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Implications of Urban-to-Rural Migration and Dual Residency on Farmland Access: Insights from Njombe Town and Mufindi District Councils, Tanzania

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Abstract

This study explores the impact of urban-to-rural migration and dual residency on smallholder farmers' farmland access in Tanzania's Njombe Town and Mufindi District Councils. Despite growing urban-rural linkages, the effect of urban-to-rural migration on rural land dynamics remains understudied. Using a cross-sectional design, data were collected from 494 smallholder farmers across six villages, supplemented by interviews with urban dwellers (n=30), dual residents (n=20), and key informants (n=15). Results show a significant influx of urban dwellers (99.2%) and dual residents engaging in commercial agriculture (e.g., timber, avocado), acquiring large land tracts (98%). This drives economic benefits like job creation and technology transfer (77.3% positive perceptions) but exacerbates land scarcity (93.7%) and conflicts (83.9%). Chi-square tests confirmed significant associations (χ^2=50.639, df=8, $p<0.05$) between migration and reduced farmland access. Women and youth face disproportionate barriers due to customary tenure. While migration fosters agricultural transformation, it threatens smallholder livelihoods. Policymakers should implement land ceilings, cooperative ownership, and training programs. Future research should explore gendered impacts and alternative income sources (e.g., agro-tourism).

Keywords: Urban-to-Rural Migration, Smallholder Farmers, Farmland Access, Commercial Agriculture, Land Tenure

1. Introduction

Migration is a transformative force in human societies, driven by economic, social, and environmental factors that reshape demographic and economic landscapes worldwide (Martins, 2018). In Tanzania, urban-to-rural migration and dual residency, where individuals maintain residences in both urban and rural areas are profoundly impacting rural communities, particularly in agriculturally vibrant regions like Njombe and Iringa (Masanja, 2018). Historically, research has focused on rural-to-urban migration, linked to urbanization and industrial growth (Tacoli et al., 2015). However, the reverse flow of urban dwellers returning to rural areas for investment, retirement, or lifestyle preferences remains underexplored, creating a critical gap in understanding its implications for smallholder farmers who depend on farmland for their livelihoods.

Tanzania's demographic patterns reflect complex urban-rural linkages. Young people often migrate to urban centers like Dar es Salaam or Arusha seeking education and employment, while older adults and capitalized urbanites return to rural areas to invest in agriculture, retire, or reconnect with cultural roots (United Republic of Tanzania [URT], 2022). This phenomenon is particularly pronounced in Njombe Town Council (TC), with an estimated 2022 population of 151,283, renowned for its thriving timber and avocado production, supported by fertile volcanic soils and strategic market access to Iringa, Dar es Salaam, and international markets (National Bureau of Statistics, 2012; Commonwealth of Nations, 2014). Similarly, Mufindi District Council (DC), with 288,996 residents in 2022, is a hub for tea plantations, contributing 9.1% of the region's cash crops, and livestock farming, with 38.5% of its land suitable for grazing (Wikipedia, 2022; Iringa Regional Secretariat, 2024). The increasing demand for land from urban investors in these regions, coupled with their dynamic migration patterns, makes them ideal case studies for examining urban-rural linkages and their impact on land access dynamics (Anonymous, 2015).

Tanzania's land tenure system, deeply rooted in customary rights established during colonial and post-independence periods, is under significant strain due to urbanization, economic liberalization, and infrastructure

development, such as improved road networks connecting rural areas to urban markets (Kironde, 1995). Urban returnees, often equipped with financial resources accumulated in cities, acquire large land parcels for commercial agricultural ventures, including timber plantations, avocado farms, and tea estates. These acquisitions frequently disrupt traditional land-use patterns governed by customary laws, which prioritize community-based allocation and inheritance (Cotula, 2011). This trend aligns with global patterns of urban-to-rural migration driven by economic opportunities and access to ecosystem services, as observed in countries like Poland, Finland, and parts of South Asia (Martins, 2018; Adamiak et al., 2017; Majumder & Rahman, 2023). However, it raises serious concerns about smallholder displacement, resonating with broader debates on land grabbing and tenure insecurity across sub-Saharan Africa (Gilbert, 2017; Food and Agriculture Organization [FAO], 2014).

Despite these challenges, urban-to-rural migration introduces substantial economic benefits to rural communities. These include job creation through commercial farming operations, technology transfer via modern agricultural practices, and infrastructure development spurred by urban capital inflows, such as improved irrigation systems and market facilities (Selod & Shilpi, 2021). This dual impact of opportunities and constraints underscores the complexity of migration-driven land dynamics in Tanzania. For instance, while urban investors contribute to economic growth, their large-scale land acquisitions often lead to land scarcity, rising prices, and conflicts with local communities, particularly in regions with high agricultural potential like Njombe and Mufindi (Lusasi & Mwaseba, 2020). These dynamics disproportionately affect vulnerable groups, such as women and youth, who face structural barriers to land ownership under customary tenure systems (Cotula, 2011).

This study integrates multiple theoretical perspectives to provide a comprehensive analysis of urban-to-rural migration and its effects on farmland access. Lee's Theory of Migration (1966) posits that migration is driven by push factors, such as urban congestion, pollution, and high living costs, and pull factors, including rural investment opportunities, fertile land, and lifestyle preferences (Divisha, 2017). This framework helps explain why urban dwellers in Tanzania are increasingly relocating to rural areas like Njombe and Mufindi, where agricultural potential and lower costs of living are significant attractors. Duncan's economic model complements this by highlighting how capitalized urban returnees disrupt local land markets, increasing competition, inflating land prices, and marginalizing less affluent smallholders who lack the financial means to compete (Divisha, 2017).

Additionally, Stark's New Economics of Labour Migration (NELM) emphasizes household-level decision-making, where migration and land acquisition serve as strategies to diversify income and mitigate economic risks (Stark & Bloom, 1985). In the Tanzanian context, NELM explains why urban households invest in rural land for commercial agriculture, often prioritizing high-value crops like avocados and timber over subsistence farming, which directly impacts smallholder access to arable land. These crops offer higher returns but require significant land holdings, contributing to land concentration in the hands of urban investors. By integrating these theories, the study frames migration as a multifaceted process influenced by individual aspirations, household strategies, and structural economic factors, providing a robust lens for analyzing land dynamics in Njombe and Mufindi.

Tanzania's Southern Highlands, encompassing Njombe and Mufindi, are undergoing rapid agricultural commercialization, fueled by urban capital inflows and infrastructure improvements, such as the expansion of road networks and market facilities (Lusasi & Mwaseba, 2020). Smallholder farmers, defined as those managing less than 10 hectares with family-centered agricultural goals, face mounting challenges, including land scarcity, rising land prices, and tenure insecurity, which threaten their livelihoods and regional food security (FAO, 2023; McLeman, 2017). Agriculture remains the backbone of Tanzania's economy, employing over 65% of the population and contributing approximately 26% to the national GDP, making land access a critical issue for sustainable development (FAO, 2023).

While studies like Selod & Shilpi (2021) have extensively explored rural-to-urban migration in developing countries, the specific dynamics of urban-to-rural migration and its impact on

customary land tenure systems in Tanzania remain understudied. This gap is particularly significant given the unique challenges posed by Tanzania's reliance on customary tenure, which often lacks formal documentation and is vulnerable to exploitation by external investors (Kironde, 1995). The influx of urban capital into rural areas, while fostering economic growth through commercial agriculture, risks exacerbating inequalities, particularly for vulnerable groups such as women, who are often excluded from land ownership under patriarchal customary norms, and youth, who face economic barriers to land acquisition (Cotula, 2011).

This research addresses three primary objectives: (1) to quantify the magnitude of urban-to-rural migration and dual residency in Njombe TC and Mufindi DC, (2) to analyse the economic activities and opportunities introduced by urban returnees and dual residents, and (3) to assess their impact on smallholder farmers' access to farmland. The findings aim to inform policymakers on strategies to balance the economic benefits of commercial agriculture with the need to protect smallholder land access, ensuring equitable land distribution and sustainable agricultural productivity. For smallholder farmers, the study highlights the opportunities and risks associated with land sales, while urban investors gain insights into navigating land acquisition processes to minimize conflicts and foster community integration. By examining these dynamics in two agriculturally significant regions, the study contributes to the broader discourse on migration, land tenure, and rural development in sub-Saharan Africa, with implications for policy and practice in similar contexts.

2. Materials and methods

2.1.Study Design

This study employed a cross-sectional design to investigate the impact of urban-to-rural migration and dual residency on smallholder farmland access in Tanzania during the year 2024. The cross-sectional approach was selected to capture a snapshot of migration dynamics and land access challenges at a specific point in time, allowing for the identification of associations between variables in a resource-constrained setting. The research focused on Njombe Town Council (TC) and Mufindi District Council (DC) because of their high rates of urban-to-rural migration, significant agricultural output, and dynamic urban-rural linkages, which make them representative of broader trends in Tanzania's Southern Highlands.

2.2.Study Area

Njombe Town Council, with an estimated population of 151,283 in 2022, is a prominent hub for timber and avocado production, benefiting from fertile volcanic soils, consistent rainfall patterns, and strategic access to regional markets, including Iringa, Dar es Salaam, and export markets in East Africa (National Bureau of Statistics, 2012; Commonwealth of Nations, 2014; Lusasi & Mwaseba, 2020). Its agricultural economy is driven by a combination of smallholder farming and emerging commercial ventures, attracting urban investors seeking to capitalize on high-value crops like avocados, which have seen growing demand in international markets. The region's well-developed transport infrastructure, including paved roads connecting to major urban centers, further enhances its appeal for agricultural investment.

Mufindi District Council, with a 2022 population of 288,996, is renowned for its extensive tea plantations, which account for 9.1% of the region's cash crop production, and livestock farming, particularly cattle and goats, supported by 38.5% of its land being suitable for grazing and pastoral activities (Wikipedia, 2022; Iringa Regional Secretariat, 2024). Additionally, over 9,883 hectares of land in Mufindi are allocated for commercial fruit and vegetable production, reflecting growing interest from urban investors. The district's proximity to Iringa city, approximately 60 kilometres away, and favourable investment policies, such as tax incentives for agricultural enterprises, have spurred land acquisitions by urban-based investors. Both Njombe TC and Mufindi DC exhibit significant migration flows, with urban dwellers and dual residents acquiring land for commercial purposes, making them ideal sites for studying the interplay of migration and land access (Anonymous, 2015).

2.3.Study Population

The target population comprised several key groups in Njombe TC and Mufindi DC: smallholder farmers, urban returnees, dual residents, local government officials, and land committee members. Smallholder farmers were defined as those managing less than 10

hectares of land, primarily for subsistence and small-scale commercial purposes, consistent with FAO definitions (FAO, 2023). Urban returnees were individuals who had resided in urban areas for at least five years before relocating to rural areas, often for investment or retirement purposes. Dual residents were defined as individuals maintaining active residences in both urban and rural settings, engaging in rural economic activities such as agriculture. Key informants included village leaders, land officers, and agricultural extension workers, selected for their expertise in local land governance, agricultural policy, and community dynamics.

2.4. Sampling Technique and Sample Size

A stratified random sampling approach was employed to ensure representativeness across the study population. Using Yamane's formula ($n = N/[1+N(e)^2]$, where N=2,775 households based on village records and e=0.1 for a 10% margin of error), a sample of 494 smallholder farmers was selected across six villages (three per council). The 10% margin of error was chosen to balance statistical precision with logistical constraints, ensuring adequate coverage of diverse farming communities. Villages were stratified by proximity to urban centres (near, medium, far) and intensity of migration (high, moderate, low) to capture varied experiences of land access and migration impacts.

Additionally, purposive sampling was used to select 30 urban dwellers and 20 dual residents based on their involvement in land acquisition or commercial agriculture, identified through village leaders and local land registries. Fifteen key informants were purposively selected for their roles in land governance and agricultural policy, including village chairpersons, land officers, and extension workers, to provide diverse perspectives on land tenure regulations and conflict resolution mechanisms. This combination of sampling techniques ensured a comprehensive representation of stakeholders affected by or influencing migration and land dynamics.

2.5. Methodological Validation

The sample size of 494 farmers was validated through power calculations, achieving 80% power (α=0.05) with a medium effect size (Cohen's w=0.3) to detect significant associations in chi-square tests. This ensured robust statistical inference for identifying relationships between migration and farmland access challenges. Data triangulation was employed to enhance validity, integrating quantitative surveys, qualitative interviews, and focus group discussions (FGDs) to cross-validate findings and reduce bias. The survey instrument was pre-tested with a pilot group of 20 farmers in a non-study village to refine question clarity, cultural relevance, and response options, ensuring reliability and comprehension.

Ethical considerations were paramount throughout the study. Informed consent was obtained from all participants, with clear explanations of the study's purpose, procedures, and their right to withdraw at any time. Participant anonymity was ensured through the use of unique identifiers, and data were stored securely on password-protected servers. Community approval was secured through consultations with village councils, and the study received ethical clearance from the Tanzania National Ethics Committee. Potential limitations included incomplete village-level land records, which could introduce recall bias in self-reported data. This limitation was mitigated by triangulating survey responses with key informant interviews and secondary sources, such as government reports and census data. Language barriers in some interviews were addressed by employing trained local translators fluent in Swahili and regional dialects, ensuring accurate communication.

2.6. Data Collection

Primary data were collected using multiple methods to ensure comprehensive coverage of the research objectives. Structured questionnaires were administered to 494 smallholder farmers, capturing detailed data on demographic characteristics, land acquisition patterns, ownership disputes, agricultural activities, and perceptions of migration impacts. The questionnaire included Likert-scale items to assess attitudes toward migration and open-ended questions to elicit qualitative insights on land access challenges.
Semi-structured interviews were conducted with 30 urban dwellers and 20 dual residents to explore their motivations for migration, strategies for land acquisition, and contributions to the local economy. These interviews followed a flexible guide, allowing participants to elaborate on their experiences while ensuring coverage of key themes, such as investment decisions and community

interactions. Key informant interviews with 15 government officials and land committee members provided critical insights into land governance frameworks, policy implementation, and conflict resolution mechanisms. These interviews were particularly valuable for understanding the institutional context of land tenure and the challenges of regulating urban-driven land acquisitions.

Six Focus Group Discussions (FGDs), each comprising 8–10 farmers, were conducted to triangulate findings and capture community-level perspectives on migration and land access. FGDs were structured around key themes, including land scarcity, economic opportunities, and social conflicts, with facilitators encouraging open dialogue to uncover diverse viewpoints. Secondary data were sourced from a range of documents, including the 2012 and 2022 Tanzania Population and Housing Census reports, national land tenure policies, regional agricultural reports, and peer-reviewed literature, to provide context and validate primary findings.

Limitations in data collection included resource constraints, which restricted the number of villages sampled to six. However, the selected villages were carefully chosen to represent the diversity of migration and agricultural patterns in Njombe and Mufindi. Incomplete land records at the village level necessitated reliance on self-reported data, but triangulation with interviews and FGDs minimized potential biases. The use of local translators addressed language barriers, ensuring that participants could express their views accurately.

2.7. Data Analysis

Quantitative data were analysed using IBM-SPSS Statistics version 25. Descriptive statistics, including frequencies, percentages, and means, were used to summarize respondent characteristics, migration patterns, economic activities, and land access trends. Chi-square tests were employed to assess associations between migration variables (e.g., presence of urban dwellers, dual residents) and farmland access challenges, such as difficulties in accessing land, shortages of arable land, and rising land prices. The chi-square tests were conducted with a significance level of $\alpha=0.05$, and results were reported with chi-square values, degrees of freedom, and p-values to indicate statistical significance.

Qualitative data from interviews and FGDs were transcribed verbatim and analysed thematically using NVivo software. The thematic analysis followed an iterative process, beginning with open coding to identify initial themes, such as migration motivations, land conflicts, and socioeconomic impacts. These codes were then grouped into broader categories, such as “economic opportunities” and “tenure challenges,” to develop a coherent narrative. To ensure reliability, two researchers independently coded 20% of the interview and FGD transcripts, achieving an inter-rater reliability of kappa=0.85, indicating strong agreement. Triangulated findings from quantitative and qualitative analyses were cross-referenced to validate results, enhancing the robustness and credibility of the study’s conclusions.

3. Results

3.1. Respondent Characteristics

The study surveyed 494 smallholder farmers, with a balanced gender distribution: 54.5% male (n=269) and 45.5% female (n=225). The majority were married (78.7%, n=389), had primary education (73.1%, n=361), were aged between 31 and 50 years (47.3%, n=234), and had household sizes of 4–6 members (46.5%, n=230). Monthly incomes ranged from 100,000 to 500,000 Tanzanian Shillings (TZS) for 50.2% of respondents (n=248), reflecting the modest economic status typical of smallholder farmers in Tanzania’s Southern Highlands (Table 1).

Table 1: Distribution of Respondents by Socioeconomic Characteristics (n=494)

Variable	Category	Frequency	Percent
Sex	Male	269	54.5
	Female	225	45.5
Marital Status	Single	88	17.8
	Married	389	78.7
	Separated	2	0.4
	Divorced	5	1.0
	Widowed	10	2.0
Education	None	25	5.1
	Primary	361	73.1
	Secondary (O-Level)	82	16.6
	Secondary (A-Level)	4	0.8
	Certificate	6	1.2
	Diploma	5	1.0
	Bachelor's	11	2.2
Age Group	18–30 years	139	28.1
	31–50 years	234	47.3
	51+ years	121	24.6
Household Size	1–3 members	176	35.7
	4–6 members	230	46.5
	7+ members	88	17.8
Monthly Income (TZS)	<100,000	143	28.9
	100,000–500,000	248	50.2
	>500,000	103	20.9

Magnitude of Migration

The presence of urban dwellers was reported by 99.2% of respondents (n=490), with 58.7% (n=290) describing the influx as "many" and 12.8% (n=63) as "so many." Similarly, dual residents were observed by 57.9% (n=286) as "many" and 14.4% (n=71) as "so many." Semi-structured interviews with urban dwellers and dual residents revealed that 65% (n=33) migrated primarily for agricultural investment, 25% (n=13) for retirement, and 10% (n=5) for lifestyle preferences, such as a desire for a quieter rural life or cultural reconnection. Urban dwellers accounted for the majority of investment-driven migration (63.2%, n=312), followed by dual residents (23.9%, n=118), while 13.0% (n=64) were returnees settling with relatives. Land acquisitions were predominantly large (59.3%, n=293) or very large (33.2%, n=164), reflecting significant land market activity driven by commercial agriculture (Table 2).

Table 2: Magnitude of Urban-to-Rural Migration and Dual Residency (n=494)

Variable	Category	Frequency	Percent
Urban Dwellers in Village	Yes	490	99.2
	No	4	0.8
Perceived Number of Urban Dwellers	None	2	0.4
	Few	139	28.1
	Many	290	58.7
	So many	63	12.8
Perceived Number of Dual Residents	None	2	0.4
	Few	135	27.3
	Many	286	57.9
	So many	71	14.4
Reasons for Arrival	Urban dwellers for investment	312	63.2
	Dual residents for investment	118	23.9
	Returnees to settle	64	13.0
Land Acquired for Agriculture	None	1	0.2
	Few	36	7.3
	Large	293	59.3
	Very large	164	33.2

Economic Activities and Opportunities

Urban dwellers and dual residents predominantly engaged in commercial agricultural activities, with timber production reported by 98.8% (n=488), avocado production by 94.2% (n=465), livestock rearing by 70.8% (n=350), settlement activities by 84.4% (n=417), and poultry farming by 67.6% (n=334). These activities introduced significant economic opportunities to the study areas. For instance, 88.0% of respondents (n=435) noted the introduction of new agricultural technologies, such as drip irrigation and improved seed varieties, which enhanced productivity for some farmers. New social and economic relationships, such as connections to urban markets and suppliers, were reported by 97.8% (n=483), while 96.8% (n=478) observed increased income opportunities, particularly for those employed in commercial farms. Employment opportunities were significant, with 92.5% (n=457) of respondents noting job creation in timber plantations, avocado farms, and related industries.

However, these opportunities were accompanied by challenges. Rising land prices were reported by 98.4% (n=486), reflecting heightened demand from urban investors. Large-scale land acquisitions were noted by 98.0% (n=484), often leading to the displacement of undercapitalized smallholder farmers, as reported by 81.5% (n=403). This displacement occurred when smallholders sold their land to urban investors for short-term financial gains but subsequently faced difficulties securing alternative farmland for cultivation. The introduction of commercial

farming practices, while beneficial for productivity, was reported by 92.9% (n=459) as contributing to land concentration, further limiting smallholder access (Table 3).

Table 3: Economic Activities and Opportunities by Urban Dwellers and Dual Residents (n=494)

Opportunities	Yes (%)	No (%)
New technologies	435 (88.0)	59 (12.0)
New relationships	483 (97.8)	11 (2.2)
Large land acquisition	484 (98.0)	10 (2.0)
New ideas	480 (97.2)	14 (2.8)
Income	478 (96.8)	16 (3.2)
Employment	457 (92.5)	37 (7.5)
Rising land prices	486 (98.4)	8 (1.6)
Commercial farming	459 (92.9)	35 (7.1)
Smallholder displacement	403 (81.5)	91 (18.5)
Economic Activities	**Yes (%)**	**No (%)**
Settlement	417 (84.4)	77 (15.6)
Timber production	488 (98.8)	6 (1.2)
Avocado production	465 (94.2)	29 (5.8)
Livestock production	350 (70.8)	144 (29.2)
Poultry production	334 (67.6)	160 (32.4)
Beekeeping	340 (68.9)	154 (31.1)
Fish farming	161 (32.6)	333 (67.4)

Farmland Access Challenges

The study identified significant associations between urban-to-rural migration and farmland access challenges, as confirmed by chi-square tests. The presence of urban dwellers and dual residents was strongly correlated with difficulties in accessing farmland (χ^2=50.639, df=8, p<0.0001), shortages of arable land (χ^2=39.257, df=8, p<0.0001), and rising land prices (χ^2=39.964, df=8, p<0.0001). These findings indicate that migration-driven land acquisitions are a primary driver of reduced farmland availability for smallholder farmers (Table 4).

Focus Group Discussions (FGDs) provided qualitative insights into the extent of these challenges. Participants reported that land prices in some villages had increased by approximately 70% over the past five years, driven by demand from urban investors for large parcels suitable for commercial agriculture. This price surge forced many young farmers to resort to sharecropping arrangements, where they cultivated land owned by others in exchange for a portion of the harvest, limiting their economic independence. Tenants, who relied on rented land, faced significant rent increases, as landowners increasingly sold their properties to urban investors, reducing the availability of rental land. Key informants, including land officers and village leaders, noted that large-scale land acquisitions often bypassed customary tenure protocols, leading to disputes with local communities over land boundaries and ownership rights. These disputes were particularly prevalent in areas with high agricultural potential, where competition for fertile land was intens

Table 4: Associations between Migration and Farmland Access Challenges (n=494)

Association	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	Total	χ^2	df	p-value
Difficulties in Accessing Land							50.639	8	<0.0001
Urban dwellers (investment)	8 (1.6)	18 (3.6)	27 (5.5)	206 (41.7)	53 (10.7)	312 (63.2)			
Dual residents (investment)	3 (0.6)	8 (1.6)	4 (0.8)	84 (17.0)	19 (3.8)	118 (23.9)			
Returnees (settlement)	1 (0.2)	7 (1.4)	4 (0.8)	19 (3.8)	33 (6.7)	64 (13.0)			
Shortage of Arable Land							39.257	8	<0.0001
Urban dwellers (investment)	9 (1.8)	23 (4.7)	26 (5.3)	192 (38.9)	62 (12.6)	312 (63.2)			
Dual residents (investment)	3 (0.6)	6 (1.2)	5 (1.0)	78 (15.8)	26 (5.3)	118 (23.9)			
Returnees (settlement)	1 (0.2)	4 (0.8)	4 (0.8)	20 (4.0)	35 (7.1)	64 (13.0)			
Rising Land Prices							39.964	8	<0.0001
Urban dwellers (investment)	1 (0.2)	2 (0.4)	1 (0.2)	195 (39.5)	113 (22.9)	312 (63.2)			
Dual residents (investment)	1 (0.2)	2 (0.4)	4 (0.8)	69 (14.0)	42 (8.5)	118 (23.9)			
Returnees (settlement)	1 (0.2)	0 (0.0)	4 (0.8)	17 (3.4)	42 (8.5)	64 (13.0)			

Subgroup Analysis

Descriptive analysis of survey and FGD data revealed significant subgroup differences in farmland access challenges. Women reported higher barriers to land access, with 65% indicating difficulties compared to 45% of men, largely due to customary tenure systems that prioritize male inheritance and limit women's ownership rights. Young farmers, aged 18–30 years, were more likely to engage in sharecropping arrangements, with 60% relying on this practice compared to 40% of farmers aged 51 years and older, reflecting economic constraints driven by rising land prices. Tenants faced greater challenges than landowners, with 70% reporting significant rent increases compared to 50% of landowners, as urban-driven land sales reduced the availability of rental land. These findings highlight the disproportionate impact of migration-driven land competition on women, youth, and tenants, underscoring the need for targeted interventions to address these vulnerabilities.

4. Discussions of results

4.1. Migration Magnitude and Motivations

The study confirms a substantial influx of urban dwellers (99.2%) and dual residents (57.9%) into Njombe TC and Mufindi DC, driven primarily by agricultural investment (65%), followed by retirement (25%) and lifestyle preferences (10%). These findings align closely with Lee's push-pull framework, which identifies urban stressors such as high living costs, pollution, and congestion as push factors, and rural opportunities, including fertile land, market access, and a quieter lifestyle, as pull factors (Divisha, 2017). For instance, interviews with urban dwellers revealed that many were motivated by the high profitability of avocado and timber production, which offer lucrative returns in both domestic and international markets. Retirement-driven migration was often linked to a desire to return

to ancestral lands or invest savings in agricultural ventures, reflecting cultural and economic considerations.

Stark's New Economics of Labour Migration (NELM) provides additional insight, suggesting that urban households engage in rural land acquisition as a strategy to diversify income and hedge against economic uncertainties in urban areas (Stark & Bloom, 1985). This is particularly relevant in Tanzania, where urban employment can be precarious, prompting households to invest in rural agriculture as a stable income source. The high rate of land acquisition (98%) underscores the economic dominance of urban returnees, as predicted by Duncan's economic model, which highlights how capitalized migrants disrupt local land markets by increasing competition and driving up prices (Divisha, 2017). These patterns are consistent with global studies, such as Adamiak et al. (2017) in Finland, where urban-to-rural migration is driven by economic and lifestyle factors, and Jończy et al. (2021) in Poland, where environmental and economic motives play a significant role.

Comparatively, Kenya's peri-urban regions, such as Kiambu and Machakos, exhibit similar urban-to-rural migration patterns, with urban professionals investing in farmland for commercial crops like coffee and horticulture (Mathenge & Ouma, 2020). However, Tanzania's heavy reliance on customary tenure systems, unlike Kenya's mixed statutory-customary framework, amplifies land disputes, as urban investors often negotiate directly with village leaders, bypassing community consensus. This comparative perspective underscores the need for context-specific land governance reforms in Tanzania to manage migration-driven pressures effectively.

4.2. Economic Activities and Opportunities

Urban dwellers and dual residents in Njombe TC and Mufindi DC are predominantly engaged in timber production (98.8%), avocado production (94.2%), and livestock rearing (70.8%), reflecting a shift toward commercial agriculture in the Southern Highlands. These activities have introduced significant economic opportunities, including the adoption of new agricultural technologies (88.0%), such as drip irrigation and hybrid seed varieties, which have improved yields for some farmers. Employment opportunities (92.5%) are notable, with urban investors creating jobs in timber plantations, avocado farms, and related processing industries. New social and economic relationships (97.8%), such as connections to urban markets and export networks, have enhanced market access for local produce, while rising land prices (98.4%) reflect increased economic activity and investment in the region.

These findings align with studies in other African contexts, such as Ghana, where commercial agriculture, particularly in the cocoa sector, has spurred rural economic growth through job creation and infrastructure development (Amanor, 2010). However, the benefits of these opportunities are unevenly distributed. Focus group discussions revealed that smallholder farmers who sold their land to urban investors often faced long-term cultivation constraints, as short-term financial gains were quickly depleted, leaving them without sufficient land for farming. This mirrors experiences in Ethiopia, where large-scale land acquisitions have marginalized smallholders, reducing their access to arable land and undermining their livelihoods (Dadi et al., 2024).

The displacement of undercapitalized smallholders, reported by 81.5% of respondents, highlights the unequal distribution of economic benefits. While commercial farming (92.9%) has increased productivity, it has also led to land concentration, as urban investors acquire large parcels, limiting the availability of farmland for smallholders (Selod & Shilpi, 2021). Key informants noted that employment opportunities, while abundant, are often low-wage and precarious, with limited job security or benefits, further exacerbating economic disparities. These challenges suggest that while urban-to-rural migration fosters economic growth, it does not equitably benefit all community members, particularly those without land or capital to leverage new opportunities.

4.3.Farmland Access Challenges

The significant associations between migration and farmland access difficulties (χ^2=50.639, df=8, p<0.0001), arable land shortages (χ^2=39.257, df=8, p<0.0001), and rising land prices (χ^2=39.964, df=8, p<0.0001) highlight the intense competition for land resources driven by urban-to-rural migration. Land scarcity was reported by 93.7% of respondents, and land-related conflicts were noted by 83.9%, often stemming from disputes over customary land boundaries and ownership rights. FGDs indicated that land prices in some

villages had surged by approximately 70% over the past five years, driven by demand for large parcels suitable for commercial agriculture. This price escalation has pushed many young farmers into sharecropping arrangements, limiting their economic independence, and increased rental costs for tenants, as landowners sell to urban investors.

These findings are consistent with regional studies, such as Mathenge & Ouma (2020) in Kenya, where urban-driven land acquisitions in peri-urban areas have reduced farmland availability, inflating prices and marginalizing smallholders. The subgroup analysis revealed disproportionate impacts on vulnerable groups. Women reported higher barriers to land access (65% vs. 45% for men), reflecting customary tenure systems that prioritize male inheritance and exclude women from ownership decisions (Cotula, 2011). Young farmers, aged 18–30 years, were more likely to rely on sharecropping (60% vs. 40% for those aged 51+ years), as rising land prices outpaced their financial capacity. Tenants faced significant rent increases (70% vs. 50% for landowners), as urban-driven land sales reduced the availability of rental land, further exacerbating their vulnerability.

The reduction in arable land availability poses significant risks to household food security, as smallholders' ability to produce sufficient crops is constrained, contributing to rising food prices in local markets. This aligns with global studies, such as Fei et al. (2021), which highlight how land scarcity undermines agricultural productivity and food security in developing countries. The prevalence of land conflicts, driven by bypassed customary protocols, underscores the need for stronger governance mechanisms to regulate land transactions and protect smallholder rights (Åberg & Tondelli, 2021).

4.4. Comparative Analysis

Tanzania's experience with urban-to-rural migration shares similarities with other African contexts but is distinguished by its heavy reliance on customary tenure systems. In Ghana, statutory land reforms have mitigated some migration-related conflicts by formalizing land transactions and providing legal protections for smallholders (Amanor, 2010). In contrast, Tanzania's customary tenure, which often lacks formal documentation, is vulnerable to exploitation, as urban investors negotiate directly with village leaders, bypassing community consensus. Kenya's mixed tenure system, which combines customary and statutory elements, provide valuable lessons for Tanzania. Kenya's land registration programs have improved smallholder security in some areas, though challenges persist in peri-urban zones where urban investor demand is high (Mathenge & Ouma, 2020).

Unlike Ghana and Kenya, Tanzania's Southern Highlands face unique pressures from the rapid expansion of avocado and timber production, which has attracted significant urban investment, intensifying land competition. These crops require large land holdings, contributing to land concentration and smallholder displacement. This comparative analysis points to the need for tailored policy interventions in Tanzania that strengthen customary tenure systems while integrating formal governance mechanisms to manage migration-driven land dynamics effectively.

4.5. Gendered and Youth Impacts

The subgroup analysis underscores the disproportionate barriers faced by women and youth in accessing farmland. Women's higher reported difficulties (65%) are rooted in patriarchal customary norms that prioritize male inheritance, limiting women's ability to own or control land (Cotula, 2011). FGDs highlighted cases where female farmers were excluded from land allocation decisions, reducing their agricultural productivity and economic empowerment. Young farmers' reliance on sharecropping (60%) reflects their economic marginalization, as rising land prices and limited access to capital prevent them from purchasing land. This mirrors challenges faced by youth in Kenya's peri-urban areas, where land market pressures have pushed young farmers into precarious labour arrangements (Mathenge & Ouma, 2020).

These findings suggest that migration-driven land dynamics exacerbate existing inequalities, particularly for women and youth, who are critical to Tanzania's agricultural future. Future research should prioritize gender-disaggregated data to explore how migration affects women's land rights and economic outcomes, as well as youth-focused studies to identify pathways for their inclusion in agricultural development. Addressing these vulnerabilities requires targeted policies that promote equitable land access and economic opportunities for these groups.

5. Conclusion and recommendations

5.1. Conclusion

Urban-to-rural migration and dual residency in Njombe Town Council and Mufindi District Council have significantly transformed the agricultural landscape, driving commercialization through high-value activities such as timber production, avocado production, and livestock rearing. These activities have introduced substantial economic benefits, including the adoption of new agricultural technologies, job creation, and increased income opportunities. These developments have positioned the Southern Highlands as a hub for agricultural innovation, attracting urban capital and fostering market linkages that enhance rural economies. However, the large-scale land acquisitions by urban dwellers and dual residents have created significant challenges for smallholder farmers, exacerbating land scarcity and land-related conflicts.

Statistical analyses confirmed strong associations between migration and farmland access difficulties, shortages of arable land, and rising land prices. Focus group discussions revealed that land prices in some villages have surged by approximately over the past five years, driven by demand from urban investors for large parcels suitable for commercial agriculture. This price escalation has pushed young farmers into sharecropping arrangements and increased rental costs for tenants, limiting their economic independence. Women face disproportionate barriers to land access, rooted in customary tenure systems that favour male inheritance, further exacerbating gender inequalities.

These dynamics threaten smallholder livelihoods and regional food security, as reduced farmland access constrains crop production, contributing to rising food prices and economic vulnerability. The prevalence of land conflicts, often stemming from bypassed customary protocols, demonstrates the need for immediate policy interventions to regulate land transactions and protect smallholder rights. The displacement of undercapitalized smallholders highlights the unequal distribution of economic benefits, as short-term financial gains from land sales are quickly depleted, leaving farmers without sufficient land for cultivation.

5.2. Recommendations and Implementation Strategies

To address these challenges and promote equitable land access, the following policy recommendations and implementation strategies are proposed:

Land Ceilings for New Buyer

Introduce legislative caps limiting urban investors to purchasing no more than 10 hectares of land per transaction. This policy should be enacted through amendments to Tanzania's Land Act of 1999, led by the Ministry of Lands, Housing, and Human Settlements. Implementation will require the establishment of monitoring committees in Njombe and Mufindi, comprising village leaders, land officers, and community representatives, to enforce compliance with customary protocols. Pilot programs in two villages per council should be launched in 2026, with evaluations after one year to assess impacts on smallholder land access and conflict reduction. These pilots can be funded through national agricultural budgets, with an estimated cost of 20 million TZS per village.

Cooperative Land Ownership Models

Promote cooperative land ownership to enhance smallholder bargaining power and prevent displacement. The Ministry of Agriculture should allocate 50 million TZS per council to establish pilot cooperatives, each comprising 20–30 farmers, to pool resources and acquire land collectively. Agricultural extension officers will provide technical support, including training on cooperative management and legal frameworks. Success metrics, such as increased land access and household income, should be tracked over two years, with findings informing national scaling. Kenya's cooperative farming models, which have improved smallholder resilience, can serve as a blueprint (Mathenge & Ouma, 2020).

Training in Value-Added Agricultural Products

Develop training programs to diversify smallholder income through value-added products, such as avocado processing, timber byproducts, and tea blending. Partnerships with Sokoine University of Agriculture can deliver six-month training modules, targeting 200 farmers per council annually, with a focus on women and youth to address their economic exclusion. Funding from the Tanzania Agricultural Development Bank, estimated at 50 million TZS per council, will support equipment, processing facilities, and market

linkages. Mobile training units can reach remote villages, ensuring accessibility. Follow-up assessments after one year will measure income impacts and program effectiveness.

Future Research Priorities

Future studies should prioritize longitudinal research on gendered impacts of migration, using gender-disaggregated data to explore how women's land access barriers affect their economic outcomes. Research on alternative income sources, such as agro-tourism leveraging Njombe's scenic landscapes and Mufindi's tea estates, can identify sustainable livelihood options. 68.9% of respondents reported that beekeeping also holds potential for income diversification. Establishing a national land transaction database, managed by the National Bureau of Statistics, will provide robust data for evidence-based policymaking. A pilot database in Njombe and Mufindi, launched by 2026 with an estimated cost of 100 million TZS, will track land sales and market trends, supporting policy development.

Policy Implications and Community Engagement

Effective implementation of these recommendations requires a multi-stakeholder approach. Local governments in Njombe and Mufindi should establish land governance committees, including representatives from village councils, women's groups, and youth organizations, to oversee the enforcement of land ceilings and cooperative formation. National agencies like the National Land Use Planning Commission can provide technical support for mapping communal lands and formalizing customary rights, reducing conflict risks. Community education campaigns, led by civil society organizations, should target 500 farmers per council, offering workshops on land valuation, negotiation skills, and the long-term implications of land sales. These campaigns, estimated at 10 million TZS per council, will empower farmers to make informed decisions and resist exploitative transactions.

International partnerships with organizations like the Food and Agriculture Organization (FAO) and UN-Habitat can provide funding and technical expertise for training programs and database development, ensuring sustainability. Policymakers must balance the economic benefits of commercial agriculture with the need to protect smallholder land access, aligning with Tanzania's Development Vision 2025 and the African Union's Agenda 2063. By formalizing customary tenure, promoting cooperative models, and investing in farmer training, Tanzania can harness the opportunities of urban-to-rural migration while mitigating its adverse effects, fostering inclusive rural development, and creating resilient agricultural systems.

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