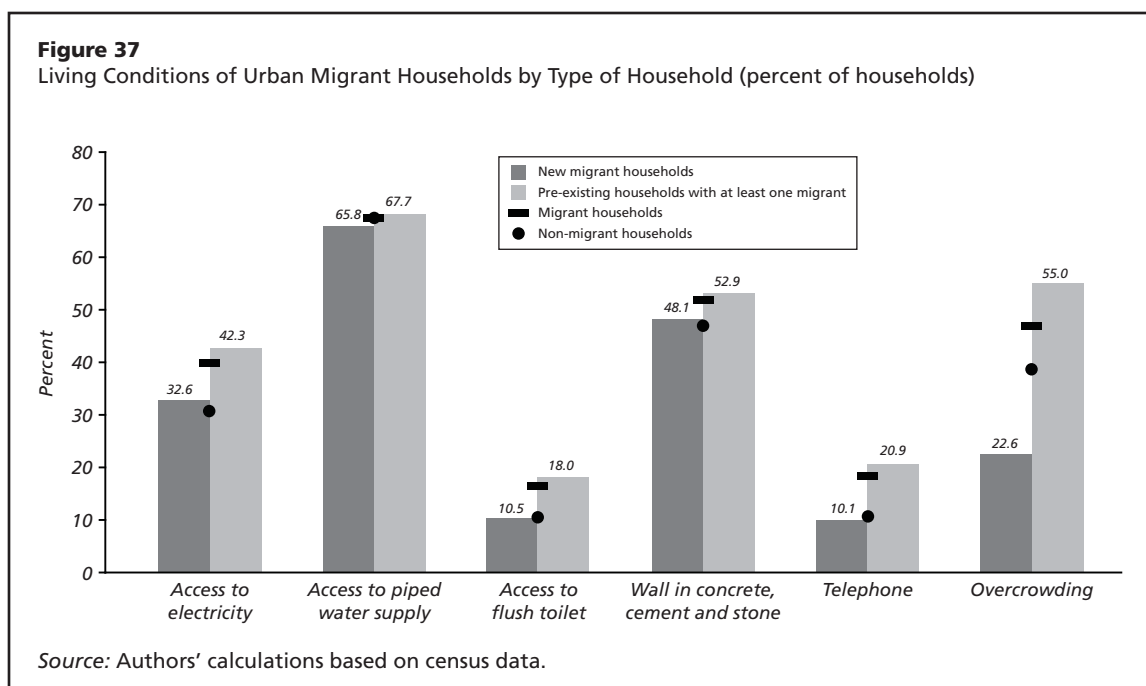
36. The correlation between poverty rate and in-migration rate is -0.21 but not statistically significant.



102. Households with at least one migrant have on average better access to services than households with no migrants. Access to basic services (such as electricity and improved sanitation) is reported to be more widespread among households with at least one migrant than among households with no migrants. Urban migrant households also have better housing quality than non-migrant households. No difference is however found with respect to asset ownership. (See Table 36 in Appendix 6).

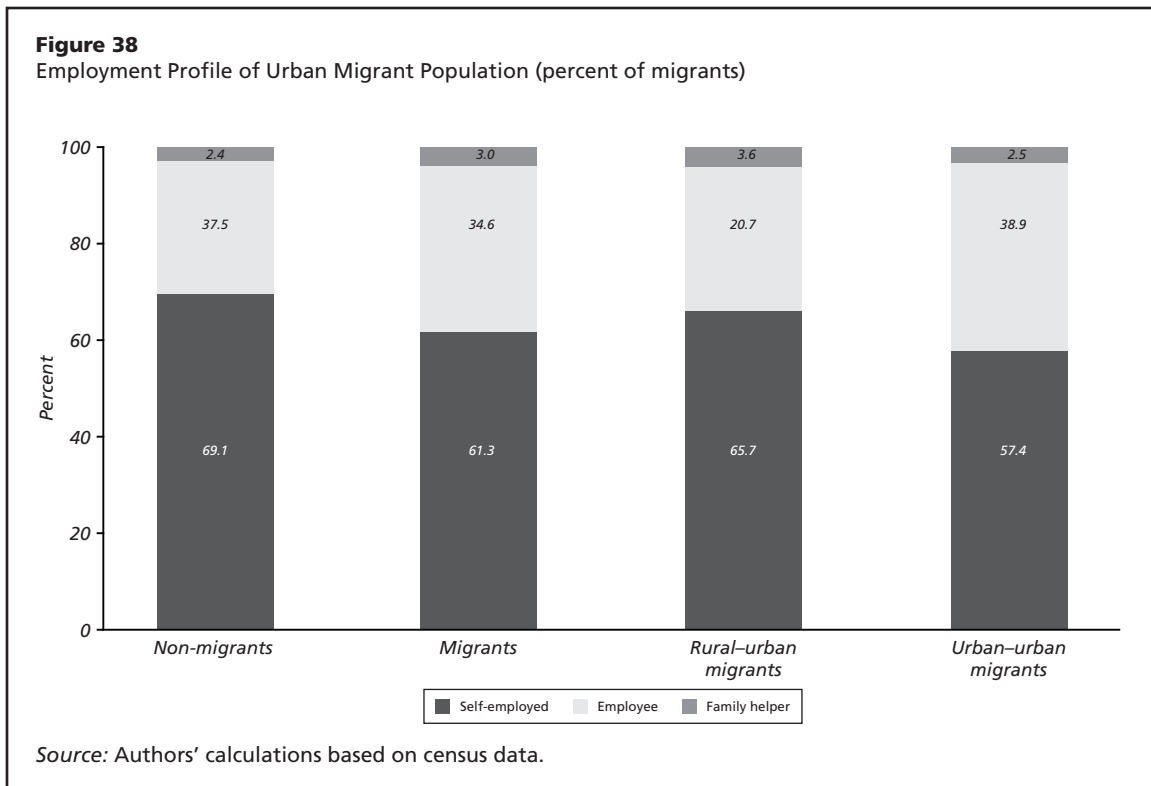
103. Households with at least one migrant are larger in size and more likely to suffer from overcrowding than households with no migrants. In terms of size, migrant households are on average larger, with on average 5 household members, than non-migrant households, which have on average 4 household members. Although residential units of migrant households, expressed in number of rooms, are somewhat larger than units of non-migrants, the larger household size results in a substantially higher level of crowdedness: almost 47 percent of the migrant households have more than 2 persons per room compared to only 39 percent in households without migrants.

104. Households that absorbed migrants from other urban areas do slightly better than households with rural migrants, with regard to access to basic services (electricity, piped water, and sanitation), housing quality and asset ownership. In terms of household size and level of crowdedness, there are no significant differences between households with rural and urban in-migrants.



105. Pre-existing urban households absorbing migrants have better access to services than newly-established migrant households. The discrepancy is particularly striking with respect to access to electricity: 42 percent of pre-existing households absorbing migrants have access to electricity, compared to only 33 percent of newly established migrant households. Similarly, 18 percent of households absorbing migrants have access to flush toilets, compared to only 10 percent of newly established migrant households. A similar gap is found with regard to access to telephones. Differences in access to piped water are instead minimal. Newly-established households are however less likely to suffer from overcrowding than households absorbing migrants: only 22 percent of them have more than 2 persons per room compared to 55 percent of existing households absorbing migrants. This difference can be related to the fact that newly established households with migrants have on average half the number of household members than pre-existing households absorbing migrants. Overall, the results indicate that newly established migrant households may be a particularly vulnerable group in the urban context, especially immediately following their settlement into the receiving urban center. However, as mentioned above, the results need to be interpreted with caution, given that they only capture the transition phase of migration (see Para 100).

106. Migrants and non-migrants have a similar education profile and employment status. There is no significant difference in the education profile of migrants, compared to non-migrants. On average, both migrants and non-migrants have between five and six years of education. To the extent that education is a good proxy for socio-economic status, the results indicate that migrants are not necessarily poorer than the population in the receiving settlements. The results are consistent with Tacoli (2002)'s participatory study in Lindi and



Himo suggesting that migrants are not poorer than those left behind.³⁷ In terms of economic activity and employment, differences between migrants and the receiving population are also not very pronounced—for example 69 percent of non-migrants are self-employed compared to 61 percent of the recent migrants (see Table 36 in Appendix 6).

107. Urban-to-urban migrants are more educated than both rural-to-urban migrants and non-migrants. Decomposing the migrant population based on their origin uncovers some differences within recent migrants as far as education attainment is concerned. Urban-to-urban migrants have higher literacy and educational levels than rural-to-urban migrants: 86 percent of urban-to-urban migrants are literate compared to 78 percent of rural-to-urban migrants. Urban-to-urban migrants have on average one year more of education than rural-to-urban migrants, and are significantly more likely to have secondary and post secondary education. Somehow surprisingly, urban migrants are also more educated than the average resident in the receiving urban areas—for example, 6 percent of urban-to-urban migrants have post-secondary education, again 3.5 percent of non-migrants.

108. ...and have a different employment status. In terms of employment, urban-to-urban migrants are more likely to be wage employees and substantially less frequently engaged in agricultural activities than rural-to-urban migrants. On the other hand, urban-

37. No relationship is found between migrants and level of wealth in the town of Lindi and the township of Himo. These two urban centers were studied as part of a broader participatory-based research program on urban-rural linkages.

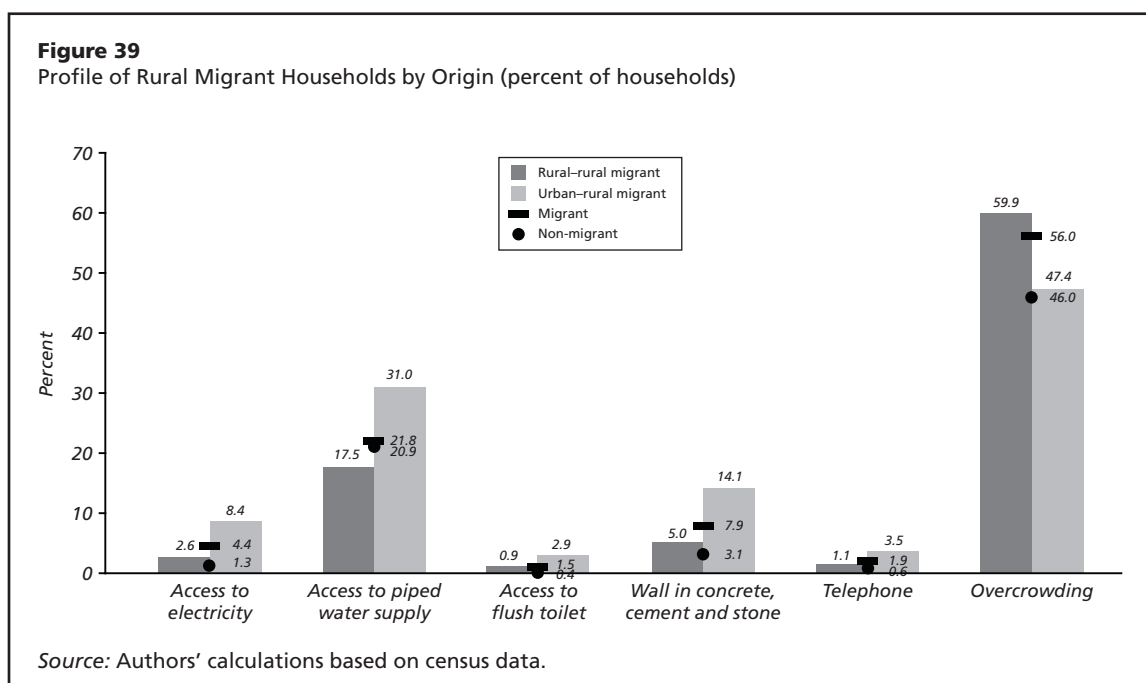
to-urban migrants are more likely to be public servants than rural-to-urban migrants: 17 percent of urban-to-urban migrants are public servants, compared to 13 percent of rural-to-urban migrants.

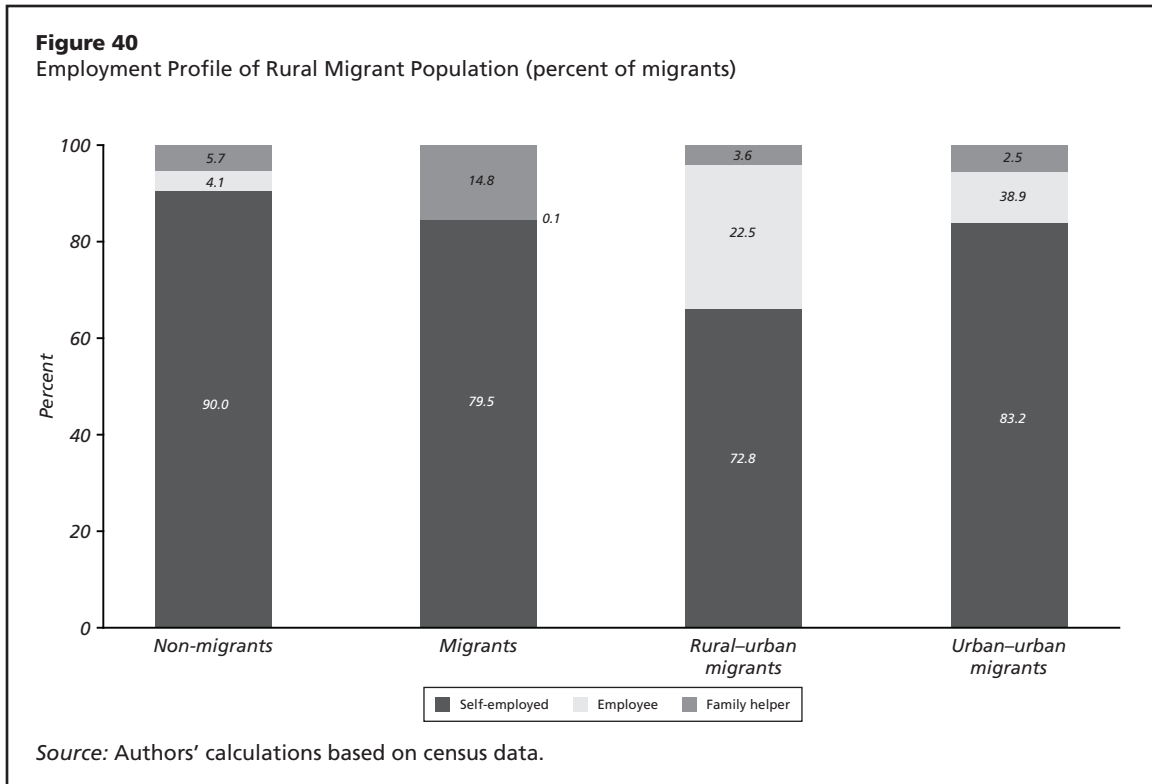
Rural in-migration

109. Rural households with migrants have better access to services than households with no migrants. Access to electricity, piped water supply and flush toilets are substantially higher for rural households with at least a migrant, compared to households with no migrants. Households with a migrant originating from an urban area are more likely to have access to basic services than households with migrants from other rural areas. The generally higher level of well being of households with a migrant from urban areas may also be the result of cash remittances (see Figure 39).

110. Rural migrants are more educated than non-migrants. Sixty-five percent of rural migrants are literate compared to only 57 percent of rural non-migrants. Urban-to-rural migrants have significant higher level of education than rural-to-rural migrants, with on average 5.3 years of schooling, compared to 3.2 for rural-to-rural migrants. (see Table 38 in Appendix 6).

111. Rural-to-urban migrants and urban-to-rural migrants have similar profiles. In terms of literacy rates, years of education and employment status, rural-to-urban migrants and urban-to-rural migrants have a similar profile. For example, 73 percent of rural-to-urban migrants are self-employed, compared to 66 percent of urban-to-rural migrants. This may





suggest that urban-to-rural migrants may in fact be return migrants, who originally migrated from rural to urban areas and then moved back to rural areas at a later stage of their life (see Figure 40).

V.d. Conclusions

112. **This Section explored the linkages between internal migration and the urban transition.** Overall, in mainland Tanzania net migration accounted for 0.6 percent of the urban population in 2000–01 and 17 percent of urban population growth over the intercensal period 1988–2001. The relatively low net migration rate conceals however a much higher level of turnover. Urban-to-urban mobility is shown to be almost as important as rural-to-urban migration as a source of geographic mobility, although it does not directly contribute to urban population growth. A majority of regional headquarters fare worse than the urban areas of the region as a whole in attracting migrants. Urban-to-urban mobility accounts for a higher share of the total turnover in regional headquarters than in the urban areas as a whole.

113. Seventy-five percent of urban migrants join existing households, rather than establishing a new household in the receiving settlement. Somehow surprisingly, households with migrants have better access to services than households with no migrants, and households absorbing migrants from urban areas do slightly better than those absorbing rural migrants

with respect to access to electricity and housing quality. No significant difference is found between the education profile of migrants and that of urban residents. However, differences between migrant groups are uncovered when the origin of the migrants is considered: urban-to-urban migrants are more educated, have better housing quality and better access to electricity than rural-to-urban migrants.

114. In rural areas, households with migrants have better access to services than households with no migrants. Rural migrants are also significantly more educated than non-migrants. The fact that rural-to-urban and urban-to-rural migrants have similar profiles suggest that rural-to-urban migrants may in fact be return migrants, and their superior standards of living may be partially attributed to the effect of remittances.

115. The results needs however to be interpreted with caution, given that the analysis only captures the transitory phase of household-level migration, as the census records only migrants that moved in the year preceding the census survey. In addition, in interpreting the results, one has to keep in mind that the analysis does not capture the most recent trends and it is based on the assumption that the 2001 is a normal migration year.

116. **At the current stage of the urban transition, internal migration is unlikely to pose an undue burden on infrastructure service provision.** Evidence suggests that migration is only contributing to 17 percent of urban population growth in mainland Tanzania, against an estimated 25 percent for Africa. In addition, most urban migrants are absorbed by existing households, which have better access to infrastructure services than the average household. In light of this evidence, migratory pressures are unlikely to be the primary driver of demand for urban basic services, at least at this stage of the urban transition phase in mainland Tanzania.

117. **The analysis suggests that regional headquarters may be losing competitiveness compared to secondary urban centers.** The fact that a significant number of regional headquarters are unable to attract as many migrants as the urban areas of the region raises concerns with respect to the capacity of regional headquarters to act as poles of economic growth and job creation. The results call for additional investigation on the relative competitiveness of different classes of urban centers, and their contribution to economic growth and job creation.

118. **The labor market implications of migration deserve further investigation.** The analysis suggests that rural-to-urban migrants are as skilled as the resident population in the receiving settlement, assuming that education is a good proxy for skill level. Urban-to-urban migrants are found to be on average more skilled than the resident urban population. This evidence suggests that urban migrants are unlikely to be absorbed in the low-skill end of the urban labor market, and they may compete directly with urban residents in the formal labor market. A similar picture is found in rural areas, where migrants are significantly more educated than the rural population, and significantly less likely to be involved in agricultural activities. These findings suggest that migration to rural areas may represent a significant driver of off-farm diversification in rural economies. In light of this evidence, further research

may be warranted to explore how migration is changing the composition of the urban labor force and affecting labor market outcomes in both sending and receiving areas.

119. There is the need to explore further the motivations and welfare issues associated with different types of migration. The analysis reveals that migrants are not a homogeneous group. Factors that are found to be significant in determining the profile of migrants are their origin (that is, whether the sending area is urban or rural) as well as the type of household of the migrant (that is, whether migrants join existing urban households or establish their own households). The heterogeneous profile of migrants suggest that different groups of migrants may have different reasons for migrating to urban areas, and thus may face different challenges and opportunities in the receiving urban context. Further research would be needed to investigate the push and pull factors and the welfare issues associated with different forms of migration.

120. Is migration beneficial to the urban transition? Estimating the benefits and costs of migration in both sending and receiving areas is far beyond the scope of this work. Nevertheless, the analysis sheds some light on whether migration to urban areas may bring about benefits for urban development. Low net migration rates suggest that the current level of migration is unlikely to represent a high toll on the receiving urban economies, as far as the provision of basic services is concerned. On the other hand, high turnover and urban-to-urban mobility are likely to be a driver of economic transformation and development in the receiving areas. Further analysis is however needed to identify the mechanisms through which a high workforce turnover may impact on the receiving and sending economies.

VI. Urban–Rural Linkages: An Overview from Twelve Urban Centers and Their Surrounding Rural Areas

121. There is an extensive qualitative literature on urban-rural linkages in mainland Tanzania. The existing research on urban-rural linkages in Tanzania is mostly conducted through a bottom-up participatory approach (see for example Tacoli 2002, UCLAS 2006, and Mushi 2003). Most of the results are therefore qualitative and cannot be generalized to the country as a whole. The results hold however interesting findings on the behavioral changes that often accompany the urban transition. Tacoli (2002), for example, studies how changes in livelihood strategies brought about by urbanization can affect access to a number of assets (such as natural resources, social assets, human capital and financial capital). The underlying hypothesis is that rural-urban linkages are likely to have a positive impact on economic growth and poverty alleviation to the extent that they facilitate access to critical assets. The hypothesis is tested in a number of Sub-Saharan African countries, including Tanzania.³⁸ In the Tanzanian context, Tacoli (2002) finds that that access to land can potentially undermine the beneficial impact of urban-rural linkages.³⁹

122. The objective of this Section is to complement the qualitative literature with a quantitative empirical analysis of non-farm employment patterns in the urban-rural continuum. The share of non-farm employment is an indicator of diversification out of agriculture. Non-farm employment is expected to be more prominent in close proximity to urban centers, under the assumption that the incentives for economic diversification associated to agglomeration economies spill over to the surrounding areas. For example, people living in close proximity to urban centers are likely to have better access to infrastructure and markets than those living to more remote rural areas. Findings from a study by Lanjouw et al. (2001) indicate that this may not however be the case in six major Tanzanian urban

38. In Tanzania, participatory studies were conducted in Himo, a dynamic township close to the border with Kenya, and two villages in the surrounding area; and Lindi, a declining town in the South of the country and two local villages located in the outskirts of the urban centers.

39. This is particularly the case in Lindi, where small farmers located in the outskirts of urban centers are displaced by middle and higher income urban residents buying peri-urban land to invest in commercial farming.

Box 7. Urban-rural Linkages: Methodological Approach

The analysis of non-farm employment patterns is conducted for the twelve selected urban centers listed in Table 3. The different methodological assumptions made for the census and smallholder analysis are reported below.

Census Analysis

Based on the 2002 census, the following assumptions are made to classify wards within districts based on their distance from the core urban center:

| <i>Distance area</i> | <i>Proxy</i> |
|-----------------------------------|---|
| Area 0: Core urban | Urban wards |
| Area 1: Peri-urban (mostly urban) | Mixed wards within a district, with majority urban population |
| Area 2: Peri-urban (mostly rural) | Mixed wards within a district, with majority rural population |
| Area 3: Rural (inner layer) | Rural wards within district |
| Area 4: Rural (outer layer) | Wards adjacent to districts |

The respondents' main activity at place of work during the seven days preceding the census is used as the basis for the analysis. Agricultural activities are defined to include agricultural, commercial and food crop production (including raw food sales), forestry, fishing, hunting, livestock keeping and other related activities. All other activities are classified as non-agricultural.

Agricultural Sample Census Analysis

The agricultural survey was conducted in 2002–2003, covering a sample of 48,345 smallholder households from 3,221 villages/enumeration areas. The Agricultural Sample Census includes information on distance from district and regional headquarters that can be used for a direct assessment of the distance decay function in non-farm employment. The survey provides detailed information on smallholders' main activities, covering also domestic activities and non-economic activities such as retirement and schooling. Smallholders that reported the following type of employment are classified as engaged in non-farm activities:

- Paid government employee
- Paid employee working in a private firm/NGO or mission etc.
- Non farming self employed with or without employees

Some caution is needed in interpreting the results, given that it is not possible to distinguish between farm and non-farm activities with absolute certainty based on the above classification—for example, the category of paid employees in private firms might include paid laborers working on commercial farms.

centers, where non-farm employment is not found to be more prominent in the peri-urban areas than in rural areas (with the exception of relatively dynamic cities like Dar es Salaam and Arusha).⁴⁰

123. Two complementary analyses of non-farm employment patterns are conducted in twelve selected urban centers. One analysis is based on the 2002 census, the other based on the 2002–03 small-holder sample from the Tanzania Agricultural Sample Census. The census benefits from a much larger sample size than the agricultural survey but does not

40. The empirical analysis by Lanjouw et al (2001) is based on the 1998 Tanzania Peri-urban Survey, fielded in the peri-urban areas around Dar es Salaam, Lindi, Mbeya, Mwanza, Arusha and Mozshi.

provide information on distance from district or regional headquarters. The Agricultural Sample Census records distance from district headquarters, but the sample is substantially smaller than that of the long-form census questionnaire and is only drawn from smallholder households. However, the agricultural survey is sampled to be representative at district level. The methodology adopted for the analysis is outlined in Box 7.

VI.a. Distance-decay Function in Non-farm Employment: Census Analysis

124. **The results suggest a clear divide between urban and rural areas as far as non-farm employment is concerned.** Figure 41 presents the percentage of the population engaged in non-farm activities by distance proxies to the urban centers for the combined twelve urban centers. As expected, the percentage of population engaged in non-agricultural activities declines as the distance from the core urban centers increases. However, the decline is not as gradual as it would be expected in the presence of strong urban-rural linkages. There is a significant and drastic decline in the proportion of people engaged in non-farm activities in mostly rural peri-urban areas, relatively to mostly urban peri-urban areas. This drop is significantly larger than the decrease in non-farm employment that is registered in mostly urban peri-urban relative to the core urban center. As shown in Table 5, each individual urban center exhibits a very similar pattern of non-farm employment, with the exception of Kilosa, which instead shows an increase in non-farm activities in mostly urban peri-urban areas relatively to the core urban center.

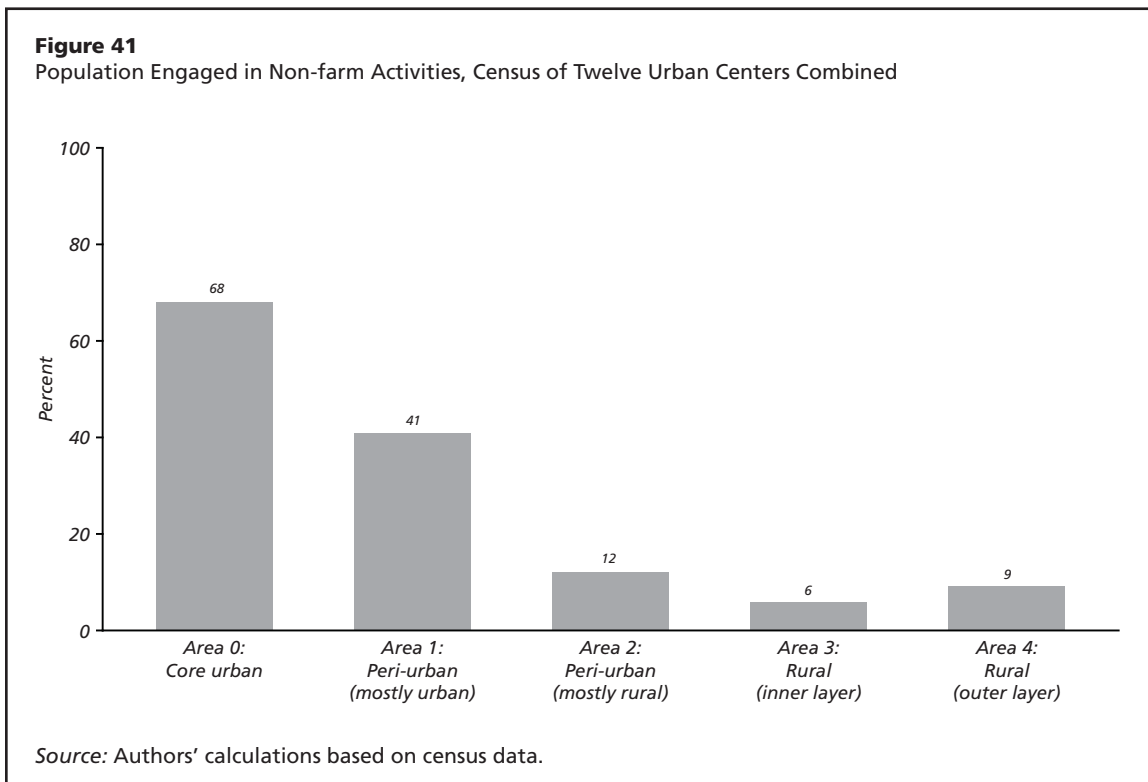


Table 5
Population Engaged in Non-farm Activities, Census of Selected Urban Centers (percent)

| Urban center | All | Mwanga | Tanga | Kilosa | Rufiji | Lindi | Songea | Mbeya | Nzega | Kigoma | Mwanza | Tarime | Babati |
|--------------------------------------|-----|--------|-------|--------|--------|-------|--------|-------|-------|--------|--------|--------|--------|
| Area 0: Core urban | 68 | 72 | 83 | 22 | 36 | 46 | 84 | 66 | 70 | 52 | 78 | 61 | 32 |
| Area 1: Peri-urban (mostly urban) | 41 | 21 | 59 | 30 | 25 | 36 | 50 | 48 | 28 | 44 | 56 | 37 | 24 |
| Area 2: Peri-urban (mostly rural) | 12 | 17 | 42 | 5 | 8 | 4 | 13 | 20 | * | 25 | 4 | 4 | 10 |
| Area 3: Rural (inner layer) | 6 | 12 | 18 | 4 | 8 | ** | 11 | 6 | 5 | ** | 20 | 4 | 7 |
| Area 4: Rural (outer layer) | 9 | 15 | 14 | 7 | 6 | 8 | 4 | 11 | 7 | 13 | 12 | 11 | 12 |

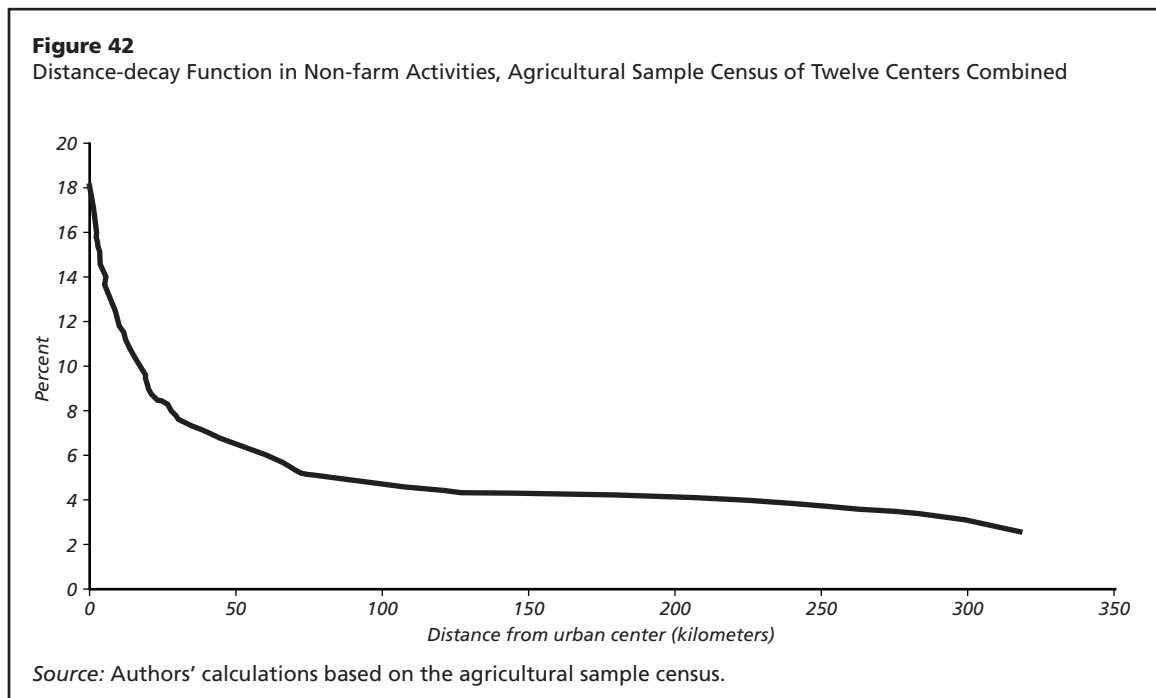
Source: Authors' calculations based on census data.

Note: * = Rural part of mixed wards in Nzega district not included in long-form sample; ** = No rural wards in Lindi and Kigoma urban districts.

VI.b. Distance-decay Function in Non-agricultural Activities: Agricultural Sample Census Analysis

125. The results suggest a steep decline in non-farm activities at a distance of 25–30 km from urban centers. A distance-decay function for the percentage of population engaged in non-farm employment is estimated for the selected twelve urban centers, based on a locally weighted regression technique. Figure 42 shows the smoothed relationship between the likelihood of having a non-agricultural job as main economic activity and the distance from the urban center. At a distance of about 25–30 km from the urban center, a very steep initial decline in the percentage of smallholders engaged in non-farm activities is registered (from 18 to 8 percent), after which the percentage declines even further and flattens at around 100 km. This large initial decline is consistent with the census findings, which show a sharp drop in non-agricultural activities in mostly-rural peri-urban areas (distance area 2), relatively to mostly-urban peri-urban areas (distance area 1). The rate of decline in non-farm activities after the initial steep drop also shows similarities with the decline registered in more remote rural areas (distance areas 4 and 5) in the census data.

126. Individual urban centers do not always exhibit the regular trend shown at the aggregate level. Figure 99 to Figure 110 in Appendix 7 show the distance decay functions for the individual urban centers. Contrary to the aggregated trend exhibited in Figure 42, the majority of the twelve urban centers show an initial increase in non-agricultural economic activity in proximity to the urban center, after which there is a sudden decline. Songea and Mbeya located in the Southern part of the country show the deepest and more rapid decrease in non-farm activities as distance from the urban center increases. Mwanza and Kigoma show



a clear reversed pattern with growing shares of non-farm employment as the distance from the center increases. Tarime and Rufiji show a similar, albeit less marked, reversed trend. The reversed patterns in Mwanza, Kigoma, and to a lesser extent in Tarime and Rufiji support the observations made by Lanjouw et al (2001) that non-farm activities are not noticeably higher in peri-urban areas than in rural areas as a whole. These findings contrast with the census results which find a steady decline in non-farm employment with increasing distance to the core urban area for virtually all urban centers with the exception of Kilosa. The census and smallholder surveys exhibit consistent results in the case of Kilosa: the census analysis shows an increase in non-farm activities moving from the core urban center to mostly urban peri-urban areas (distance area 1); similarly, the agricultural sample survey indicates a peak in non-agricultural employment at around 90 km from Kilosa.

VI.c. Conclusions and Areas for Further Research

127. Both analyses point to a steep decline in non-farm activities in close proximity to the urban centers. The two analyses show consistent results at the aggregate level. Non-farm employment does not appear to be deeply rooted in the areas surrounding the urban centers. Instead, the results point to a clear divide between urban and rural areas as far as economic activities are concerned. A more diverse picture however emerges at the level of individual urban centers. Based on the agricultural census survey results, most urban centers do not exhibit a smooth linear pattern. In fact, four urban centers show some evidence of a reversed pattern, where the highest degree of concentration in non-farm activities is not found in close proximity of the urban centers, in line with the findings of Lanjouw et al (2001).

128. A better understanding of the twelve urban economies and the surrounding rural areas is needed to interpret the results. Only hypotheses can be made to explain these empirical findings in the absence of a deeper understanding of the economic environment of the twelve urban centers. According to Lanjouw et al. (2001), there may be different reasons why the linear relationship between proximity to urban centers and non-farm employment does not hold in some urban centers. First, proximity to a large market may provide disincentives to non-farm employment; second, peri-urban households may take advantage of non-farm goods and services produced in the urban centers rather than producing themselves. These hypotheses are supported by evidence that crop sales account for a higher value of gross agricultural output in peri-urban areas than they do in rural areas, based on the Tanzania 1988 Peri-Urban Survey.

129. An assessment of non-farm employment patterns has important implications for policy making, as diversification out of agriculture is often cited as one of the routes out of poverty. In this context, further research is needed to explore the determinants of non-farm employment, in particular access to infrastructure and to markets, as a way to understand how public investment can accelerate diversification out of agriculture. The impact of off-farm diversification on poverty alleviation also merits further attention: understanding the dynamics through which non-farm employment in proximity to urban

centers can lead to lower level of poverty can have significant implications for the design of anti-poverty interventions.

VII. Conclusions

130. This study aims to provide the empirical base for fostering policy dialogue on the urban transition in mainland Tanzania. The study builds on the momentum created by the recent launch of the UDEM framework, which revamped policy interest on the urban transition, and is one of several inputs to the overall diagnostic review of urbanization in mainland Tanzania, conducted by the World Bank in collaboration with the Government of Tanzania. Without delving into the specific findings of the study, which are summarized at the end of each Section, this concluding Section focuses on some common threads that emerge from the analyses and suggests strategic areas where further research would be warranted to inform policy dialogue.

131. Empirical evidence indicates that urbanization may be occurring off the radar screen of government agencies. Seventeen percent of the population in mainland Tanzania live in high density settlements with no legal status. This “out-of-sight” urbanization may jeopardize the capacity of government agencies to effectively respond to the challenges associated with rapid urbanization where it is in fact happening. This concern is shared in the UDEM framework, which emphasizes how high-density settlements with no legal status are a ‘time-bomb’, sprawling in an uncontrolled and incoherent fashion. The analysis presented in this study provides empirical evidence to support the UDEM position and univocally calls for a renewed policy interest on urbanization, beyond politico-administrative boundaries, with particular emphasis on reinforcing local planning capacity and addressing the infrastructure needs associated with densification.

132. ...and that there may unrealized gains to be made from urbanization. Empirical evidence points to a clear urban advantage with respect to access to basic services, housing quality and education attainment, relatively to rural areas. It however also indicates that urban centers may be ill-equipped to exploit the agglomeration economies associated with densification. For example, urban electrification at 34 percent is well below Sub-Saharan African standards (50 percent). Within the urban spectrum, high-density settlements with

no legal status have a clear disadvantage, with only 14 percent coverage. In addition, a significant number of regional headquarters fare worse than the urban areas as a whole in the regions in attracting migrants, suggesting a relatively loss of competitiveness and a slowdown in job creation vis-à-vis smaller urban centers. The overall picture suggests that mainland Tanzania may not be fully reaping the benefits of urbanization. In this context, further research is warranted to inform the development of a policy and investment agenda aiming at both revamping faltering regional headquarters and unlocking the growth potential derived from agglomeration economies.

133. The urban transition brings uneven gains in poverty reduction. Empirical evidence belies the thesis that urban areas are always pockets of wealth, relatively to the surrounding rural areas. It also highlights that a significant share of the urban population live in wards which have higher poverty rates than the surrounding rural areas. The case of Mbeya, with a low urban-rural poverty gap and high intra-urban poverty variation, exemplifies how the gains of economic growth may not necessarily be spread evenly across the urban population. These findings, albeit from a small sample, calls for a better understanding of the impact of urbanization on poverty and inequality across the urban space.

134. Internal migration is shaping the urban transition, but its contribution to urban population growth is modest. In the absence of institutional impediments, internal migration can act as a driver of economic transformation and strengthen the linkages between the urban and rural economies. Mainland Tanzania exhibit a very high turnover, as about 5.3 percent of the urban population moved to or from urban areas in the country in 2001, and an additional 2.6 percent of the urban population moved between urban centers. At this stage of the urban transition, migratory pressures are unlikely to pose significant incremental costs to the urban economies in terms of urban service provision: net migration only accounted for 0.6 percent of the urban population in 2000–01 and for 17 percent of urban population growth over the inter-censal period 1988–2001. Nevertheless, the high level of turnover suggests that migration is shaping the urban transition, by affecting labor force composition and labor market outcomes. Whether mainland Tanzania is fully reaping the benefits of internal migration and high labor turnover is however unclear. Further research is warranted to assess whether urban economies are flexible enough to facilitate economic and social integration in the urban fabric of a diverse pool of migrants.

135. Evidence points to a diverse pattern of non-farm employment across the urban-rural spectrum. An assessment of non-farm employment patterns at the aggregate level shows a marked drop in non-farm activities in close proximity to urban centers. However, individual urban centers show a much less regular trend: four (out of twelve) urban centers exhibit a reverse trend, with a higher incidence of non-farm employment as distance to the core urban center increases. The diversity of the patterns is striking, and even more so given the fairly small size of the sample. The broad array of results suggests that the nature of urban-rural linkages is likely to be influenced by a variety of factors, such as access to infrastructure and to markets as well as by the economic forces at work in different urban contexts. The empirical findings call for a more detailed assessment of the urban economies around which the surrounding rural economies revolve. Such an assessment would deepen

our understanding of the main factors which influence non-farm employment in peri-urban areas, and the relative impact of non-farm employment on economic growth and poverty alleviation in urban and rural areas.

Appendix 1: PMO–RALG and MLHSD’s List of Urban Centers

Table 6
List of PMO-RALG Urban LGAs

| <i>Cities</i> | <i>Municipalities</i> | <i>Towns</i> |
|------------------|-----------------------|--------------|
| 1. Dar es Salaam | 1. Moshi | 1. Kibaha |
| 2. Mwanza | 2. Tabora | 2. Babati |
| 3. Mbeya | 3. Iringa | 3. Korogwe |
| | 4. Dodoma | 4. Lindi |
| | 5. Songea | |
| | 6. Mtwara | |
| | 7. Sumbawanga | |
| | 8. Singida | |
| | 9. Kigoma | |
| | 10. Bukoba | |
| | 11. Musoma | |
| | 12. Arusha | |
| | 13. Morogoro | |
| | 14. Shinyanga | |
| | 15. Kinondoni | |
| | 16. Temeke | |
| | 17. Ilala | |

Table 7
MLHSD's List of Urban Settlements

| <i>Cities</i> | <i>Municipalities</i> | <i>Towns</i> | <i>Townships (District Headquarters)</i> | | |
|------------------|-----------------------|--------------|--|----------------|----------------|
| 1. Dar es Salaam | 1. Moshi | 1. Kibaha | 1. Bagamoyo | 27. Ruangwa | 53. Kibondo |
| 2. Mwanza | 2. Tabora | 2. Babati | 2. Kondo | 28. Newala | 54. Kasulu |
| 3. Arusha | 3. Iringa | 3. Korogwe | 3. Mpwapwa | 29. Masasi | 55. Bariadi |
| 4. Mbeya | 4. Dodoma | 4. Lindi | 4. Kongwa | 30. Tandahimba | 56. Maswa |
| 5. Tanga | 5. Songea | | 5. Monduli | 31. Tundurua | 57. Kahama |
| | 6. Mtwara | | 6. Karatu | 32. Mbinga | 58. Bukombe |
| | 7. Sumbawanga | | 7. Kiteto | 33. Namtimbo | 59. Meatu |
| | 8. Singida | | 8. Mkuu Rombo | 34. Mufindi | 60. Kishapu |
| | 9. Kigoma | | 9. Mwanga | 35. Makete | 61. Karagwe |
| | 10. Bukoba | | 10. Same | 36. Njombe | 62. Muleba |
| | 11. Musoma | | 11. Bomang'ombe | 37. Ludewa | 63. Ngara |
| | 12. Arumeru | | 12. Lushoto | 38. Kilolo | 64. Biharamulo |
| | 13. Morogoro | | 13. Muheza | 39. Chunya | 65. Magu |
| | 14. Shinyanga | | 14. Pangani | 40. Kyela | 66. Ngudu |
| | 15. Kinondoni | | 15. Handeni | 41. Rungwe | 67. Sengerema |
| | 16. Temeke | | 16. Kilindi | 42. Ileje | 68. Geita |
| | 17. Ilala | | 17. Kilosa | 43. Mbozi | 69. Missungwi |
| | | | 18. Kilombero | 44. Mbarali | 70. Ilemela |
| | | | 19. Mvomero | 45. Kiomboi | 71. Tarime |
| | | | 20. Kisarawe | 46. Manyoni | 72. Mugumu |
| | | | 21. Mkuranga | 47. Nzega | 73. Bunda |
| | | | 22. Rufiji | 48. Igunga | 74. Hanang |
| | | | 23. Mafia | 49. Urambo | 75. Mbulu |
| | | | 24. Kilwa | 50. Sikonge | 76. Simanjiro |
| | | | 25. Nachingwea | 51. Mpanda | 77. Kibaya |
| | | | 26. Liwale | 52. Nkasi | |

Source: PMO-RALG (2006).

Appendix 2: Mapping Methodology

136. This Appendix provides a brief description of the methodological approach adopted for the mapping exercise. Given that the lowest resolution of the maps is the ward, some adjustment ought to be made to map the statistical and human settlements urban perspectives, given that these two classifications are based on units of analysis which are below the ward level.

137. **Mapping the statistical urban perspective.** Mapping NBS urban perspective requires some adaptation of the original statistical urban classification to fit the resolution of the digital map, given that NBS definition of urban is EA-based, while the ward is the lowest level of resolution available for the mapping. NBS classifies wards in three categories based on level of urbanization: rural, mixed and urban. For mapping purposes, mixed wards are re-defined into urban and rural based on the following criteria: if the largest part of the ward population resides in urban EAs the mixed ward is defined as urban; if the majority of the ward population lives in rural EAs the mixed ward is classified as rural. In this study, the original NBS definition is referred as the EA-based classification, and the definition adopted for the mapping exercise is referred to as the ward-based classification.

138. Classifying mixed wards into urban and rural wards for mapping purposes leads to a drop in the urbanization rate: the ward-based classification results into 20.7 percent of the population classified as urban, while the EA-based classification yields an urbanization rate of 22.6 percent.⁴¹ On the other hand, the difference in the estimated urbanization rate is small enough to ensure the accuracy of the mapping exercise.

139. **Mapping the politico-administrative urban perspective.** Urban LGAs identified by PMO-RALG includes 5 cities, 17 municipalities and 4 towns (see Appendix 1 for the list of

41. This redefinition classifies 627,000 (1.9 percent of the population) rural residents from mixed wards as urban and classifies about 1,326,000 (4.1 percent of the population) urban residents of mixed wards as rural.

urban LGAs). Mapping PMO-RALG urban LGAs results into 17 percent of the population being classified as urban.

140. Mapping the human settlements urban perspective. The MLHSD urban perspective includes a list of 77 townships, in addition to all the cities, municipalities and towns identified by PMO-RALG (see Appendix 1). As township boundaries do not always exactly follow ward demarcations, some adjustments have to be made to fit the resolution of the map. When township borders are below the ward-level, the entire ward is classified as urban since the ward is the lowest level of mapping resolution. Because of this necessary adjustment, the map may to some extent visually over-estimate the urban space. For example, the two township wards Okersumet and Mererani located Simanjiro district (Manyara region) are predominantly rural, resulting into large rural areas being classified as urban. 23.5 percent of the population in mainland Tanzania live in urban areas based on the human settlement urban perspective.

141. Mapping the density-based urban perspective. Adopting a population density perspective changes urbanization patterns once more. Applying the OECD cut-off put of more than 150 people per km² to wards results in significantly higher level of urbanization, compared to the three ‘mainstream’ urban perspectives adopted by governmental agencies: about 33.5 percent of the Tanzanians lives in wards with population densities over 150 people per km².

Appendix 3: Urbanization Trends

Table 8
Overlay between the Density-based and the Statistical Urban Perspective

| | <i>Statistical</i> | | <i>Total</i> |
|---------------|--------------------|--------------|--------------|
| | <i>Urban</i> | <i>Rural</i> | |
| Density-based | | | |
| High-density | 18.7 | 14.8 | 33.5 |
| Low-density | 4.1 | 62.4 | 66.5 |
| Total | 22.8 | 77.2 | |

Source: Author's calculations based on census data.

Table 9
Overlay between the Density-based and the Politico-administrative Urban Perspective

| | <i>Politico-administrative</i> | | <i>Total</i> |
|---------------|--------------------------------|--------------|--------------|
| | <i>Urban</i> | <i>Rural</i> | |
| Density-based | | | |
| High-density | 16.3 | 17.2 | 33.5 |
| Low-density | 0.5 | 66.0 | 66.5 |
| Total | 16.8 | 83.8 | |

Source: Author's calculations based on census data.

Table 10
Urbanization: Ranking of Regions by Urban Perspective

| <i>Region</i> | <i>Statistical</i> | <i>Politico-administrative</i> | <i>Human settlements</i> | <i>Density-based</i> |
|---------------|--------------------|--------------------------------|--------------------------|----------------------|
| Dar es Salaam | 94.0 | 97.5 | 97.5 | 98.6 |
| Arusha | 31.4 | 41.9 | 45.5 | 56.5 |
| Morogoro | 27.1 | 12.7 | 21.3 | 23.7 |
| Pwani | 21.1 | 7.9 | 18.1 | 17.3 |
| Kilimanjaro | 20.7 | 10.1 | 19.5 | 72.0 |
| Mwanza | 20.7 | 13.6 | 19.8 | 54.7 |
| Mbeya | 20.3 | 12.2 | 22.6 | 37.6 |
| Mtwara | 20.1 | 8.0 | 13.5 | 23.9 |
| Mara | 18.5 | 7.8 | 14.2 | 38.9 |
| Tanga | 18.3 | 15.7 | 25.2 | 44.7 |
| Rukwa | 17.6 | 7.1 | 12.0 | 11.2 |
| Iringa | 17.3 | 7.0 | 16.8 | 9.9 |
| Lindi | 16.1 | 5.2 | 12.5 | 6.1 |
| Kigoma | 15.5 | 10.9 | 15.7 | 31.9 |
| Ruvuma | 15.3 | 9.7 | 17.1 | 15.3 |
| Singida | 13.6 | 5.2 | 9.6 | 9.8 |
| Manyara | 13.5 | 6.5 | 14.0 | 14.9 |
| Tabora | 12.7 | 7.8 | 15.1 | 12.2 |
| Dodoma | 12.4 | 9.1 | 11.5 | 11.7 |
| Shinyanga | 9.1 | 3.3 | 11.0 | 10.3 |
| Kagera | 6.6 | 3.1 | 12.7 | 29.0 |

Source: Author's calculations based on census data.

Note: Highest and lowest urbanization rates are in bold.

Appendix 4: The Urban Profile

Table 11
Household and Housing Characteristics, Urban versus Rural, 2002 (percent)

| <i>Characteristics</i> | <i>2002</i> | | <i>1988</i> | |
|---------------------------|--------------|--------------|--------------|--------------|
| | <i>Urban</i> | <i>Rural</i> | <i>Urban</i> | <i>Rural</i> |
| Energy use for cooking | | | | |
| Electricity | 3.9 | 0.2 | | |
| Paraffin | 15.5 | 0.4 | | |
| Firewood | 25.9 | 95.6 | | |
| Charcoal | 53.3 | 3.6 | | |
| Energy use for lighting | | | | |
| Electricity | 34.0 | 1.3 | 27.0 | 1.0 |
| Paraffin | 64.4 | 91.9 | | |
| Firewood | 0.8 | 6.4 | | |
| Source of drinking water | | | | |
| Piped water | 70.0 | 20.5 | 79.5 | 18.5 |
| Protected well | 15.4 | 22.0 | 17.2* | 60.5* |
| Unprotected well | 7.4 | 32.5 | | |
| Surface water | 2.9 | 18.1 | 3.2 | 20.9 |
| Toilet facilities | | | | |
| Flush toilet | 11.9 | 0.4 | 12.9 | 1.0 |
| Improved pit latrine | 3.6 | 0.6 | 83.1** | 83.1** |
| Traditional pit latrine | 83.0 | 87.9 | | |
| No toilet facilities | 1.5 | 11.1 | 3.9 | 15.8 |
| Construction materials | | | | |
| Wall | | | | |
| Poles, branches and grass | 0.4 | 0.6 | | |
| Poles, mud and stone | 13.9 | 41.4 | | |

Table 11 (continued)
Household and Housing Characteristics, Urban versus Rural, 2002 (percent)

| <i>Characteristics</i> | <i>2002</i> | | <i>1988</i> | |
|-------------------------------|--------------|--------------|--------------|--------------|
| | <i>Urban</i> | <i>Rural</i> | <i>Urban</i> | <i>Rural</i> |
| Mud bricks | 22.1 | 38.0 | | |
| Baked bricks | 13.0 | 14.8 | | |
| Concrete, cement and stone | 50.2 | 3.1 | | |
| Roof | | | | |
| Grass, leaves and bamboo | 9.2 | 52.5 | | |
| Concrete and cement | 3.2 | 0.3 | | |
| Metal sheets | 86.0 | 31.8 | | |
| Household assets | | | | |
| Electricity | 31.5 | 1.2 | | |
| Radio | 69.3 | 44.0 | | |
| Telephone | 12.3 | 0.6 | | |
| Bicycle | 26.4 | 36.0 | | |
| Handheld hoe | 57.5 | 84.1 | | |
| Wheelbarrow | 45.5 | 4.3 | | |
| Iron | 7.7 | 3.2 | | |
| Number of rooms (mean) | 2.1 | 2.2 | 2.6 | 3.1 |
| Number of persons/room (mean) | 2.2 | 2.5 | 2.0 | 2.0 |
| Overcrowding*** | 39.2 | 46.7 | 32.6 | 33.2 |
| Household size (mean) | 4.1 | 4.8 | 4.5 | 5.4 |

Source: Author's calculations based on census data.

* In the 1988 census no distinction is made between protected and unprotected wells.

** In the 1988 census no distinction is made between improved and traditional pit latrines.

*** Overcrowding is defined as households with >2 persons per room.

Table 12
Population Characteristics, Urban versus Rural, 2002 (percent)

| <i>Characteristics</i> | <i>2002</i> | | <i>1988</i> | |
|---------------------------|--------------|--------------|--------------|--------------|
| | <i>Urban</i> | <i>Rural</i> | <i>Urban</i> | <i>Rural</i> |
| Demographics | | | | |
| Age (mean) | 22.3 | 21.8 | 21.8 | 22.0 |
| Sex (male) | 48.8 | 48.6 | 49.7 | 48.2 |
| Marital status | | | | |
| Never married | 62.5 | 60.8 | 62.9 | 61.2 |
| Currently married | 31.9 | 33.3 | 31.4 | 33.4 |
| Widowed | 2.6 | 3.2 | 2.2 | 3.0 |
| Literacy and education | | | | |
| Literate | 82.2 | 57.2 | 69.4 | 47.8 |
| Years of education (mean) | 5.4 | 3.2 | 4.4 | 2.5 |
| Received any education | 82.7 | 60.9 | 69.2 | 48.4 |
| Up to primary | 67.1 | 58.2 | 58.1 | 46.8 |
| Up to secondary | 11.8 | 2.2 | 8.6 | 1.4 |
| Up to post-secondary | 38. | 0.5 | 2.5 | 0.3 |

Table 12 (continued)
Population Characteristics, Urban versus Rural, 2002 (percent)

| <i>Characteristics</i> | <i>2002</i> | | <i>1988</i> | |
|--------------------------------------|--------------|--------------|--------------|--------------|
| | <i>Urban</i> | <i>Rural</i> | <i>Urban</i> | <i>Rural</i> |
| Usual economic activity | | | | |
| Unemployed | 4.2 | 0.7 | 1.7 | 0.4 |
| Student | 26.7 | 21.0 | 19.9 | 18.7 |
| Retired | 5.8 | 8.0 | 1.1 | 1.8 |
| Non-productive domestic | 16.3 | 10.5 | 14.3 | 5.1 |
| Economically active | 48.7 | 59.5 | 59.8 | 71.0 |
| Employment status | | | | |
| Self-employed | 66.6 | 89.9 | 25.6 | 43.4 |
| Employer | 0.2 | 0.1 | 0.8 | 0.1 |
| Employee | 29.9 | 4.2 | 14.9 | 1.9 |
| Family helper | 2.4 | 5.6 | 0.9 | 1.5 |
| Type of business | | | | |
| Engaged in non-agricultural activity | 67.0 | 13.0 | 54.6 | 5.9 |

Source: Author's calculations based on census data.

Table 13
Urban Household and Housing Characteristics by Urban Perspective, 2002 (percent)

| <i>Characteristics</i> | <i>Statistical</i> | | | | |
|--------------------------|--------------------|-------------------|--------------------------------|--------------------------|-----------------------|
| | <i>EA-based</i> | <i>Ward-based</i> | <i>Politico-administrative</i> | <i>Human settlements</i> | <i>Density-based*</i> |
| Energy use for cooking | | | | | |
| Electricity | 3.6 | 3.8 | 4.4 | 3.4 | 2.6 |
| Paraffin | 15.5 | 16.2 | 19.6 | 15.3 | 11.3 |
| Firewood | 25. | 25.8 | 20.4 | 31.4 | 47.9 |
| Charcoal | 53.3 | 52.7 | 53.9 | 48.4 | 37.1 |
| Energy use for lighting | | | | | |
| Electricity | 34.0 | 35.2 | 38.7 | 32.0 | 24.7 |
| Paraffin | 64.4 | 63.1 | 59.8 | 66.1 | 73.2 |
| Firewood | 0.8 | 0.8 | 0.6 | 1.1 | 1.4 |
| Source of drinking water | | | | | |
| Piped water | 70.0 | 70.0 | 77.7 | 68.5 | 58.3 |
| Protected well | 15.4 | 14.5 | 11.6 | 14.2 | 18.8 |
| Unprotected well | 7.4 | 7.6 | 5.5 | 9.1 | 10.6 |
| Surface water | 2.6 | 3.3 | 1.5 | 3.9 | 6.6 |
| Toilet facilities | | | | | |
| Flush toilet | 11.9 | 12.3 | 14.6 | 11.4 | 8.6 |
| Improved pit latrine | 3.6 | 3.4 | 3.1 | 3.2 | 2.7 |
| Traditional pit latrine | 83.0 | 82.6 | 80.7 | 82.6 | 85.7 |
| No toilet facilities | 1.5 | 1.6 | 1.6 | 2.7 | 3.0 |

Table 13 (continued)
Urban Household and Housing Characteristics by Urban Perspective, 2002 (percent)

| <i>Characteristics</i> | <i>Statistical</i> | | <i>Politico-administrative</i> | <i>Human settlements</i> | <i>Density-based*</i> |
|-------------------------------|--------------------|-------------------|--------------------------------|--------------------------|-----------------------|
| | <i>EA-based</i> | <i>Ward-based</i> | | | |
| Construction materials | | | | | |
| Wall | | | | | |
| Poles, branches and grass | 0.4 | 0.4 | 0.5 | 0.5 | 1.1 |
| Poles, mud and stone | 13.9 | 14.7 | 13.5 | 16.9 | 23.4 |
| Mud bricks | 22.1 | 21.1 | 16.3 | 22.0 | 24.7 |
| Baked bricks | 13.0 | 12.1 | 6.8 | 11.1 | 11.2 |
| Concrete, cement and stone | 50.2 | 51.3 | 62.5 | 48.9 | 39.1 |
| Roof | | | | | |
| Grass, leaves and bamboo | 9.2 | 10.3 | 6.2 | 12.2 | 17.8 |
| Concrete and cement | 3.2 | 3.3 | 3.8 | 2.9 | 2.2 |
| Metal sheets | 86.0 | 85.0 | 89.2 | 82.4 | 77.1 |
| Household assets | | | | | |
| Electricity | 31.5 | 32.7 | 36.2 | 29.7 | 23.0 |
| Radio | 69.3 | 68.9 | 72.7 | 68.5 | 65.7 |
| Telephone | 12.3 | 12.8 | 15.2 | 12.0 | 9.3 |
| Bicycle | 26.4 | 25.6 | 22.2 | 26.4 | 27.3 |
| Handheld hoe | 57.5 | 57.8 | 55.7 | 59.4 | 63.1 |
| Wheelbarrow | 45.5 | 47.1 | 53.3 | 43.7 | 33.2 |
| Iron | 7.7 | 7.5 | 8.4 | 7.6 | 7.6 |
| Number of rooms (mean) | 2.1 | 2.1 | 2.1 | 2.1 | 2.2 |
| Number of persons/room (mean) | 2.2 | 2.2 | 2.2 | 2.3 | 2.3 |
| Overcrowding* | 39.2 | 39.4 | 39.7 | 40.4 | 41.9 |
| Household size (mean) | 4.1 | 4.1 | 4.1 | 4.2 | 4.4 |

Source: Author's calculations based on census data.

* Overcrowding is defined as >150 persons/km².

Table 14
Urban Population Characteristics by Urban Perspective, 2002 (percent)

| <i>Characteristics</i> | <i>Statistical</i> | | <i>Politico-administrative</i> | <i>Human settlements</i> | <i>Density-based*</i> |
|-------------------------------|--------------------|-------------------|--------------------------------|--------------------------|-----------------------|
| | <i>EA-based</i> | <i>Ward-based</i> | | | |
| Demographics | | | | | |
| Age (mean) | 22.3 | 22.4 | 22.5 | 22.3 | 22.4 |
| Sex (male) | 48.8 | 48.9 | 49.2 | 49.0 | 48.6 |
| Marital status | | | | | |
| Never married | 62.5 | 62.3 | 62.6 | 62.3 | 62.1 |
| Currently married | 31.9 | 32.1 | 32.0 | 32.1 | 32.0 |
| Widowed | 2.6 | 2.6 | 2.5 | 2.7 | 3.1 |
| Literacy and education | | | | | |
| Literate | 82.2 | 81.9 | 84.3 | 79.7 | 77.2 |
| Years of education (mean) | 5.4 | 5.4 | 5.6 | 5.2 | 4.9 |

Table 14 (continued)
Urban Population Characteristics by Urban Perspective, 2002 (percent)

| <i>Characteristics</i> | <i>Statistical</i> | | <i>Politico-administrative</i> | <i>Human settlements</i> | <i>Density-based*</i> |
|--------------------------------------|--------------------|-------------------|--------------------------------|--------------------------|-----------------------|
| | <i>EA-based</i> | <i>Ward-based</i> | | | |
| Received any education | 82.7 | 82.5 | 84.4 | 80.4 | 78.8 |
| Up to primary | 67.1 | 66.8 | 67.2 | 65.9 | 66.9 |
| Up to secondary | 11.8 | 11.9 | 12.8 | 11.0 | 9.0 |
| Up to post-secondary | 3.8 | 3.8 | 4.4 | 3.6 | 2.8 |
| Usual economic activity | | | | | |
| Unemployed | 4.2 | 4.3 | 4.9 | 4.0 | 3.1 |
| Student | 26.7 | 26.6 | 27.1 | 26.1 | 26.6 |
| Retired | 5.8 | 5.8 | 5.5 | 5.9 | 6.2 |
| Non-productive domestic | 16.3 | 16.6 | 17.5 | 15.9 | 14.3 |
| Economically active | 48.7 | 48.4 | 47.1 | 49.7 | 50.8 |
| Employment status | | | | | |
| Self-employed | 66.6 | 66.8 | 62.0 | 68.5 | 74.5 |
| Employer | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 |
| Employee | 29.9 | 29.8 | 34.7 | 27.6 | 021.2 |
| Family helper | 2.4 | 2.3 | 2.1 | 2.9 | 3.5 |
| Type of business | | | | | |
| Engaged in non-agricultural activity | 67.0 | 67.2 | 74.4 | 61.2 | 47.7 |

Source: Author's calculations based on census data.

* Overcrowding is defined as >150 persons/km².

Table 15
Urban Household and Housing Characteristics, Large and Small Urban Centers, 2002 (percent)

| | <i>Urban</i> | <i>Cities and municipalities</i> | <i>Small towns and townships</i> | <i>Rural</i> |
|--------------------------|--------------|----------------------------------|----------------------------------|--------------|
| Energy use for cooking | | | | |
| Electricity | 3.6 | 4.5 | 0.8 | 0.2 |
| Paraffin | 15.5 | 20.3 | 3.4 | 0.4 |
| Firewood | 25.9 | 18.8 | 61.2 | 95.6 |
| Charcoal | 53.3 | 54.7 | 33.6 | 3.6 |
| Energy use for lighting | | | | |
| Electricity | 34.0 | 39.4 | 14.3 | 1.3 |
| Paraffin | 64.4 | 59.1 | 82.6 | 91.9 |
| Firewood | 0.8 | 0.5 | 2.5 | 6.4 |
| Source of drinking water | | | | |
| Piped water | 70.0 | 78.4 | 45.2 | 20.5 |
| Protected well | 15.4 | 11.5 | 20.4 | 22.0 |
| Unprotected well | 7.4 | 5.0 | 18.9 | 32.5 |
| Surface water | 2.6 | 1.3 | 10.2 | 18.1 |

Table 15 (continued)

Urban Household and Housing Characteristics, Large and Small Urban Centers, 2002 (percent)

| | <i>Urban</i> | <i>Cities and municipalities</i> | <i>Small towns and townships</i> | <i>Rural</i> |
|-------------------------------|--------------|----------------------------------|----------------------------------|--------------|
| Toilet facilities | | | | |
| Flush toilet | 11.9 | 14.8 | 3.2 | 0.4 |
| Improved pit latrine | 3.6 | 3.2 | 3.2 | 0.6 |
| Traditional pit latrine | 83.0 | 80.4 | 88.0 | 87.9 |
| No toilet facilities | 1.5 | 1.5 | 5.5 | 11.1 |
| Construction materials | | | | |
| Wall | | | | |
| Poles, branches and grass | 0.4 | 0.5 | 0.4 | 0.6 |
| Poles, mud and stone | 13.9 | 12.3 | 27.6 | 41.4 |
| Mud bricks | 22.1 | 16.5 | 35.0 | 38.0 |
| Baked bricks | 13.0 | 6.4 | 22.1 | 14.8 |
| Concrete, cement and stone | 50.2 | 63.9 | 13.5 | 3.1 |
| Roof | | | | |
| Grass, leaves and bamboo | 9.2 | 5.0 | 29.0 | 52.5 |
| Concrete and cement | 3.2 | 3.9 | 0.5 | 0.3 |
| Metal sheets | 86.0 | 90.2 | 64.1 | 31.8 |
| Household assets | | | | |
| Electricity | 31.5 | 37.0 | 12.4 | 1.2 |
| Radio | 69.3 | 73.2 | 57.7 | 44.0 |
| Telephone | 12.3 | 15.7 | 3.4 | 0.6 |
| Bicycle | 26.4 | 21.8 | 37.4 | 36.0 |
| Handheld hoe | 57.5 | 55.1 | 69.5 | 84.1 |
| Wheelbarrow | 45.5 | 54.8 | 17.4 | 4.3 |
| Iron | 7.7 | 8.5 | 5.5 | 3.2 |
| Number of rooms (mean) | 2.1 | 2.1 | 2.2 | 2.2 |
| Number of persons/room (mean) | 2.2 | 2.2 | 2.4 | 2.5 |
| Overcrowding* | 39.2 | 39.8 | 41.8 | 46.7 |
| Household size (mean) | 4.1 | 4.1 | 4.4 | 4.8 |

Source: Author's calculations based on census data.*Note:* Based on NBS urban classification.

Table 16
Urban Population Characteristics, Large and Small Urban Areas, 2002 (percent)

| <i>Characteristics</i> | <i>Urban</i> | <i>Cities and municipalities</i> | <i>Small towns and townships</i> | <i>Rural</i> |
|--------------------------------------|--------------|----------------------------------|----------------------------------|--------------|
| Demographics | | | | |
| Age (mean) | 22.3 | 22.4 | 22.0 | 21.8 |
| Sex (male) | 48.8 | 49.2 | 48.6 | 48.6 |
| Marital status | | | | |
| Never married | 62.5 | 62.6 | 32.3 | 60.8 |
| Currently married | 31.9 | 32.0 | 3.0 | 33.3 |
| Widowed | 2.6 | 2.5 | 22.6 | 3.2 |
| Literacy and education | | | | |
| Literate | 82.2 | 84.8 | 68.2 | 57.2 |
| Years of education (mean) | 5.4 | 5.7 | 4.5 | 3.2 |
| Received any education | 82.7 | 84.9 | 70.5 | 60.9 |
| Up to primary | 67.1 | 67.3 | 62.5 | 58.2 |
| Up to secondary | 11.8 | 13.0 | 6.5 | 2.2 |
| Up to post-secondary | 3.8 | 4.5 | 1.5 | 0.5 |
| Usual economic activity | | | | |
| Unemployed | 4.2 | 5.0 | 1.7 | 0.7 |
| Student | 26.7 | 27.2 | 23.5 | 21.0 |
| Retired | 5.8 | 5.4 | 6.9 | 8.0 |
| Non-productive domestic* | 16.3 | 17.6 | 11.9 | 10.5 |
| Economically active | 48.7 | 46.8 | 56.4 | 59.5 |
| Employment status | | | | |
| Self-employed | 66.6 | 60.8 | 82.9 | 89.9 |
| Employer | 0.2 | 0.3 | 0.1 | 0.1 |
| Employee | 29.9 | 35.8 | 12.3 | 4.2 |
| Family helper | 2.4 | 2.2 | 4.3 | 5.6 |
| Type of business | | | | |
| Engaged in non-agricultural activity | 67.0 | 76.6 | 32.8 | 13.0 |

Source: Author's calculations based on census data.

Note: Based on NBS urban classification.

* Non-productive domestic activities are defined as home maintenance activities.

Table 17
Household and Housing Characteristics, Density-based Perspective Sensitivity Analysis, 2002 (percent)

| | <i>Population/km²</i> | | | | | | | | |
|--------------------------------|----------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | <i>≥ 100</i> | <i>≥ 200</i> | <i>≥ 250</i> | <i>≥ 300</i> | <i>≥ 350</i> | <i>≥ 400</i> | <i>≥ 450</i> | <i>≥ 500</i> | <i>≥ 550</i> |
| Energy use for cooking | | | | | | | | | |
| Electricity | 2.0 | 3.0 | 3.4 | 3.7 | 3.9 | 4.1 | 4.4 | 4.5 | 4.6 |
| Paraffin | 8.6 | 13.0 | 14.5 | 16.0 | 16.9 | 17.8 | 19.0 | 19.7 | 20.2 |
| Firewood | 58.8 | 40.5 | 34.9 | 29.1 | 26.1 | 23.5 | 19.8 | 17.9 | 16.6 |
| Charcoal | 29.6 | 42.2 | 45.8 | 49.8 | 51.6 | 53.0 | 55.1 | 56.2 | 56.9 |
| Energy use for lighting | | | | | | | | | |
| Electricity | 19.3 | 28.5 | 32.2 | 35.0 | 36.5 | 38.0 | 40.2 | 41.2 | 42.0 |

Table 17 (continued)

Household and Housing Characteristics, Density-based Perspective Sensitivity Analysis, 2002 (percent)

| | Population/km ² | | | | | | | | |
|-------------------------------|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| | ≥ 100 | ≥ 200 | ≥ 250 | ≥ 300 | ≥ 350 | ≥ 400 | ≥ 450 | ≥ 500 | ≥ 550 |
| Paraffin | 78.3 | 69.7 | 66.0 | 63.4 | 62.0 | 60.5 | 58.4 | 57.4 | 56.7 |
| Firewood | 1.8 | 1.1 | 0.9 | 0.8 | 0.7 | 0.6 | 0.5 | 0.5 | 0.4 |
| Source of drinking water | | | | | | | | | |
| Piped water | 50.1 | 63.0 | 67.3 | 70.1 | 71.6 | 73.5 | 76.2 | 77.4 | 77.9 |
| Protected well | 20.5 | 17.9 | 16.3 | 15.9 | 15.7 | 14.8 | 13.4 | 13.2 | 13.2 |
| Unprotected well | 14.6 | 9.1 | 7.1 | 6.2 | 5.6 | 5.2 | 4.4 | 3.9 | 3.5 |
| Surface water | 8.6 | 4.7 | 4.1 | 3.0 | 2.5 | 2.0 | 1.4 | 1.2 | 1.2 |
| Toilet facilities | | | | | | | | | |
| Flush toilet | 6.6 | 9.9 | 11.2 | 12.3 | 12.9 | 13.5 | 14.4 | 14.8 | 15.1 |
| Improved pit latrine | 2.2 | 3.0 | 3.2 | 3.5 | 3.5 | 3.6 | 3.7 | 3.8 | 3.8 |
| Traditional pit latrine | 86.7 | 84.7 | 83.6 | 82.4 | 81.8 | 81.2 | 80.4 | 80.0 | 79.8 |
| No toilet facilities | 4.4 | 2.4 | 2.0 | 1.8 | 1.7 | 1.7 | 1.5 | 1.4 | 1.3 |
| Construction materials | | | | | | | | | |
| Wall | | | | | | | | | |
| Poles, branches and grass | 0.9 | 0.9 | 1.0 | 1.0 | 0.9 | 0.9 | 0.9 | 0.8 | 0.6 |
| Poles, mud and stone | 26.0 | 21.2 | 19.4 | 16.6 | 14.9 | 13.9 | 11.8 | 11.3 | 10.8 |
| Mud bricks | 29.2 | 21.8 | 20.2 | 18.9 | 18.5 | 17.4 | 16.6 | 16.3 | 16.2 |
| Baked bricks | 12.7 | 10.7 | 10.2 | 10.3 | 10.4 | 9.8 | 9.4 | 8.6 | 8.5 |
| Concrete, cement and stone | 30.5 | 44.8 | 48.8 | 53.0 | 55.0 | 57.6 | 61.1 | 62.8 | 63.7 |
| Roof | | | | | | | | | |
| Grass, leaves and bamboo | 25.4 | 13.4 | 10.5 | 7.9 | 6.6 | 5.8 | 4.3 | 3.8 | 3.5 |
| Concrete and cement | 1.8 | 2.5 | 2.8 | 3.1 | 3.3 | 3.4 | 3.7 | 3.8 | 3.8 |
| Metal sheets | 68.4 | 82.0 | 84.9 | 87.7 | 88.9 | 89.9 | 91.2 | 91.8 | 92.1 |
| Household assets | | | | | | | | | |
| Electricity | 17.9 | 26.5 | 30.0 | 32.6 | 34.0 | 35.5 | 37.6 | 38.5 | 39.2 |
| Radio | 61.1 | 68.2 | 69.5 | 70.9 | 71.5 | 72.2 | 72.8 | 73.2 | 73.4 |
| Telephone | 7.2 | 10.7 | 11.8 | 13.0 | 13.6 | 14.2 | 15.1 | 15.5 | 15.8 |
| Bicycle | 30.1 | 26.1 | 24.8 | 24.0 | 23.8 | 23.2 | 22.2 | 21.6 | 21.1 |
| Handheld hoe | 67.6 | 60.6 | 58.5 | 56.9 | 56.0 | 55.3 | 54.5 | 54.2 | 53.9 |
| Wheelbarrow | 26.4 | 38.2 | 42.4 | 46.4 | 48.7 | 50.7 | 53.7 | 55.3 | 56.4 |
| Iron | 6.7 | 8.0 | 8.3 | 8.4 | 8.4 | 8.5 | 8.5 | 8.6 | 8.5 |
| Number of rooms (mean) | 2.2 | 2.2 | 2.2 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 |
| Number of persons/room (mean) | 2.4 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 |
| Overcrowding* | 42.9 | 41.4 | 41.1 | 40.6 | 40.5 | 40.4 | 40.1 | 40.1 | 40.2 |
| Household size (mean) | 4.5 | 4.3 | 4.3 | 4.2 | 4.2 | 4.2 | 4.1 | 4.1 | 4.1 |

Source: Author's calculations based on census data.

* Overcrowding is defined as households with > 2 persons per room.

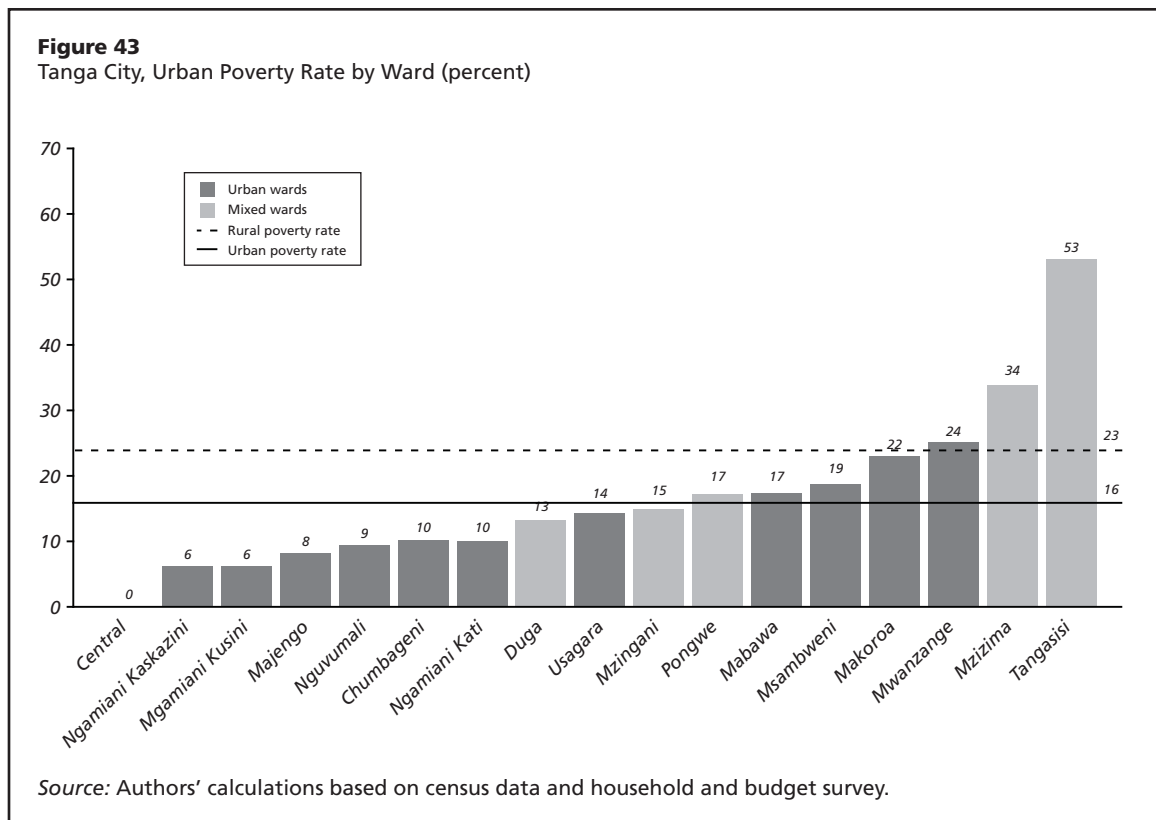
Table 18
Population Characteristics, Density-based Perspective Sensitivity Analysis, 2002 (percent)

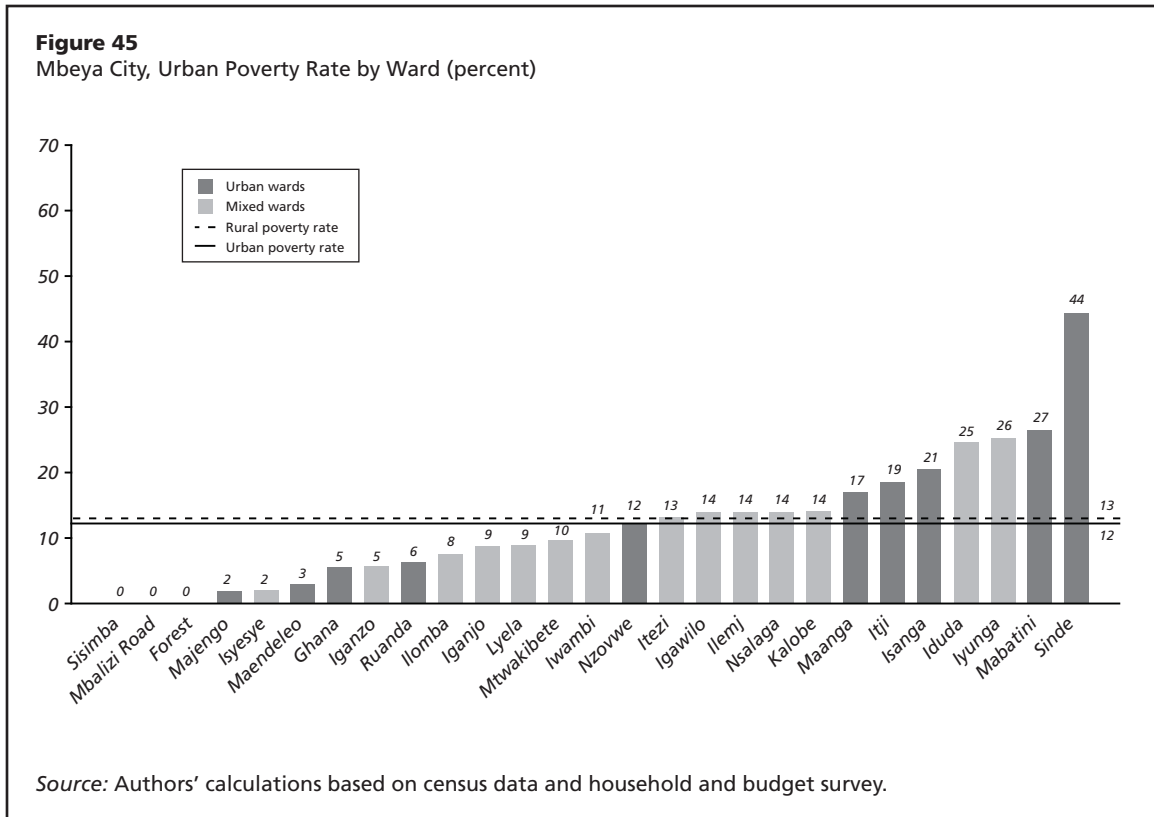
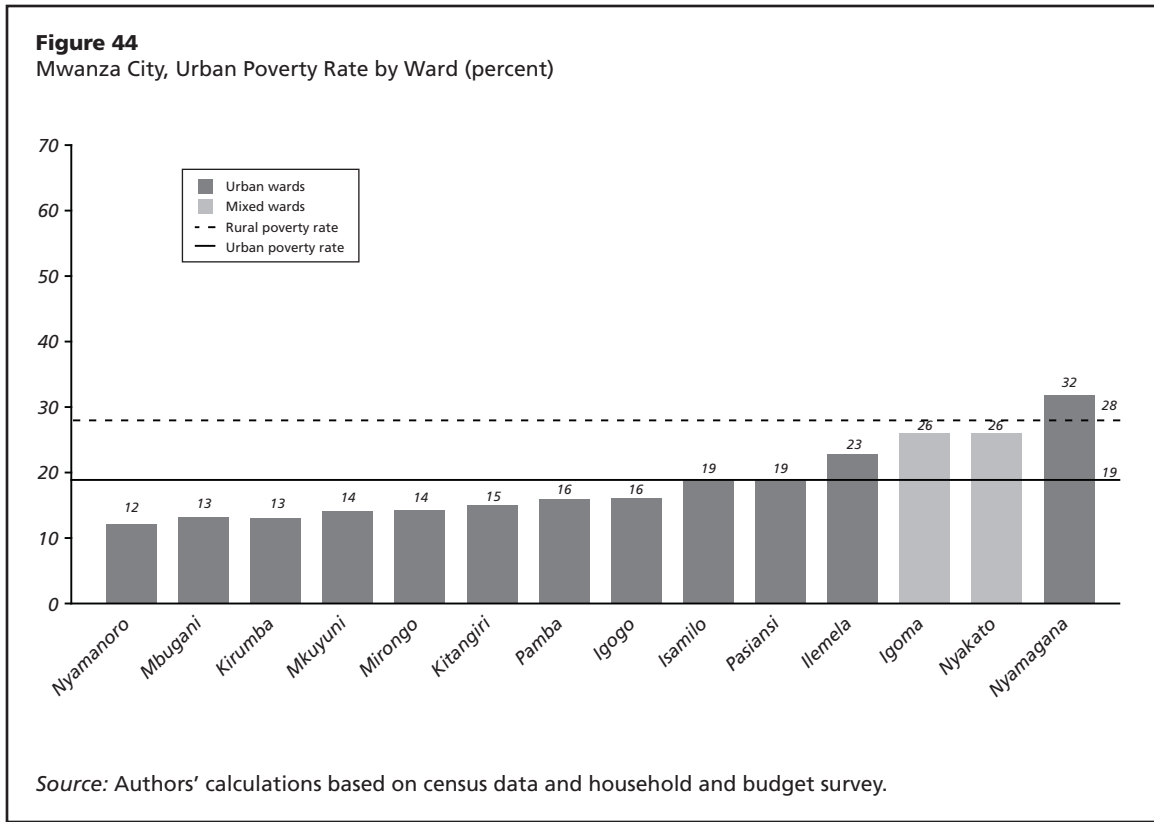
| Characteristics | Population/km ² | | | | | | | | |
|--------------------------------------|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| | ≥ 100 | ≥ 200 | ≥ 250 | ≥ 300 | ≥ 350 | ≥ 400 | ≥ 450 | ≥ 500 | ≥ 550 |
| Demographics | | | | | | | | | |
| Age (mean) | 22.2 | 22.4 | 22.5 | 22.5 | 22.4 | 22.5 | 22.5 | 22.5 | 22.5 |
| Sex (male) | 48.5 | 48.7 | 48.7 | 48.8 | 48.8 | 48.9 | 49.0 | 49.0 | 49.0 |
| Marital status | | | | | | | | | |
| Never married | 61.9 | 62.3 | 62.4 | 62.6 | 62.7 | 62.7 | 62.8 | 62.8 | 62.8 |
| Currently married | 32.2 | 32.0 | 31.9 | 31.9 | 31.9 | 31.9 | 31.9 | 31.9 | 31.9 |
| Widowed | 3.1 | 2.9 | 2.9 | 2.8 | 2.7 | 2.7 | 2.6 | 2.5 | 2.5 |
| Literacy and education | | | | | | | | | |
| Literate | 72.9 | 79.5 | 81.4 | 83.0 | 83.7 | 84.2 | 85.2 | 85.6 | 85.8 |
| Years of education (mean) | 4.5 | 5.1 | 5.3 | 5.4 | 5.5 | 5.6 | 5.7 | 5.8 | 5.8 |
| Received any education | 75.0 | 80.7 | 82.3 | 83.5 | 84.0 | 84.5 | 85.3 | 85.6 | 85.8 |
| Up to primary | 65.4 | 67.5 | 67.9 | 68.0 | 67.9 | 67.8 | 67.8 | 67.8 | 67.8 |
| Up to secondary | 7.4 | 10.0 | 10.9 | 11.7 | 12.1 | 12.5 | 13.1 | 13.3 | 13.5 |
| Up to post-secondary | 2.2 | 3.2 | 3.5 | 3.8 | 4.0 | 4.1 | 4.4 | 4.5 | 4.6 |
| Usual economic activity | | | | | | | | | |
| Unemployed | 26 | 3.5 | 3.9 | 4.3 | 4.5 | 4.6 | 4.9 | 5.0 | 5.1 |
| Student | 25.7 | 27.0 | 27.4 | 27.5 | 27.5 | 27.5 | 27.6 | 27.5 | 27.6 |
| Retired | 6.8 | 6.0 | 5.8 | 5.6 | 5.6 | 5.6 | 5.5 | 5.4 | 5.4 |
| Non-productive domestic* | 13.1 | 15.0 | 15.5 | 16.2 | 16.4 | 16.7 | 17.0 | 17.3 | 17.5 |
| Economically active | 52.6 | 49.8 | 48.8 | 48.1 | 47.8 | 47.4 | 47.0 | 46.9 | 46.5 |
| Employment status | | | | | | | | | |
| Self-employed | 78.8 | 71.8 | 69.4 | 66.7 | 65.6 | 64.2 | 62.4 | 51.6 | 60.9 |
| Employer | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 |
| Employee | 16.5 | 24.3 | 26.7 | 29.3 | 30.6 | 32.0 | 34.1 | 35.0 | 35.8 |
| Family helper | 4.0 | 3.0 | 2.9 | 2.8 | 2.7 | 2.6 | 2.2 | 2.2 | 2.0 |
| Type of business | | | | | | | | | |
| Engaged in non-agricultural activity | 38.3 | 54.0 | 59.6 | 65.2 | 67.8 | 70.1 | 74.0 | 76.0 | 77.5 |

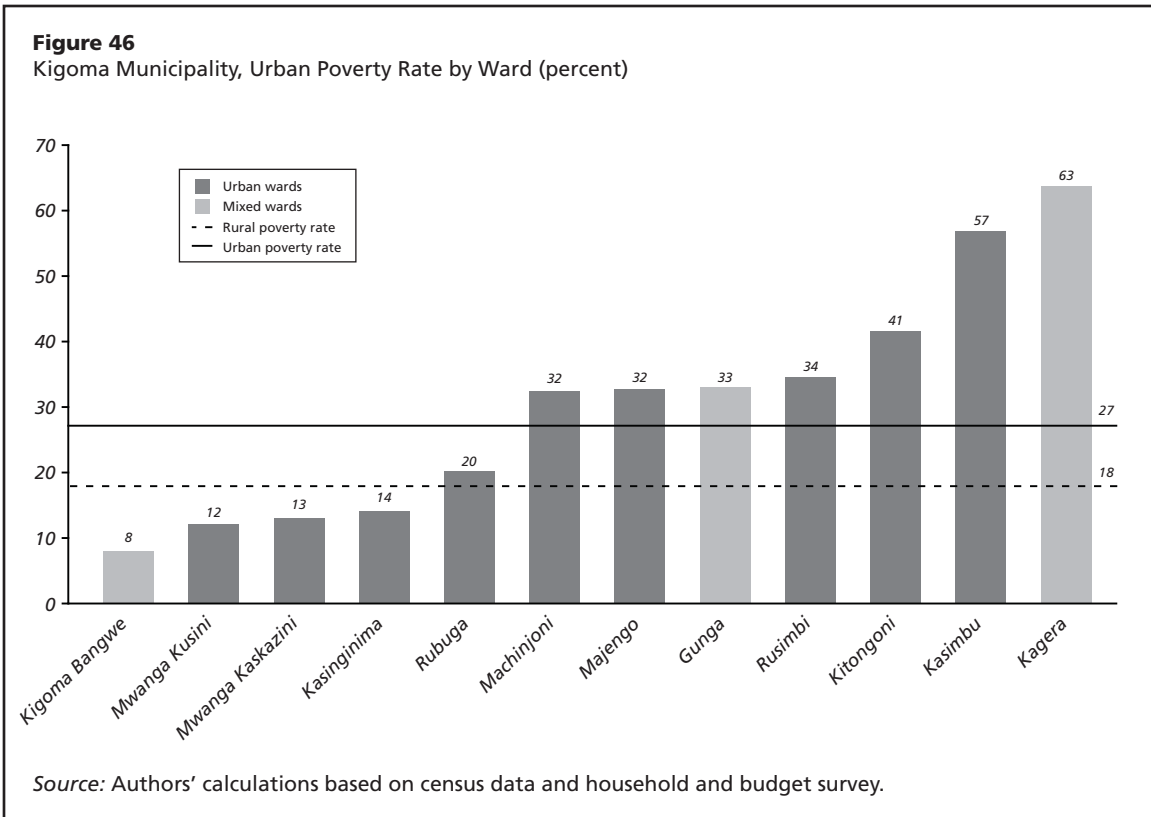
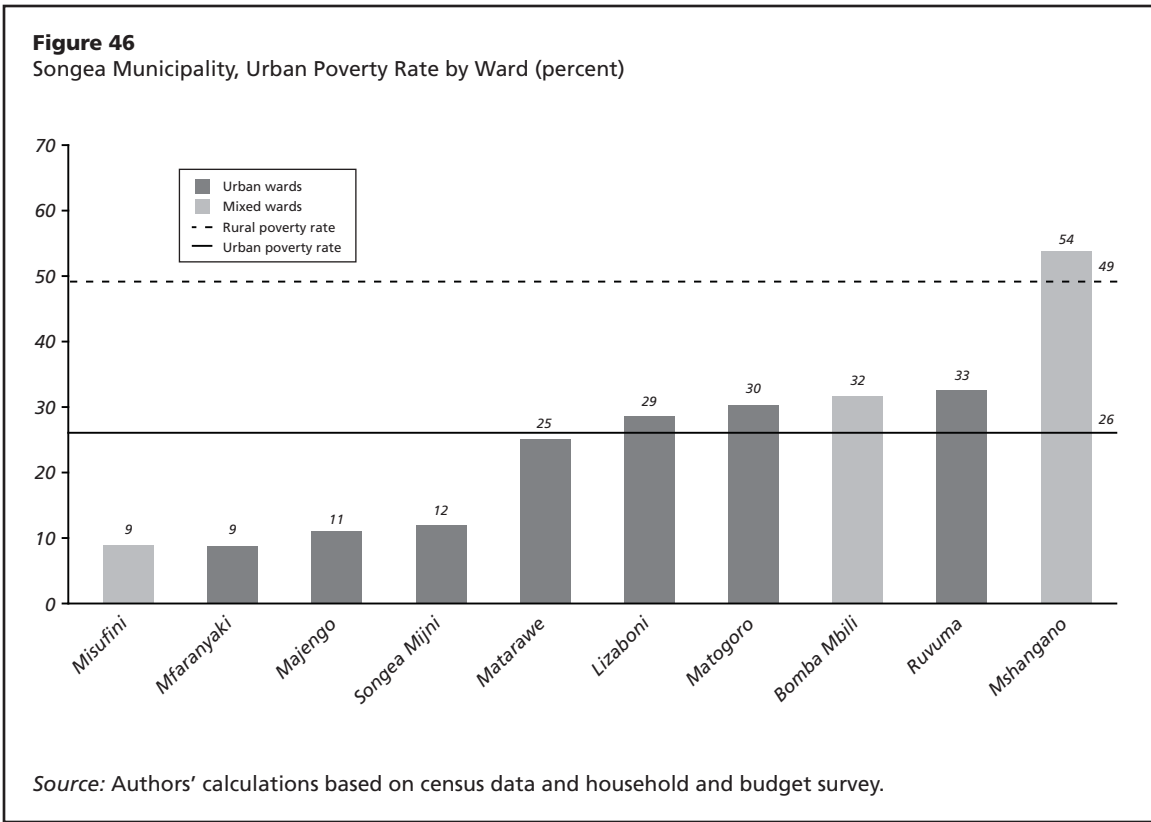
Source: Author's calculations based on census data.

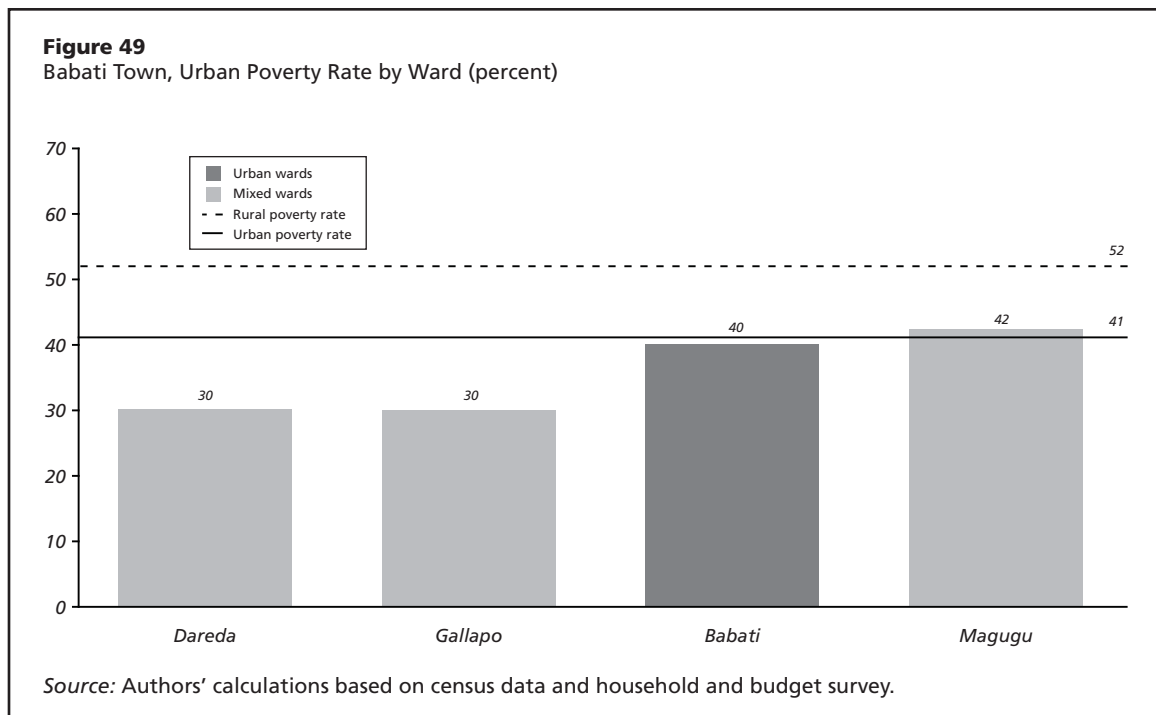
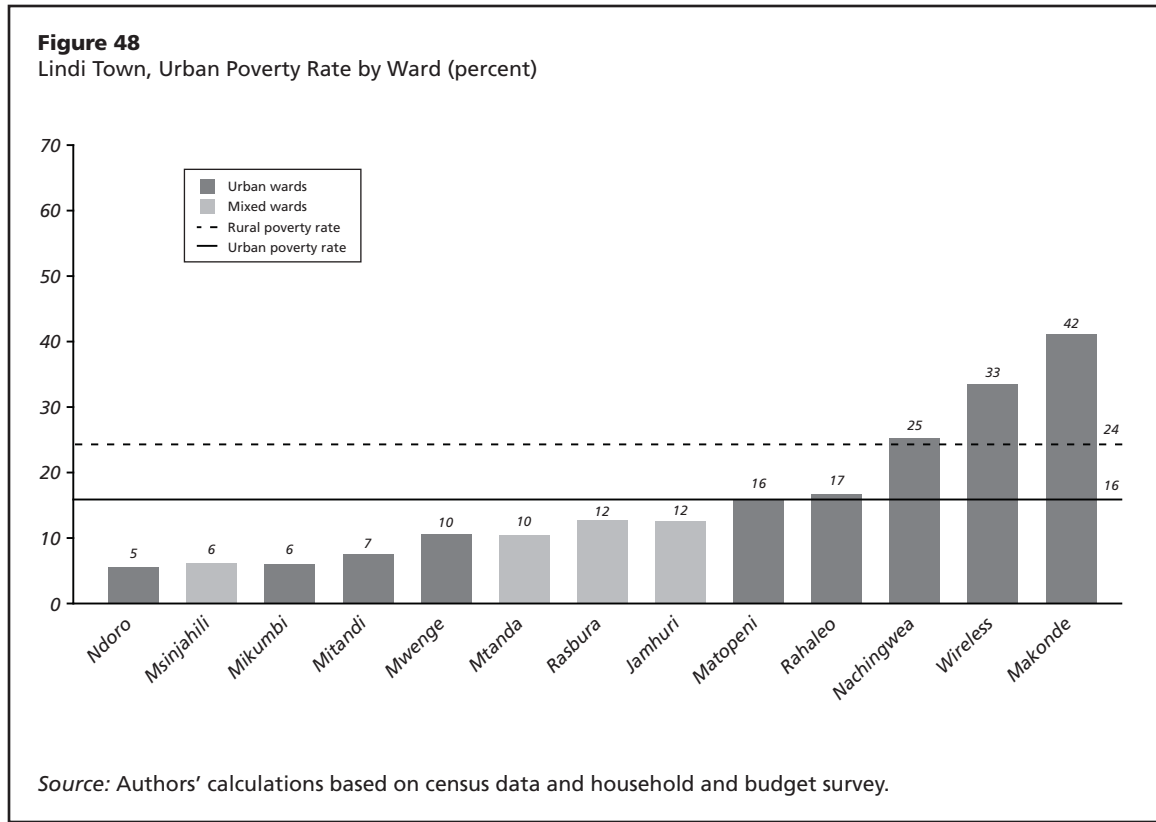
* Non-productive domestic activities are defined as home maintenance activities.

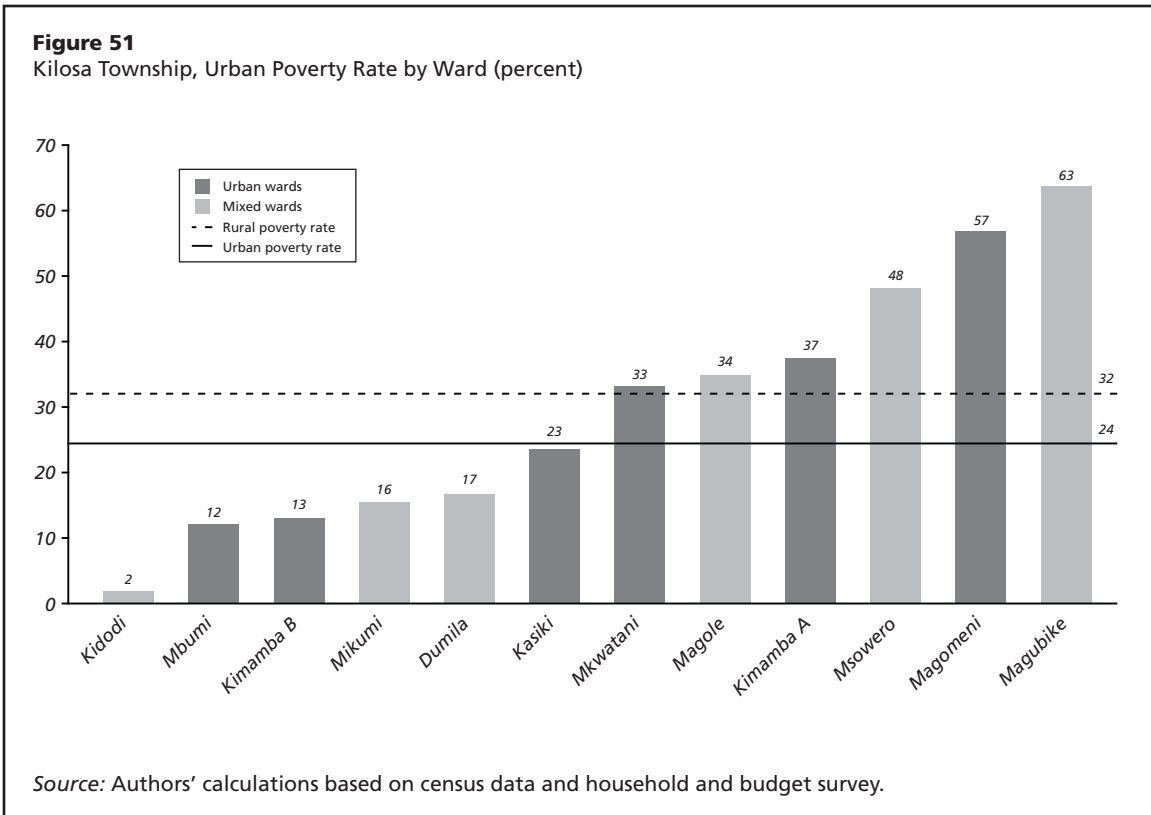
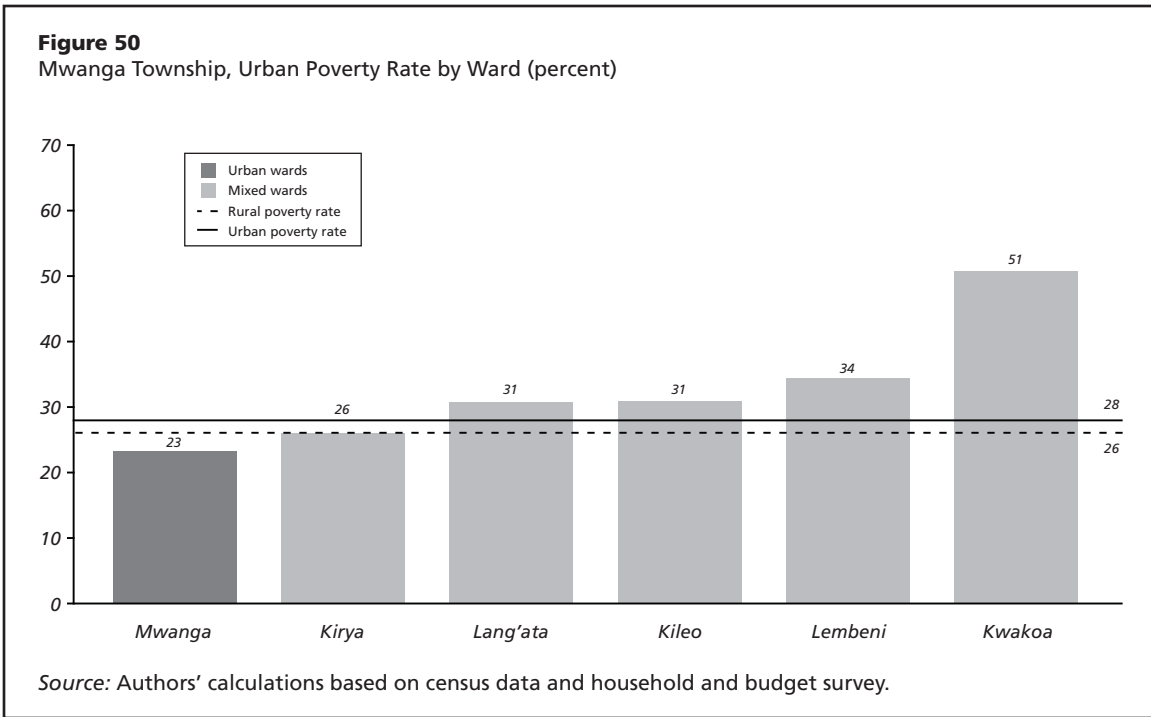
Appendix 5: Urbanization and Poverty

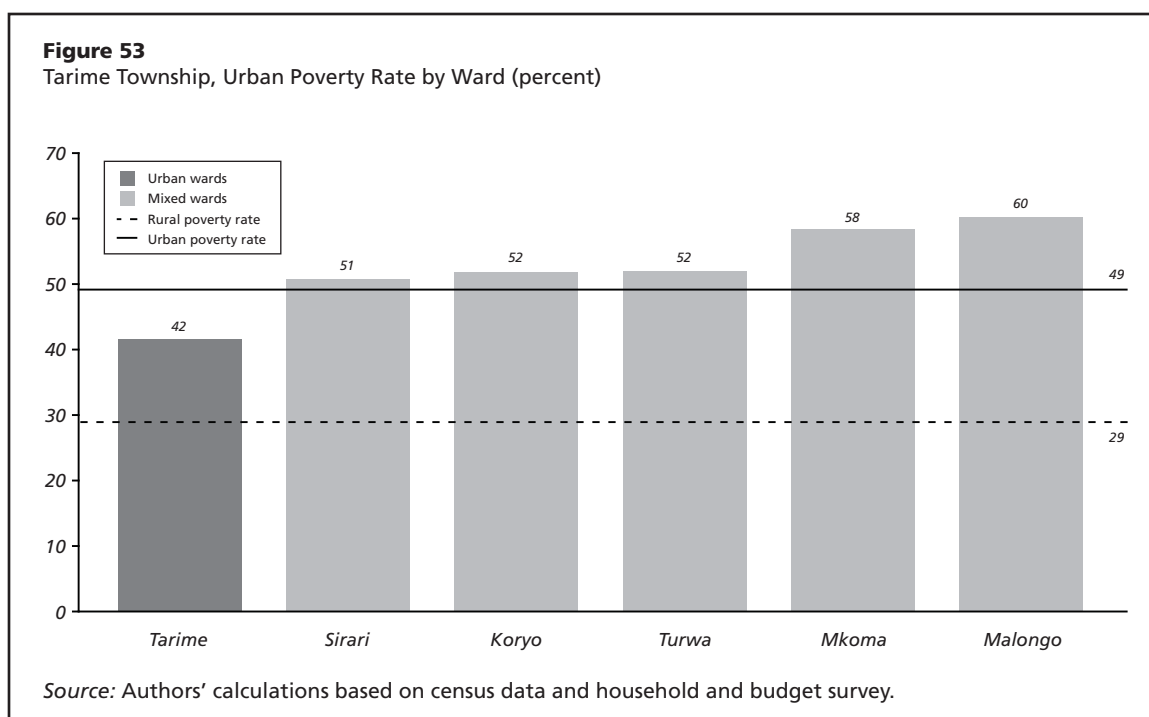
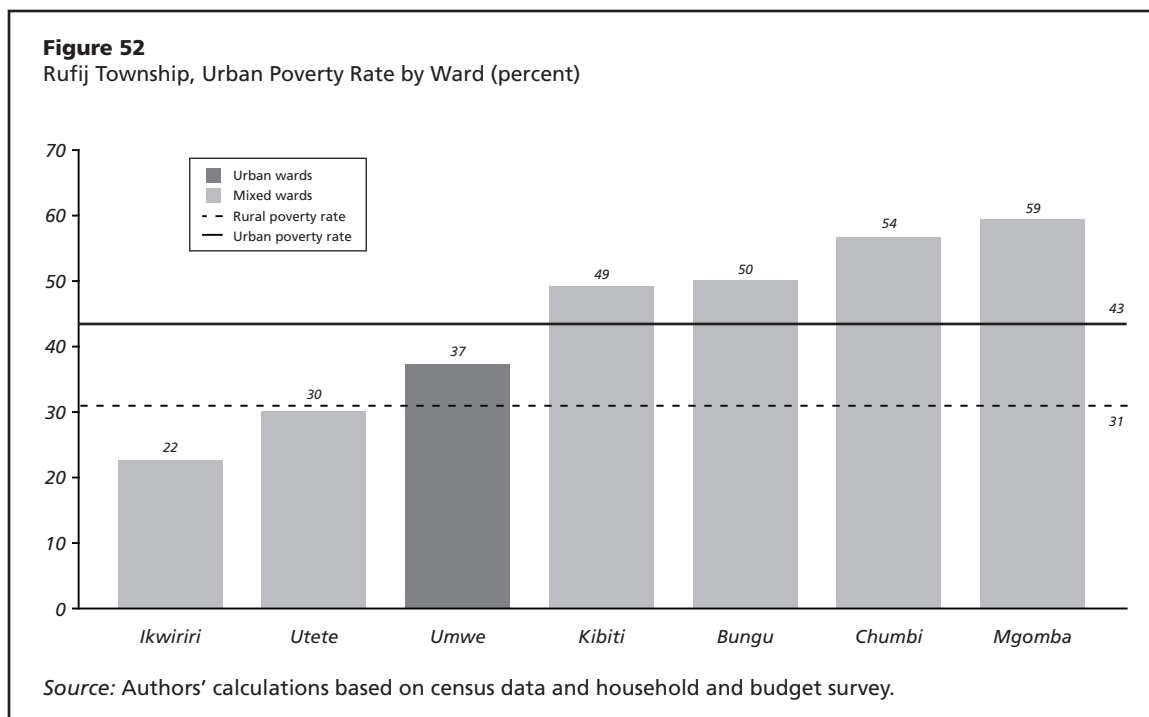












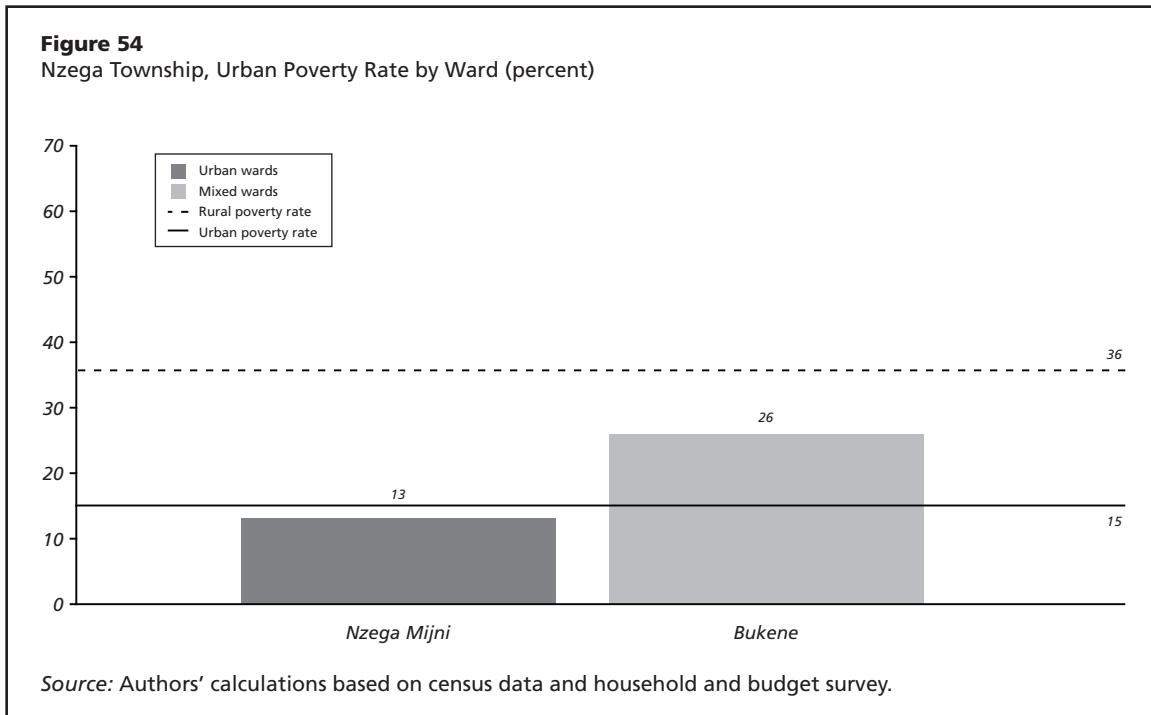


Table 19
Regional and District-level Poverty Rate, 2000–01

| <i>Region and district</i> | <i>Poverty headcount</i> | | <i>Region and district</i> | <i>Poverty headcount</i> | |
|----------------------------|--------------------------|------------------|----------------------------|--------------------------|------------------|
| | <i>Estimate</i> | <i>Std error</i> | | <i>Estimate</i> | <i>Std error</i> |
| Arusha | 22.2 | 1.5 | Kilimanjaro | 28.0 | 1.3 |
| Monduli | 23.9 | 2.6 | Rombo | 37.2 | 2.3 |
| Arumeru | 18.1 | 1.7 | Mwanga | 26.6 | 1.9 |
| Arusha* | 12.3 | 1.8 | Same | 34.1 | 1.9 |
| Karatu | 39.4 | 2.7 | Moshi* | 27.6 | 2.5 |
| Ngorongoro | 23.7 | 5.5 | Hai | 21.8 | 1.9 |
| Dar es Salaam | 19.0 | 1.2 | Moshi** | 17.6 | 2.1 |
| Kinondoni | 14.3 | 1.5 | Lindi | 39.0 | 2.3 |
| Ilala | 15.8 | 1.7 | Kilwa | 34.6 | 3.0 |
| Temeke | 28.7 | 2.2 | Lindi* | 51.4 | 6.2 |
| Dodoma | 32.0 | 3.1 | Nachingwea | 41.4 | 3.3 |
| Kondoa | 20.9 | 2.9 | Liwale | 38.3 | 4.5 |
| Mpwapwa | 27.8 | 2.9 | Rwangwa | 29.7 | 2.8 |
| Kongwa | 40.2 | 5.6 | Lindi** | 18.3 | 1.8 |
| Dodoma* | 42.9 | 4.4 | Manyara | 43.0 | 2.4 |
| Dodoma** | 26.6 | 2.2 | Babati | 50.2 | 2.5 |
| Iringa | 28.0 | 1.6 | Hanang | 49.2 | 2.6 |
| Iringa* | 31.0 | 3.0 | Mbulu | 49.3 | 3.7 |
| Mufindi | 23.3 | 1.9 | Simanjiro | 23.6 | 3.6 |
| Makete | 24.2 | 3.3 | Kiteto | 28.1 | 4.7 |
| Njombe | 25.0 | 2.1 | Mara | 50.0 | 2.3 |
| Ludewa | 24.1 | 2.3 | Tarime | 31.9 | 4.5 |
| Iringa** | 18.2 | 2.9 | Serengeti | 60.6 | 4.3 |
| Kilolo | 29.0 | 2.5 | Musoma* | 63.7 | 4.6 |
| Kagera | 29.0 | 2.0 | Bunda | 67.7 | 3.6 |
| Karagwe | 26.6 | 2.9 | Musoma** | 37.9 | 2.9 |
| Bukoba* | 17.5 | 2.7 | Mbeya | 23.0 | 1.1 |
| Muleba | 26.9 | 3.5 | Chunya | 25.3 | 3.0 |
| Biharamulo | 47.7 | 4.3 | Mbeya* | 31.4 | 3.8 |
| Ngara | 34.0 | 4.1 | Kyela | 23.8 | 3.7 |
| Bukoba** | 11.1 | 1.8 | Rungwe | 31.8 | 2.8 |
| Kigoma | 38.0 | 2.3 | Ileje | 31.4 | 3.5 |
| Kibondo | 39.4 | 3.9 | Mbozi | 21.2 | 1.5 |
| Kasulu | 40.4 | 3.5 | Mbarali | 13.1 | 1.6 |
| Kigoma* | 38.5 | 3.6 | Mbeya** | 12.4 | 1.4 |
| Kigoma** | 26.6 | 2.5 | | | |

Table 19 (continued)
Regional and District-level Poverty Rate, 2000–01

| Region and district | Poverty headcount | | Region and district | Poverty headcount | |
|---------------------|-------------------|------------|---------------------|-------------------|------------|
| | Estimate | Std error | | Estimate | Std error |
| Morogoro | 28.0 | 1.9 | Ruvuma | 37.0 | 2.1 |
| Morogoro* | 31.2 | 4.0 | Tunduru | 38.7 | 3.0 |
| Kilombero | 29.0 | 4.4 | Songea* | 40.8 | 2.8 |
| Ulanga | 27.6 | 4.4 | Mbinga | 28.0 | 3.0 |
| Morogoro** | 14.0 | 1.1 | Songea** | 31.6 | 2.4 |
| Mvomero | 26.4 | 2.6 | Namtumbo | 54.8 | 3.3 |
| Mtwara | 38.0 | 2.0 | Shinyanga | 43.0 | 2.4 |
| Mtwara* | 36.8 | 2.8 | Bariadi | 45.7 | 4.4 |
| Newala | 43.4 | 2.8 | Maswa | 43.5 | 4.2 |
| Masaki | 37.4 | 2.7 | Shinyanga* | 42.7 | 4.7 |
| Tandahimba | 34.3 | 3.5 | Kahama | 37.3 | 3.3 |
| Mtwara** | 38.3 | 2.5 | Bukombe | 48.0 | 4.8 |
| Mwanza | 43.0 | 1.7 | Meatu | 52.9 | 4.5 |
| Ukerewe | 48.4 | 3.7 | Shinyanga** | 21.8 | 3.1 |
| Magu | 37.3 | 2.7 | Kishapu | 45.7 | 3.8 |
| Nyamagana | 15.1 | 2.6 | Singida | 49.0 | 3.4 |
| Kwimba | 40.0 | 3.3 | Iramba | 42.9 | 3.9 |
| Sengerema | 46.3 | 3.5 | Singida* | 55.6 | 3.9 |
| Geita | 62.3 | 4.6 | Manyoni | 48.7 | 4.2 |
| Misungwi | 39.9 | 3.9 | Singida** | 46.1 | 3.3 |
| Ilemela | 25.6 | 3.3 | Tabora | 40.0 | 2.1 |
| Pwani | 38.0 | 2.1 | Nzega | 35.0 | 3.4 |
| Bagamoyo | 40.2 | 2.9 | Igunga | 47.8 | 4.1 |
| Kibaha | 31.6 | 2.5 | Uyui | 48.1 | 4.6 |
| Kisarawe | 51.0 | 3.9 | Urambo | 40.6 | 4.1 |
| Rufiji | 33.7 | 2.8 | Sikonge | 42.5 | 5.7 |
| Mafia | 42.6 | 4.2 | Tabora** | 23.4 | 2.3 |
| Rukwa | 36.0 | 2.0 | Tanga | 26.0 | 1.3 |
| Mpanda | 37.6 | 3.9 | Lushoto | 15.6 | 2.5 |
| Sumbawanga* | 34.0 | 2.60 | Korogwe | 30.5 | 2.9 |
| Nkansi | 44.4 | 2.9 | Muheza | 32.5 | 2.7 |
| Sumbawanga** | 27.4 | 2.5 | Tanga** | 17.3 | 1.4 |
| | | | Pangani | 21.9 | 3.6 |
| | | | Handeni | 31.9 | 3.6 |
| | | | Kilindi | 38.2 | 4.4 |

Source: Census and household and budget survey.

* = Rural

** = Urban

Table 20
Urban Poverty: Ward Poverty Rates for Tanga

| <i>Ward</i> | <i>Class</i> | <i>Poverty rate (percent)</i> | <i>Std error</i> |
|--------------------|--------------|-------------------------------|------------------|
| Central | Urban | 0.3 | 0.009 |
| Majengo | Urban | 8.2 | 0.030 |
| Nguvumali | Urban | 8.9 | 0.027 |
| Chumbageni | Urban | 9.6 | 0.022 |
| Ngamiani Kaskazini | Urban | 6.2 | 0.039 |
| Ngamiani Kati | Urban | 10.1 | 0.048 |
| Ngamiani Kusini | Urban | 6.4 | 0.034 |
| Usagara | Urban | 14.1 | 0.032 |
| Makoroa | Urban | 21.6 | 0.048 |
| Mzingani | Mixed | 14.9 | 0.045 |
| Msambweni | Urban | 18.5 | 0.040 |
| Mwanzange | Urban | 24.2 | 0.059 |
| Tangasisi | Mixed | 52.9 | 0.089 |
| Mabawa | Urban | 17.4 | 0.041 |
| Pongwe | Mixed | 17.3 | 0.048 |
| Duga | Mixed | 13.1 | 0.038 |
| Mzizima | Mixed | 33.7 | 0.051 |

Source: Author's calculations based on census data and household and budget survey.

Table 21
Urban Poverty: Ward Poverty Rates for Nyamagana, Mwanza

| <i>Ward</i> | <i>Class</i> | <i>Poverty rate (percent)</i> | <i>Std error</i> |
|-------------|--------------|-------------------------------|------------------|
| Mkuyuni | Urban | 14.2 | 0.047 |
| Nyamanoro | Urban | 12.2 | 0.048 |
| Igogo | Urban | 16.1 | 0.063 |
| Pamba | Urban | 15.5 | 0.055 |
| Nyamagana | Urban | 31.7 | 0.101 |
| Mirongo | Urban | 14.3 | 0.060 |
| Mbugani | Urban | 13.0 | 0.045 |
| Isamilo | Urban | 18.8 | 0.061 |
| Kirumba | Urban | 13.0 | 0.052 |
| Kitangiri | Urban | 15.0 | 0.048 |

Source: Author's calculations based on census data and household and budget survey.

Table 22
Urban Poverty: Ward Poverty Rates for Ilimela, Mwanza

| <i>Ward</i> | <i>Class</i> | <i>Poverty rate (percent)</i> | <i>Std error</i> |
|-------------|--------------|-------------------------------|------------------|
| Pasiansi | Urban | 19.0 | 0.062 |
| Nyakato | Urban | 25.8 | 0.066 |
| Igoma | Mixed | 25.5 | 0.064 |
| Ilemela | Mixed | 22.8 | 0.063 |

Source: Author's calculations based on census data and household and budget survey.

Table 23
Urban Poverty: Ward Poverty Rates for Mbeya

| <i>Ward</i> | <i>Class</i> | <i>Poverty rate (percent)</i> | <i>Std error</i> |
|--------------|--------------|-------------------------------|------------------|
| Sisimba | Urban | 0.0 | 0.003 |
| Isanga | Urban | 20.6 | 0.049 |
| Iganzo | Mixed | 5.4 | 0.022 |
| Itezi | Mixed | 13.3 | 0.032 |
| Nsalaga | Mixed | 13.9 | 0.039 |
| Igawilo | Mixed | 13.6 | 0.040 |
| Iganjo | Mixed | 8.8 | 0.034 |
| Iduda | Mixed | 24.6 | 0.086 |
| Ilomba | Mixed | 7.6 | 0.026 |
| Mtwakibete | Mixed | 9.7 | 0.030 |
| Ilemj | Mixed | 13.6 | 0.036 |
| Isyesye | Mixed | 2.1 | 0.015 |
| Ruanda | Urban | 5.9 | 0.020 |
| Lyela | Mixed | 9.3 | 0.021 |
| Sinde | Urban | 44.3 | 0.096 |
| Maanga | Urban | 16.9 | 0.063 |
| Mbalizi Road | Urban | 0.0 | 0.000 |
| Forest | Urban | 0.0 | 0.002 |
| Mabatini | Urban | 26.5 | 0.056 |
| Nzowwe | Urban | 11.9 | 0.035 |
| Kalobe | Mixed | 14.1 | 0.036 |
| Iyunga | Mixed | 26.3 | 0.049 |
| Iwambi | Mixed | 10.8 | 0.033 |
| Majengo | Urban | 2.0 | 0.020 |
| Ghana | Urban | 4.5 | 0.025 |
| Itji | Urban | 18.6 | 0.044 |
| Maendeleo | Urban | 2.8 | 0.030 |

Source: Author's calculations based on census data and household and budget survey.

Table 24
Urban Poverty: Ward Poverty Rates for Songea

| <i>Ward</i> | <i>Class</i> | <i>Poverty rate (percent)</i> | <i>Std error</i> |
|--------------|--------------|-------------------------------|------------------|
| Songea Mijni | Urban | 11.9 | 0.052 |
| Majengo | Urban | 10.5 | 0.039 |
| Misufini | Urban | 9.1 | 0.034 |
| Mfaranyaki | Urban | 9.2 | 0.029 |
| Lizaboni | Mixed | 28.5 | 0.061 |
| Matarawe | Urban | 25.3 | 0.053 |
| Bomba Mbili | Urban | 31.6 | 0.043 |
| Matogoro | Mixed | 30.3 | 0.065 |
| Ruvuma | Mixed | 32.5 | 0.074 |
| Mshangano | Mixed | 53.5 | 0.086 |

Source: Author's calculations based on census data and household and budget survey.

Table 25
Urban Poverty: Ward Poverty Rates for Kigoma

| <i>Ward</i> | <i>Class</i> | <i>Poverty rate (percent)</i> | <i>Std error</i> |
|------------------|--------------|-------------------------------|------------------|
| Gunga | Mixed | 33.0 | 0.076 |
| Kagera | Mixed | 63.3 | 0.099 |
| Kasimbu | Urban | 56.6 | 0.127 |
| Rubuga | Urban | 20.1 | 0.080 |
| Machinjoni | Urban | 31.5 | 0.092 |
| Kasinginima | Urban | 13.7 | 0.067 |
| Kitongoni | Urban | 41.4 | 0.081 |
| Majengo | Urban | 32.4 | 0.095 |
| Rusimbi | Urban | 34.4 | 0.079 |
| Mwanga Kusini | Urban | 11.9 | 0.045 |
| Kigoma Bangwe | Mixed | 8.1 | 0.039 |
| Mwanga Kaskazini | Urban | 12.9 | 0.039 |

Source: Author's calculations based on census data and household and budget survey.

Table 26
Urban Poverty: Ward Poverty Rates for Lindi

| <i>Ward</i> | <i>Class</i> | <i>Poverty rate (percent)</i> | <i>Std error</i> |
|-------------|--------------|-------------------------------|------------------|
| Ndoro | Urban | 5.3 | 0.023 |
| Makonde | Urban | 41.7 | 0.120 |
| Mikumbi | Urban | 5.8 | 0.025 |
| Mitandi | Urban | 7.2 | 0.025 |
| Rahaleo | Urban | 17.0 | 0.048 |
| Mwenge | Urban | 9.5 | 0.035 |
| Matopeni | Urban | 16.0 | 0.043 |
| Wireless | Urban | 32.8 | 0.078 |
| Nachingwea | Urban | 24.6 | 0.057 |
| Rasbura | Mixed | 11.5 | 0.065 |
| Mtanda | Mixed | 9.6 | 0.042 |
| Jamhuri | Mixed | 12.4 | 0.046 |
| Msinjahili | Mixed | 5.5 | 0.029 |

Source: Author's calculations based on census data and household and budget survey.

Table 27
Urban Poverty: Ward Poverty Rates for Babati

| <i>Ward</i> | <i>Class</i> | <i>Poverty rate (percent)</i> | <i>Std error</i> |
|-------------|--------------|-------------------------------|------------------|
| Babati | Urban | 40.1 | 0.065 |
| Gallapo | Mixed | 30.0 | 0.071 |
| Dareda | Mixed | 29.7 | 0.073 |
| Magugu | Mixed | 42.3 | 0.070 |

Source: Author's calculations based on census data and household and budget survey.

Table 28
Urban Poverty: Ward Poverty Rates for Mwanga

| <i>Ward</i> | <i>Class</i> | <i>Poverty rate (percent)</i> | <i>Std error</i> |
|-------------|--------------|-------------------------------|------------------|
| Kileo | Mixed | 31.4 | 0.082 |
| Mwanga | Urban | 22.9 | 0.054 |
| Kwakoa | Mixed | 50.6 | 0.090 |
| Lembeni | Mixed | 33.5 | 0.069 |
| Kirya | Mixed | 25.9 | 0.061 |
| Lang'ata | Mixed | 31.2 | 0.066 |

Source: Author's calculations based on census data and household and budget survey.

Table 29
Urban Poverty: Ward Poverty Rates for Kilosa

| <i>Ward</i> | <i>Class</i> | <i>Poverty rate (percent)</i> | <i>Std error</i> |
|-------------|--------------|-------------------------------|------------------|
| Magubike | Mixed | 63.4 | 0.082 |
| Dumila | Mixed | 17.0 | 0.045 |
| Magole | Mixed | 33.9 | 0.058 |
| Msowero | Mixed | 47.5 | 0.056 |
| Kimamba A | Urban | 36.5 | 0.062 |
| Kimamba B | Urban | 12.8 | 0.031 |
| Mbumi | Urban | 12.1 | 0.043 |
| Mkwatani | Urban | 33.2 | 0.064 |
| Magomeni | Urban | 57.4 | 0.051 |
| Kasiki | Urban | 23.0 | 0.051 |
| Mikumi | Mixed | 16.3 | 0.028 |
| Kidodi | Mixed | 2.3 | 0.011 |
| Kisanga | Mixed | 47.0 | 0.080 |
| Gairo | Mixed | 6.9 | 0.034 |

Source: Author's calculations based on census data and household and budget survey.

Table 30
Urban Poverty: Ward Poverty Rates for Rufij

| <i>Ward</i> | <i>Class</i> | <i>Poverty rate (percent)</i> | <i>Std error</i> |
|-------------|--------------|-------------------------------|------------------|
| Ikwiri | Mixed | 22.0 | 0.039 |
| Mgomba | Mixed | 58.9 | 0.049 |
| Umwe | Urban | 36.6 | 0.042 |
| Utete | Mixed | 29.5 | 0.044 |
| Kibiti | Mixed | 49.0 | 0.047 |
| Bungu | Mixed | 50.2 | 0.050 |
| Chumbi | Mixed | 53.6 | 0.060 |

Source: Author's calculations based on census data and household and budget survey.

Table 31

Urban Poverty: Ward Poverty Rates for Tarime

| <i>Ward</i> | <i>Class</i> | <i>Poverty rate (percent)</i> | <i>Std error</i> |
|-------------|--------------|-------------------------------|------------------|
| Sirari | Mixed | 51.0 | 0.092 |
| Turwa | Mixed | 52.1 | 0.079 |
| Tarime | Urban | 41.9 | 0.067 |
| Mkoma | Mixed | 57.9 | 0.086 |
| Koryo | Mixed | 51.7 | 0.111 |
| Malongo | Mixed | 60.3 | 0.100 |

Source: Author's calculations based on census data and household and budget survey.

Table 32

Urban Poverty: Ward Poverty Rates for Nzega

| <i>Ward</i> | <i>Class</i> | <i>Poverty rate (percent)</i> | <i>Std error</i> |
|--------------|--------------|-------------------------------|------------------|
| Nzega Mijini | Urban | 13.3 | 0.045 |
| Bukene | Mixed | 26.1 | 0.073 |

Source: Author's calculations based on census data and household and budget survey.

Appendix 6: Migration Trends

Table 33
Urban Migration by Region, 2001–02

| Urban area | In-migration | | | | Out-migration | | | | Migration rates | | | | |
|---------------|------------------|------------------------|-------------------------|------------------------|----------------|----------------------|--------------|---------------|-----------------|--------------------|-----|------|------|
| | From rural areas | From other urban areas | From unspecified origin | From other urban areas | To rural areas | To other urban areas | In-migration | Out-migration | Net migration | Migration turnover | In | Out | Net |
| Dodoma | 6,437 | 7,201 | 119 | 6,699 | 12,093 | 13,757 | 18,792 | -5,035 | 32,549 | 6.8 | 9.3 | -2.5 | 16.2 |
| Arusha | 10,548 | 9,462 | 195 | 9,257 | 10,619 | 20,205 | 19,876 | 328 | 40,081 | 5.2 | 5.1 | 0.1 | 10.4 |
| Kilimanjaro | 12,730 | 6,615 | 372 | 7,123 | 10,090 | 19,717 | 17,213 | 2,504 | 36,929 | 7.3 | 6.4 | 0.9 | 13.8 |
| Tanga | 5,806 | 6,860 | 145 | 7,283 | 10,197 | 12,811 | 17,480 | -4,669 | 30,291 | 4.5 | 6.1 | -1.6 | 10.6 |
| Morogoro | 8,175 | 9,853 | 202 | 9,357 | 11,158 | 18,230 | 20,515 | -2,285 | 38,745 | 4.1 | 4.6 | -0.5 | 8.6 |
| Pwani | 3,941 | 10,810 | 180 | 3,146 | 8,931 | 14,931 | 12,077 | 2,854 | 27,008 | 8.4 | 6.8 | 1.6 | 15.2 |
| Dar es Salaam | 45,520 | 50,318 | 2,343 | 33,870 | 36,119 | 98,181 | 69,989 | 28,192 | 168,170 | 4.4 | 3.1 | 1.3 | 7.5 |
| Lindi | 2,747 | 2,501 | 80 | 2,211 | 3,177 | 5,328 | 5,388 | -60 | 10,716 | 4.4 | 4.5 | 0.0 | 8.9 |
| Mtwara | 5,112 | 4,919 | 151 | 4,660 | 6,424 | 10,182 | 11,084 | -903 | 21,266 | 4.7 | 5.1 | -0.4 | 9.9 |
| Ruvuma | 5,028 | 7,096 | 139 | 4,424 | 7,368 | 12,263 | 11,792 | 471 | 24,056 | 7.7 | 7.4 | 0.3 | 15.0 |
| Iringa | 7,270 | 6,056 | 200 | 6,896 | 7,075 | 13,526 | 13,971 | -445 | 27,497 | 5.6 | 5.8 | -0.2 | 11.3 |
| Mbeya | 11,977 | 8,388 | 376 | 8,435 | 8,312 | 20,741 | 16,747 | 3,994 | 37,489 | 5.2 | 4.2 | 1.0 | 9.4 |
| Singida | 3,588 | 3,682 | 141 | 4,192 | 5,131 | 7,411 | 9,323 | -1,913 | 16,734 | 5.3 | 6.7 | -1.4 | 12.0 |
| Tabora | 6,482 | 4,855 | 127 | 6,188 | 6,851 | 11,464 | 13,039 | -1,575 | 24,504 | 5.6 | 6.3 | -0.8 | 11.9 |
| Rukwa | 5,918 | 3,745 | 120 | 4,046 | 3,241 | 9,783 | 7,287 | 2,497 | 17,070 | 5.2 | 3.8 | 1.3 | 9.0 |
| Kigoma | 8,214 | 4,347 | 423 | 5,826 | 6,198 | 12,984 | 12,024 | 959 | 25,008 | 6.8 | 6.3 | 0.5 | 13.0 |
| Shinyanga | 12,031 | 9,183 | 243 | 9,557 | 6,711 | 21,457 | 16,268 | 5,189 | 37,725 | 8.9 | 6.8 | 2.2 | 15.7 |
| Kagera | 8,214 | 3,138 | 119 | 6,131 | 3,904 | 11,471 | 10,035 | 1,437 | 21,506 | 9.8 | 8.6 | 1.2 | 18.3 |
| Mwanza | 26,024 | 17,196 | 1,141 | 18,190 | 13,914 | 44,361 | 32,104 | 12,257 | 76,465 | 7.8 | 5.6 | 2.2 | 13.4 |
| Mara | 10,566 | 4,830 | 85 | 6,207 | 5,224 | 15,481 | 11,431 | 4,051 | 26,912 | 6.5 | 4.8 | 1.7 | 11.3 |
| Manyara | 4,495 | 3,332 | 57 | 3,647 | 1,650 | 7,884 | 5,297 | 2,588 | 13,181 | 6.0 | 4.0 | 2.0 | 10.1 |

Source: Author's calculations based on census data.

Note: Internal migration (both rural-to-urban and urban-to-urban) is included

Table 34
Urban Growth Components, 1988–2002 and 2001–02

| <i>Urban area</i> | <i>Population</i> | | <i>Inter-censal annual growth rate</i> | <i>Net migration rate (2001–02)</i> | <i>Natural growth and reclassification</i> | <i>Relative contribution of migration to urban growth</i> |
|-------------------|-------------------|-------------|--|---|--|---|
| | <i>1988</i> | <i>2002</i> | | | | |
| Dodoma | 131,162 | 201,037 | 3.1 | –2.4 | 5.5 | –80.1 |
| Arusha/Manyara | 157,544 | 517,084 | 8.5 | 0.6 | 7.9 | 6.6 |
| Kilimanjaro | 161,139 | 268,515 | 3.6 | 0.9 | 2.7 | 25.8 |
| Tanga | 225,756 | 286,463 | 1.7 | –1.6 | 3.3 | –94.3 |
| Morogoro | 268,800 | 449,148 | 3.7 | –0.5 | 4.2 | –13.8 |
| Pwani | 94,532 | 177,433 | 4.5 | 1.6 | 2.9 | 36.4 |
| Dar es Salaam | 1,219,524 | 2,246,140 | 4.4 | 1.3 | 3.1 | 29.1 |
| Lindi | 97,117 | 120,862 | 1.6 | 0.0 | 1.6 | –3.2 |
| Mtwara | 128,023 | 215,699 | 3.7 | –0.4 | 4.1 | –11.2 |
| Ruvuma | 91,121 | 160,268 | 4.0 | 0.3 | 3.7 | 7.3 |
| Iringa | 116,627 | 242,499 | 5.2 | –0.2 | 5.4 | –3.5 |
| Mbeya | 265,926 | 400,127 | 2.9 | 1.0 | 1.9 | 34.6 |
| Singida | 109,219 | 139,559 | 1.8 | –1.4 | 3.1 | –77.2 |
| Tabora | 151,586 | 206,186 | 2.2 | –0.8 | 3.0 | –34.5 |
| Rukwa | 98,734 | 189,824 | 4.7 | 1.3 | 3.3 | 28.5 |
| Kigoma | 101,863 | 191,685 | 4.5 | 0.5 | 4.0 | 11.1 |
| Shinyanga | 116,090 | 240,573 | 5.2 | 2.2 | 3.0 | 42.4 |
| Kagera | 69,457 | 117,217 | 3.7 | 1.2 | 2.5 | 33.2 |
| Mwanza | 339,993 | 568,726 | 3.7 | 2.2 | 1.5 | 59.9 |
| Mara | 99,840 | 238,041 | 6.2 | 1.7 | 4.5 | 27.9 |
| Mainland Tanzania | 4,044,050 | 7,177,086 | 4.1 | 0.7 | 3.4 | 17.3 |

Source: Author's calculations based on census data.

Note: The analysis is based on the assumption that 2001–02 was a normal migration year over the period 1988–2002.

Table 35
Characteristics of Urban Households by Migration Status, 2001–02 (percent)

| Characteristics | Non-migrants | Migrants* | Rural–urban migrants | Urban–urban migrants | Household | |
|---------------------------------|--------------|-----------|----------------------|----------------------|---------------|----------------------|
| | | | | | Only migrants | At least one migrant |
| Energy use for cooking | | | | | | |
| Electricity | 3.3 | 4.0 | 3.6 | 4.4 | 3.2 | 4.3 |
| Paraffin | 14.6 | 13.9 | 11.6 | 15.3 | 22.2 | 11.0 |
| Firewood | 31.3 | 23.5 | 27.3 | 20.2 | 20.1 | 24.8 |
| Charcoal | 49.3 | 57.1 | 56.1 | 58.5 | 51.1 | 59.2 |
| Energy use for lighting | | | | | | |
| Electricity | 30.8 | 39.8 | 36.0 | 43.8 | 32.6 | 42.3 |
| Paraffin | 67.4 | 58.5 | 62.2 | 54.7 | 65.0 | 56.2 |
| Firewood | 1.0 | 0.8 | 1.0 | 0.6 | 0.8 | 0.9 |
| Source of drinking water | | | | | | |
| Piped water | 67.2 | 67.2 | 64.5 | 69.6 | 65.8 | 67.7 |
| Protected well | 15.3 | 16.1 | 16.2 | 15.9 | 17.5 | 15.6 |
| Unprotected well | 9.6 | 8.8 | 10.6 | 7.4 | 8.7 | 8.9 |
| Surface water | 3.7 | 3.0 | 3.7 | 2.3 | 2.8 | 3.0 |
| Toilet facilities | | | | | | |
| Flush toilet | 10.4 | 16.1 | 14.6 | 18.1 | 10.5 | 18.0 |
| Improved pit latrine | 3.2 | 5.1 | 5.0 | 5.3 | 4.4 | 5.3 |
| Traditional pit latrine | 84.5 | 77.0 | 77.7 | 75.4 | 82.6 | 75.0 |
| No toilet facilities | 1.8 | 1.8 | 2.5 | 1.2 | 2.4 | 1.6 |
| Construction materials | | | | | | |
| Wall | | | | | | |
| Poles, branches and grass | 15.1 | 11.7 | 13.9 | 9.8 | 13.7 | 11.0 |
| Poles, mud and stone | 23.6 | 21.6 | 22.1 | 20.8 | 22.5 | 21.2 |
| Mud bricks | 13.5 | 14.3 | 15.7 | 13.5 | 14.5 | 14.3 |
| Baked bricks | 46.9 | 51.6 | 47.3 | 55.4 | 48.1 | 52.9 |
| Concrete, cement and stone | | | | | | |
| Roof | | | | | | |
| Grass, leaves and bamboo | 12.2 | 8.0 | 9.9 | 6.2 | 7.2 | 8.3 |
| Concrete and cement | 2.9 | 4.0 | 3.4 | 4.4 | 2.1 | 1.6 |
| Metal sheets | 82.3 | 86.1 | 84.5 | 87.8 | 89.0 | 85.1 |
| Household assets | | | | | | |
| Electricity | 28.6 | 37.2 | 33.6 | 41.0 | 28.7 | 40.2 |
| Radio | 67.2 | 73.0 | 70.4 | 75.7 | 63.3 | 76.3 |
| Telephone | 10.6 | 18.1 | 16.2 | 20.5 | 10.1 | 20.9 |
| Bicycle | 26.8 | 29.3 | 30.3 | 28.8 | 19.5 | 32.7 |
| Handheld hoe | 59.9 | 51.7 | 54.9 | 48.0 | 66.3 | 46.6 |
| Wheelbarrow | 42.7 | 43.7 | 40.9 | 45.5 | 58.3 | 38.7 |
| Iron | 7.0 | 9.9 | 9.6 | 10.4 | 5.3 | 11.5 |
| Number of rooms (mean) | 2.1 | 2.3 | 2.3 | 2.4 | 1.7 | 2.6 |
| Number of persons/room (mean) | 2.2 | 2.5 | 2.5 | 2.5 | 1.7 | 2.7 |
| Overcrowding** | 38.5 | 46.6 | 47.4 | 47.0 | 22.6 | 55.0 |
| Household size (mean) | 4.0 | 5.0 | 5.0 | 5.1 | 2.5 | 5.9 |

Source: Author's calculations based on census data.

* Including migrants with unknown area of origin.

** Overcrowding is defined as households with >2 persons per room.

Table 36
Characteristics of Urban Population by Migration Status, 2001–02 (percent)

| <i>Characteristics</i> | <i>Non-migrants</i> | <i>Migrants</i> | <i>Rural–urban migrants</i> | <i>Urban–urban migrants</i> |
|--------------------------------------|---------------------|-----------------|-----------------------------|-----------------------------|
| Demographics | | | | |
| Age (mean) | 23.0 | 22.2 | 21.8 | 22.6 |
| Sex (male) | 48.8 | 48.3 | 48.1 | 48.4 |
| Marital status | | | | |
| Never married | 61.1 | 63.8 | 64.3 | 63.2 |
| Currently married | 33.1 | 31.0 | 30.3 | 31.7 |
| Widowed | 2.8 | 2.3 | 2.3 | 2.2 |
| Literacy and education | | | | |
| Literate | 80.6 | 82.5 | 77.9 | 56.3 |
| Years of education (mean) | 5.3 | 5.7 | 5.1 | 6.2 |
| Received any education | 81.4 | 83.0 | 78.2 | 86.2 |
| Up to primary | 66.7 | 66.7 | 68.4 | 65.2 |
| Up to secondary | 11.2 | 11.9 | 8.5 | 14.8 |
| Up to post-secondary | 3.5 | 4.4 | 2.3 | 6.2 |
| Usual economic activity | | | | |
| Unemployed | 4.0 | 4.7 | 4.0 | 5.3 |
| Student | 26.9 | 21.7 | 20.3 | 22.8 |
| Retired | 6.0 | 5.5 | 5.9 | 5.1 |
| Non-productive domestic | 15.7 | 17.6 | 17.5 | 17.8 |
| Economically active | 49.0 | 52.7 | 54.0 | 51.5 |
| Employment status | | | | |
| Self-employed | 69.1 | 61.3 | 65.7 | 57.4 |
| Employer | 0.2 | 0.1 | 0.1 | 0.1 |
| Employee | 27.5 | 34.6 | 29.7 | 38.9 |
| Family helper | 2.4 | 3.0 | 3.6 | 2.5 |
| Type of business | | | | |
| Public service | 12.5 | 13.9 | 10.6 | 16.8 |
| Engaged in non-agricultural activity | 62.6 | 66.8 | 57.1 | 75.5 |

Source: Author's calculations based on census data.

Table 37
Characteristics of Rural Households by Migration Status, 2001–02 (percent)

| <i>Characteristics</i> | <i>Non-migrants</i> | <i>Migrants</i> | <i>Rural–urban migrants</i> | <i>Urban–urban migrants</i> |
|-------------------------------|---------------------|-----------------|-----------------------------|-----------------------------|
| Energy use for cooking | | | | |
| Electricity | 0.2 | 0.5 | 0.3 | 0.9 |
| Paraffin | 0.5 | 1.9 | 0.8 | 4.1 |
| Firewood | 95.5 | 86.9 | 92.0 | 75.9 |
| Charcoal | 3.6 | 10.3 | 6.6 | 18.4 |
| Energy use for lighting | | | | |
| Electricity | 1.3 | 4.4 | 2.6 | 8.4 |
| Paraffin | 91.8 | 89.6 | 90.5 | 87.6 |
| Firewood | 6.5 | 5.4 | 6.3 | 3.4 |
| Source of drinking water | | | | |
| Piped water | 20.9 | 21.8 | 17.5 | 31.0 |
| Protected well | 22.0 | 24.1 | 24.9 | 22.3 |
| Unprotected well | 32.2 | 30.8 | 33.0 | 26.8 |
| Surface water | 18.0 | 16.9 | 18.2 | 14.1 |
| Toilet facilities | | | | |
| Flush toilet | 0.4 | 1.5 | 0.9 | 2.9 |
| Improved pit latrine | 0.5 | 1.1 | 0.9 | 1.8 |
| Traditional pit latrine | 87.8 | 87.2 | 86.4 | 88.6 |
| No toilet facilities | 11.1 | 10.1 | 11.7 | 6.7 |
| Construction materials | | | | |
| Wall | | | | |
| Poles, branches and grass | 0.6 | 0.5 | 0.5 | 0.6 |
| Poles, mud and stone | 42.0 | 33.7 | 34.6 | 32.3 |
| Mud bricks | 37.6 | 41.3 | 44.1 | 34.5 |
| Baked bricks | 14.7 | 14.5 | 13.4 | 16.9 |
| Concrete, cement and stone | 3.1 | 7.9 | 5.0 | 14.1 |
| Roof | | | | |
| Grass, leaves and bamboo | 52.7 | 45.4 | 49.6 | 36.0 |
| Concrete and cement | 0.3 | 0.7 | 0.7 | 0.8 |
| Metal sheets | 31.5 | 41.2 | 35.1 | 54.5 |
| Household assets | | | | |
| Electricity | 1.2 | 3.9 | 2.3 | 7.4 |
| Radio | 43.4 | 53.3 | 51.1 | 58.2 |
| Telephone | 0.6 | 1.9 | 1.1 | 3.5 |
| Bicycle | 35.3 | 42.6 | 45.2 | 37.0 |
| Handheld hoe | 84.5 | 78.0 | 81.1 | 71.1 |
| Wheelbarrow | 4.4 | 9.3 | 6.2 | 15.8 |
| Iron | 3.1 | 4.7 | 4.2 | 5.8 |
| Number of rooms (mean) | 2.2 | 2.4 | 2.4 | 2.4 |
| Number of persons/room (mean) | 2.5 | 2.9 | 3.1 | 2.6 |
| Overcrowding* | 46.0 | 56.0 | 59.9 | 47.4 |
| Household size (mean) | 4.7 | 6.1 | 6.4 | 5.3 |

Source: Author's calculations based on census data.

* Overcrowding is defined as households with >2 persons per room.

Table 38
Characteristics of Rural Population by Migration Status, 2001–02 (percent)

| <i>Characteristics</i> | <i>Non-migrants</i> | <i>Migrants</i> | <i>Rural–urban migrants</i> | <i>Urban–urban migrants</i> |
|--------------------------------------|---------------------|-----------------|-----------------------------|-----------------------------|
| Demographics | | | | |
| Age (mean) | 22.7 | 22.8 | 22.8 | 23.0 |
| Sex (male) | 48.4 | 51.0 | 50.6 | 51.3 |
| Marital status | | | | |
| Never married | 59.3 | 58.4 | 60.0 | 57.2 |
| Currently married | 34.6 | 35.6 | 33.8 | 36.8 |
| Widowed | 3.3 | 2.8 | 2.7 | 2.9 |
| Literacy and education | | | | |
| Literate | 57.1 | 65.3 | 77.4 | 58.6 |
| Years of education (mean) | 3.2 | 4.1 | 5.2 | 3.5 |
| Received any education | 60.8 | 67.9 | 79.0 | 61.6 |
| Up to primary | 58.1 | 60.5 | 65.8 | 57.8 |
| Up to secondary | 2.2 | 5.4 | 9.6 | 3.0 |
| Up to post-secondary | 0.5 | 1.9 | 3.7 | 0.8 |
| Usual economic activity | | | | |
| Unemployed | 0.7 | 1.6 | 2.7 | 1.0 |
| Student | 21.1 | 16.8 | 18.7 | 15.5 |
| Retired | 8.0 | 7.1 | 6.6 | 7.4 |
| Non-productive domestic | 10.5 | 10.8 | 11.9 | 10.1 |
| Economically active | 59.4 | 64.0 | 61.3 | 65.8 |
| Employment status | | | | |
| Self-employed | 90.0 | 79.5 | 72.8 | 83.2 |
| Employer | 0.1 | 0.1 | 0.2 | 0.1 |
| Employee | 4.1 | 14.8 | 22.5 | 10.7 |
| Family helper | 5.7 | 5.1 | 3.6 | 5.7 |
| Type of business | | | | |
| Public service | 1.6 | 5.4 | 10.2 | 2.7 |
| Engaged in non-agricultural activity | 12.8 | 28.4 | 43.5 | 19.8 |

Source: Author's calculations based on census data.

Table 39
Percentage of In-migrants by Migration Distance, 2001–02

| <i>City</i> | <i>Near*</i> | <i>Intermediate**</i> | <i>Remote***</i> |
|-------------------|--------------|-----------------------|------------------|
| Dodoma | 35.0 | 17.6 | 47.3 |
| Arusha | 21.9 | 32.3 | 45.9 |
| Moshi | 42.0 | 23.8 | 34.2 |
| Tanga | 57.3 | 9.1 | 33.6 |
| Morogoro | 36.7 | 15.9 | 47.4 |
| Kibaha | 20.1 | 63.2 | 16.7 |
| Dar es Salaam**** | — | 14.4 | 85.6 |
| Lindi urban | 38.9 | 19.0 | 42.1 |
| Mtwara urban | 43.8 | 14.8 | 41.2 |
| Songea urban | 41.9 | 12.1 | 46.0 |
| Iringa urban | 54.9 | 17.6 | 27.5 |
| Mbeya urban | 45.8 | 20.2 | 33.9 |
| Singida urban | 43.1 | 16.4 | 40.5 |
| Tabora | 60.5 | 13.0 | 26.6 |
| Sumbawanga | 55.7 | 21.4 | 23.0 |
| Kigoma | 60.6 | 9.6 | 29.9 |
| Shinyanga | 33.9 | 34.1 | 32.1 |
| Bukoba | 66.2 | 12.3 | 21.5 |
| Mwanza | 38.1 | 28.5 | 33.4 |
| Musoma | 61.3 | 21.2 | 17.6 |
| Babati | 42.4 | 44.3 | 13.4 |

Source: Author's calculations based on census data.

* = Migrants originate from within the region

** = Migrants originate from adjacent regions

*** = Migrants originate from non-adjacent regions

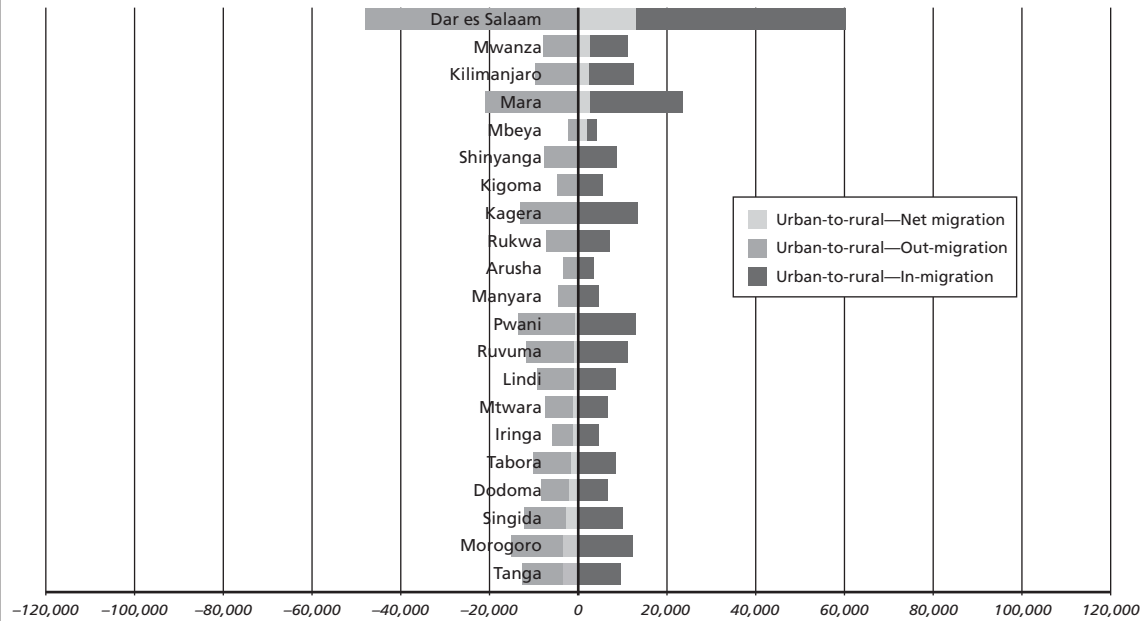
**** = Intra-regional urban migration excluded

Table 40
Urban Poverty of Regional Capital versus Poverty Background of Sending Settlements (percent)

| <i>Regional capital</i> | <i>Urban poverty</i> | <i>Poverty background</i> |
|-------------------------|----------------------|---------------------------|
| Dodoma | 20.0 | 26.0 |
| Arusha | 12.2 | 25.9 |
| Moshi | 17.6 | 25.4 |
| Tanga | 15.8 | 20.7 |
| Morogoro | 12.9 | 25.2 |
| Kibaha | 18.0 | 24.4 |
| Dar es Salaam | 19.2 | 27.0 |
| Lindi | 15.8 | 30.2 |
| Mtwara | 36.6 | 31.6 |
| Songea | 25.8 | 29.4 |
| Iringa | 18.5 | 24.5 |
| Mbeya | 12.2 | 21.9 |
| Singida | 31.7 | 34.4 |
| Tabora | 18.7 | 32.1 |
| Sumbawanga | 24.5 | 29.9 |
| Kigoma | 27.4 | 34.3 |
| Shinyanga | 8.5 | 31.5 |
| Bukoba | 8.4 | 28.3 |
| Mwanza | 19.3 | 37.9 |
| Musoma | 37.7 | 41.1 |
| Babati | 40.8 | 31.9 |

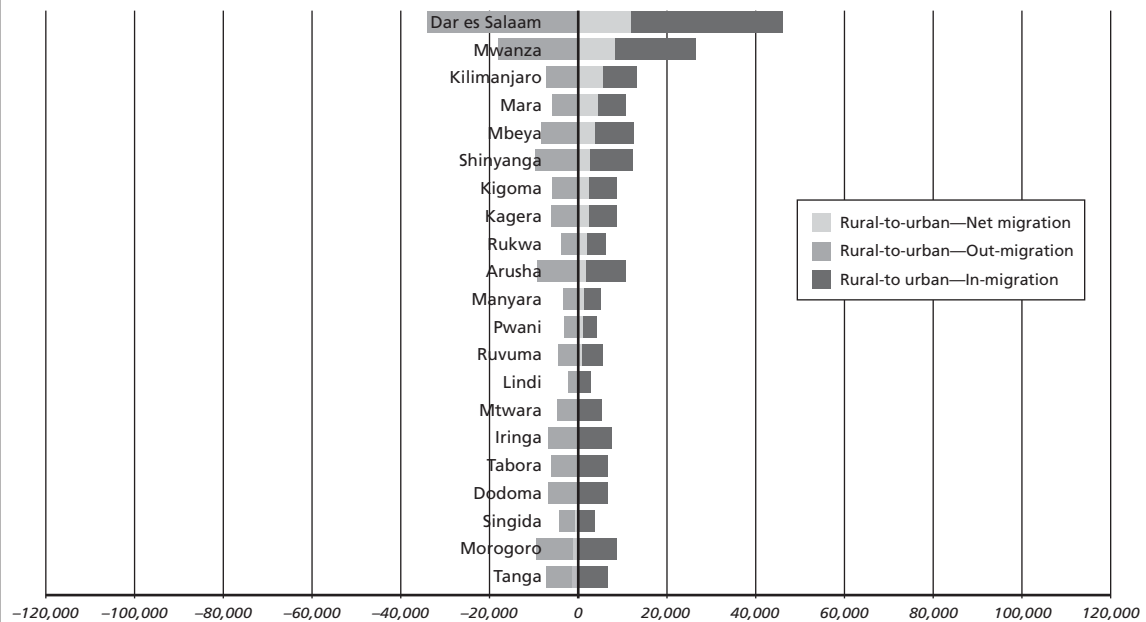
Source: Author's calculations based on census data.

Figure 55
Net Migration, Urban-to-Urban Flows, 2001–02



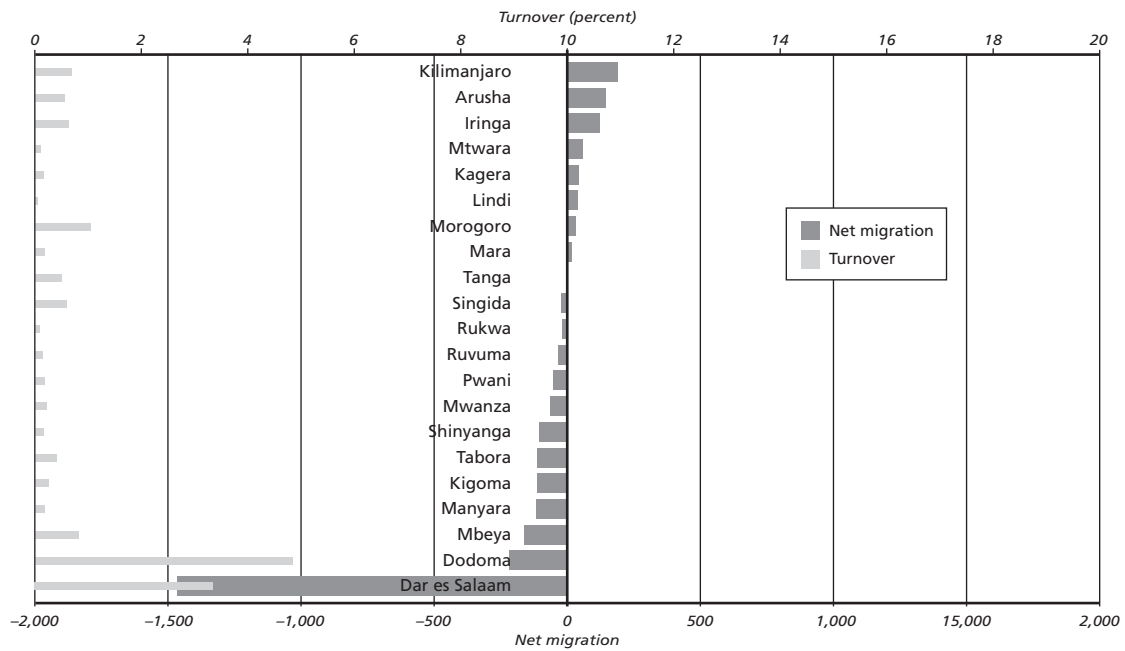
Source: Authors' calculations based on census data.

Figure 56
Net Migration, Rural-to-Urban Flows, 2001–02



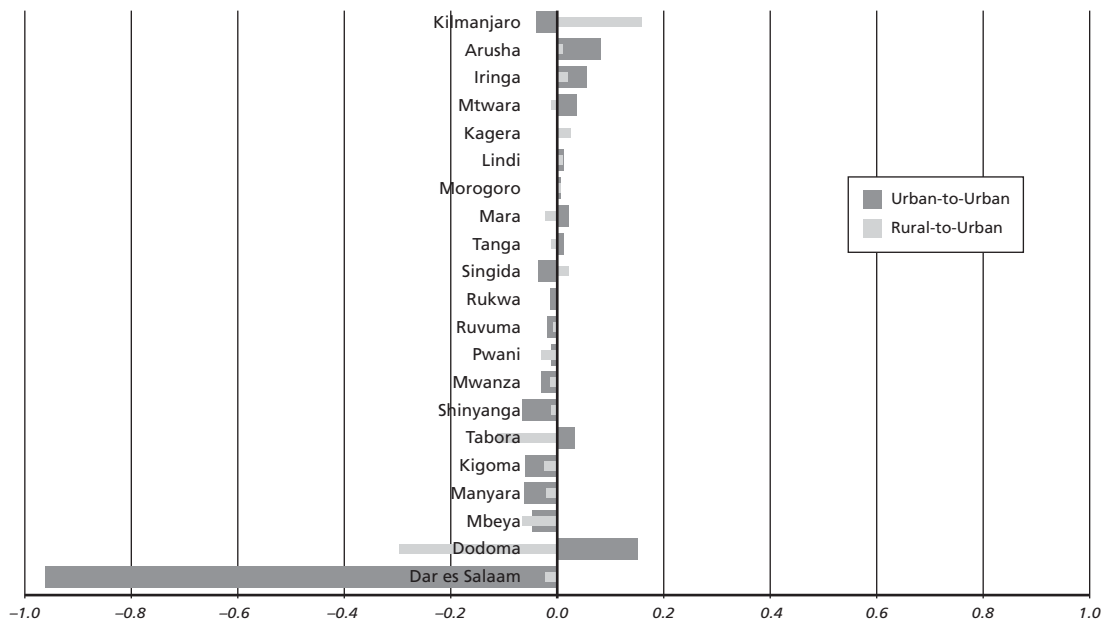
Source: Authors' calculations based on census data.

Figure 57
Dodoma: Net Migration Flows and Turnover by Region, 2001–02



Source: Authors' calculations based on census data.

Figure 58
Dodoma: Net Migration Rate by Region and Origin, 2001–02 (percent)



Source: Authors' calculations based on census data.

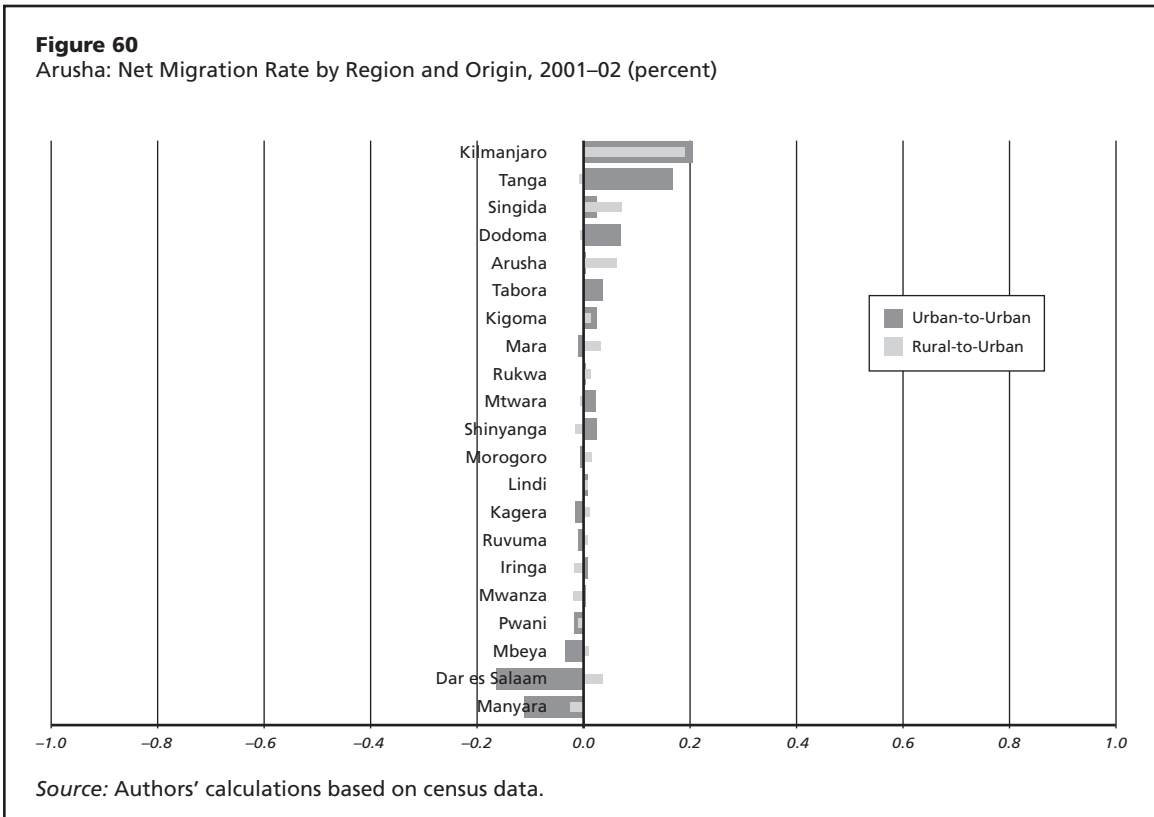
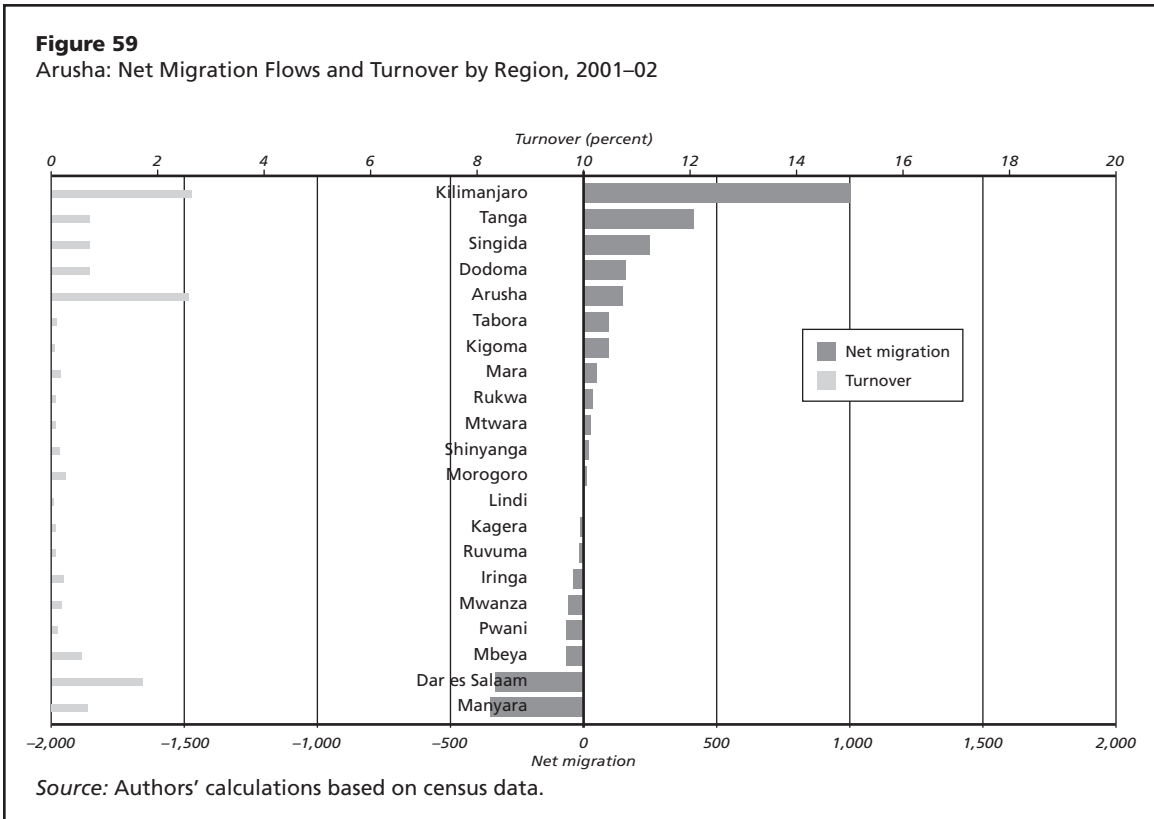
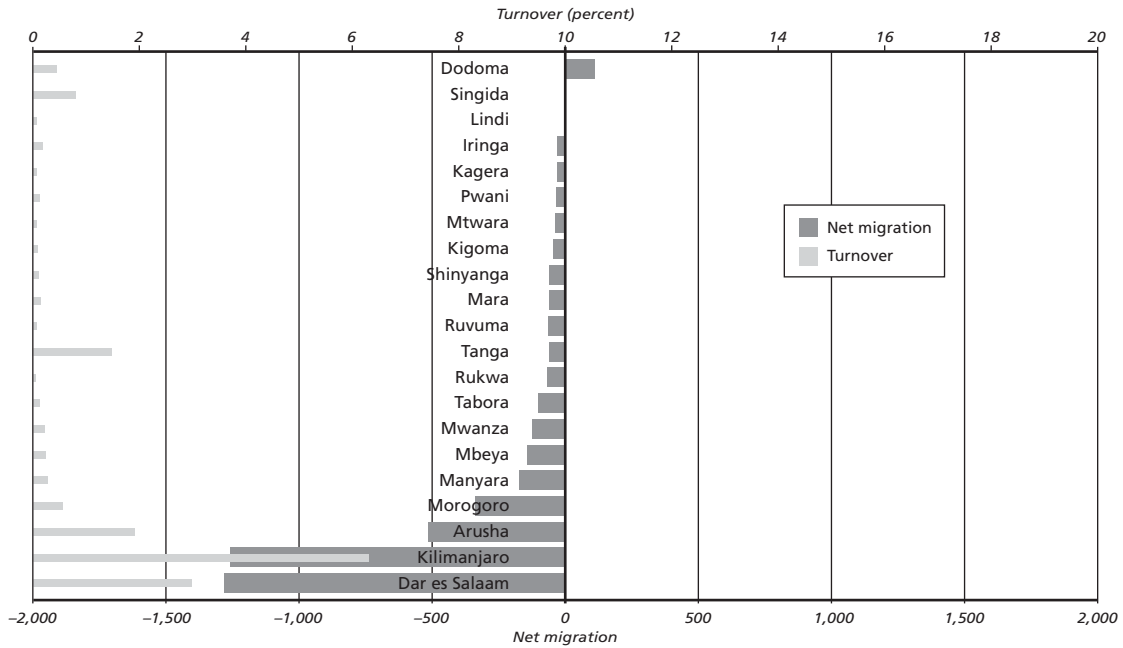
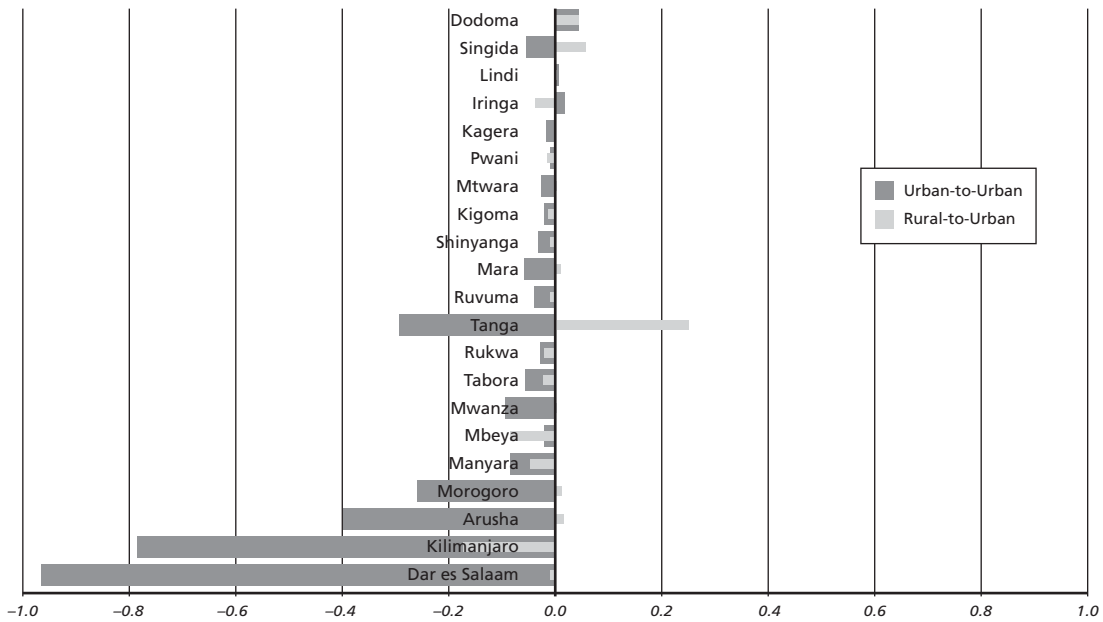


Figure 61
Moshi: Net Migration Flows and Turnover by Region, 2001–02



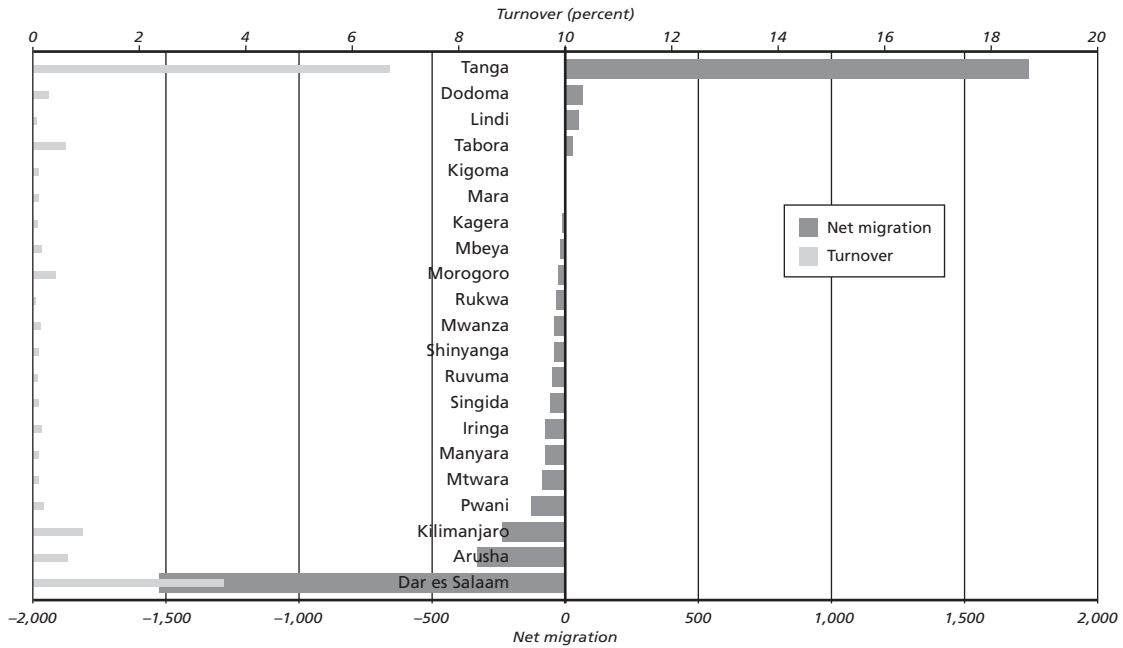
Source: Authors' calculations based on census data.

Figure 62
Moshi: Net Migration Rate by Region and Origin, 2001–02 (percent)



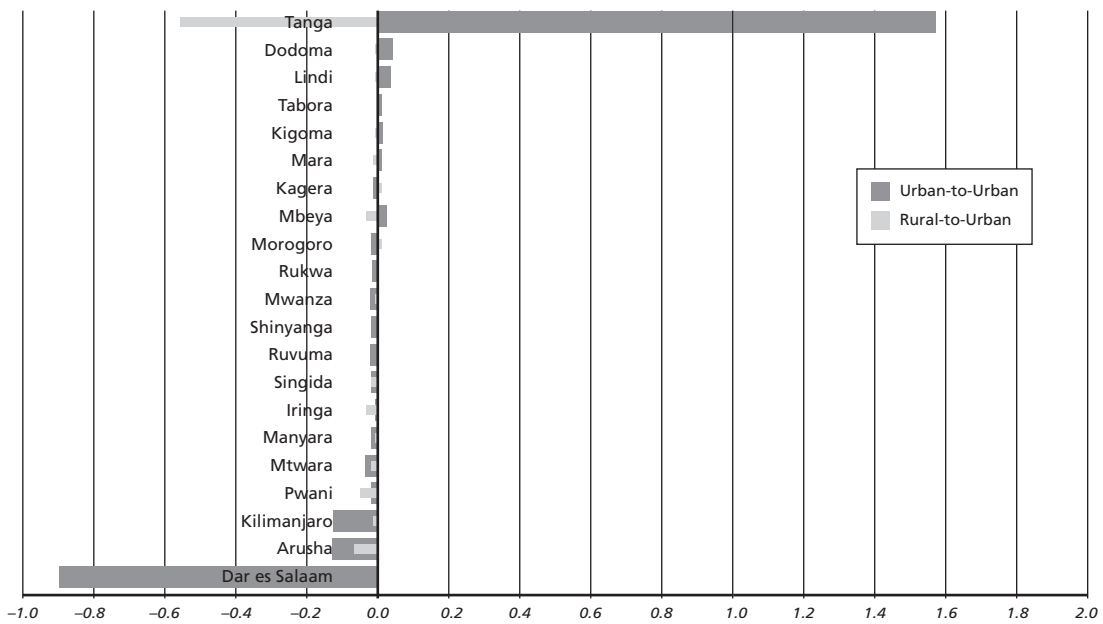
Source: Authors' calculations based on census data.

Figure 63
Tanga: Net Migration Flows and Turnover by Region, 2001–02



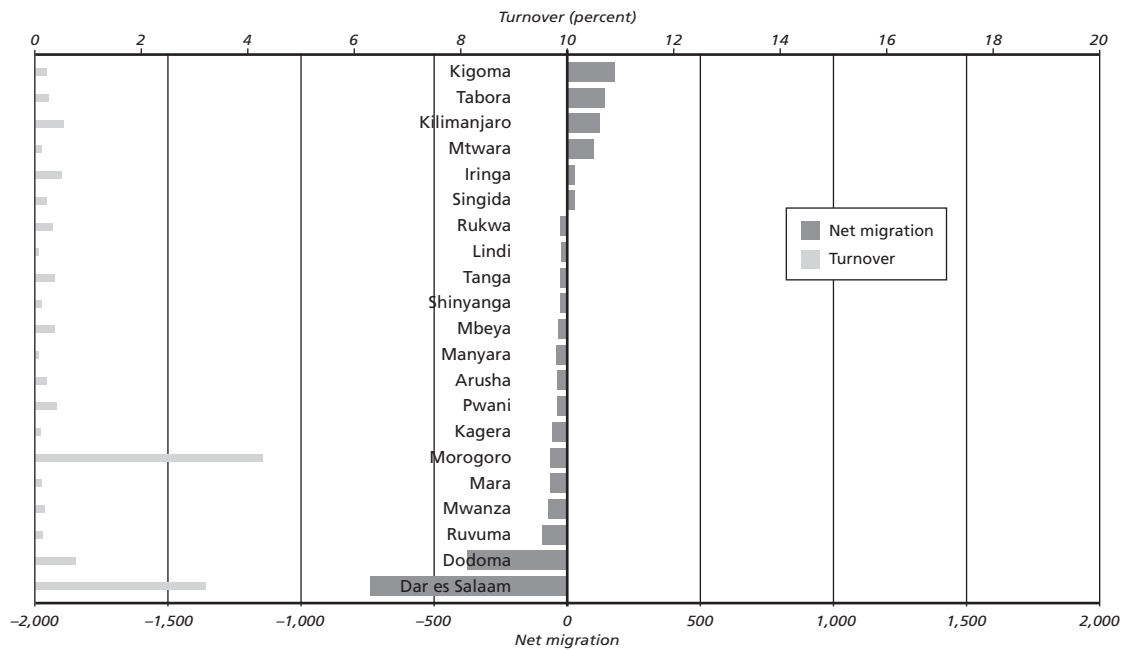
Source: Authors' calculations based on census data.

Figure 64
Tanga: Net Migration Rate by Region and Origin, 2001–02 (percent)



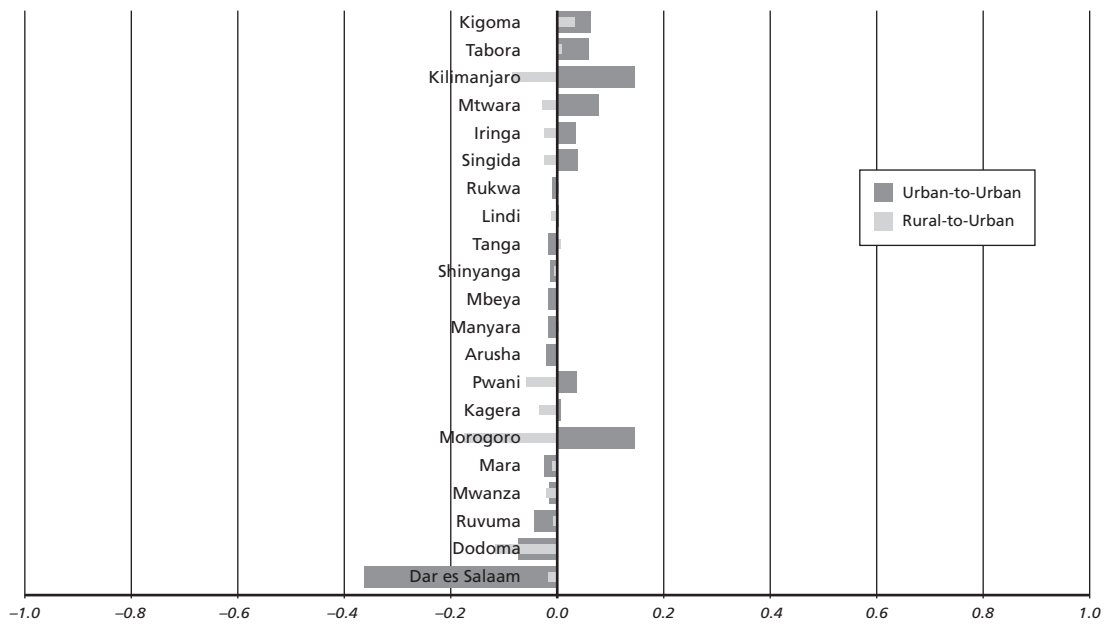
Source: Authors' calculations based on census data.

Figure 65
Morogoro: Net Migration Flows and Turnover by Region, 2001–02



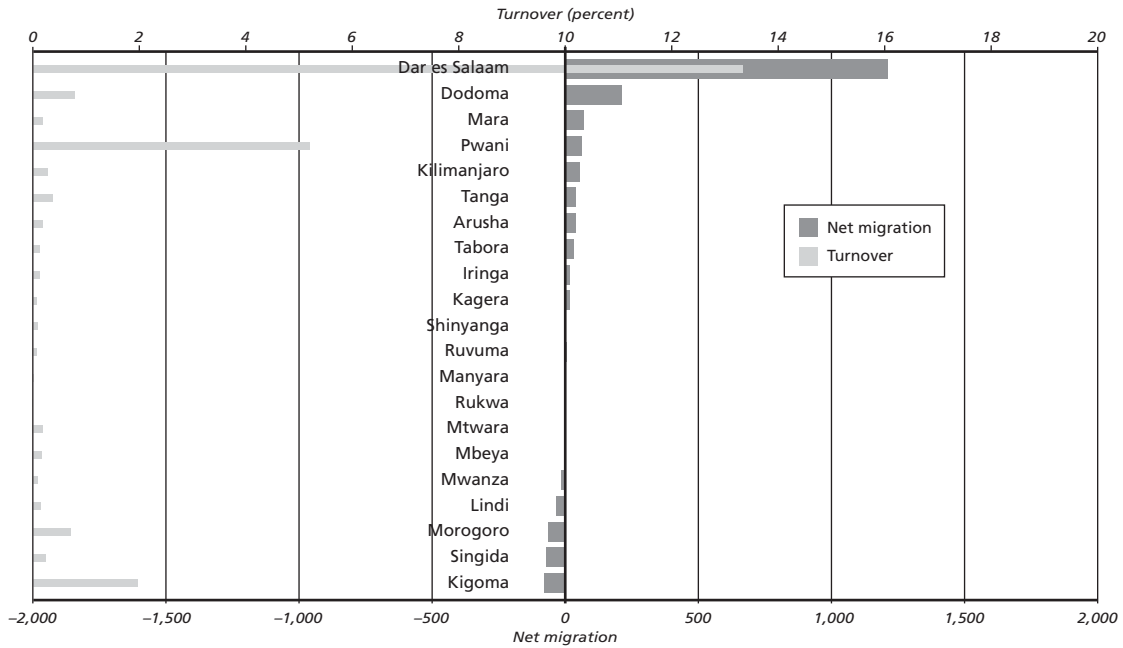
Source: Authors' calculations based on census data.

Figure 66
Morogoro: Net Migration Rate by Region and Origin, 2001–02 (percent)



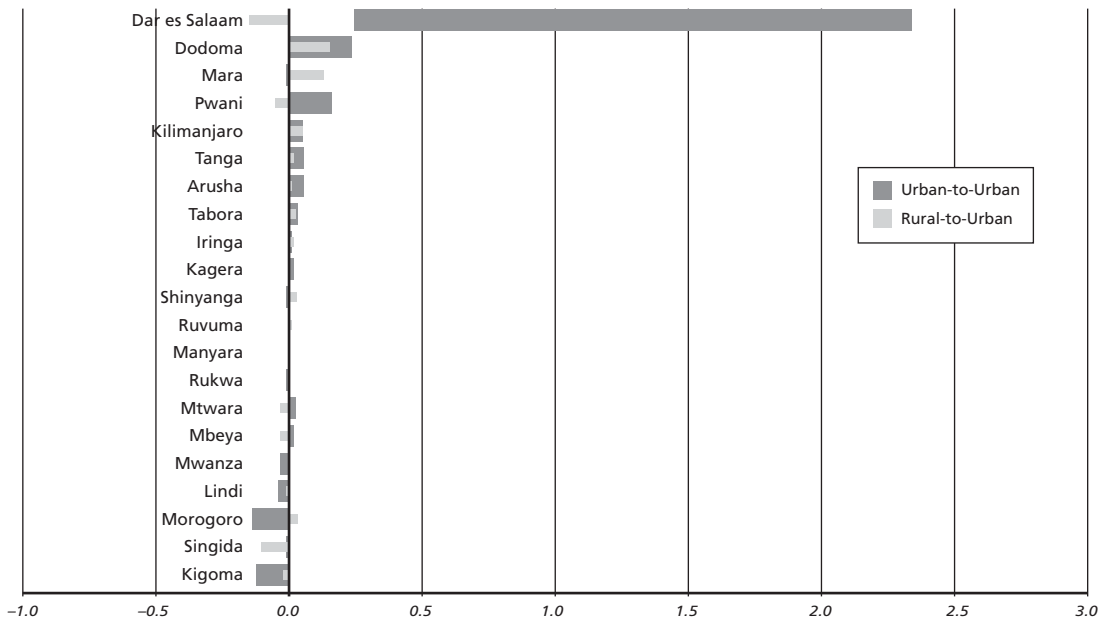
Source: Authors' calculations based on census data.

Figure 67
Kibaha: Net Migration Flows and Turnover by Region, 2001–02



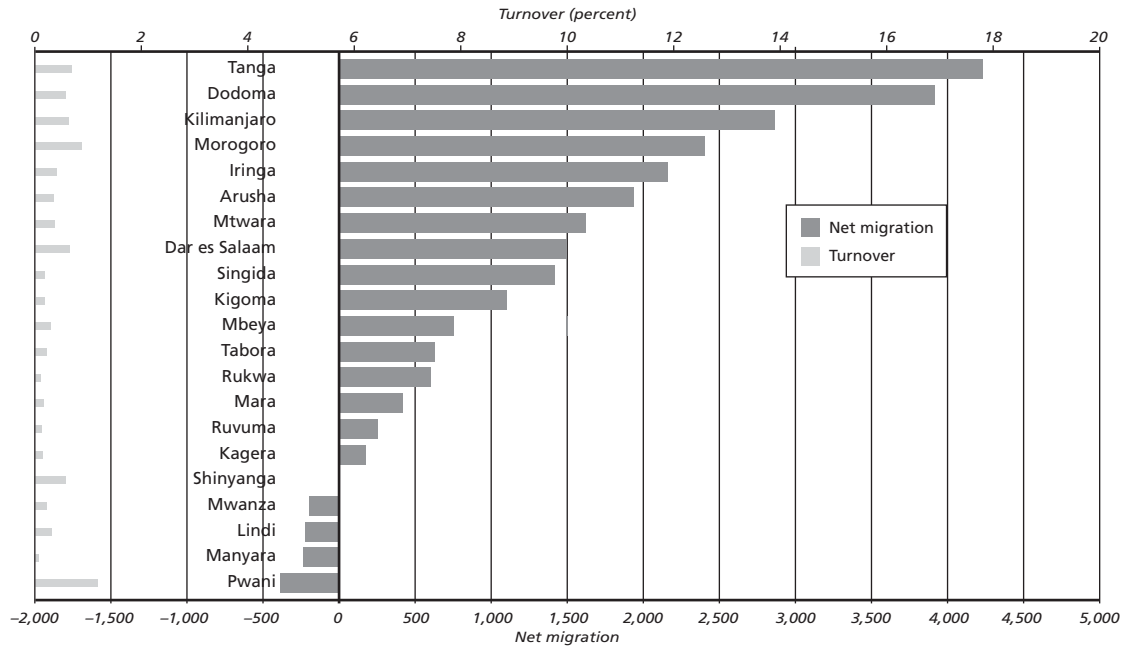
Source: Authors' calculations based on census data.

Figure 68
Kibaha: Net Migration Rate by Region and Origin, 2001–02 (percent)



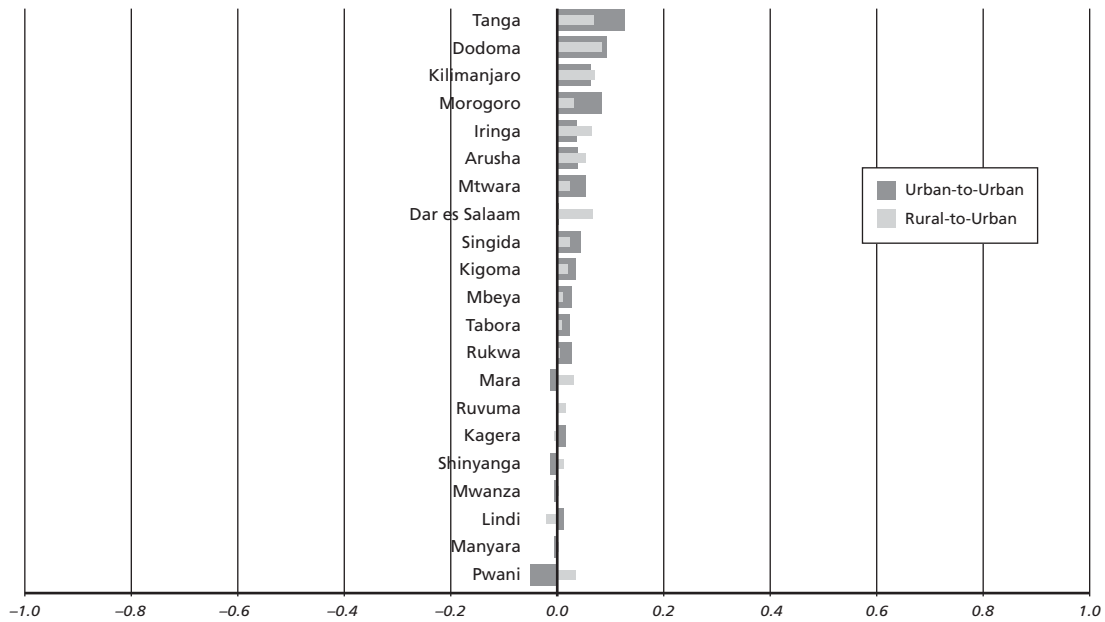
Source: Authors' calculations based on census data.

Figure 69
Dar es Salaam: Net Migration Flows and Turnover by Region, 2001–02



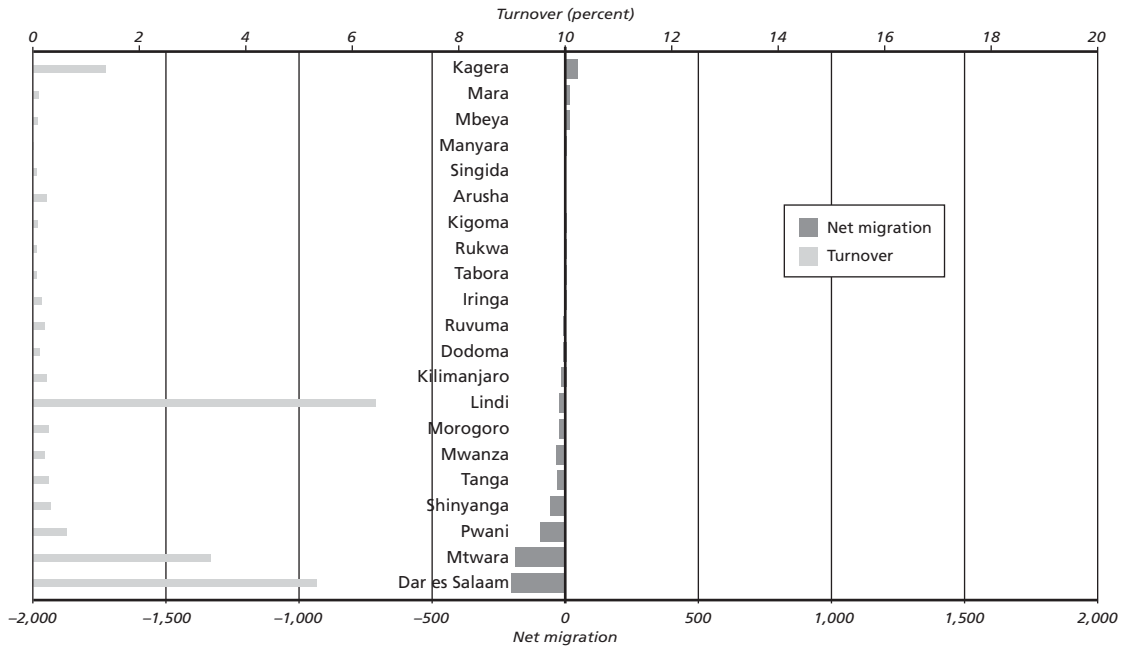
Source: Authors' calculations based on census data.

Figure 70
Dar es Salaam: Net Migration Rate by Region and Origin, 2001–02 (percent)



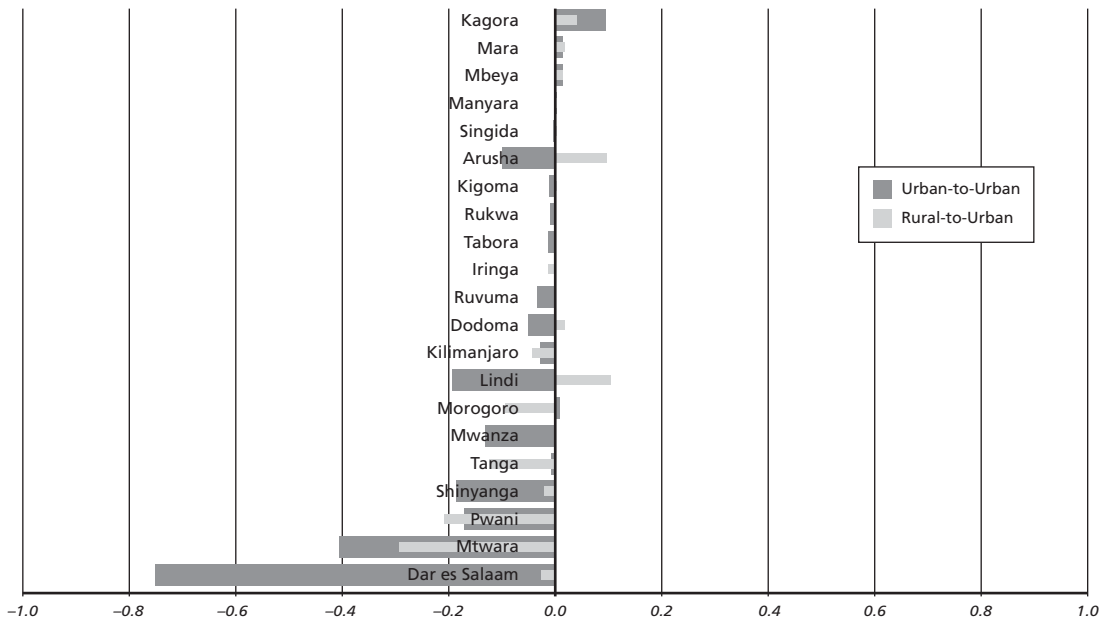
Source: Authors' calculations based on census data.

Figure 71
Lindi: Net Migration Flows and Turnover by Region, 2001–02



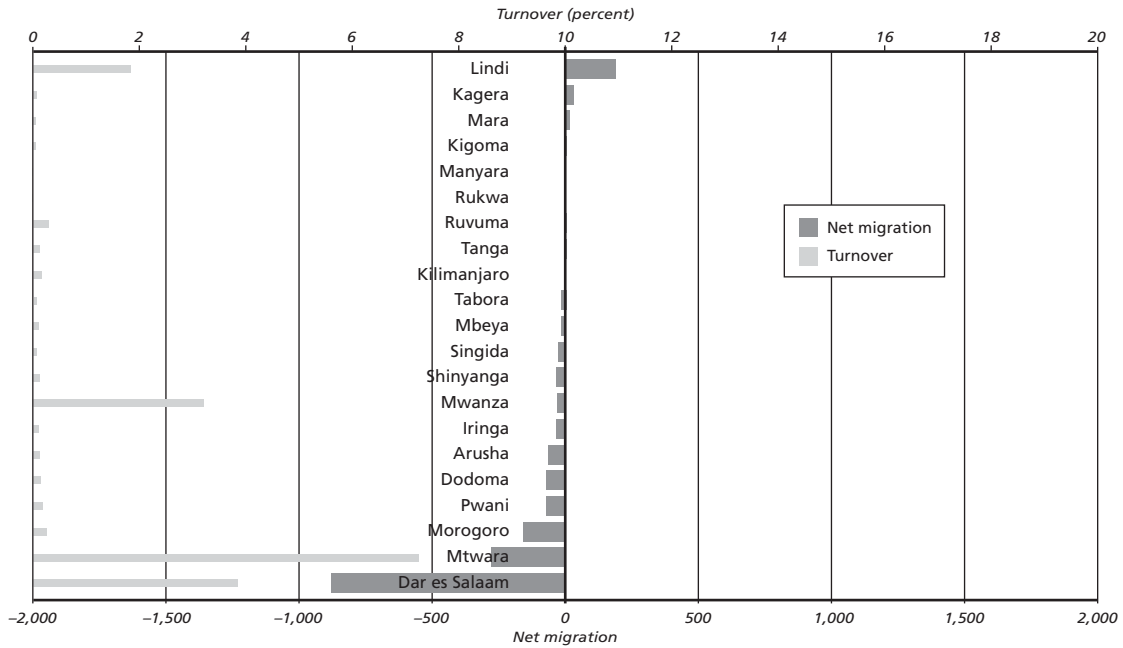
Source: Authors' calculations based on census data.

Figure 72
Lindi: Net Migration Rate by Region and Origin, 2001–02 (percent)



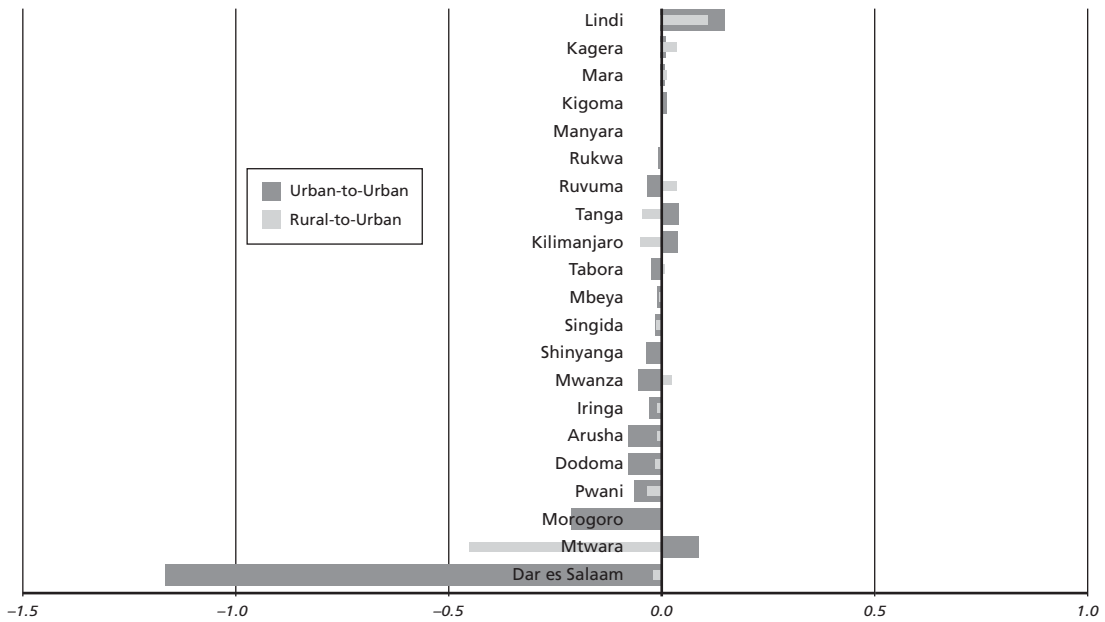
Source: Authors' calculations based on census data.

Figure 73
Mtwara: Net Migration Flows and Turnover by Region, 2001–02



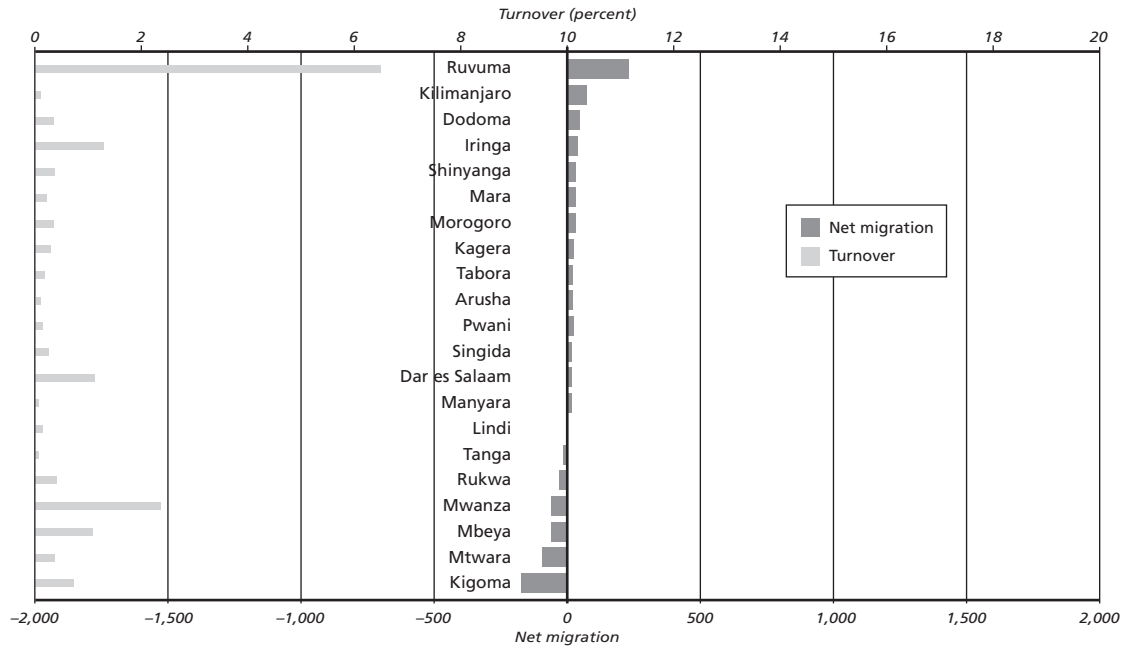
Source: Authors' calculations based on census data.

Figure 74
Mtwara: Net Migration Rate by Region and Origin, 2001–02 (percent)



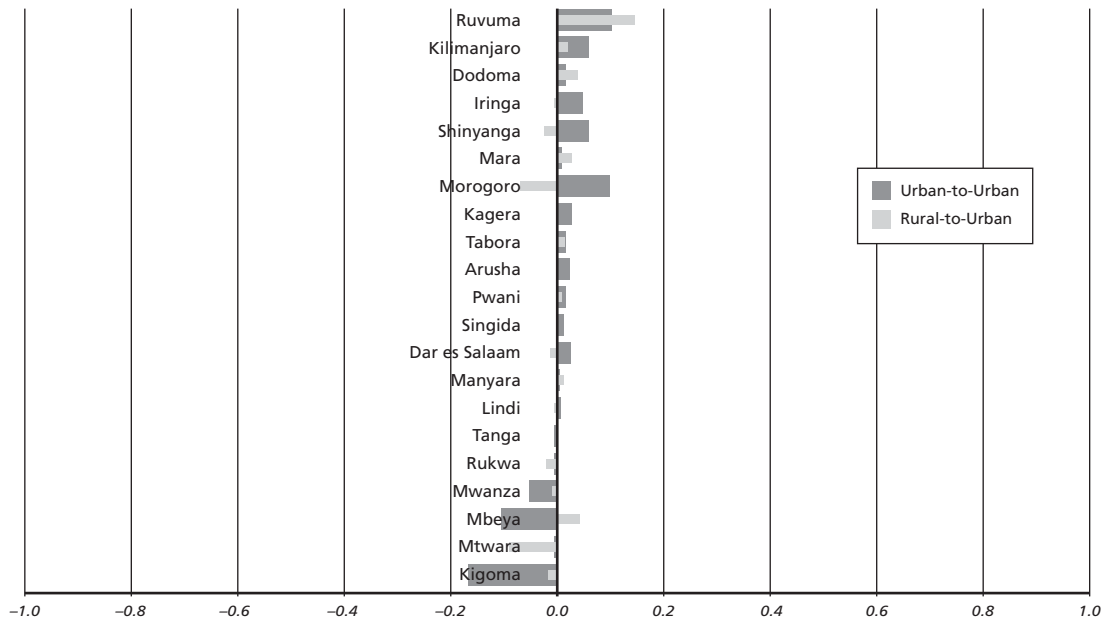
Source: Authors' calculations based on census data.

Figure 75
Songea: Net Migration Flows and Turnover by Region, 2001–02



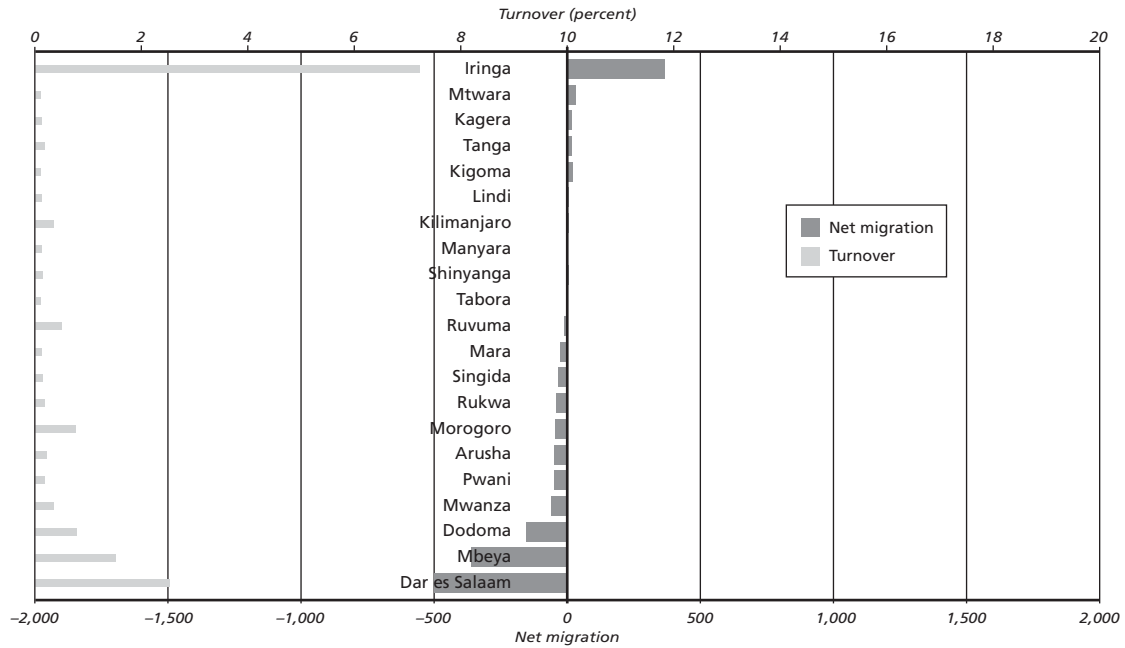
Source: Authors' calculations based on census data.

Figure 76
Songea: Net Migration Rate by Region and Origin, 2001–02 (percent)



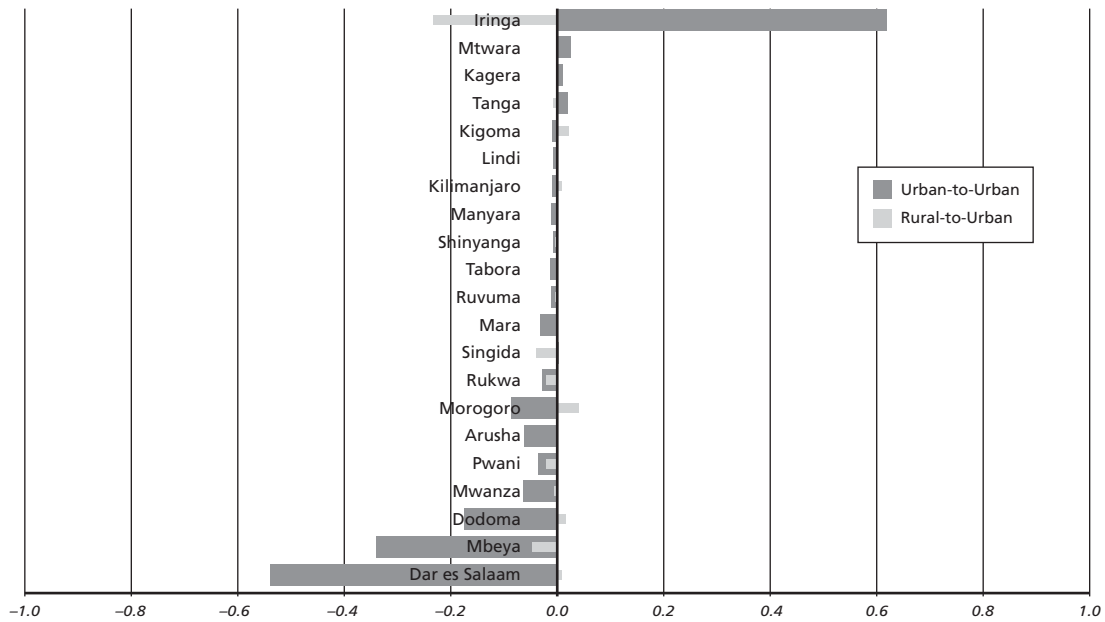
Source: Authors' calculations based on census data.

Figure 77
Iringa: Net Migration Flows and Turnover by Region, 2001–02



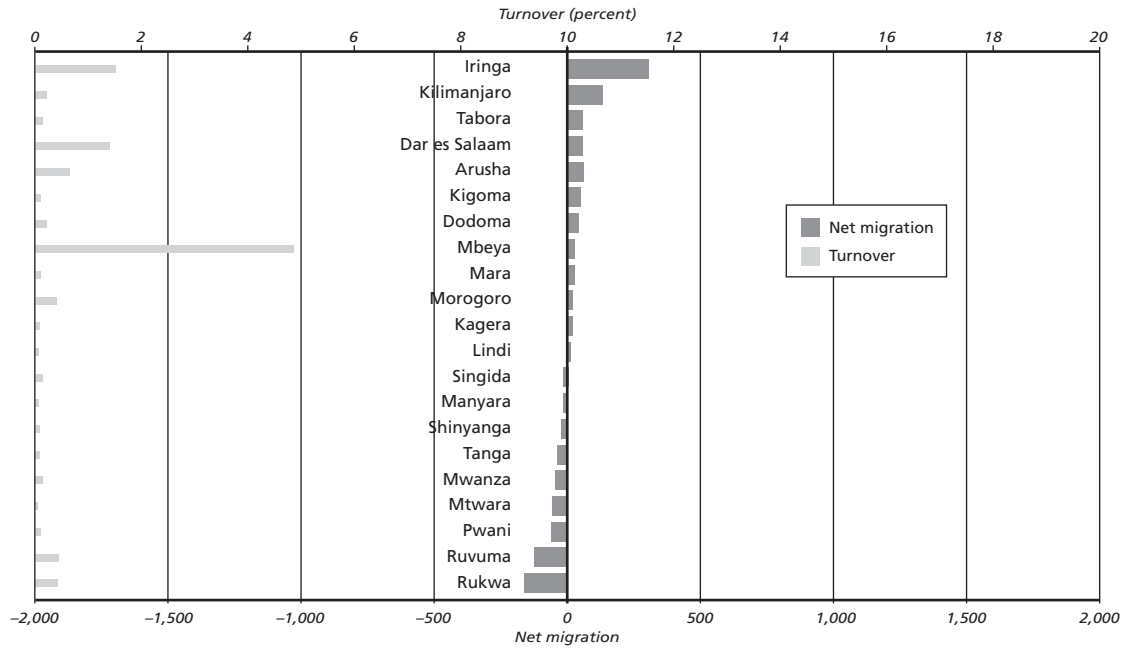
Source: Authors' calculations based on census data.

Figure 78
Iringa: Net Migration Rate by Region and Origin, 2001–02 (percent)



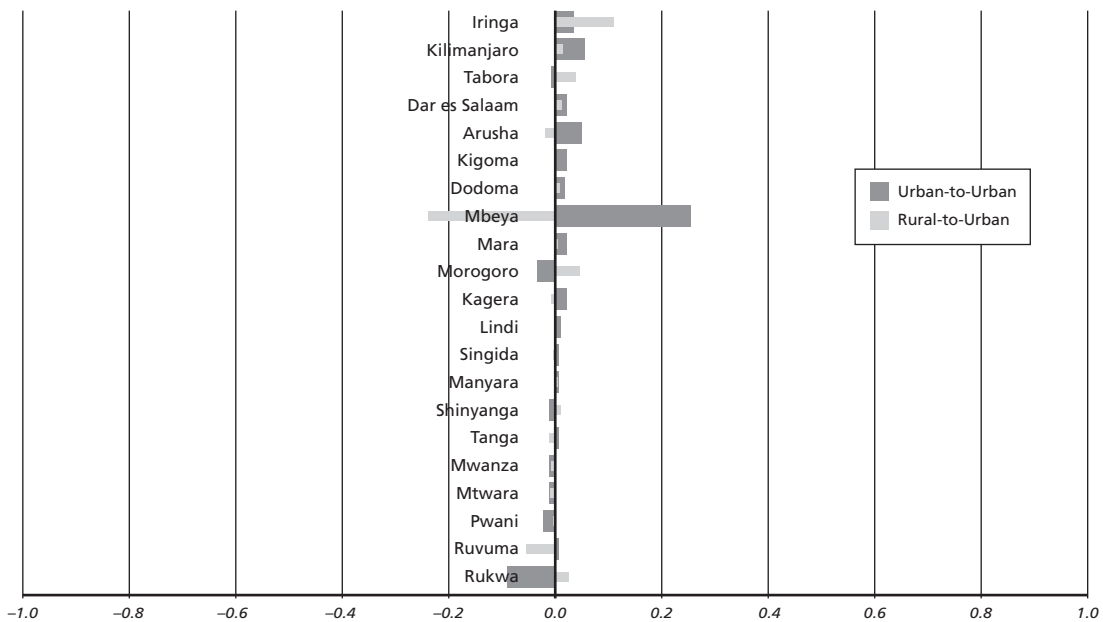
Source: Authors' calculations based on census data.

Figure 79
Mbeya: Net Migration Flows and Turnover by Region, 2001–02



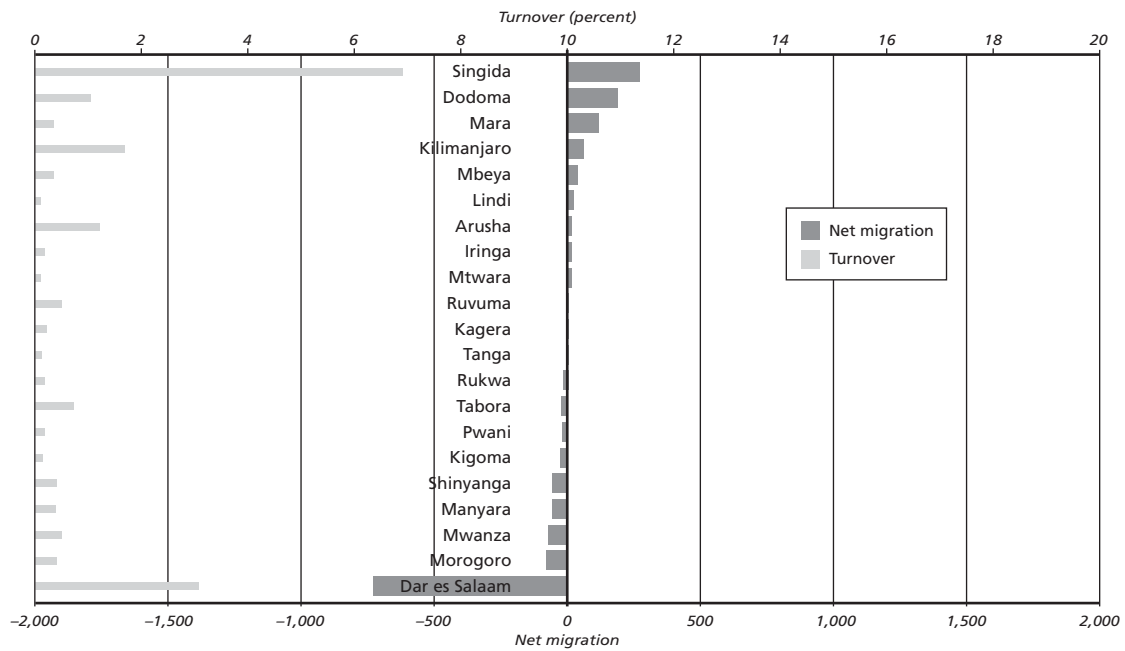
Source: Authors' calculations based on census data.

Figure 80
Mbeya: Net Migration Rate by Region and Origin, 2001–02 (percent)



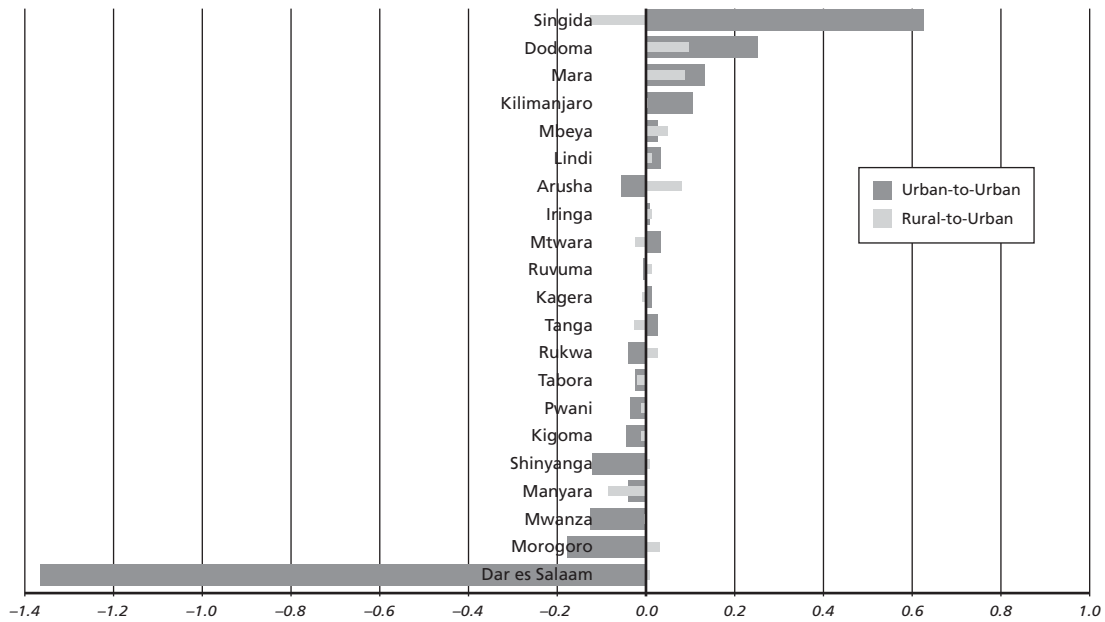
Source: Authors' calculations based on census data.

Figure 81
Singida: Net Migration Flows and Turnover by Region, 2001–02



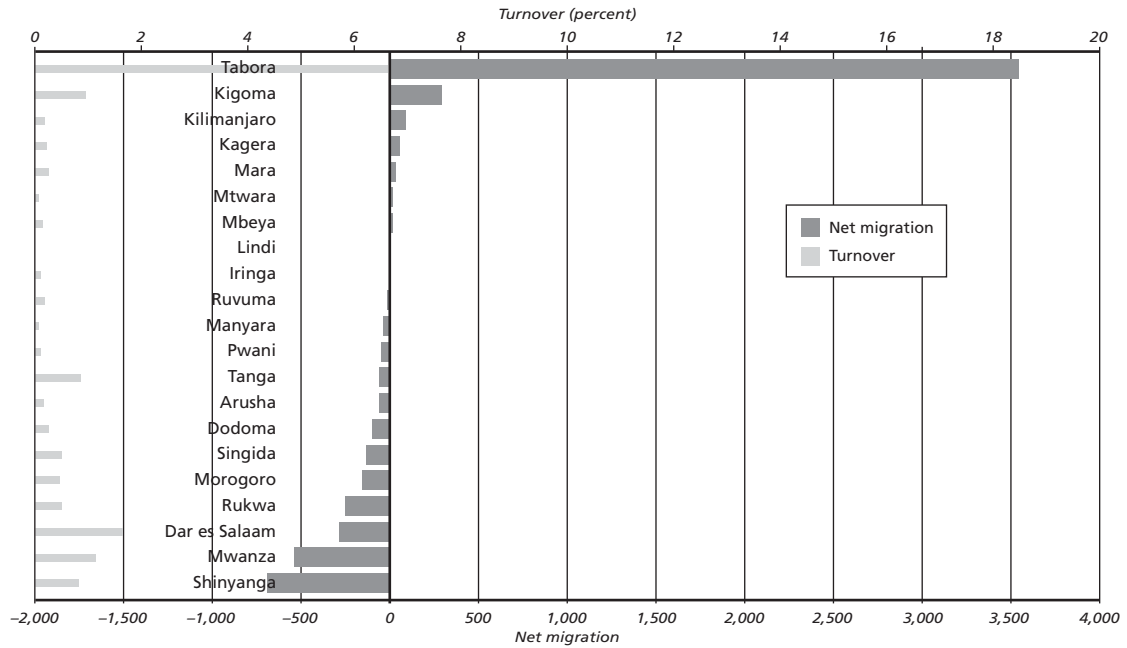
Source: Authors' calculations based on census data.

Figure 82
Singida: Net Migration Rate by Region and Origin, 2001–02 (percent)



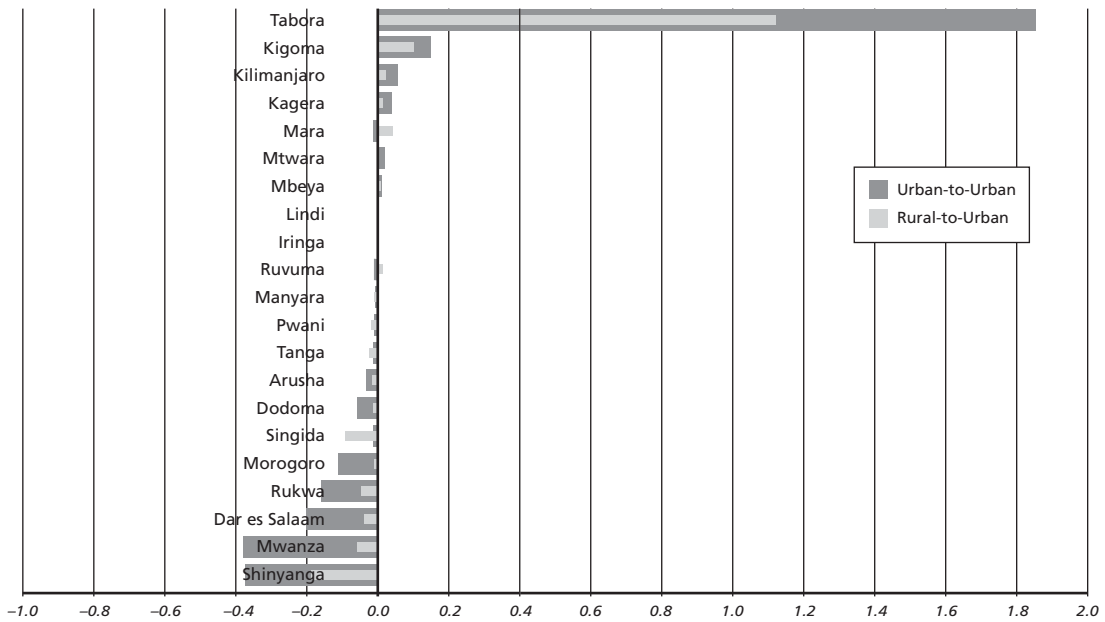
Source: Authors' calculations based on census data.

Figure 83
Tabora: Net Migration Flows and Turnover by Region, 2001–02



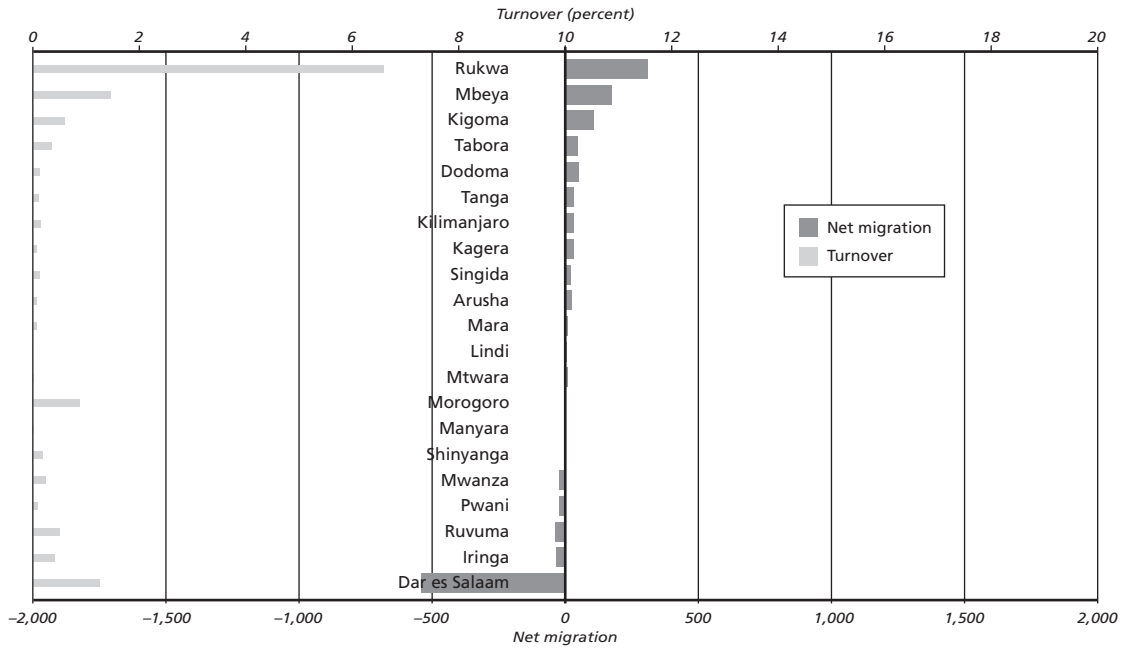
Source: Authors' calculations based on census data.

Figure 84
Tabora: Net Migration Rate by Region and Origin, 2001–02 (percent)



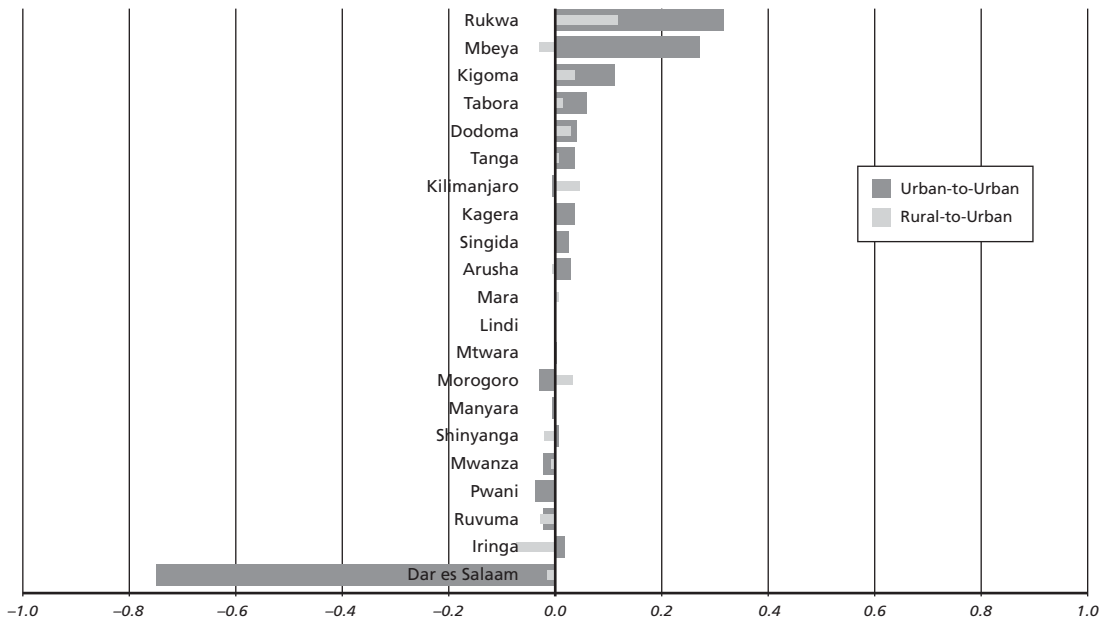
Source: Authors' calculations based on census data.

Figure 85
Sumbawanga: Net Migration Flows and Turnover by Region, 2001–02



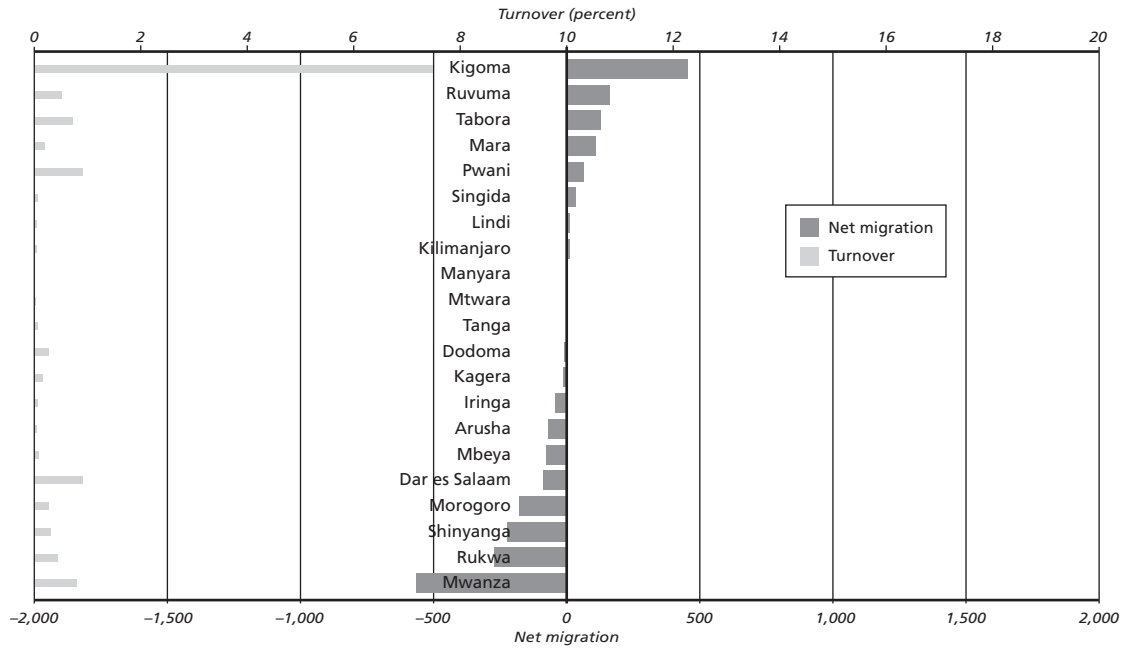
Source: Authors' calculations based on census data.

Figure 86
Sumbawanga: Net Migration Rate by Region and Origin, 2001–02 (percent)



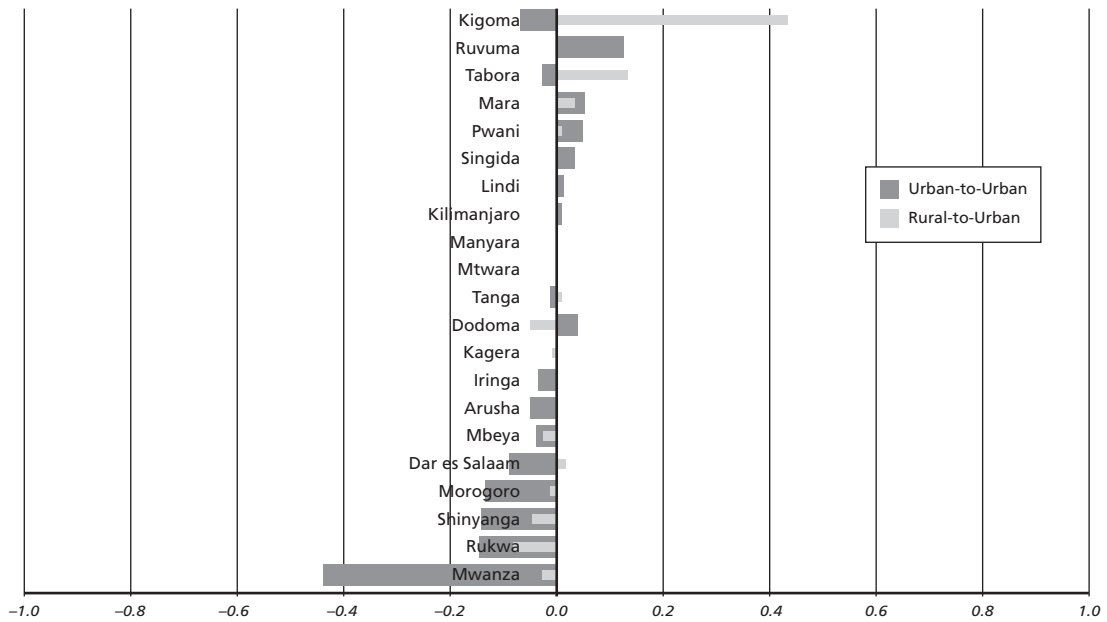
Source: Authors' calculations based on census data.

Figure 87
Kigoma: Net Migration Flows and Turnover by Region, 2001–02



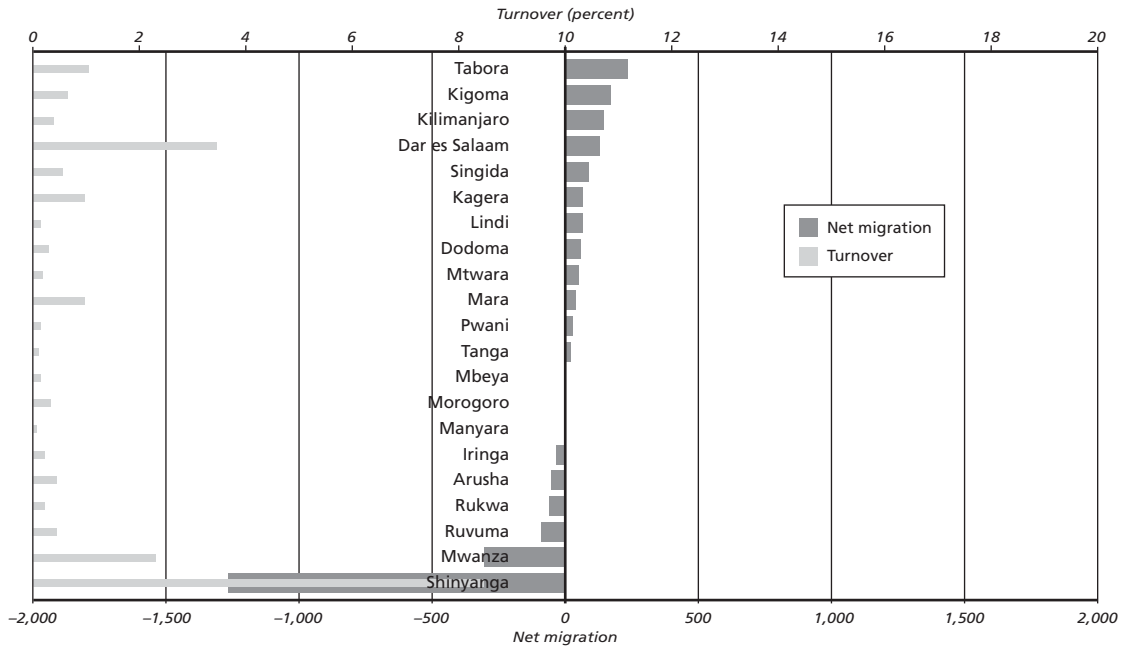
Source: Authors' calculations based on census data.

Figure 88
Kigoma: Net Migration Rate by Region and Origin, 2001–02 (percent)



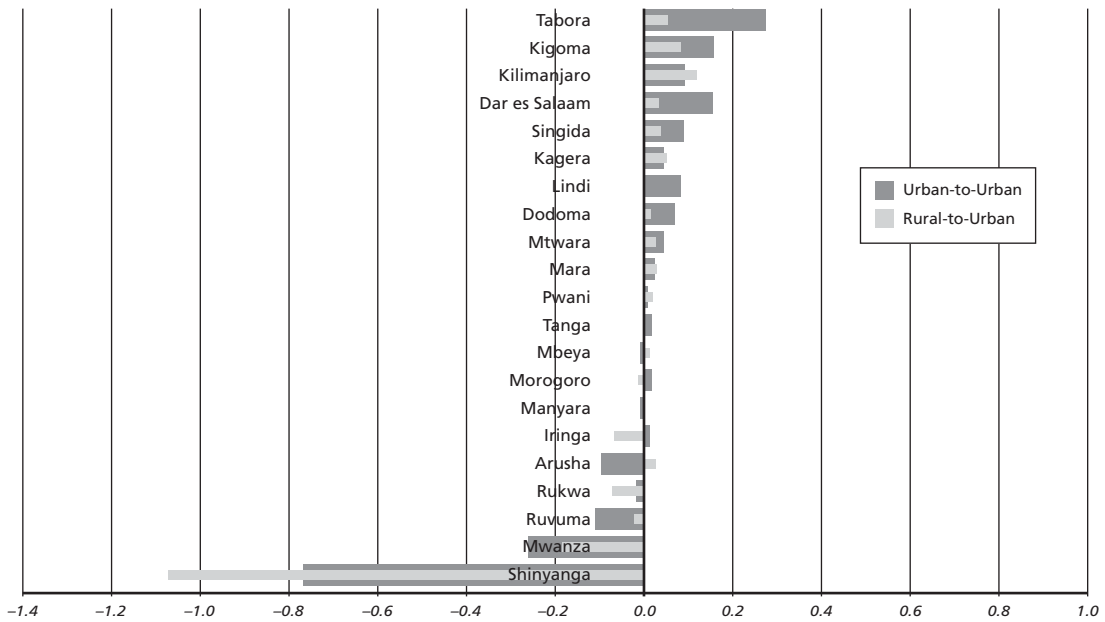
Source: Authors' calculations based on census data.

Figure 89
Shinyanga: Net Migration Flows and Turnover by Region, 2001–02



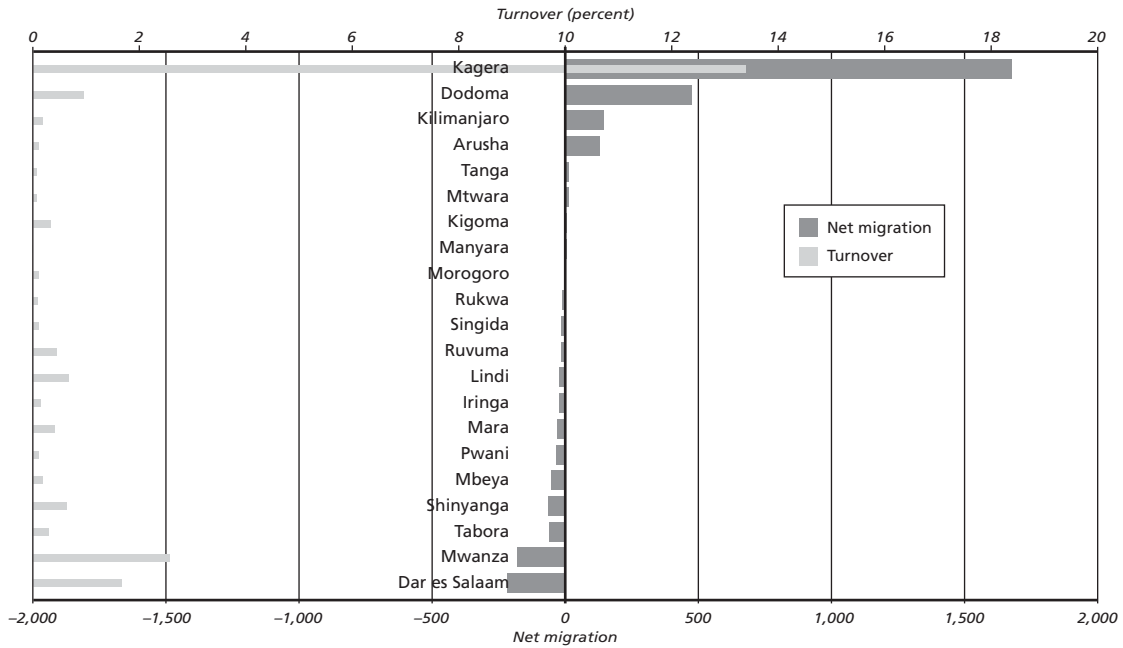
Source: Authors' calculations based on census data.

Figure 90
Shinyanga: Net Migration Rate by Region and Origin, 2001–02 (percent)



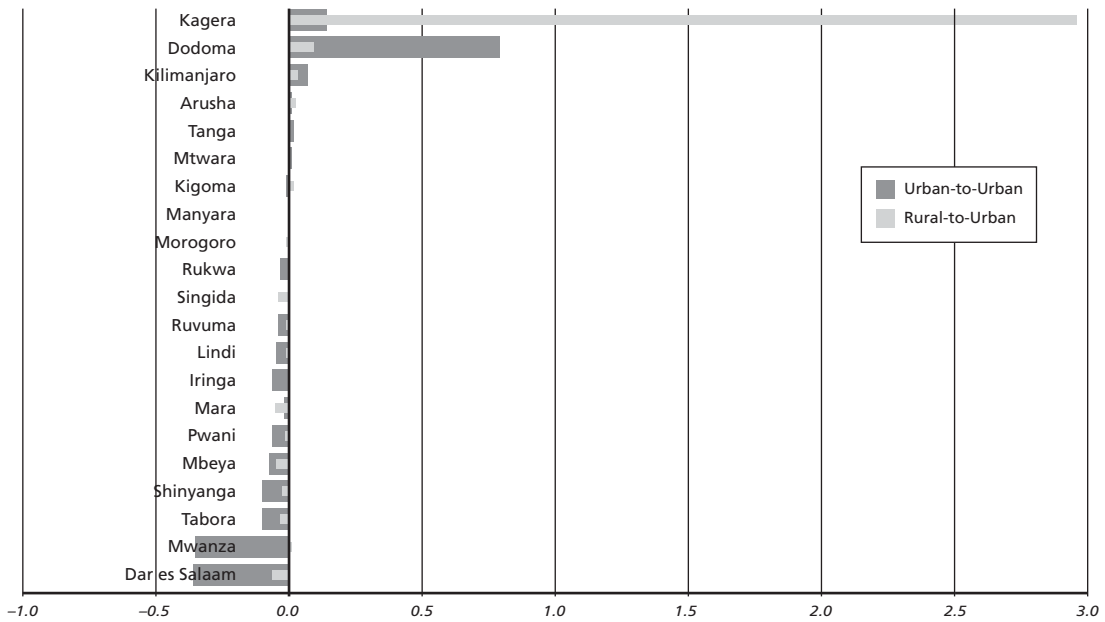
Source: Authors' calculations based on census data.

Figure 91
Bukoba: Net Migration Flows and Turnover by Region, 2001–02



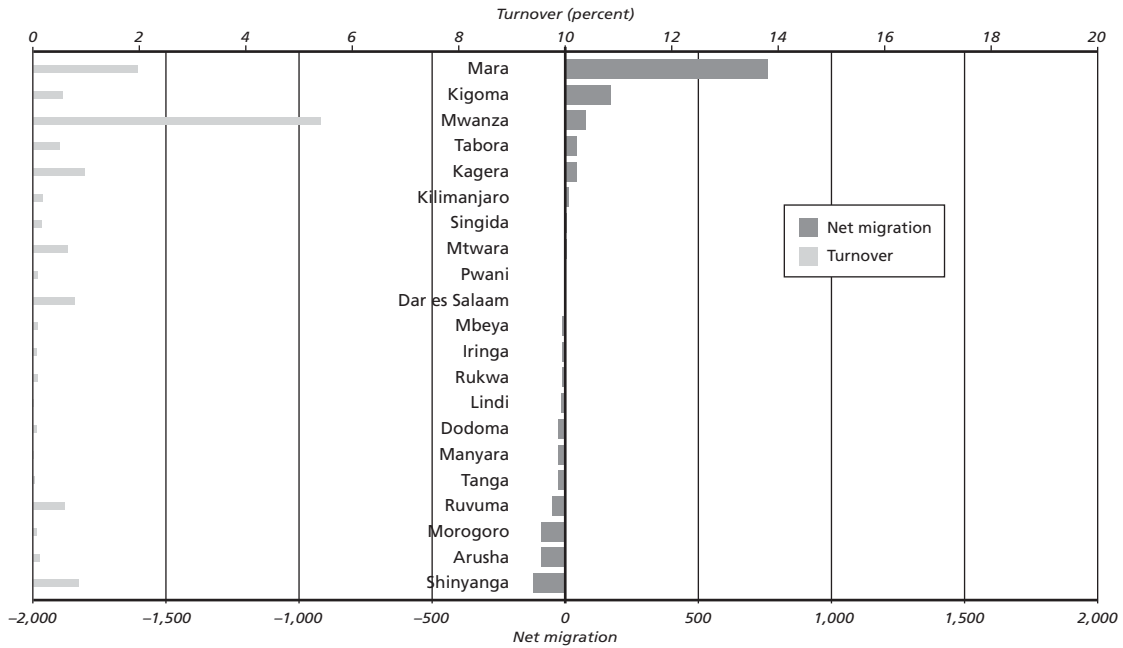
Source: Authors' calculations based on census data.

Figure 92
Bukoba: Net Migration Rate by Region and Origin, 2001–02 (percent)



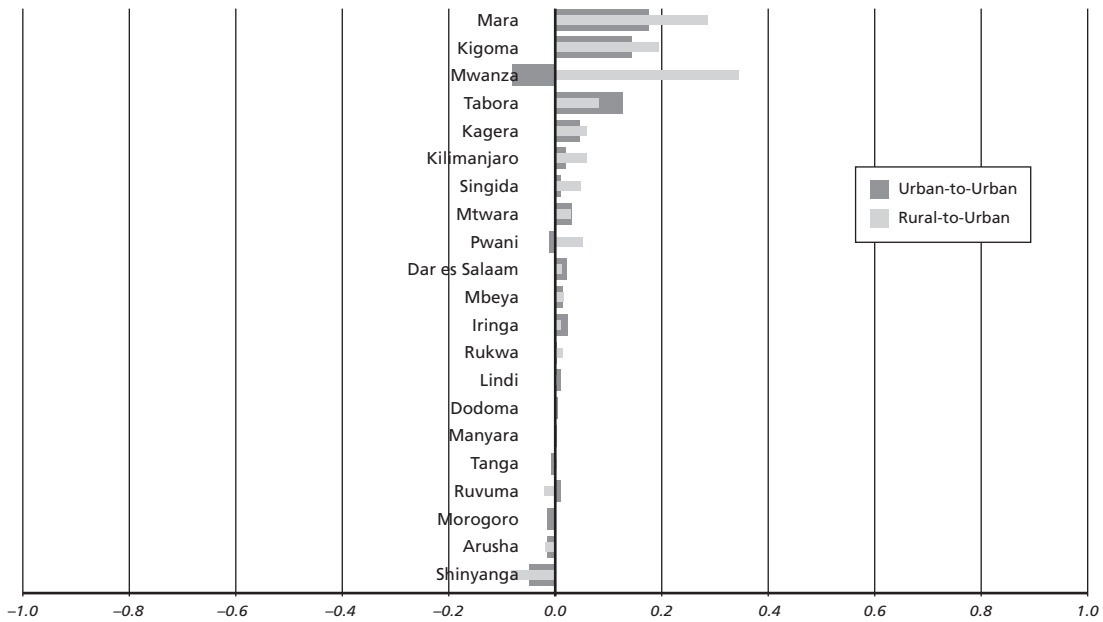
Source: Authors' calculations based on census data.

Figure 93
Mwanza: Net Migration Flows and Turnover by Region, 2001–02



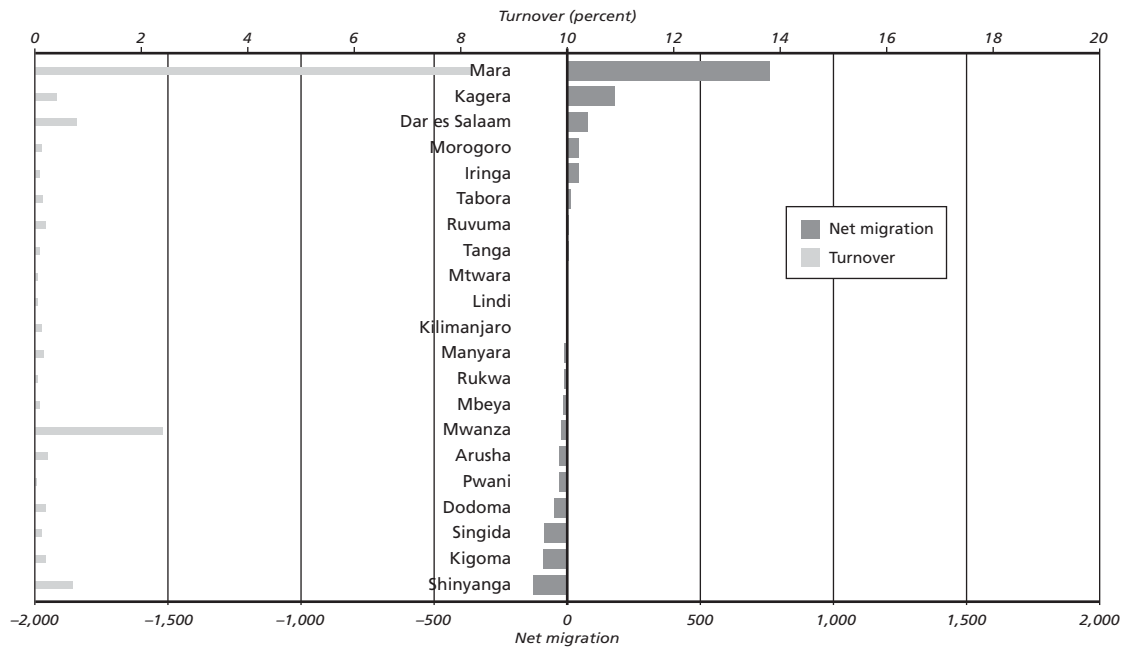
Source: Authors' calculations based on census data.

Figure 94
Mwanza: Net Migration Rate by Region and Origin, 2001–02 (percent)



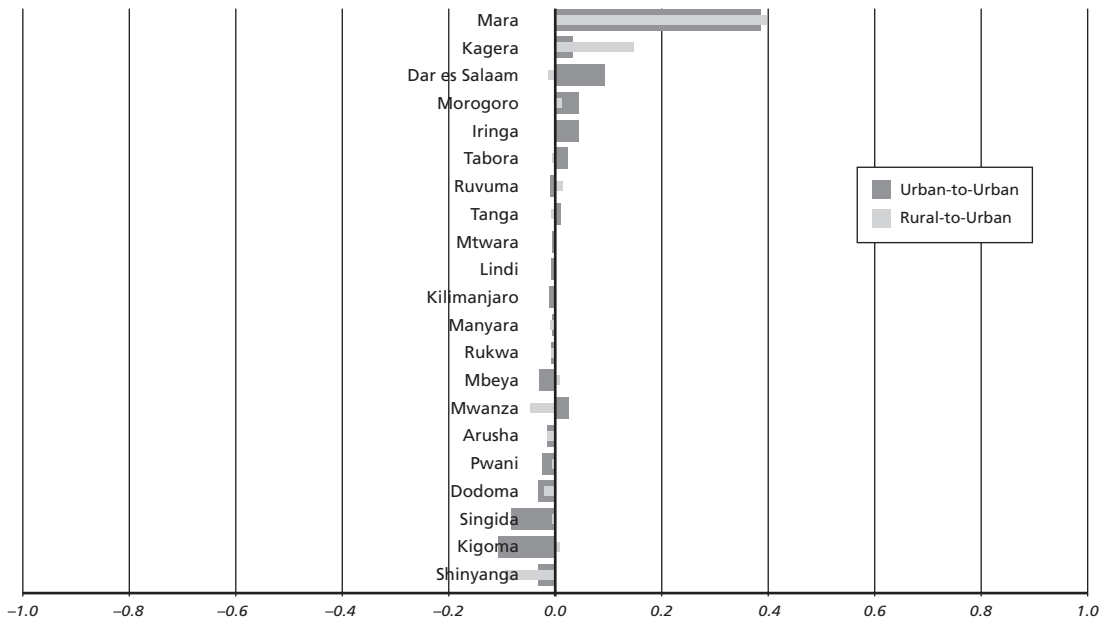
Source: Authors' calculations based on census data.

Figure 95
Musoma: Net Migration Flows and Turnover by Region, 2001–02



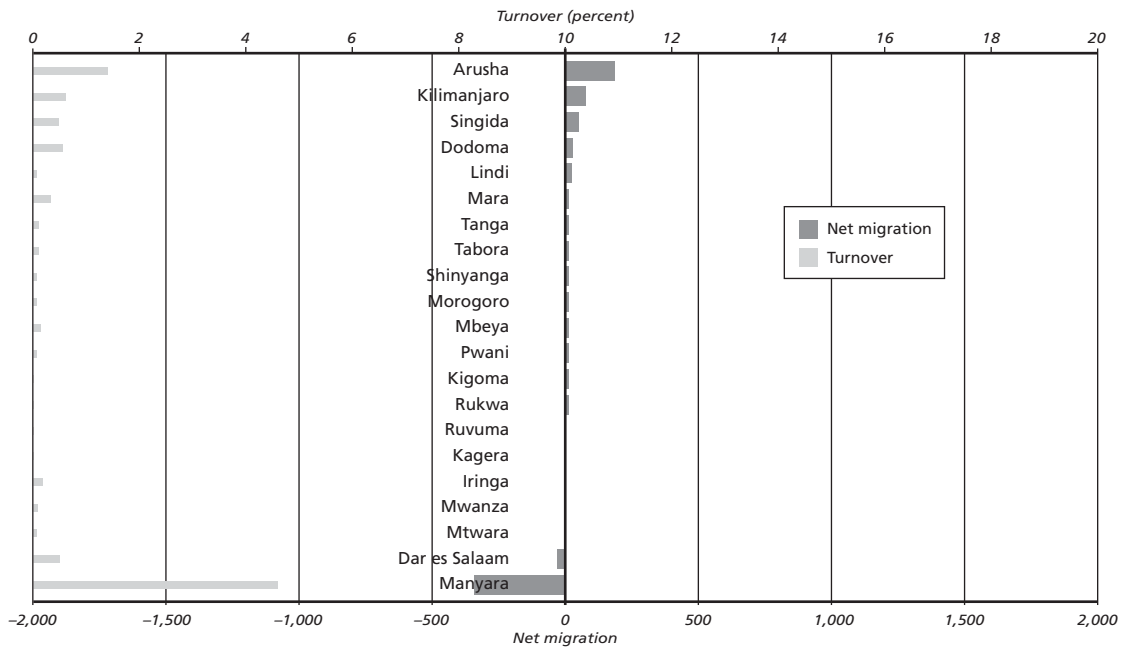
Source: Authors' calculations based on census data.

Figure 96
Musoma: Net Migration Rate by Region and Origin, 2001–02 (percent)



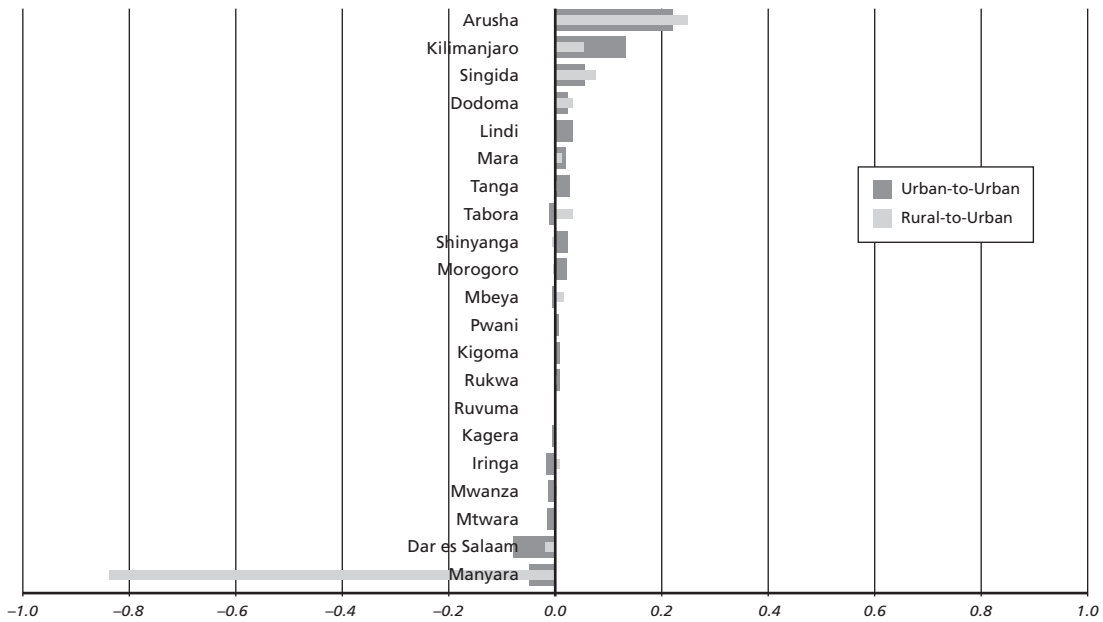
Source: Authors' calculations based on census data.

Figure 97
Babati: Net Migration Flows and Turnover by Region, 2001–02



Source: Authors' calculations based on census data.

Figure 98
Babati: Net Migration Rate by Region and Origin, 2001–02 (percent)



Source: Authors' calculations based on census data.

Appendix 7: Urban–Rural Linkages

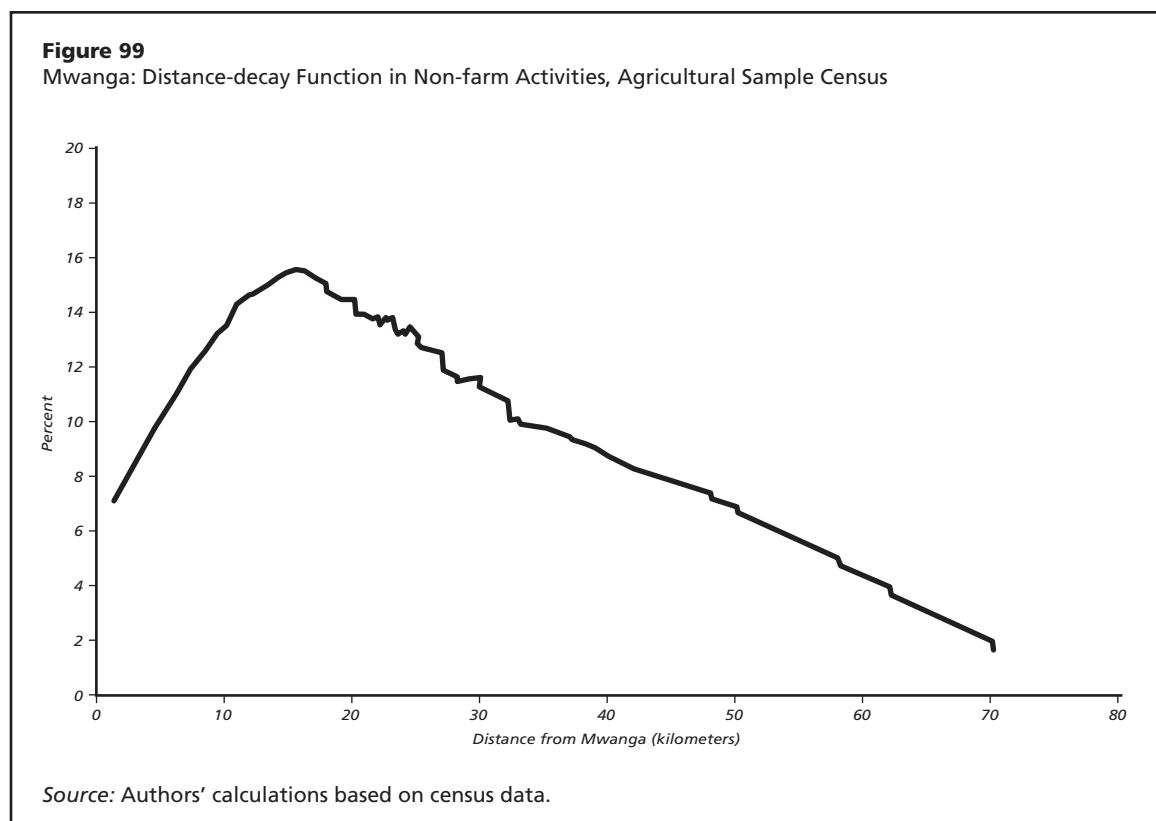
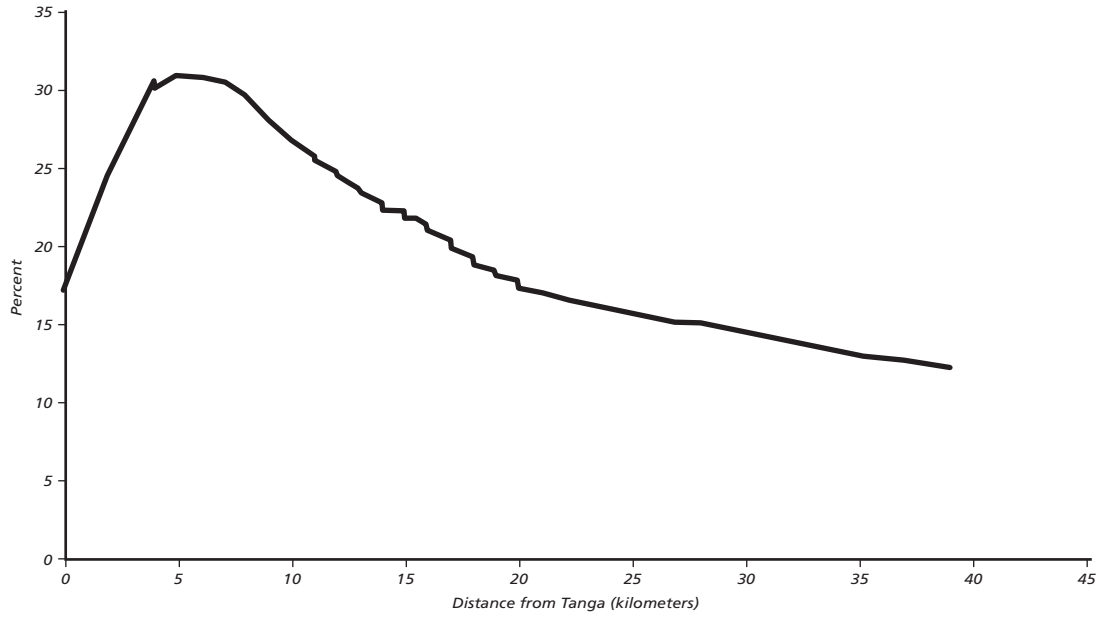


Figure 100

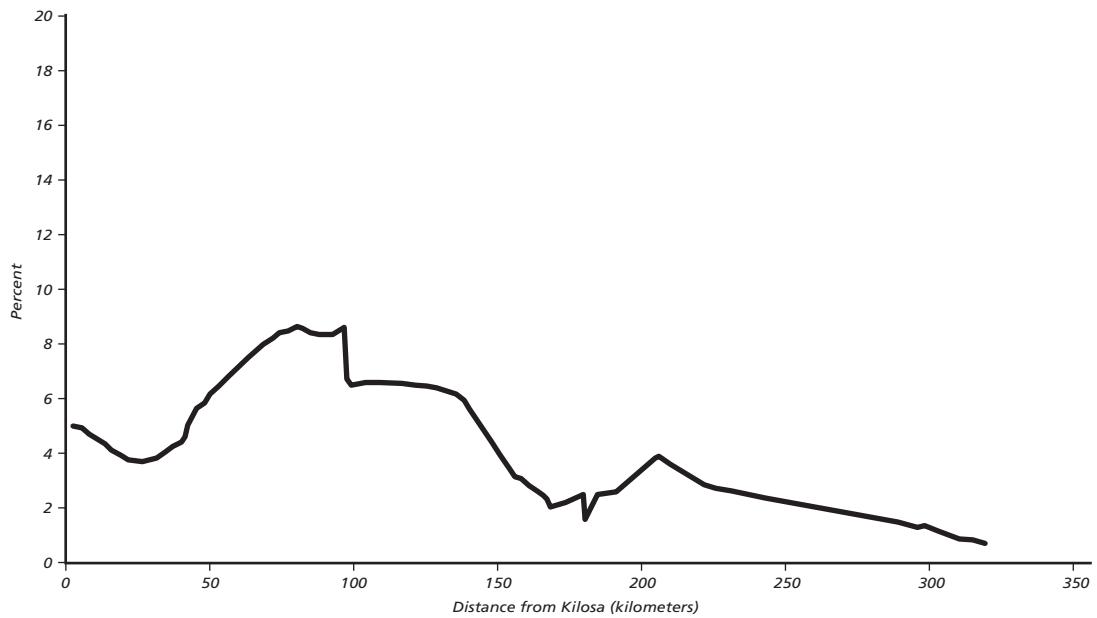
Tanga: Distance-decay Function in Non-farm Activities, Agricultural Sample Census



Source: Authors' calculations based on census data.

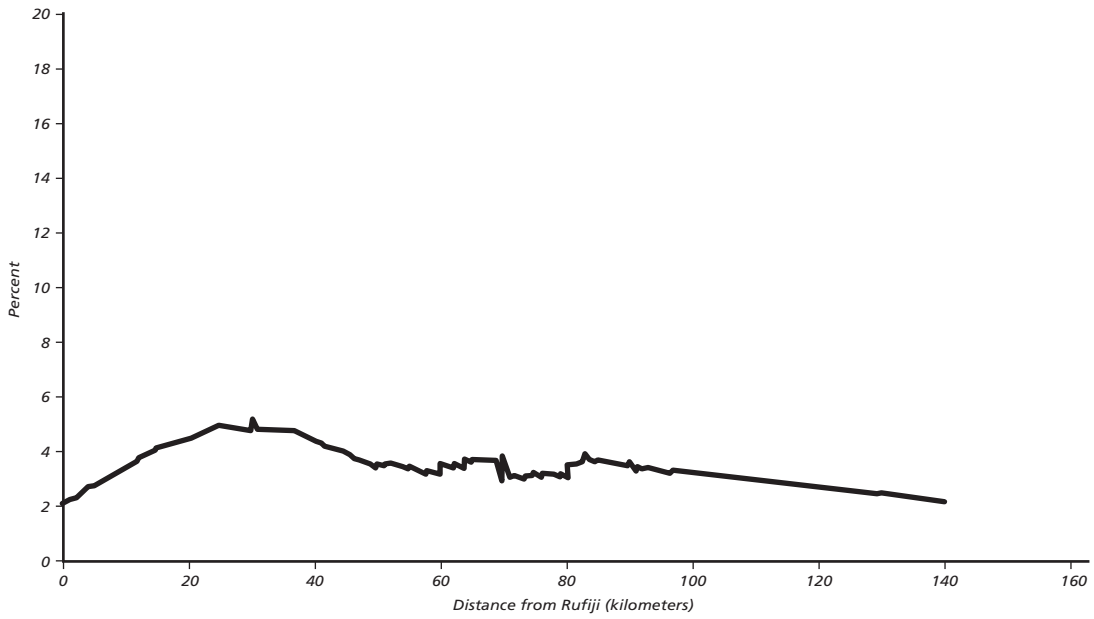
Figure 101

Kilosa: Distance-decay Function in Non-farm Activities, Agricultural Sample Census



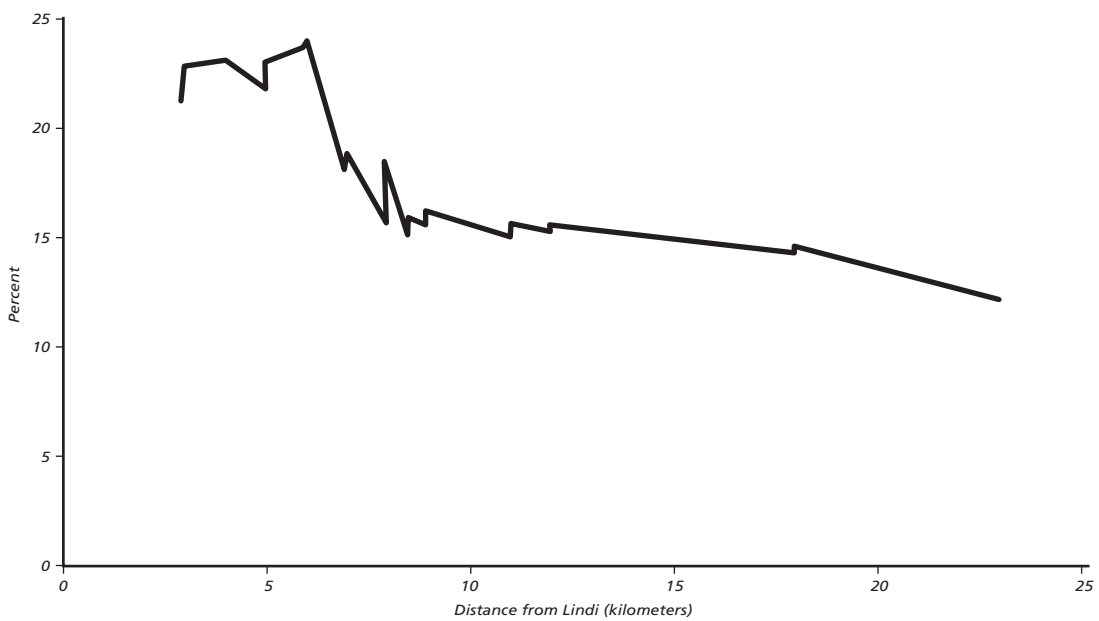
Source: Authors' calculations based on census data.

Figure 102
Rufiji: Distance-decay Function in Non-farm Activities, Agricultural Sample Census



Source: Authors' calculations based on census data.

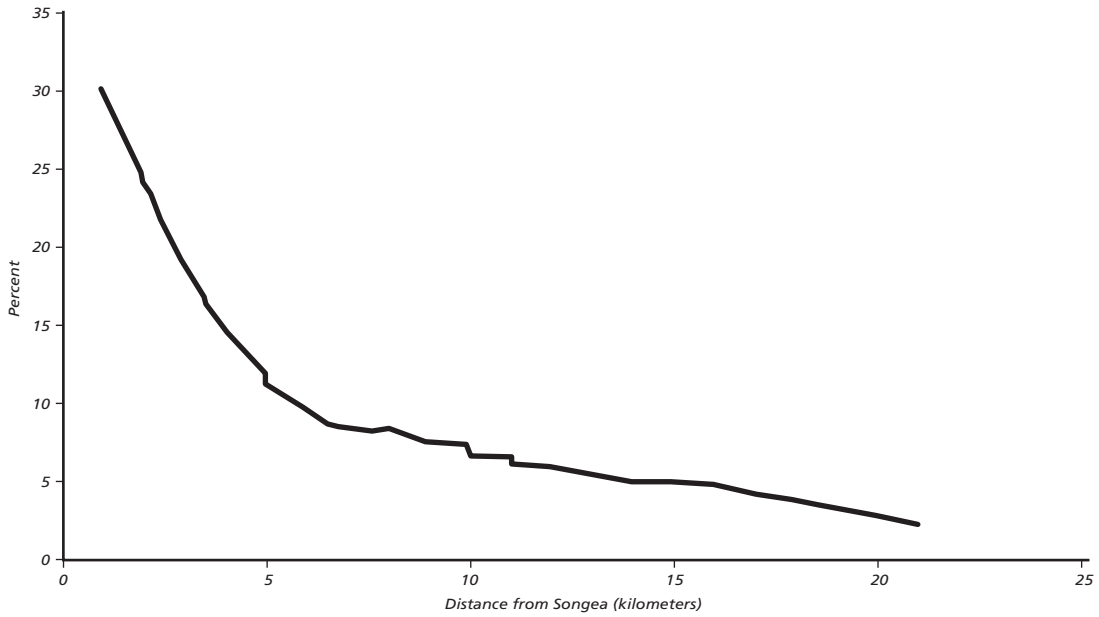
Figure 103
Lindi: Distance-decay Function in Non-farm Activities, Agricultural Sample Census



Source: Authors' calculations based on census data.

Figure 104

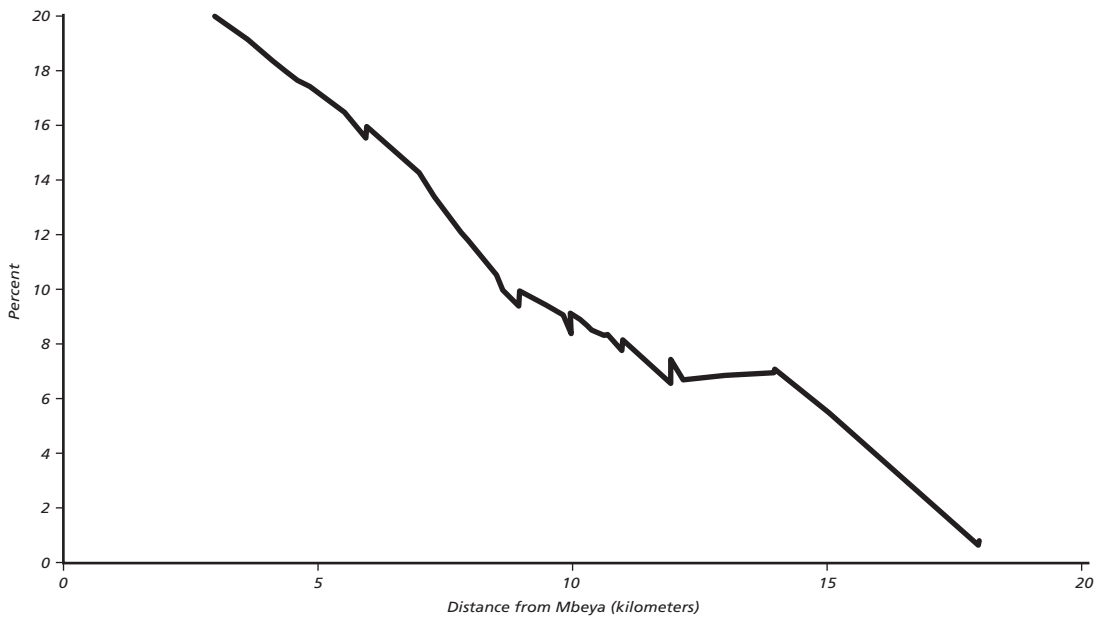
Songea: Distance-decay Function in Non-farm Activities, Agricultural Sample Census



Source: Authors' calculations based on census data.

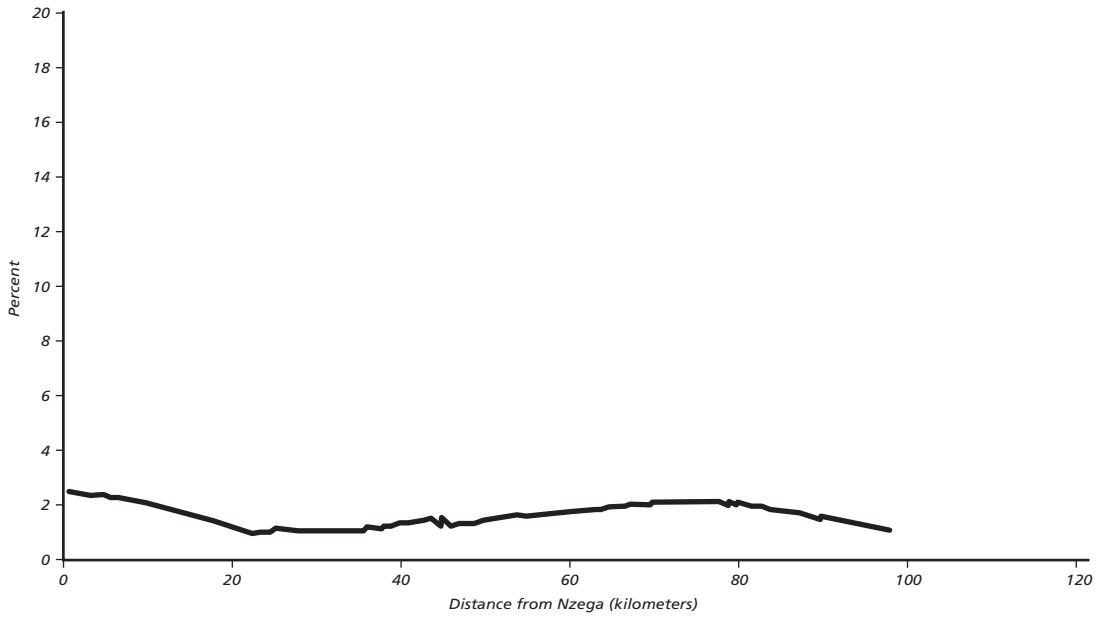
Figure 105

Mbeya: Distance-decay Function in Non-farm Activities, Agricultural Sample Census



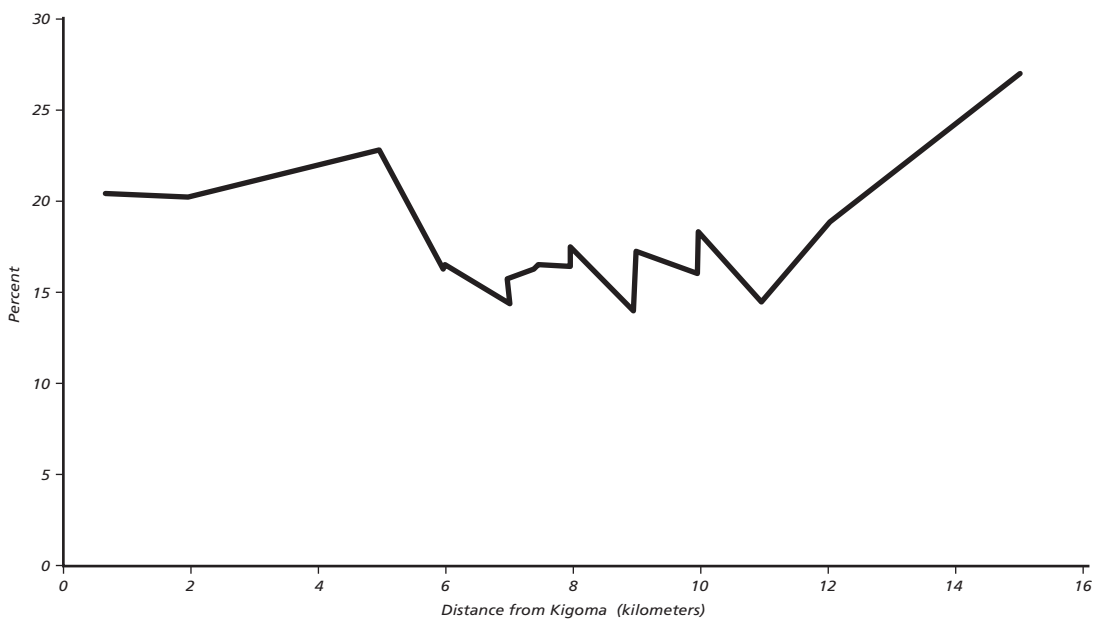
Source: Authors' calculations based on census data.

Figure 106
Nzega: Distance-decay Function in Non-farm Activities, Agricultural Sample Census



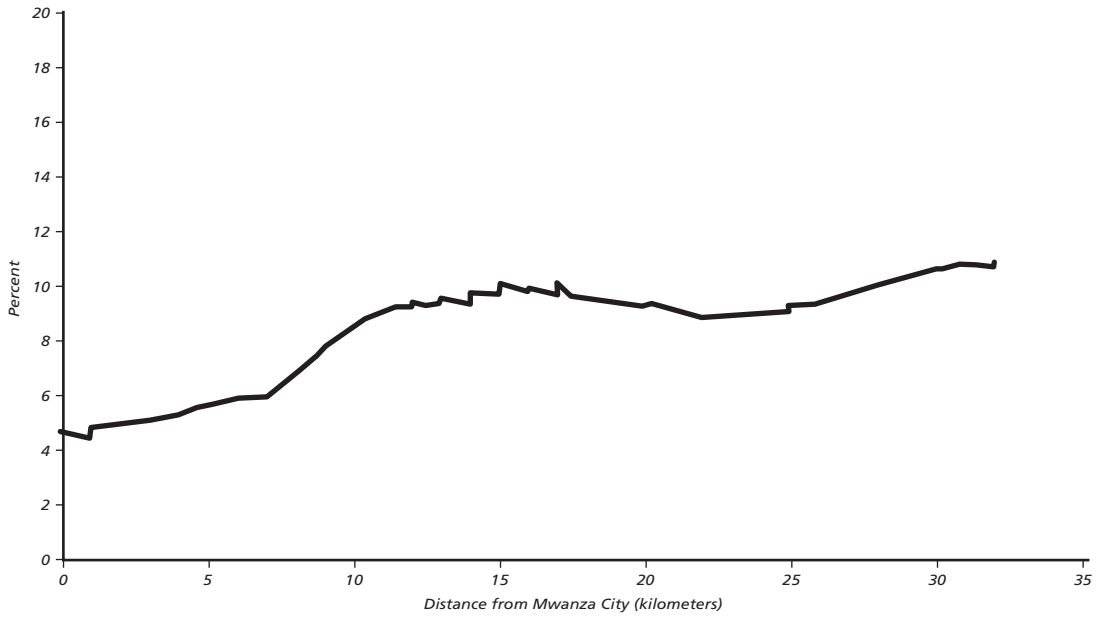
Source: Authors' calculations based on census data.

Figure 107
Kigoma: Distance-decay Function in Non-farm Activities, Agricultural Sample Census



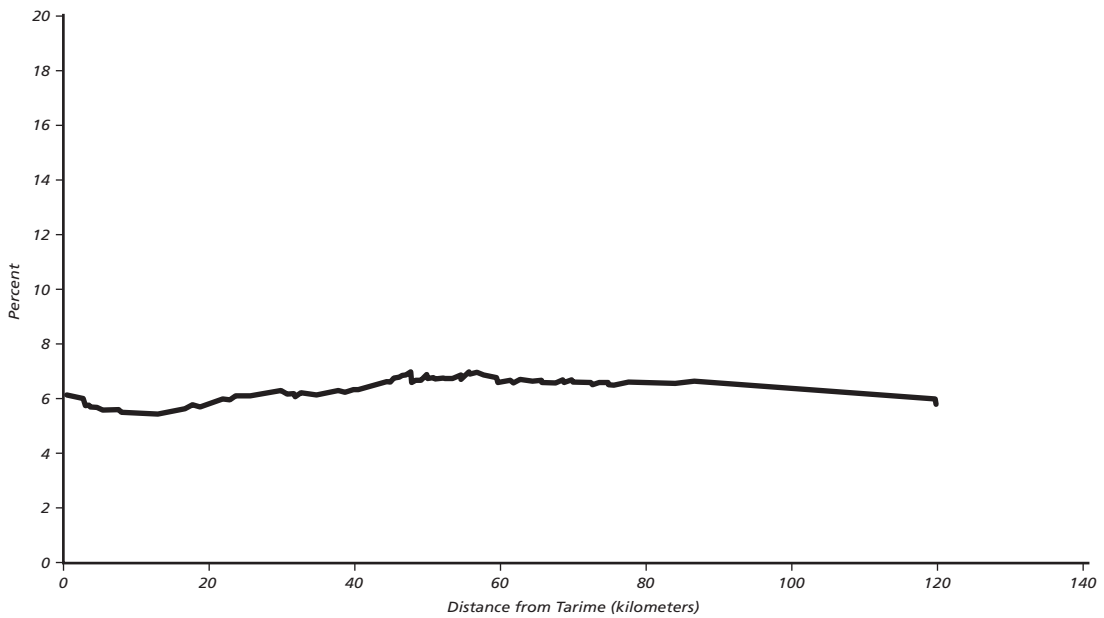
Source: Authors' calculations based on census data.

Figure 108
Mwanza City: Distance-decay Function in Non-farm Activities, Agricultural Sample Census



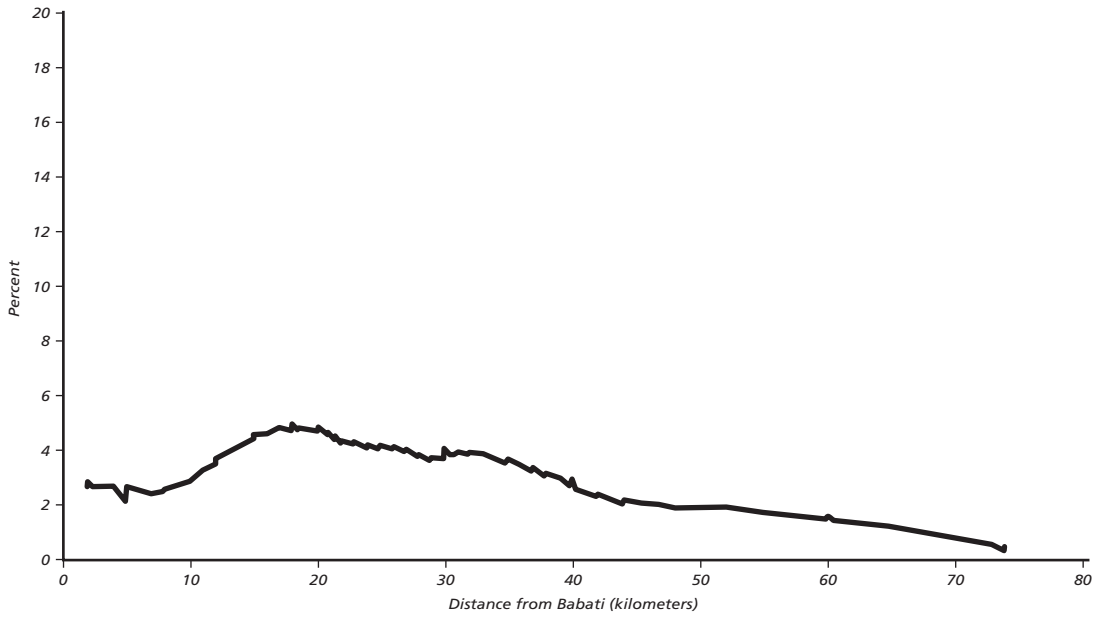
Source: Authors' calculations based on census data.

Figure 109
Tarime: Distance-decay Function in Non-farm Activities, Agricultural Sample Census



Source: Authors' calculations based on census data.

Figure 110
Babati: Distance-decay Function in Non-farm Activities, Agricultural Sample Census



Source: Authors' calculations based on census data.

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