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Socio-Economic Impacts of Internal Migration Dynamics in Morogoro Municipality, Tanzania

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Abstract

Internal and external migrations differ significantly in their social, economic, and environmental drivers; as well as their impacts on individuals and regions. This article critically assesses the socio-economic and environmental drivers of internal migration, alongside its effects in Morogoro Municipality, Tanzania. A cross-sectional study was conducted utilizing a purposive sample of 201 internal migrants from three wards. Data was collected through a mixed-methods approach that incorporated both quantitative and qualitative techniques. Quantitative data was analysed using descriptive statistics, while qualitative data was examined thematically for deeper insights. The findings revealed that 60% of the migrants were rural-urban movers, primarily originating from Dodoma region. Employment opportunities (34%) and business prospects (31%) emerged as the primary drivers of this migration. However, the rapid population growth resulting from these movements has placed significant pressure on local services, particularly in water supply, market facilities, and waste management. Markedly, 82% of the respondents identified inefficient collection of household waste as a major challenge, underscoring the strain on the waste management system. This article concludes that while internal migration contributes to economic diversification and demographic changes in Morogoro Municipality, it has also intensified demands on infrastructure and public services. Therefore, it is crucial for local authorities to prioritize investment in infrastructure, especially in water supply and waste management systems. Comprehensive urban planning is essential to balance residential and commercial developments, while safeguarding environmental resources. Similarly, policymakers are urged to adopt strategic approaches to effectively manage the impacts of internal migration, and promote sustainable urban development.

Keywords: *socio-economic, urbanization, population, migration, dynamics*

1. Introduction

Internal migration has historically played a critical role in driving global demographic shifts; and reshaping economic, social, and cultural dynamics. Extensive evidence indicates that this phenomenon is influenced by a myriad of socio-economic and environmental catalysts. The United Nations estimates that approximately 763m individuals worldwide are engaged in internal migration, underscoring its profound impact on global populations (Trask, 2022). This movement often arises in response to diverse stressors; including economic downturns, natural disasters, climate change, conflicts, pandemics, food insecurity, and escalating income inequality (Bernard & Bell, 2018; Urbański, 2022).

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Such stressors create conditions where migration becomes a necessity rather than a choice, as individuals seek safer and more sustainable living conditions. Consequently, internal migration is intricately linked to broader socio-economic and political processes that shape human mobility and settlement patterns.

Moreover, socio-political instability and security concerns—such as terrorism, trafficking, and transnational crime—further complicate the landscape of internal migration (Vollmer, 2009; Flahaux & De Haas, 2016; Li & Samimi, 2022). These factors compel individuals to relocate from regions plagued by violence to safer locales, often urban centres that promise enhanced security and economic prospects. For instance, conflicts in the Sahel and the Horn of Africa have resulted in significant internal displacements, with migration patterns reflecting complex movements that necessitate nuanced comprehension and targeted policy interventions (NEPAD, 2013; Scholten, 2022).

Climate change presents another critical driver of internal migration, particularly in regions heavily reliant on climate-sensitive sectors such as agriculture. In Africa, profound vulnerabilities to climate change exacerbate existing socio-economic challenges. The predominantly rain-fed agricultural sector, which supports a substantial segment of the African populace, is particularly susceptible to climatic fluctuations (Bjornlund et al., 2020). With only about 5% of Africa's cultivated land irrigated, agricultural outputs face threats from droughts, floods, and extreme weather events; leading to recurrent crop failures and enduring food insecurity. As a result, individuals are often compelled to migrate in search of more secure livelihoods (FAO, 2016).

Tanzania exemplifies the dynamics of internal migration driven by both environmental and socio-economic factors. According to the United Republic of Tanzania (URT, 2015), approximately 8m Tanzanians live outside their birthplace, reflecting significant internal mobility. Regions such as Arusha, Morogoro, Dar es Salaam, and Mbeya have consistently exhibited positive net migration, largely due to relatively dynamic economies that offer improved employment opportunities and living conditions (URT, 2015; WB, 2019). Despite the government's efforts to foster socio-economic development across various regions, rapid urbanization persists, primarily driven by rural-to-urban migration. With an annual growth rate of 5%—one of the highest in Sub-Saharan Africa (WB, 2019)—urban centres are expanding, presenting both opportunities and challenges. While these urban areas provide economic potential, they also face mounting pressures to accommodate the influx of migrants; particularly concerning infrastructure, housing, and social services (Gwaleba, 2018).

2. Theoretical Perspective and Conceptual Framework

This article is anchored in the push-pull theory of migration, which provides a structured framework for examining the dynamics of internal migration, urbanization, and their socio-economic implications. Formulated by Everett Lee

in 1966, the theory explains the factors influencing individuals' decisions to relocate by identifying specific push factors that drive them away from their original locations; and pull factors that attract them to new destinations. Push factors include rural poverty, limited employment opportunities, inadequate access to education and healthcare, and environmental challenges such as drought and soil degradation. Conversely, pull factors encompass enhanced employment prospects, higher wages, improved access to education and healthcare, and superior living conditions in urban areas (Kanayo et al., 2019; Zanabazar et al., 2021).

The effectiveness of this theory in explaining internal migration in Tanzania lies in its capacity to capture the economic and environmental determinants influencing individuals' relocation decisions. For example, push factors like poverty, restricted employment opportunities, and inadequate social services compel rural inhabitants to seek better prospects; while urban centres such as Morogoro attract migrants with their potential for improved resource accessibility. Young individuals in rural municipalities, driven by poor agricultural yields and limited opportunities, are drawn to cities that offer superior educational and employment prospects. Ultimately, the push-pull theory illustrates the interplay between push factors in rural areas, and pull factors in urban centres, that drive internal migration in Tanzania. Furthermore, it underscores the challenges urban areas face due to the influx of migrants, and highlights the necessity for targeted policy interventions to address these pressing issues (Rodríguez-Vignoli & Rowe, 2018).

3. Empirical Literature Review

3.1 Patterns of Internal Migration

Internal migration has predominantly manifested as a rural-to-urban movement, largely driven by economic transitions from agrarian to industrial and service-oriented economies. This trend is particularly evident in countries such as Bangladesh, China, and India; where rural populations migrate to urban centres seeking better economic opportunities and improved living conditions (FAO, 2019; Alam & Mamun, 2022; Rajan & Bhagat, 2021). In Latin America, nations like Brazil, Mexico, and Argentina have also experienced substantial rural-to-urban migration, reshaping the demographics of major cities; including São Paulo, Mexico City, and Buenos Aires (de Lima Amaral, 2013; Cazzuffi & Modrego, 2018; Novick, 2012). In Sub-Saharan Africa, internal migration patterns reflect similar trends, but are additionally influenced by environmental stressors such as droughts and natural disasters; as well as socio-political factors like conflicts and poverty (FAO, 2017; Li & Samimi, 2022). Tanzania exemplifies this phenomenon, as it experiences rapid urbanization in cities like Dar es Salaam, Morogoro, and Arusha; where rural-to-urban migration is motivated by the search for better livelihoods (URT, 2015).

3.2 Socio-Economic Drivers of Internal Migration

The quest for better employment opportunities and higher wages in urban centres stands as the primary socio-economic driver of internal migration (Barišić et al., 2024). Research consistently highlights those economic disparities between rural and urban areas that compel individuals to seek improved livelihoods, access to education, and healthcare services (McAuliffe & Triandafyllidou, 2022). In Sub-Saharan Africa, migration is exacerbated by political instability, environmental stress, and limited rural development opportunities. Furthermore, in Tanzania, this migration trend aligns with global patterns, as rural populations move to urban areas to escape poverty and capitalize on more diverse economic activities (Segovia & Silva, 2020; Trask, 2022). Cities attract internal migrants due to their relatively robust economies and improved access to services, despite facing challenges in accommodating rapid population growth (FAO, 2017).

3.3 Impacts of Internal Migration

The impacts of internal migration are multifaceted, influencing urbanization, socio-economic structures, and environmental sustainability. Economically, migration drives labour force growth into urban centres, fostering innovation and enhancing productivity (Barišić et al., 2024). Socially, migration enriches cultural diversity in destination areas, contributing to vibrant social dynamics and intercultural exchange (Castles, 2010). However, the rapid influx of migrants often outpaces urban infrastructure and services, leading to overcrowding, inadequate housing, and strained transportation and sanitation systems (Toranj, 2019; Wenban-Smith, 2015). Yet, this cultural influx can also lead to social tensions and integration challenges, particularly when migrants encounter discrimination or marginalization (Li & Samimi, 2022).

The strain on social services, especially in education and healthcare, remains a pressing concern. Urban schools and healthcare systems frequently struggle to accommodate the growing number of migrants, resulting in overcrowded classrooms and longer wait times for medical care (WHO, 2018; UNESCO, 2020). Likewise, the environmental implications of internal migration can be significant, as urban expansion—which is driven by migration—leads to deforestation, resource depletion, and increased pollution (Hoffmann & Muttarak, 2021). In rapidly growing urban centres, unplanned urban sprawl exacerbates environmental degradation; contributing to issues like soil erosion, biodiversity loss, and heightened carbon emissions (SIDA, 2024). Additionally, waste management challenges compound these environmental risks, with inadequate systems leading to pollution and public health hazards.

Internal migration patterns vary widely across different regions and countries (FAO, 2017). Nonetheless, a predominant pattern observed in the

literature is the movement from rural to urban areas, closely tied to broader economic transitions from agrarian economies to industrial and service-oriented ones (FAO, 2019). Countries like Bangladesh and China serve as prominent examples, where significant rural-to-urban migration has been a key driver of rapid urban expansion (Alam & Mamun, 2022). Similarly, in Latin America, substantial internal movements have been documented in Brazil, Mexico, and Argentina, reflecting the global trend of urbanization (de Lima Amaral, 2013; Cazzuffi & Modrego, 2018). The COVID-19 pandemic has also introduced new dynamics, prompting reverse migration in some instances as individuals returned to rural areas due to employment shortage and inadequate social protection in urban environments (Saldanha et al., 2021).

Despite the growing interest in migration studies, internal migration remains significantly underexplored. Research has predominantly concentrated on external migration, often neglecting internal movements and their specific causes, patterns, and impacts. This oversight limits the understanding of the complex dynamics that drive individuals to migrate within their own countries and the socio-economic and environmental factors that influence these decisions. Consequently, internal migration's unique challenges and opportunities, particularly in local contexts like the Morogoro Municipality, are inadequately addressed. This study sought to address this gap by analysing migration patterns, examining the socio-economic drivers of these movements, and assessing the impacts of internal migration on destination areas within Morogoro Municipality.

4. Methodology

4.1 Description of the Study Location

The research was conducted in 2023, in Morogoro Municipality, specifically focusing on three strategically selected wards: Kihonda-Maghorofani, Chamwino, and Mwembesongo (Figure 1). These wards were chosen based on their significant population dynamics, which highlight their importance as key destinations for internal migrants within the municipality. The census data from 2012 and 2022 shows substantial population growth in these areas. For instance, the population of Mwembesongo Ward increased from 26,202 in 2012 to 28,328 in 2022. Similarly, Chamwino experienced growth from 27,533 to 28,779 people during the same period, while Kihonda-Maghorofani saw an increase from 21,205 to 24,887 persons. Notably, the 2012 census data reflects a time when these wards were amalgamated with others, resulting in a total of 19 wards in the municipality. Subsequent restructuring expanded this total to 29 wards (URT, 2013; URT, 2022). This notable population growth underscores the perception of these wards as primary destinations for rural-urban migrants, thereby enhancing their relevance for this study.

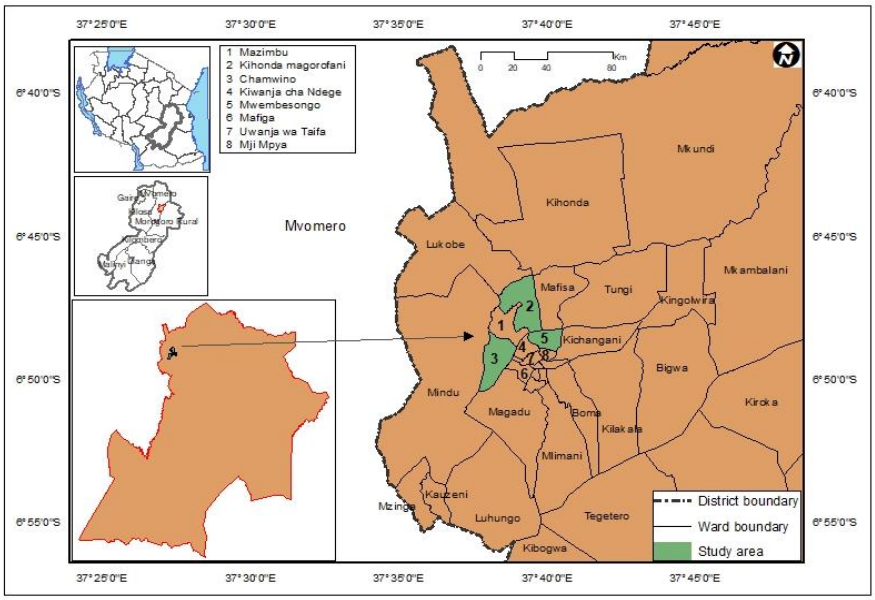

Figure 1: Geographic Distribution of the Sampled Study Wards.
Source: URT, 2023.

4.1.2 Data Collection

The study utilized a mixed research design, integrating both quantitative and qualitative methodologies to comprehensively analyse internal migration within Morogoro Municipality. The selection of the wards—Mwembesongo, Chamwino, and Kihonda-Maghorofani—was purposeful, as these areas have experienced population increase associated with an influx of migrants from rural districts within Morogoro Region and other regions of Tanzania. This focus ensured that the research targeted areas critical for understanding the dynamics of internal migration. A sample of 201 migrants participated in the survey, providing a dataset that allowed for the collection of quantitative and qualitative information on socio-economic attributes, migration patterns, causes, and effects. The use of semi-structured questionnaires facilitated the gathering of both closed and open-ended responses. In parallel, key informant interviews with local authorities were conducted to capture qualitative insights. The qualitative component made it easy to understand the perspectives and contextual factors influencing migration, which often remain unaddressed in purely numerical data. Statistical analysis of the quantitative data identified significant similarities and differences among variables related to migration, thereby revealing broader migration trends. Moreover, thematic analysis of the qualitative data highlighted recurring themes that enriched the understanding of how internal migration impacted individuals and communities. Lastly, the findings were presented through quotes, figures, and tables.

5. Results and Discussion

5.1 Socio-demographic Characteristics of the Migrants

The demographic information for the 201 study participants is presented in Table 1. The respondents are divided into different age groups, with the majority (50%) being between 31 and 40 years old. The majority of the respondents were male (65%), and married (59%). In terms of occupation, 63% were formally employed, 20% were self-employed, and 17% were retirees.

Table 1: Socio-Demographic Characteristics of the Migrants

Variable	Frequency (N=201)	Percent (%)
Age distribution		
18–30	85	42.3
31–40	101	50.2
41–50	11	5.5
50+	4	2.0
Total	**201**	**100.0**
Sex		
Male	131	65.2
Female	70	34.8
Total	**201**	**100.0**
Marital status		
In marriage	118	58.7
Out marriage	83	41.3
Total	**201**	**100.0**
Occupation		
Employed	126	62.7
Self–employed	40	19.9
Retiree	35	17.4
Total	**201**	**100.0**

Source: Field Survey, 2023

The demographic makeup of the 201 respondents in Morogoro Municipality illuminates significant trends in internal migration. The majority of migrants are in their prime working years, indicating a strong inclination among younger adults to pursue better employment and living standards. The gender imbalance, with a higher proportion of male migrants, corresponds with socio-economic dynamics where men, as primary earners, tend to be more mobile. The fact that about 60% of the respondents are married suggests that many migrate as family units, aiming to improve their overall household well-being. Furthermore, the fact that more than half of the respondents are formally employed emphasizes the economic prospects in Morogoro, and underscores its potential for job creation. These socio-demographic trends mirror broader migration patterns observed globally. The dominance of younger migrants

aligns with global trends, where younger individuals are typically more inclined to seek urban opportunities (Belmonte et al., 2020; Hall, 2022).

Moreover, the gender disparity in migration reflects variations in motivation and opportunities, as highlighted in previous studies (IOM, 2009; Anastasiadou et al., 2023). Marital status data indicate that migration is not limited to single individuals, with a significant number of married migrants participating in family migration dynamics (Krieger & Salikutluk, 2023). Finally, the data on occupation underscores the crucial role of employment as a driving force behind internal migration, with a substantial number of employed and self-employed migrants being attracted by economic opportunities in Morogoro (Fan & Stark, 2007; Chowdhury et al., 2012). The presence of retirees also indicates that the area provides favourable living conditions for older individuals.

4.2 Patterns of Internal Migration in Morogoro Municipality

4.2.1 Origin of Migrants

The research findings indicate a substantial level of internal migration, showing that 60% of the population has relocated from rural to urban areas within Morogoro Municipality as illustrated in Figure 2.

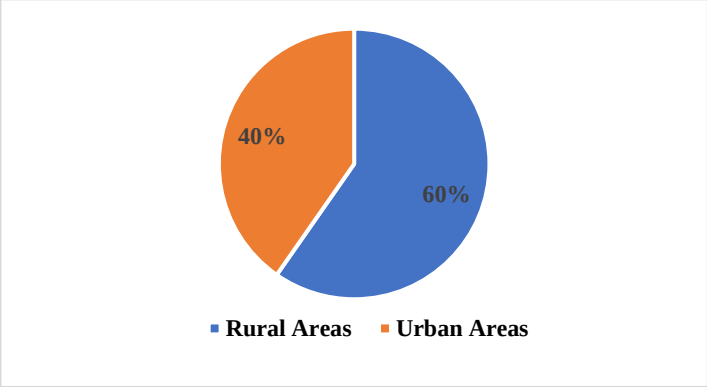

Figure 2: Patterns of Internal Migration

Source: Field Survey, 2023

The data reveals that 60% of the population has relocated from rural to urban areas within Morogoro Municipality, signifying a significant internal migration trend. This trend mirrors the broader urbanization observed in many developing regions, where individuals move from rural areas to urban centres in pursuit of better economic opportunities, access to services, and improved living conditions. Studies by Chowdhury et al. (2012) and Tumwesigye et al. (2021) similarly highlight that rural-urban migration is often driven by limited rural employment, declining agricultural productivity, and environmental challenges: all of which propel people towards urban areas seen as hubs of opportunity. The influx of rural migrants in Morogoro Municipality contributes

to its rapid urban expansion. This migration places substantial pressure on housing, infrastructure, and social services (Hall, 2022). As urban populations increase, the demand for adequate housing and public services—such as healthcare, education, and transportation—also increases; often leading to overcrowded living conditions, strained infrastructure, and the proliferation of informal settlements, as noted by Pietrelli and Scaramozzino (2019).

Furthermore, the migration flow underscores Morogoro's growing economic significance. Like other municipalities experiencing high internal migration rates, Morogoro provides diverse employment opportunities in both formal and informal sectors, attracting individuals seeking improved livelihoods (Fan & Stark, 2007). As shown in studies by Belmonte et al. (2020) and Krieger and Salikutluk (2023), rural migrants are often driven by aspirations for upward mobility, with the hope of accessing better education, healthcare, and other resources available in urban environments.

4.2.2 Breakdown by Specific Regions of Origin

Table 2 presents a breakdown of the 201 migrants who have relocated to Morogoro Municipality, categorizing them based on their original location; and whether they came from rural or urban areas. The statistics reveal that the majority of migrants originate from Dodoma, with a significant number also arriving from Dar es Salaam. Furthermore, a notable proportion of migrants come from regions such as Iringa (12.4%), Mbeya (12.4%), and Arusha (10%).

Table 2: Origin Regions of the Migrants

Origin	Rural Migrants	Urban Migrants	Total Migrants	Percentage
Dodoma	25	15	40	19.9
Dar es Salaam	10	20	30	14.9
Iringa	15	10	25	12.4
Mbeya	20	5	25	12.4
Arusha	10	10	20	10.0
Tanga	15	5	20	10.0
Kilimanjaro	10	10	20	10.0
Mwanza	5	5	10	5.5
Others	10	1	11	5.0
Total	**120**	**81**	**201**	**100**

Source: Field Survey, 2023

The data regarding the 201 migrants who have moved to Morogoro Municipality provides valuable insights into internal migration patterns in Tanzania. Most migrants come from Dodoma region, probably due to its proximity and the socio-economic ties between these two regions. Additionally, the significant number of migrants from Dar es Salaam indicates the saturation

of Tanzania's largest urban centre, where congestion and competition for resources may drive some residents to seek alternative urban destinations like Morogoro, which offer relatively affordable living conditions and new employment and social mobility prospects (Pietrelli & Scaramozzino, 2019).

Furthermore, the substantial influx of migrants from regions such as Iringa (12.4%), Mbeya (12.4%), and Arusha (10%) demonstrates that Morogoro is not only attracting migrants from nearby regions, but also from more distant locations. These regions, known for their agrarian economies, may be experiencing push factors—such as reduced agricultural productivity due to climate change, economic challenges, or population pressure—prompting individuals to move to urban areas in seek for better opportunities (FAO, 2019). Migration from agrarian regions to urban centres is a well-documented phenomenon across SSA, as urban areas are perceived to provide greater economic stability and access to essential services (Belmonte et al., 2020).

The presence of migrants from both rural and urban areas highlights the diverse drivers of migration. Rural migrants may be seeking to escape limited employment opportunities, environmental challenges, or land scarcity; while urban migrants might be motivated by aspiration for better living conditions, less competition, and lower costs of living compared to highly populated urban centres like Dar es Salaam (Wenban-Smith, 2015). This aligns with studies that show that both push factors from rural areas, and pull factors from urban regions, contribute to the migration dynamics in Tanzania (Rodríguez, 2008; IOM, 2009).

4.3 Drivers of Internal Migrants in Morogoro Municipality

The survey results reveal that employment is the primary motivator for internal migration within Morogoro Municipality; cited by 34% of the respondents. Business opportunities also play a significant role, influencing 31% of migrants. Marriage ranks as a notable factor, accounting for 14% of the respondents, while agricultural pursuits attract 9% of the migrants. Educational prospects are a motivating factor for 9% of the respondents; with a minority (2%) citing favourable weather conditions as a reason for migrating (Table 3).

Table 3: Internal Migration Drivers

Reason	Frequency	Percent (%)
Employment	68	33.8
Business	62	30.8
Agriculture	17	8.5
Marriage	28	13.9
Education	18	9
Good weather	5	2.4
Others	3	1.5
Total	**201**	**100**

Source: Field Survey, 2023

The findings regarding internal migration within Morogoro Municipality reveal a variety of economic and social factors that shape migration patterns, aligning with global and regional trends. Employment stands out as a primary driver of migration, consistent with research by Krieger and Salikutluk (2023), which highlights the appeal of urban areas for migrants seeking enhanced employment prospects. Urban centres, such as Morogoro, offer a greater diversity of economic opportunities, attracting individuals from rural areas in pursuit of improved livelihoods.

Business opportunities also play a significant role, with 31% of the migrants citing entrepreneurial prospects as a motivating factor for relocating to Morogoro. This finding aligns with studies by Ruhe and Kuhnt (2023) and Awumbila (2015), which emphasize how access to markets and opportunities for entrepreneurship drive migration into urban areas. Morogoro's expanding economy fosters an environment conducive to small businesses and self-employment, contributing to the influx of migrants seeking to capitalize on these opportunities.

Marriage-related migration, representing 14% of the sample, is similarly aligned with research on social drivers of migration. Studies by Curran and Saguy (2001), and Anastasiadou et al. (2023), demonstrate how familial and marital ties influence decisions to migrate, contributing to both community formation and social cohesion. This finding underscores the significance of personal and family connections in shaping migration patterns within the municipality.

Educational opportunities also serve as a major pull factor, particularly given Morogoro region's status as an educational hub. The presence of prominent institutions—such as the Sokoine University of Agriculture, Mzumbe University, and Morogoro Muslim University—attracts both long-term and short-term migrants. As highlighted by URT (2020), the concentration of higher learning institutions—particularly around areas like Kihonda-Maghorofani and Mwembesongo—significantly influences population growth and internal migration flows. This mirrors global trends, where education serves as a critical factor in migration, with individuals relocating to access better educational resources and opportunities for their children.

Environmental factors are also increasingly influencing migration decisions in Morogoro, reflecting broader patterns identified in global research. Studies by scholars such as Black et al. (2011), emphasize the role of environmental degradation and climate-related events in shaping migration, with extreme weather and gradual environmental changes acting as catalysts for displacement. While economic drivers remain predominant, environmental stressors such as droughts and flooding are becoming more prominent in migration decisions, as noted by Moore and Wesselbaum (2023).

4.4 Impacts of Internal Migration in Morogoro Municipality

4.4.1 Perceived Impacts on Population Dynamics

The study findings reveal that 97% of the respondents perceive a substantial increase in population within their respective wards. In contrast, approximately 2% reported stable population levels, while around 1% expressed uncertainty about current demographic trends. This overwhelming majority perception of population growth underscores a significant shift in the area's demographic landscape, emphasizing the need for further investigation into the underlying factors contributing to this change (Figure 3).

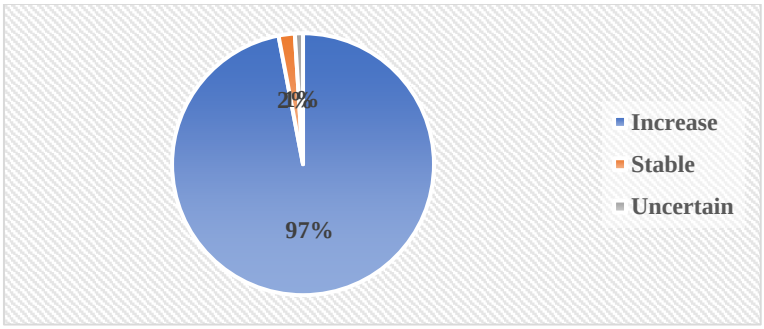

Figure 3: Perception of Population Dynamics.
Source: Field Survey, 2023.

Regarding respondents' perception about population dynamics, some gave their opinion, like in the two example below.

> *Over the past decade, we have witnessed a rapid increase in population in Mwembesongo, which has brought both opportunities and challenges (*Key Informant at Mwembesongo Ward).

> *Kihonda-Maghorofani has become a magnet for people seeking better opportunities. However, with more people moving here, we are struggling to keep up with the demand for essential services like waste management* (Key Informant at Mwembesongo at Kihonda-Maghorofani Ward).

Following from Figure 3, and the submissions from the two respondents, the data suggests that the majority of respondents have observed a significant increase in population within their wards in Morogoro Municipality. This aligns with the broader trend of urbanization observed in developing regions, where rural-to-urban migration plays a crucial role. According to the United Nations (2019), urban populations in Africa are growing rapidly due to various economic, social, and environmental factors. The perception of population growth among residents is likely influenced by visible changes in housing developments, expanded infrastructure, and increased demand for public services. Only 2% of

respondents reported stable population levels, indicating a widespread awareness of this demographic shift. This awareness may be due to direct experiences such as crowded living conditions and increased traffic, as well as indirect experiences like rising living costs and heightened competition for jobs.

The remarks provided by the two key informants from Mwembesongo and Kihonda-Maghorofani regarding population growth are supported by data from the 2012 and 2022 census reports. These remarks indicate that population growth may be contributing to both current economic opportunities and challenges, particularly in the provision of essential services. Studies by Tacoli (2017) and Selod and Shilpi (2021), highlight how rural-to-urban migration contributes to urban sprawl, straining existing infrastructure and resources. Additionally, the perception of population growth may be linked to socio-economic factors, such as increased employment opportunities in urban areas. As cities like Morogoro experience economic development, more people are drawn to these areas for better jobs, education, and healthcare; contributing to the acceleration of population growth.

4.4.2 Impact on Water Supply

The ramifications of the burgeoning population on water supply in Morogoro Municipality are strikingly apparent. Extensive literature underscores the fact that the upsurge in population has engendered a heightened demand for water, spurring the expansion of settlements into regions previously designated as watersheds. This encroachment has compromised the safety and integrity of water sources, as highlighted by a participant who bemoaned escalating water pollution stemming from settlement sprawls near the picturesque Uluguru Hills. The municipality's primary water source, the Mindu Dam Reservoir, is currently grappling with the challenge of accommodating the burgeoning population. The water demand for Morogoro Municipality in 2017 was estimated to be around 47,066m^3/day, while the installed water production stood at 34,000m^3/day, resulting in a deficit of 13,066m^3/day. This strain has resulted in an inadequate supply of safe water, exacerbating the risk of waterborne diseases such as typhoid due to contamination from waste (URT, 2020; Kabote, 2024). This is underlined by the statement below:

> *The impact of the growing population on the water supply in Morogoro Municipality is becoming increasingly clear. As the population expands, the demand for water has surged, leading to the spread of settlements into areas that were once protected watersheds* (A key informant from Morogoro Urban Water Supply and Sanitation Authority (MOROWSSA).

This observation from a key informant at the Morogoro Urban Water Supply and Sanitation Authority (MOROWSSA) highlights a critical issue: the impact of rapid population growth on water supply in Morogoro Municipality. As the

population expands, the increasing water demand has led to the encroachment of settlements into previously protected watershed areas. This trend poses significant challenges for sustainable water management and environmental conservation.

The strain on water resources as a result of urban growth is a common issue in rapidly urbanizing areas, especially in developing countries. Encroachment into watersheds can disrupt the natural water cycle, reduce water availability, and degrade water quality. This aligns with findings from the United Nations Human Settlements Programme **(**UN-Habitat, 2020)**,** which reported that urban expansion often leads to environmental degradation, particularly in areas where regulations and enforcement are weak. Encroachment into protected watershed areas can reduce the capacity of natural ecosystems to filter and replenish water supplies, exacerbating water scarcity during times of high demand.

Furthermore, pressure on water resources can also be linked to inadequate urban planning, where the pace of urbanization outstrips the capacity of infrastructure to support the population. Sadoff et al. (2015) have pointed out that insufficient investment in water infrastructure often leads to a mismatch between water demand and supply, resulting in water shortages and degraded services. This issue is evident in Morogoro Municipality, where the expanding population is stretching the water supply system, necessitating urgent attention to sustainable resource management. Likewise, the growing population's encroachment into watershed areas has also long-term implications for environmental sustainability.

4.4.3 Impact on Market Facilities

Interviews with municipal government officials revealed that population growth in Morogoro Municipality has had both positive and negative impacts on local business activities. On the positive side, the influx of indigenous residents and newcomers has led to an increase in entrepreneurial ventures and business opportunities. However, population increase has also highlighted significant infrastructural challenges. Since 2012, Morogoro has relied heavily on two primary markets: Mawenzi market, and the old Morogoro Central market. These facilities have proven inadequate to support the expanding number of businesses and entrepreneurs, leading to overcrowding and limited space for new enterprises. In response to these challenges, the municipality constructed Chief Kingalu Market in 2021. This new market development is a direct consequence of the population increase, and represents a proactive effort to address the infrastructural strain caused by rapid urbanization (URT, 2020). The construction of Chief Kingalu Market has alleviated some of the pressure on existing markets, and provides new opportunities for local businesses. Adebayo and Akinyemi (2022) had similar findings: that the expansion of markets and business zones in Nigeria has been critical in addressing overcrowding and supporting new businesses.

4.4.4 Impact on Waste Management

Moreover, the findings reveal several key challenges in waste management. The most significant problems identified include a high volume of waste that remains uncollected (82%), insufficient landfill capacity (78%), lack of waste segregation at the source (72%), limited availability of recycling facilities (65%), illegal dumping (60%), and environmental pollution resulting from improper waste management (50%) (Table 4).

Table 4: Challenges in Waste Management

Waste Management Challenge	Percentage of Respondents' Acknowledgement of Waste Management Challenge
High volume of uncollected waste	82
Insufficient landfill capacity	78
Lack of segregation at the source	72
Limited recycling facilities	65
Illegal dumping of waste	60
Environmental pollution due to waste	50

Source: Field Survey, 2023.

The findings reveal significant challenges in waste management that resonate with broader issues observed in other developing regions. These challenges are closely linked to population growth and urbanization, which amplify the strain on existing waste management infrastructure. A timely collection and disposal of waste highlight a critical issue faced by many municipalities experiencing rapid population growth. As noted, the inability to effectively manage waste often results in waste accumulation and public health risks (Kibonde, 2024). Studies in similar urban settings, such as those by Gwaleba (2018) and Hoffmann et al. (2023), indicate that growing populations significantly challenge waste collection systems, often leading to delays and inefficiencies. One of the key informants from Chamwino made the following comment:

> *As our population continues to grow, the amount of waste generated daily has surged, but unfortunately, the waste management infrastructure has not kept pace* (Key Informant from Chamwino Ward).

This statement from the key informant highlights a critical challenge faced by rapidly growing urban areas: the inability of waste management infrastructure to keep up with increasing waste generation. The surge in population directly correlates with a significant rise in waste production, leading to uncollected refuse that creates unsanitary conditions; and poses serious public health risks, including the spread of vector-borne diseases (Adelekan, 2018). This inadequacy indicates systemic issues within local governance, such as insufficient funding and the lack of investment in waste

management resources (Nyampundu et al., 2020). The accumulation of waste negatively impacts the quality of life, deterring economic investment, and lowering property values (Gwaleba, 2018; Hoffmann & Muttarak, 2021).

5. Conclusion and Recommendations

Internal migration has significantly reshaped the demographic and economic landscape of Morogoro Municipality, with the majority of migrants being rural-urban movers, predominantly from Dodoma region. Driven by employment opportunities and business prospects, this migration has contributed to economic diversification and growth in the area. However, the rapid population increase has also placed considerable strain on essential services such as water supply, market infrastructure, and waste management systems. While migration has brought economic benefits, it has also intensified the need for expanded infrastructure and improved public services. To mitigate these challenges, local authorities must invest in water supply and waste management infrastructure. Furthermore, a comprehensive urban planning is essential to balance residential and commercial expansion, ensuring sustainable development while protecting environmental resources. Policymakers must adopt strategies that address the impacts of migration, and support the long-term growth and sustainability of the municipality.

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