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Drivers of Housing Mobility in Low-Income Communities of Tamale, Ghana

ABSTRACT

Meeting the housing needs of low-income populations remains one of the greatest challenges facing national and local governments in Ghana. As government policy continues to shift toward an enabling approach, access to housing for the poor has become increasingly constrained, and residential mobility in the pro-poor housing sector has become more prevalent. This paper examines the drivers of housing mobility in low-income communities in Tamale using a mixed-methods approach. We analysed participants' housing satisfaction to understand how relocation practices are informed by households' prior housing experiences in the city. The study recorded a high level of satisfaction with general living conditions in the low-income housing system. We found that residents derive a considerable degree of place utility; however, certain aspects of the living environment were found to generate dissatisfaction and to motivate household relocation decisions. In light of the renewed global interest in residential tenure security for the poor, research and policy efforts must seek to better understand housing practices and residential mobility dynamics in low-income communities, in order to propose measures aimed at integrating these practices into the urban fabric as part of the broader goal of achieving inclusive urban development. Accordingly, any policy seeking to promote a stable housing regime in low-income communities must recognise these mobility-enabling factors and devise context-specific measures to improve living conditions. In this regard, the primary entry point should be at the unit level, with efforts geared toward improving the management and use of in-house services to minimise conflicts over the use of and payment for utility services.

Keywords: housing, mobility, urban development, Ghana, Tamale

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INTRODUCTION

The world is besieged by unprecedented rates of accelerated urbanisation and urban population growth, and it is now evident that the global population has crossed the urban divide, with urban dwellers surpassing the number of rural residents (United Nations, 2014; UN-Habitat, 2016). Most of the population growth underlying this transition has occurred in urban areas of the global South, and projections indicate that the majority of future urban population growth will take place in cities in this part of the world. The profound nature of this demographic shift calls for increased research attention and policy prioritisation in metropolitan areas, which will host much of the global urban population in the coming decades. This call is particularly pertinent given that urban transformation in the global South also exposes the deficiencies of formal planning and governance systems in addressing the challenges of new urban realities (Samara et al., 2013; Braathen et al., 2016).

Urban centres continue to confront the complexities of providing adequate housing to meet the escalating demands of rapidly growing populations. Millions of urban households reside in precarious and overcrowded conditions, frequently lacking access to essential infrastructure and basic services (Deboulet, 2016). However, the proportion of residents living under such conditions also varies depending on the criteria used to define them (Braathen et al., 2016; Deboulet, 2016; Turok et al., 2017). Overall, urban growth in the South is intrinsically linked to the development of informal, low-income settlements. These settlements play a crucial role in promoting inclusive urban development and should not be overlooked in public policy.

Fortunately, many countries have ratified international conventions that recognise and uphold housing rights for the poor. The impetus for these developments is derived from the goals and targets of past and present global development agendas. Low-income communities offer a vibrant and functioning downstream housing market, where very cheap—and sometimes free—accommodation is accessible to the poor. An extensive system of social and family networks exists within these communities, providing a considerable degree of agency for different socio-economic groups to secure stable housing through long-standing housing safety nets (Addo, 2013; Acheampong, 2016).

Acheampong (2016) argues that rapid urbanisation has significantly disrupted social networks and stable housing regimes in low-income communities in Ghana. This disruption is attributed to urban modernisation and the accompanying increase in the commercialisation of housing rights. These dynamics, coupled with the urban modernist drive of metropolitan authorities, may have increased housing insecurity and triggered a combined process of voluntary and involuntary residential mobility in Tamale's low-income housing system. While the deterioration of housing conditions in low-income communities appears to be well documented in the literature (Yakubu et al., 2014; Acheampong, 2016; Morrison, 2017; Danso-Wiredu, 2018), far less is known about residential mobility practices at the lower end of urban housing markets in the global South. Families frequently relocate in response to adverse living conditions, as well as shifts in the socio-economic and cultural dynamics associated with the contemporary urban transition. Yakubu et al. (2016) argue that residential mobility in low-in-

come communities of the South is symptomatic of housing insecurity, with household movements revolving around the same or familiar social spaces and driven by housing market constraints. Turok et al. (2017) make similar observations in South Africa's informal settlements; however, their findings suggest that a substantial proportion of mobility practices are progressive in nature, due to the extent of direct state involvement in pro-poor housing provision in South African cities.

In developed countries, low-income housing strategies have shifted toward assisted rental housing programmes, primarily aimed at stimulating the residential mobility of poor households out of areas of concentrated poverty while ensuring their effective integration into urban spaces (Rosenblatt & DeLuca, 2012; Basolo & Yerena, 2017). This is not the case in developing countries, where urbanisation has further complicated the housing needs of low-income households. The chaotic nature of urbanisation, together with the expansion of informal housing systems in developing countries, has led to the adoption of incremental upgrading approaches to ensure the provision of adequate housing for the poor (UN-Habitat, 2016; Bah et al., 2018).

Residential mobility has not featured prominently in urban development programmes implemented in Tamale or elsewhere in Ghana that seek to simultaneously improve access to housing and promote inclusive urban development. Most scholarly work on residential mobility has tended to frame the phenomenon in terms of its contribution to the uncontrolled physical expansion of cities in the global South (Andreasen et al., 2017a; Andreasen et al., 2017b). Although these studies provide useful insights for guiding the development of responsive urban management initiatives, their scope is not sufficiently broad to allow for a comprehensive assessment of the main drivers of residential mobility in low-income housing systems. In general, they fall short of accounting for the factors that induce residential mobility in low-income communities.

This paper addresses two key objectives. First, it examines the drivers of housing mobility practices in low-income communities of Tamale using a mixed-methods approach. Second, it analyses participants' housing satisfaction to understand how relocation practices are informed by households' prior housing experiences in the city. The remainder of the paper is organised into four main sections. First, relevant theoretical and empirical literature is reviewed to situate housing mobility practices within an appropriate analytical framework. Next, the study context and methods are presented, followed by the results and discussion. The final section offers conclusions and highlights key policy implications. This paper contributes to the existing literature on housing in developing countries through a micro-level analysis of the socio-economic drivers of housing mobility in low-income communities.

LITERATURE REVIEW

Urban residents are frequent movers in search of residential accommodation, and the act of mobility tends to redistribute urban populations, recomposing neighbourhoods across space and time (Pacione, 2009; Knox & Pinch, 2010). Rossi (1982, p. 22) defined residential mobility as "a process by which

individuals adjust their housing to their needs within the constraints of income and market conditions." This widely cited definition assumes a linear life-cycle framework in which residential mobility is expressed through relocation from one dwelling to another. However, such a linear explanation is less adequate for accommodating the repeat and cyclical mobility practices characteristic of contemporary urban housing markets. For this reason, Coulter et al. (2016) maintain that, given the dynamic nature of urban family structures and living arrangements, a purely linear conception of residential mobility overlooks a substantial proportion of non-discrete movements, wherein mobility functions as an adaptive strategy to life pressures and structural conditions.

Residential mobility encompasses all housing relocations whose origins and destinations lie within the same city. It may involve relocation beyond a given neighbourhood or simply a change of residence within the same neighbourhood. Crucially, such movements are typically short-distance in nature and do not usually result in major disruptions to the daily activity spaces of individuals or households (Coulter et al., 2016). Housing mobility, in its conventional spatio-temporal sense, may be considered a form of migration; however, because such movements occur within the boundaries of a given metropolitan area, they are often not classified as such (Gillespie, 2017).

Peter H. Rossi's (1955) seminal work laid the theoretical foundation for life-cycle and life-stage perspectives on household residential mobility. He argues that the need for housing mobility arises when changes occur in the structure and composition of a household as it transitions through different phases of the life cycle, from union formation to dissolution (Clark, 2013). Life-cycle changes induce residential mobility either by altering housing or space requirements or by generating or eliminating demand for housing altogether. Conversely, the stage of a household's life cycle influences both the nature and frequency of demographic changes and the types of housing needs or dissatisfaction these changes may generate (Clark & Onaka, 1983; Clark et al., 1984; Pacione, 2009). In addition to varying levels of housing stress experienced across life-cycle stages, the frequency of socio-economic and demographic changes also differs accordingly.

A range of diverse yet interrelated theoretical perspectives has established the central role of housing stress in the mobility process, conceptualising mobility practices as outcomes of household responses to housing dissatisfaction (Speare, 1974; Clark & Ledwith, 2006; Adriaanse, 2007; Diaz-Serrano & Stoyanova, 2010; Addo, 2016; Basolo & Yerena, 2017). The logic of housing dissatisfaction is grounded in the view that individuals' ability to make optimal decisions is constrained by limited access to accurate and reliable information. To cope with this limitation, individuals construct simplified cognitive frameworks that enable them to interpret problems and act rationally within these frameworks (Speare et al., 1974; Lersch, 2014). Within this construct, a set of alternatives is typically identified and evaluated using a binary satisfaction criterion. If the current housing situation is deemed satisfactory, no action is taken; if it is unsatisfactory, a search is initiated for a more suitable alternative (Speare, 1974; Kährik et al., 2012; Fattah et al., 2015).

These constructs likely derive from the underlying logic of Rossi's (1955) three-stage mobility process: the decision to change residence, the search for alternatives, and the selection among these

alternatives. The decision to move depends on household demographic characteristics and residential satisfaction, typically measured through mobility potential and complaint indices, respectively. The former includes variables such as the age of the household head, household size, and tenure preferences, while the latter relates to housing characteristics with which a household is dissatisfied (Basolo & Yerena, 2017). Early applications of these indices in housing and residential mobility research following Rossi's (1955) pioneering work include studies by Speare (1974), Mohit et al. (2010), Addo (2016), and Zhang & Lu (2016).

Housing mobility practices are direct outcomes of stress arising from the disjuncture between households' housing needs and aspirations and their prevailing housing and environmental conditions. This stress may originate from both internal and external sources, including factors such as changes in household demographic structure and rent increases, respectively (Table 1). It may also stem from housing- or neighbourhood-specific conditions that create a mismatch between desired and actual living environments (Knox & Pinch, 2010; Coulton et al., 2012; Inah et al., 2014; Zhang & Lu, 2016). Importantly, stress mediates the relationship between a household's aspirations and its current housing conditions, and there exists a minimum threshold beyond which relocation becomes likely (Wolpert, 1966). This threshold varies according to socio-economic status, life-cycle stage, and lived experience, resulting in differing levels of tolerance for stress across households. For instance, low-income households in rental accommodation are more likely to relocate under relatively low levels of stress compared to their higher-income counterparts.

Table 1. Sources of Housing Stress and Residential Mobility

Household	Housing unit	Social relation	Neighbourhood
Life cycle stage	House type	Inter-household conflicts and contestations	Limited accessibility
Residential tenure	Number of rooms	Unhealthy relationship with neighbours	Limited access to public services and facilities
Socio-economic status	Room size	Social networks	Crime rate
Household density	Cost of housing	Friends and family	Violence and conflicts
	In-house services		
	Privacy		

Source: Derived from (Pacione, 2009; Mohit et al., 2010; Addo, 2016)

In essence, housing dissatisfaction is engendered by changes in household characteristics, relationships with neighbours and co-residents, housing unit attributes, and neighbourhood conditions. Dissatisfaction may also arise from changes in the criteria used to evaluate these variables. Under conditions of housing stress, household decisions have traditionally been framed within a binary choice between moving and staying (Speare, 1974; Brummell, 1979; Pacione, 2009). However, Moore and Harris (1979) and Chisholm et al. (2016) argue that such decisions should be conceptualised within a broader set of choices subsumed under Hirschman's (1970) 'exit–voice' framework.

According to this framework, a household experiencing stress in relation to prevailing housing and neighbourhood conditions operates within a tripartite set of options. First, it may choose to move out, thereby exiting the existing housing and neighbourhood context, either voluntarily or involuntarily (Chisholm et al., 2016). Such movements may reflect a desire to dissociate from community-based initiatives aimed at contesting prevailing urban conditions, or simply a strategy to access better-quality housing and urban services in another neighbourhood.

The multiplicity of concepts and theories highlights the complex nature of household residential mobility and underscores that mobility practices are shaped by a combination of interdependent variables. Each theoretical perspective sheds light on particular aspects of household mobility behaviour; however, their limitations become evident when attempting to situate housing mobility within broader socio-spatial and institutional transformations in cities. Theories specifically addressing housing mobility among low-income populations also appear insufficient for capturing household experiences in an increasingly dynamic and postmodern urban context. Given the limitations of existing theoretical frameworks, it is difficult to dismiss any single theory outright or to adopt one as offering the most appropriate lens for understanding residential mobility in informal housing systems. Rather than viewing these theories as mutually exclusive, they should be considered complementary, collectively providing a more nuanced understanding of low-income housing mobility practices in the global South.

METHODS

Study Context

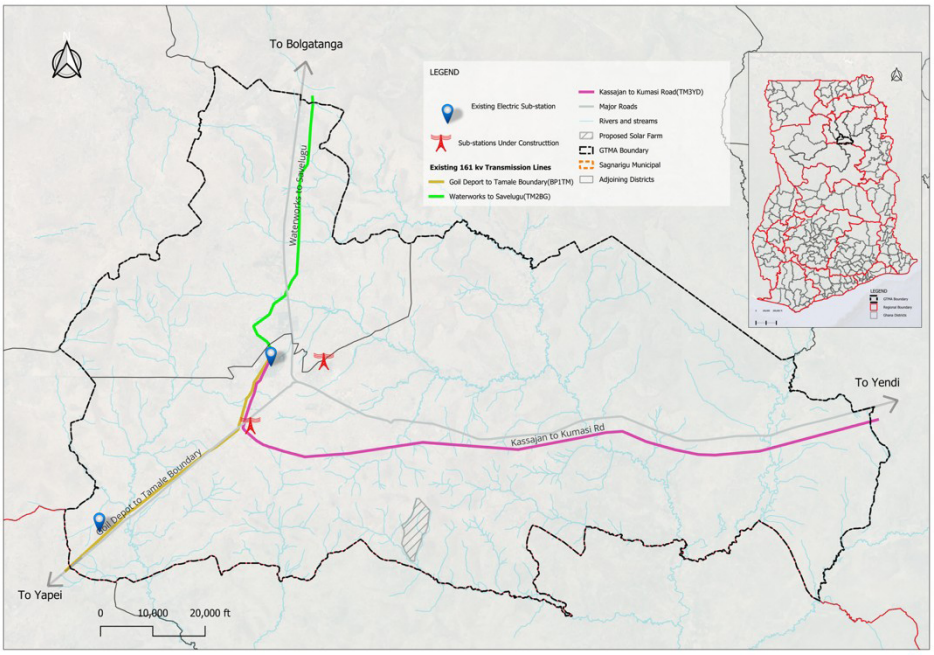
This study was conducted in Tamale (Figure 1), the capital of Ghana's Northern Region and the third-largest urban area after Accra and Kumasi (Fuseini et al., 2017). Tamale's rapid growth and development began when it was designated as the main administrative centre in the Northern Territories of the Gold Coast during the colonial period (Yakubu, 2021). The city's population increased from fewer than 1,500 in the early twentieth century to 17,000 in 1948 and over 58,000 in 1960. According to the 2021 census, the population reached 716,455 (Ghana Statistical Service, 2021).

In line with urban growth patterns observed across the African continent (Turok, 2017), Tamale's rapid urbanisation has been accompanied by limited economic development and insufficient housing capacity to accommodate the expanding urban population. Consequently, a significant proportion of residents live in substandard housing conditions characterised by high levels of housing instability. The city's housing situation—particularly in disadvantaged neighbourhoods—has contributed to the prevalence of housing mobility practices, thereby undermining residents' access to stable housing.

Access to housing is fundamental to all aspects of urban life, and for low-income households it provides a critical gateway to urban opportunities, including employment, education, family life, and the development of social capital (The World Bank, 2015). As in many other Ghanaian cities, housing

provision in Tamale is largely driven by informal private development, with minimal regulation and enforcement of standards. State-led housing provision remains limited and is predominantly occupied by elites and public servants (Yakubu et al., 2014; Yakubu et al., 2016).

Figure 1. Map of the Tamale Metropolitan Area



Source: Author's construct, 2026

A major challenge in the housing sector—particularly at the lower end of the market—is poor-quality, unplanned development, which places considerable strain on the provision of essential services (Fuseini et al., 2017). Rapid urbanisation has also led to increased occupancy rates in existing low-income communities, resulting in the infilling of vacant plots and the informal extension of housing units (Yakubu et al., 2014). Overall, it is argued that, aside from state-developed housing areas and a limited number of privately developed enclaves inhabited by the elite, most urban residents live in unplanned settlements with restricted access to public infrastructure and services (Fuseini & Kemp, 2016).

The compound house represents the dominant form of residential accommodation for low-income households in Tamale (Yakubu et al., 2014; Yakubu, 2021). It is the oldest architectural typology in the city and is characterised by a flexible, incremental development pattern that accommodates low-income households in shared residential arrangements. A typical compound house consists of multiple rooms organised around a central open space or courtyard. This housing form is relatively affordable and remains attractive to low-income residents. Compound housing can be understood as an adaptation of indigenous housing systems to meet pro-poor housing needs in the context of rapid urbanisation.

Schlyter (2003) conceptualises the social dynamics of sharing, negotiation, and cooperation in the use of limited residential space as *multihabitation*. Such arrangements foster a conducive environment for cooperation and collective living among low-income households. The shared nature of multihabitation tends to reduce rental costs and the expenses associated with housing services, thereby enhancing affordability for the poor (Addo, 2016).

Study Design and Data Collection

The fieldwork for this research was conducted in Tamale as part of a broader project investigating housing mobility practices in low-income communities. A mixed-methods approach was adopted to provide a synergistic and mutually reinforcing framework for generating valid and reliable data to understand residential mobility patterns in these communities. This approach draws on pragmatism as an alternative philosophical framework to traditional positivist, post-positivist, and constructivist paradigms in social research (Bryman, 2006; Morgan, 2007; Creswell, 2009; Greene & Hall, 2010).

Given the multilayered nature of residential mobility practices in low-income communities, a mixed-methods approach proved particularly useful in unpacking this complex phenomenon into analytically meaningful themes by integrating complementary datasets. Quantitative data obtained through a household questionnaire survey provided numerical measures of various aspects of household mobility behaviour, while qualitative data from interviews enabled a more detailed examination of the personal and structural factors underlying housing mobility decisions.

The research context, coupled with the complexity of housing mobility practices in low-income communities, necessitated a three-phase data collection strategy. Phase one involved a series of in-depth interviews with nine (9) local government representatives (Assembly Members), with three drawn from each of the selected low-income communities located in indigenous, intermediate, and peri-urban residential areas. The inclusion of Assembly Members was informed by their in-depth knowledge of housing conditions and living environments in their respective communities. They also play key roles in facilitating vacancy searches, tenant recruitment, and mediating housing-related conflicts at the community level.

This was followed by interviews with public officials from relevant stakeholder institutions, including the Municipal and Metropolitan Planning and Coordination Units, the Land Use and Spatial Planning Authority, the Department of Urban Roads, and the Rent Control Department. These institutions are involved in policy formulation and implementation processes that directly influence housing practices and residential mobility decisions in low-income communities. Data obtained from these interviews informed the refinement of research instruments and data collection strategies used in subsequent phases.

The second phase involved a household survey of 395 households across nine low-income communities in Tamale. A structured questionnaire was used, comprising four main sections designed to address specific aspects of the study objectives. The survey collected baseline information on

households' socio-economic characteristics and tenure profiles, including housing types and living conditions across all dwellings occupied by the household in the ten years preceding the survey.

This background information was complemented by data derived from a set of questions assessing residential satisfaction. These data were intended to serve as potential predictors of residential mobility. A range of housing and socio-spatial characteristics was listed in the questionnaire, and respondents were asked to rate their level of satisfaction for each using a five-point Likert scale: not satisfied at all, not satisfied, neutral, satisfied, and extremely satisfied. For analytical purposes, these categories were later recoded into two groups: satisfied and not satisfied. This perceptual approach was considered more appropriate in the context of this study than objective indicators, which are often based on longitudinal spatial analyses of housing conditions.

Sampling Design and Procedure

A stratified multistage sampling procedure was employed to select respondents for the household questionnaire survey. First, low-income communities in Tamale were classified into three zones based on guidelines provided in the 2017 fee-fixing resolutions for property rates in the Tamale Metropolitan and Sagnarigu Municipal Assemblies. These resolutions stratified residential areas of the city into zones for the purpose of levying property rates, using criteria such as housing type, structural quality, and amenity value.

Low-income communities were then delineated from this city-wide residential classification and regrouped into residential clusters, drawing on established approaches in the literature as well as insights from interviews with officials of the Metropolitan Planning and Coordination Units. Table 2 presents the resulting classification of low-income communities.

In the second stage of the sampling procedure, three localities were purposively selected from each cluster, and proportionate samples were determined based on each locality's share of the housing stock relative to the total stock within its respective residential cluster. In total, 400[4] houses were selected for the household survey. The sample sizes for the residential clusters were then proportionally allocated across the selected localities within each cluster (Table 3).

In the absence of a reliable sampling frame for the study population, and given the predominance of multihabited compound housing in the study localities (Yakubu et al., 2014), an adapted form of systematic sampling was employed to select houses for the household survey. First, central landmark features were identified in each sampled locality as starting points for house selection. For consistency, every other house to the north, south, east, and west of these landmarks was included in the sample.

4 Sample size was derived from the formula:

$$n = \frac{N}{1+N(e)^2}$$

where n=sample size, N= population size and e is the level of precision. A 95% confidence interval was chosen. The calculated sample size was 389. Eleven houses were added to make provision for potential non-responding households.

Table 2. Classification of Low-Income Communities in Tamale

Residential clusters*	Localities	Households	Housing stock
Indigenous low-income communities**	Aboaboo	1610	687
	Chengli	1889	740
	Moshi Zongo	2288	979
	Sabon-Gida	1522	577
	Gulkpegu	1524	603
	Tishigu	2388	1036
	Subtotal	**11 221**	**4622**
Intermediate low-income communities***	Sagnarigu	1243	878
	Nyohini	6934	1334
	Sakasaka	633	380
	Zogbeli	2015	833
	Chogu Mmanayili	2675	1679
	Kukuo	953	674
	Gumbihini	889	516
	Subtotal	**15 342**	**6294**
Peri-urban communities****	Nyohini yapala	292	157
	Kakpagyili	1267	962
	Vitting	394	273
	Banvim	257	363
	Bupiela	968	428
	Dabokpaa	1570	983
	Tunayili	372	224
	Subtotal	**5120**	**3390**
	Grand total	**31 683**	**14 306**

Source: (Ghana Statistical Service, 2014b) Notes: *Derived from the 2017 fee-fixing resolutions for the Tamale Metropolitan and Sagnarigu Municipal Assemblies. **These are indigenous Dagomba communities located at the centre of the city. They constitute the pre-urban settlements of Tamale. Housing is of low quality, comprising predominantly very old compound houses, with isolated instances of traditional thatched structures. Property and amenity values in these communities are very low. ***These areas are inhabited by long-term urban migrants, alongside a small proportion of the indigenous urban population. The compound house form continues to dominate the housing stock; however, amenity values are slightly higher than in the indigenous core areas. Residential property values are relatively high, although considerable variation exists both between and within localities. ****Peri-urban communities consist of former rural settlement nuclei that have been incorporated into the city as a result of rapid and largely uncoordinated spatial expansion. This peri-urban interface is characterised by two principal housing types: traditional thatched houses occupied by indigenous rural households, and a diverse mix of compound houses and villas reflecting the housing aspirations of low-income and middle-class settlers, respectively. These areas are largely deprived of public service provision, and their amenity values are among the lowest in the city. Property values are also generally low, although significant variation exists across and within communities.

To be eligible for participation, household heads or their adult representatives (persons aged 18 years and above) must have relocated at least once within the ten years preceding the survey. An additional inclusion criterion required that a household's previous residence had been located within the city. This ensured the exclusion of recent rural migrants who may have settled in low-income neighbourhoods but lacked prior residential experience within the city.

Table 3. Distribution of the Sample Among Surveyed Localities

Residential clusters	Locality	Housing stock	Sample size
Indigenous low-income communities	Aboaboo	687	33
	Moshi Zongo	979	46
	Tishigu	1036	49
	Subtotal	**2702**	**128**
Intermediate low-income communities	Nyohini	1334	61
	Zogbeli	833	38
	Choggu Manayili	1679	77
	Subtotal	**3846**	**176**
Peri-urban communities	Tunayili	224	23
	Vitting	273	28
	Bupiela	428	44
	Subtotal	**925**	**956**
	Grand total	**7473**	**399**

In multihabited compound houses, all eligible household heads available at the time of the survey were approached for interviews, except those who declined participation. Among those available, the most willing household heads or their adult representatives were selected. In practice, more houses were surveyed in each sampled locality than initially proposed in the sampling design. In localities such as Choggu Manayili, Nyohini, and Tishigu, the sampling approach did not yield the desired number of eligible households due to ineligibility and/or unwillingness to participate. Consequently, a snowball sampling technique was employed to identify additional respondents.

Information collected from the household survey was subsequently used to construct a sampling frame for follow-up interviews. Preliminary analysis of the survey data revealed emerging patterns and distinctive cases of residential mobility that warranted further exploration through in-depth, unstructured interviews. No fixed set of questions was used; instead, the interviews took the form of guided conversations aimed at uncovering the underlying reasons for observed mobility patterns.

Data Analysis

A combination of qualitative and quantitative analytical techniques was employed to analyse the field data. Qualitative data derived from the survey were coded into relevant thematic categories and presented using tables. Interview data were transcribed verbatim, and emerging themes were classified in line with the study objectives. The resulting qualitative findings are presented through detailed discussions, narrative accounts, event descriptions, and graphical illustrations.

Quantitative data obtained from the household survey were processed using IBM SPSS (version 25). The statistical techniques applied included cross-tabulation, rates and percentages, and basic descriptive statistics. A parallel mixed-methods analytical framework was adopted to integrate

findings from the qualitative and quantitative strands. This approach enabled both datasets to inform each other throughout the analysis and presentation of results (Onwuegbuzie & Combs, 2010).

Despite the analytical independence of the two methods, their combined application contributed to a more comprehensive understanding of the drivers of housing mobility practices at the lower end of the urban housing market. The findings were effectively integrated to generate the meta-inferences presented in this study.

RESULTS

Socio-Economic Profile of Participants

To contextualise housing mobility, a range of relevant socio-economic variables (Table 4) was captured in the survey.

Table 4. Descriptive Statistics of the Socio-Economic Attributes of Survey Participants

Variables	Frequency	Percentage (%)
Male	283	71.6
Female	112	28.4
Mean age (years)	38	SD=10.5
Mean household size	4.4	SD=3.1
Married	278	70.4
Not married	84	21.3
Divorced	16	4
Widowed	17	4.3
Employment status: Private informal	229	58
Private formal	52	13.2
Public sector	100	25.3
Unemployed	14	3.5
No formal education	102	25.8
Basic education	63	16
Secondary school	111	28.1
Tertiary	119	30.1
Household income less than GHS100	45	11.4
GHS100-350	105	26.6
GHS351-550	66	16.7
GHS551-900	85	21.5
GHS901-1500	64	16.2
GHS1501-2200	21	5.3
GHS 2201 and more	9	2.3
Sample size	395	

The inclusion of these variables facilitated a deeper understanding of the context-specific drivers of mobility practices within the low-income housing system. Collectively, these variables provide a comprehensive backdrop for analysing residential mobility in this context. Descriptive statistics for the socio-economic variables obtained from the household questionnaire survey are presented in Table 4.

The average age of respondents was 38 years (standard deviation [SD] = 10.5), with a minimum age of 22 and a maximum of 82 years. Seventy-two per cent of surveyed households were male-headed, and 70% of respondents were married. Close to three out of five respondents (58%) were engaged in informal economic activities (e.g. farming, petty trading, and artisanal work), while only 3.5% were unemployed. The remaining 38.5% were employed in the formal sector (public or private).

The level of educational attainment among survey participants was relatively low, with one in four respondents (25.8%) having no formal education, compared to a national average of one in five (19.7%) (Ghana Statistical Service, 2014a). Approximately one-third of respondents had attained tertiary education, while the remainder had completed either basic (16%) or secondary (28%) education. The relatively low level of educational attainment may help explain the high prevalence of informal sector employment and the generally low levels of household income observed in the sample.

The Low-Income Housing System in Tamale

In many parts of urban West Africa, housing occupied by low-income populations typically takes the form of compound houses (Amole et al., 1993). These structures vary considerably in size and layout, possess a distinctive incremental development pattern, and have a strong capacity to accommodate multiple households in shared residential arrangements.

A compound house (Figure 2) is a single-storey residential structure comprising several rooms arranged around a central open courtyard. The courtyard functions as a semi-public space, onto which all rooms open. In addition to this shared space, essential housing services (such as electricity and water) and facilities (including toilets, bathrooms, and kitchens) are communally used by resident households. All households share responsibility for the provision and maintenance of these facilities.

Approximately 97% of surveyed households in the study communities resided in compound houses of varying shapes, sizes, and layouts. The remaining households lived in bungalows or other forms of housing designed for single-household occupancy. Compound houses differ in terms of construction materials and the degree of completion of individual units, reflecting the incremental nature of housing development. Table 5 presents the main housing types identified in the study communities. This typology is based on construction materials and the relative size and level of completion of housing units. Fully completed compound houses constructed with cement blocks (referred to as "block houses" in Table 5) are widely distributed across all residential clusters in the city.

Figure 2. A Compound House in an Indigenous Low-Income Community, Tamale

Source: Field survey, 2017

Table 5. Types of Housing by Zone of Locality

House type	Zone of locality			Total
	Indigenous low-income communities	Intermediate low-income communities	Peri-urban low-income communities	
Competed compound house (Block)	37 (28.9%)	65 (37.6%)	28 (29.8%)	130 (33%)
Uncompleted compound house (Block)	25 (19.5%)	54 (31.2%)	36 (38.3%)	115 (29.1%)
Completed mud house	45 (35.2%)	32 (18.5%)	16 (17.0%)	93 (23.5%)
Uncompleted mud house	11 (8.6%)	13 (7.5%)	9 (9.6%)	33 (8.4%)
Thatched house	6 (4.7%)	5 (2.9%)	3 (3.2%)	14 (3.5%)
Other[5]	4 (3.1%)	4 (2.3%)	2 (2.1%)	10 (2.5%)
Total	**128**	**173**	**94**	**395**

Source: Field survey, (2017)

The intermediate and peri-urban zones are dominated by block houses, accounting for 69% and 68% of housing stock, respectively, compared to 48% in the indigenous sector. These distributions are partly attributable to the relative age of these zones in relation to the onset of urbanisation in Tamale. The indigenous areas represent the pre-urban settlements of the city and therefore contain the oldest stock of compound housing, constructed using local materials and based on traditional architectural forms. Although many of these older compound houses have undergone transformation as a result of urban development, the housing stock remains dominated by a mixture of mud houses, with occasional instances of thatched compounds.

[5] This includes a hybrid of cement block and mud compounds as well as bungalows and other forms of housing meant for unique occupancy. In the latter category, households were persons who relocated into employer-provided housing or had previously lived in such housing and had relocated into the sampled communities upon retirement.

The dominance of such housing types declines with increasing distance from the urban core, as reflected in the combined proportions of all mud-based housing types (completed, uncompleted, and thatched) across the three zones: indigenous (49%), intermediate (29%), and peri-urban (30%) low-income communities. This pattern reflects a gradual shift away from the use of local building materials over time, as newer housing developments increasingly rely on modern construction materials and technologies.

The predominance of block houses in the intermediate and peri-urban zones also reflects a growing aspiration for homeownership among both middle- and low-income households, as evidenced by the outward expansion of informal housing development across these ecological zones (Larbi, 1994; Fuseini & Kemp, 2016; Fuseini et al., 2017). Interviews with community-level stakeholders further revealed that some long-term residents in the indigenous areas relocate to peripheral zones in order to consolidate ownership of two- to three-room compound houses. In contrast, a smaller, more privileged group invests in additional housing units to accommodate parts of their extended families, particularly in response to increasing density pressures within family compounds.

The density threshold—measured in terms of room occupancy—across all housing clusters was considerably high relative to average household sizes (Table 6). Half of the surveyed households (50%), regardless of size, occupied a single room in compound houses. The proportion of single-room occupancy was particularly pronounced across the zones, with 41%, 49%, and 63% of households living in single rooms in indigenous, intermediate, and peri-urban communities, respectively. This indicates a high level of residential density, especially when considered against an average household size of 4.4 persons and a standard occupancy benchmark of two persons per room for high-density, low-income communities (Town and Country Planning Department, 2011).

Such levels of crowding have the potential to undermine place utility and may prompt shifts in household preferences away from existing housing and neighbourhood conditions.

Table 6. Room Occupancy Rates by Housing Clusters

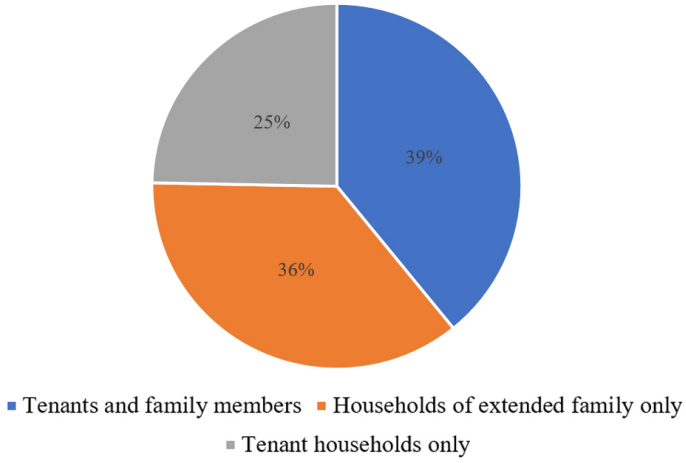
Room occupancy	**Housing clusters**			**All households**
	Indigenous low-income communities	Intermediate low-income communities	Peri-urban Low-income communities	
Single room	53 (41.4%)	85 (49.1%)	60 (63.8%)	198 (50.1%)
Two rooms	39 (30.5%)	61 (35.3%)	23 (24.5%)	123 (31.2%)
Three rooms	27 (21.1%)	16 (9.2%)	6 (6.4%)	49 (12.4%)
Four & above	9 (7.0%)	11 (6.4%)	5 (5.3%)	25 (6.3%)
Sample size	**128**	**173**	**94**	**395**
Mean household size	*4.46*	*4.02*	*5.05*	*4.41*

Source: Field survey, (2017)

In examining residential mobility trajectories in multihabited low-income housing systems, tenure composition and the social relations forged and sustained within housing units are as important

as the physical attributes discussed above. Compounds vary considerably in terms of kinship ties and the tenure composition of co-residents. Interviews with community-level stakeholders revealed that family compounds are typically inhabited by members of extended families. As many as 36% of survey participants had previously lived in family compounds (Figure 3). Residents may have co-inherited individual rooms from a common founding owner or may have been allocated space by a resident owner or the most senior family elder. This form of subsistence housing has been described in the literature as rent-free accommodation obtained either by right or by privilege (Korboe, 1992; Acheampong, 2016; Danso-Wiredu, 2018).

Figure 3. Tenure Types in Low-Income Communities in Tamale



Source: Field survey (2017)

Family compounds are often characterised as pseudo-public housing, accommodating households comprising siblings, parents, uncles, aunts, and grandparents. The interplay between the physical and social components of the low-income housing system, as discussed above, provides an important context for understanding the place utility of low-income urban residents in Tamale. Residents' self-assessments of housing satisfaction offer valuable insights into aspects of the housing environment that may generate dissatisfaction and, in turn, influence decisions to relocate.

Housing Satisfaction and Residential Mobility Potential

Housing satisfaction reflects a household's level of contentment with place utility, which is broadly defined here to encompass dwelling unit characteristics, access to services, neighbourhood conditions, and the social environment (Yakubu & Spocter, 2020). When households report high levels of satisfaction with these aspects of their prior housing experiences, it suggests that residential mobility decisions are not primarily driven by dissatisfaction with housing and living conditions.

Participants' satisfaction ratings for these general housing attributes were assessed across four thematic domains using 15 variables (Table 7), selected based on their relevance to relocation practices

in the low-income housing system. The findings indicate that overall residential satisfaction among surveyed households was relatively high, at approximately 70%, compared to a lower residential mobility potential of around 30%.

Table 7. Housing Satisfaction and Indices of Residential Mobility Potential

Housing attributes	Variables	Satisfaction levels		Mobility potential indices[1,2]
		Satisfied	Not satisfied	
Housing unit characteristics	Size of room(s)	245 (62%)	150 (38%)	28.1%
	Design of house	271 (68.6%)	124 (31.4%)	
	Cooking and storage facilities	199 (50.4%)	196 (49.6%)	
	Bath and toilet facilities	222 (56.2%)	173 (43.8%)	
In-house services	Water	212 (53.7%)	183 (46.3%)	51.6%
	Electricity	347 (87.8%)	48 (12.2%)	
	Refuse handling	166 (42%)	229 (58%)	
	Quality of in-house services	201 (50.9%)	194 (49.1%)	
Social environment	Safety and security	129 (32.7%)	266 (67.3%)	71.1%
	Inter-household cooperation	80 (20.8%)	313 (79.2%)	
	Privacy	158 (40%)	237 (60%)	
Accessibility to public services	Quality of roads	301 (76.2%)	94 (23.8%)	32.4%
	Proximity to places of worship	336 (85.1%)	59 (14.9%)	
	Access to health facilities	150 (38%)	245 (62%)	
	Access to basic education for children	312 (79%)	83 (21%)	
Overall ratings	All variables	268 (67.8%)	127 (32.2%)	32.2%

Notes: Mobility potential indices are based on the weighted sum of dissatisfaction ratings for all variables under each housing attribute. Mobility potential indices are classified into quintile classes, namely [0%–25%] = Very low; [25.1%–50%] = Low; [50.1%–75%] = High; [75.1%–100%] = Very high, following the work of (Mohit et al., 2010; Addo, 2016). Source: Field survey, (2017)

Satisfaction ratings were also high for both dwelling unit characteristics and accessibility to public services, with corresponding residential mobility potential indices of approximately 28% and 32%, respectively. These results suggest that neither dwelling unit characteristics nor access to public services constitute the primary drivers of household relocation decisions. This finding challenges dominant perspectives on the role of housing quality and living conditions in shaping mobility within low-income housing markets.

Taken together, these aggregate satisfaction ratings indicate that housing mobility practices in low-income communities are less strongly associated with dissatisfaction related to observable features of the residential environment—despite the well-documented effects of deteriorating housing and environmental conditions in previous studies (Yakubu et al., 2014; Fuseini & Kemp, 2016; Fuseini et al., 2017)—and are more closely linked to the structural and socio-cultural contexts of housing consumption within the pro-poor sector.

A focus on the aggregate picture masks the high residential mobility potential indices reported for in-house services (52%) and households' social environment (71%). In the next two subsections, greater attention is given to these two housing attributes, which exhibit relatively high residential mobility potential indices.

Residential Mobility Potential of the Social Environment

A household's social environment, defined in terms of the safety and security of life and property, interhousehold cooperation, and the sense of privacy, evinced the highest residential mobility potential index among all assessed housing attributes (Table 7). The satisfaction ratings for all these variables ranged from low to very low, thereby producing a considerably high residential mobility potential index. In-depth discussions with participants at both household and neighbourhood levels revealed that dissatisfaction with the safety and security of housing is tied to inducements to move and/or displacement effects of perennial rainstorms, flooding, fire outbreaks, and spiritual beliefs and practices (Yakubu & Spocter, 2020). These factors interfere with the residential stability of households belonging to various tenure groups across all ecological areas. The informal nature of housing development exposes residents to recurrent flooding. The relative ease with which floodwaters washed away people's homes or rendered them uninhabitable in June/July 2017 (Figure 4) may have deepened participants' fears concerning the safety and security of their homes.

An engineer at the metropolitan administration explained that vast stretches of land in Builpeila and Gumani have been earmarked as flood-prone areas in the city's approved structure plan. The entire area has been built up, and the hazardous pattern of development makes flooding an annual occurrence, threatening the safety and security of low-income urban residents. Floods have subjected poor households to frequent seasonal relocation practices, whereby households temporarily vacate their homes when inundated and return once the waters recede. In other cases, owners have had to abandon their homes altogether because the premises are rendered unsafe for human habitation after seasonal floods (Figure 5).

Figure 4. Compound Inundated by Floodwaters in Tamale

Source: Field survey, June (2017)

Figure 5. Courtyard and Exterior Views of an Abandoned Compound House in Tamale

Source: Field survey, (May 2017)

The residential mobility potential indices for interhousehold cooperation and sense of privacy were 79% and 60% (Table 7), respectively. Interviews with participants revealed that the main areas of disagreement, which generated considerable dissatisfaction among households, include payment for the use of in-house services, home maintenance and cleaning schedules, family conflicts, and petty

quarrels among co-residents. In all study communities, informal daily duty schedules were drawn up for women to clean communal areas of the compound—courtyards, baths, and toilets—on a rotational basis. Mix-ups regarding assigned days and responsibilities often generate conflicts and contestations among women in the household. Daily duty schedules were reported to function more effectively in compounds inhabited by family relatives. Where compound residents comprise both family members and rent-paying tenants, it becomes extremely difficult to include unmarried men in the maintenance roster, even when there are few women in the compound. This is consistent with a highly patriarchal social context in which housekeeping in compound houses is conventionally regarded as the sole responsibility of women. In the few instances where maintenance rosters were compiled according to the number of rooms and included all occupants regardless of gender, unmarried men in residence often had difficulties cooperating. This was identified as a significant source of interhousehold conflict and infighting. Additionally, petty quarrels between children may escalate into major disputes among parents and can even sever interhousehold cooperation within compounds. Beyond the sharing arrangements for bathrooms, toilets (where available), and other facilities, residents also struggle to keep highly personal matters hidden from co-residents (Yakubu & Spocter, 2020).

Residential Mobility Potential for In-House Services

Relatively better access regimes for water (88%) and electricity (79%) were reported for all households in Tamale in the 2010 Population and Housing Census (Ghana Statistical Service, 2013). Interviews with city authorities revealed that water supply is rationed across neighbourhoods, with the most serviced areas receiving water for two to three days per week, depending on the season (with supply becoming more erratic in the dry season). This rationed distribution operates within a three-tier system, comprising in-house connections (40%), outside-home connections (40%), and public standpipes (8%) (Fuseini & Kemp, 2016). In-house water connections are considerably better in indigenous low-income communities compared to intermediate and peri-urban zones; however, supply interruptions occur across all ecological areas (Ngben & Yakubu, 2023). Interviews further indicated that some households without access to in-house piped connections enter into sharing arrangements with neighbouring houses and contribute to the payment of monthly service bills, while the majority rely on water vendors and public standpipes. The rationed water supply system makes it necessary for households to maintain water storage containers in their homes. Residential dissatisfaction arises from a combination of some or all of these constraints. A key finding is that strained power relations in multi-inhabited compounds, combined with water supply interruptions, contribute to housing dissatisfaction even in dwellings with in-house pipe connections. A 43-year-old woman recounts how an unfair indoor water management system imposed by her landlord led to her relocation.

> What worried me most was that his two wives conferred on themselves the right or privilege to fetch water before everyone else in the compound. They were always the first to fill their storage containers whenever the tap was opened, before anyone else in the compound gets

> access. …. So, by the time the rest of us get the opportunity to fetch, the pressure becomes very low and the taps eventually get closed. I always bought water from vendors even though I paid my water bills on time. It was one of the reasons why I moved from that house (Interview with a participant, April 2017).

The embedded power relations in multi-inhabited compounds with diverse tenure compositions tend to structure cooperative behaviour among non-owning co-residents. Resident owners often take advantage of their privileged positions to confer undue benefits on themselves in relation to payments for the use of in-house services. In some cases, owners exempt themselves entirely from the payment of service bills; in most others, cost-sharing formulae for utilities are manipulated to their advantage.

Indeed, payment for electricity appears to be highly contested, even though electricity recorded the lowest residential mobility potential index (12.2%). This low rating is attributable to the very high incidence of in-house connections to the electricity grid across all ecological areas of the city. However, this is accompanied by numerous informal and illegal practices through which residents reconnect themselves, even after service providers have temporarily disconnected supply in response to the non-payment of electricity bills (Yakubu, et al., 2018). A respondent explained that his decision to relocate was premised on the irresponsible conduct of his landlady with respect to the payment of electricity bills.

> I am told unpaid electricity bills in the house had piled up to unsustainable levels some time ago, and the landlady negotiated with the Northern Electricity Company [the service provider] to write off the debt and install a prepaid meter. From this point, she took up the responsibility to collect electricity bills from tenants. She puts pressure on you to collect contributions for electricity but ends up squandering the money. Then she goes behind to arrange for a quack electrician to do 'U-touch' [local jargon for tempering with pre-paid meters to steal power]. Before I left the house, the service providers detected the illegality and surcharged all residents. (Interview with a participant, May 2017).

In general, an important aspect of these narratives is that the provision, management, and use of housing services generate significant levels of stress at multiple scales—housing unit, community, and city—which may, in turn, drive residential mobility decisions within the low-income housing system. The intensity of this stress and its net effects on individual moving behaviour may vary depending on housing tenure prototypes and underlying power relations. Intrahousehold disagreements regarding the payment and use of in-house services partly explain the very high residential mobility potential index reported for the social environment attribute.

In sum, the housing system brings together people with modest or no incomes into forms of residential cohabitation that provide a considerable degree of utility for low-income families. It is evident, however, that certain features of the housing system and its embedded socio-cultural practices exert significant pressure on housing occupancy, generating dissatisfaction that, in turn, compels households to relocate.

CONCLUSIONS

The low-income housing system in Tamale varies considerably in terms of physical appearance, layout, material composition, and, most notably, tenure prototypes. The different forms of compound housing highlighted in the discussion offer various possibilities for accommodating low-income populations through differentiated tenancies across the three defined ecological areas of the city. These compound housing types provide appropriate accommodation for urban households with modest or no incomes and help guarantee their right to the city.

Notwithstanding the unfavourable living conditions and the precarious nature of service provision reported in previous studies and national surveys, this study found a high level of satisfaction with overall living conditions in the low-income housing system. Against the odds, residents derive a considerable degree of place utility. However, certain aspects of the living environment were found to generate dissatisfaction and motivate relocation decisions. The majority of movers expressed satisfaction with the general attributes of the housing system, suggesting that residential mobility practices are not necessarily linked to deteriorating living conditions.

Analysis beyond the aggregate picture reveals very high residential mobility potential indices related to the use and management of in-house services, as well as to the social environment of households. Broadly speaking, residential mobility in the low-income housing sector reflects two interrelated processes. First, mobility practices result from choices exercised by households in response to the dynamics of the low-income housing system; these choices are shaped by changes in household needs or in the normative criteria used to assess those needs. Second, residential mobility may be imposed on individuals through direct state action or through the occurrence of extreme natural events, such as rainstorms, flooding, and fire outbreaks.

Whether households exercise a significant degree of control over their relocation decisions or not, mobility practices tend to occur within the same social spaces or become embedded in patterns and processes that reinforce the socio-economic disadvantages of the poor. This observation calls into question the widely held notion of a housing career, in which residential mobility is assumed to lead to direct improvements in housing and living conditions.

In light of this, policies aimed at promoting stable housing regimes in low-income communities must recognise these mobility-enabling factors and develop context-specific measures to improve living conditions. A key entry point is at the housing unit level, where efforts should focus on improving the management and use of in-house services to minimise conflicts over their use and the payment of utility bills. In the medium to long term, urban authorities should collaborate with utility service providers to increase the installation of service meters in multi-inhabited compounds in proportion to household occupancy. The current system, in which each housing unit is allocated a single service meter regardless of the number of households, contributes to disputes among co-residents and creates conditions that encourage residential mobility. Reducing the number of households sharing a single meter over time would help minimise interhousehold conflicts related to the use and payment of housing

services. This single measure could significantly enhance the stability of housing arrangements for low-income urban residents and should be incorporated into the implementation of current housing policies that recognise and promote the compound house form.

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