

Population Growth in the Tamale Metropolis: A Blessing Or a Curse to Housing

Abdul-Kadri Yahaya

(yahaya.kadri@gmail.com)

SDD-University of Business and Integrated Development Studies, Ghana.

DOI//<http://dx.doi.org/10.4314/gjds.v19i2.5>

Abstract

In recent times the effects of population growth on housing is globally underscored. This calls for attention on how housing needs are met by populations in developing countries due to limited individual and state resources. This study, therefore, examines the effects of population growth on housing in the Tamale Metropolis by resorting to mixed methods research design. The study relied on methods such as questionnaire administration and key informant interviews for primary data collection in addition to the secondary data. The sample size of the study was 100 respondents apportioned to the sampled study communities (Sakasaka, Target, Lamashegu, Aboabo, and Zogbeli) on the bases of their populations. Quantitative data analysis was done by using the descriptive statistics component of Statistical Package for the Social Sciences (SPSS) version 21 and presented with tables while qualitative data analysis was done by resorting to content analysis and presented using quotations. As part of the findings, the study disclosed that the population of Tamale Metropolis has been galloping due to factors such as high fertility, positive net migration, and low mortality emanating from improvement in healthcare delivery in the metropolis. The study recommends for intensification of public-private partnerships in housing provision.

KEY WORDS: Population growth, Housing, Effects, Blessing, Curse.

Background to the Study

Globally, the rapid growth of the urban population leads to the transformation of numerous societies (Ardayfio-Schandorf et al, 2012). Available data indicate that as at 2014, 3.9 billion people, representing 54% of the global population, resided in urban areas as compared with the year 1950 whereby 746 million people representing 30% of the global population, resided in urban areas (United Nations Department of Economics and Social Affairs, 2014). It is also disclosed that this number would increase to

about 2.5 billion, representing 66% of the world's population by 2050, with Africa and Asia expected to account for 90% of the rise (United Nations Department of Economics and Social Affairs, 2014). The United Nations Department of Economics and Social Affairs also estimated that there will be a 12% increment of urban cities three decades from now. This means that the migration rate to urban centres will remain unprecedentedly high. As stated by Lanrewaju (2012), the high unprecedented urban population is as a result of the decrease in rural capital emanating from the galloping rural population. This compels a portion of the rural population to move to urban areas for higher education, job security, better health services, higher income, and better living standards (Lanrewaju, 2012). Although economic development is significantly catalysed by urbanization, it only does so in favorable institutional infrastructures, systems, and climate (Turok & McGranahan, 2013; Ardayfio Schandorf et al, 2012). One of the core necessities of life is housing. The significance of housing is far beyond the provision of shelter in human societies. In the light of Al Surf et al (2013), there is a clear distinction between conventional and modern housing. In the case of Saudi Arabia, conventional dwellings are easily identified by the design and building materials used. Building materials used in conventional housing include mud, stone, wood, straw, and palm tree leaves. Conventional dwellings are characterized by variation in designs based on climate and cultural traditions of regions. Also, in Saudi Arabia, modern dwelling trend towards the typical western style. They are generally constructed using the same elements and follow the same architectural design. Modern houses have heating and air conditioning system. They categorically state that housing often determines one's social standing in contemporary times, not a mere shelter. This means that, one's social status can be significantly influenced by housing. This explains why poor people live in houses that are not comfortable and luxurious compared to wealthy people. It is therefore imperative to remember that access to secure, affordable and sufficient housing, improving slums and basic services are important to the sustainability of cities (World Bank Group, 2016). Thus, the achievement of Sustainable Development Goals (SDG'S) might depend on the adequacy of urban housing. Urban housing challenges tend to be global but significantly impact sub-Saharan Africa and Asia due to accelerated urbanization (United Nations Department of Economics and Social Affairs, 2014). The provision of affordable housing is paramount considering the unprecedented population growth rate in the developing world (UN Habitat, 2016). This clearly reveals

that the challenges associated with housing in the developing world require the international community's attention. As a result of population growth, the majority of the European Union (EU) member states have experienced homelessness. For instance, France experienced an increase in homelessness by 50% between 2001 and 2011. Denmark has also reported a 16% increase between 2009 and 2013. More so, the city of Brno in the Czech Republic experienced a 44% increase in homelessness between 2010 and 2014 (The State of Housing in the EU, 2015). This means that population growth in some EU member states has rendered some people homeless due to the housing deficit. In the case of Africa, rapid urbanization has contributed to rapid population growth in most African countries. In most instances, the increasing population is not able to access decent housing, thus leading to informal settlements and slums that do not often meet formal requirements. About 860 million people were residing in slums in 2013, an increase in 725 million since the year 2000 (UN Habitat, 2008). With reference to the draft housing policy of Ghana, the national housing deficit is in excess of 500,000 units with annual requirements of 120,000 units but only about 33% of the annual housing requirement are actually supplied (GoG/MWRWH, 2012). These figures justify that the housing supply in Ghana annually is far lesser than demand, with between 65% and 70% of the national requirement remaining unsatisfied. A much grimmer picture is presented by other estimates of the housing deficit, using the number of households per house and the average household size. According to Ghana Statistical Service (2012), in the year 2010, the total population of Ghana was about 25 million. This indicates a total housing requirement of 4.9 million as against actual stock of 3.4 million. This confirms that in the year 2010, the housing deficit in Ghana was about 1.5 million. It is imperative that while the housing shortage has become a nationwide problem, urban cities, including the northern regional capital (Tamale Metropolis), continue to be the hardest hit. This is evident from the illegal structures and the increasing number of slums and squatters throughout the city of Tamale. In the year 2000, the housing deficit in the Tamale Metropolis was 18,690 housing units (Ghana Statistical Service, 2005 b cited in Boamah, 2010). As a matter of fact, due to insufficient housing units in Tamale Metropolis, many people are now sleeping wherever available. For example, some residents in the Tamale Metropolis rely on shift dwelling units such as kiosks, tents, cargo containers, shop attachments and shelter offices.

Therefore, the study sought to examine the effects of population growth on housing in the Tamale Metropolis by focusing on the influencing factors of population growth, effects of population growth on housing, and measures put in place to house the ever-increasing population of the Tamale Metropolis. This paper is divided into four sections. The first section covers the background and theoretical framework, whereas the second focuses on the study area and methodology. Also, the third section is centred on results and discussion, whereas the fourth section takes care of conclusions and recommendations

Theoretical Framework

The study hinged on the Malthusian Population Theory presented as follows: The Malthusian model argues that whereas means of subsistence, such as food production, is increasing at an arithmetic rate, the human population increases at a geometric rate. If measures are not put in place to check rapid population growth, then the population will check itself through “positive check” (Malthus, 1798). According to Malthus, natural resources are fixed in supply and since population growth outstrips food production, it will lead to wars, famine, and other natural disasters as checks on population growth. Malthus proposed that stringent measures such as late marriages, childbirth spacing, moral suasion, education, contraceptives, and so on should be implemented to curb galloping population (Malthus, 1798). The Malthusian model however failed to work in industrialized environments where division of labour and specialization are possible but considered accurate in pre-industrial societies. To ensure reconciliation of the difference between the two fundamental environments, some multiphase models have been created to allow for Post-Malthusian, Malthusian and finally Modern regimes, (Galor and Weil 1998) whereas others such as Simon-Steinmann cited in Simon (1986) have created two models for Less Developed Countries (LDC’S) and More Developed Countries (MDC’S). The two groups of countries have been separately treated by Simon (1977). The idea behind this distinction is that a demographic transition occurred in the MDC’s and is now beginning to occur in the LDC’s but under varied circumstances. It is however noted that the circumstances are predominantly economic in nature and the tacit assumption is that the driving force behind the transition is economics and not the other way around (Greenhalgh, 1995). The Malthusian population theory is applied in the context of housing and accordingly in this study. Malthus (1798) posits that “whereas food production was

increasing at an arithmetic rate, human population was increasing at arithmetic rate”. So, putting this in the context of housing we say whereas housing supply is increasing at an arithmetic rate, human population is increasing at a geometric rate. This means that as human population is galloping, we have to put in measures to increase the construction of houses to accommodate the growing population. According to Malthus (1798), “positive check” will come to play if measures are not put in place to check rapid population growth. In the context of housing, the above statement by Malthus means that if measures are not put in place to provide housing for the growing population, then the population will check itself by creating ghettos and slums in the urbanized cities due to the housing deficit.

Study Area and Methodology

This section of the study focuses on the profile of the study area and methodology. The profile is centred on the location and size of Tamale metropolis, demographic issues (mainly population distribution by sex, and population distribution by age). Also, this study's methodology section considers research design, sources of data, sampling techniques and sample size determination, data collection methods and tools, and techniques of data analysis and presentation.

The Study Area

The Tamale Metropolis is one of the 26 Metropolitan, Municipal, and District Assemblies in the Northern Region. It is situated in the central part of the Region and shares boundaries with Sagnarigu municipality to the west and north, Mion district to the east, East Gonja district to the south and Central Gonja district to the south-west. The Metropolis has a total landmass of 646.901.80 sqkm. Geographically, the Metropolis lies between latitude 9°16 and 9° 34 North and longitudes 0° 36 and 0° 57 West (Ghana Statistical Service, 2012) Figure 2.1 is a metropolitan map of Tamale indicating the study communities.

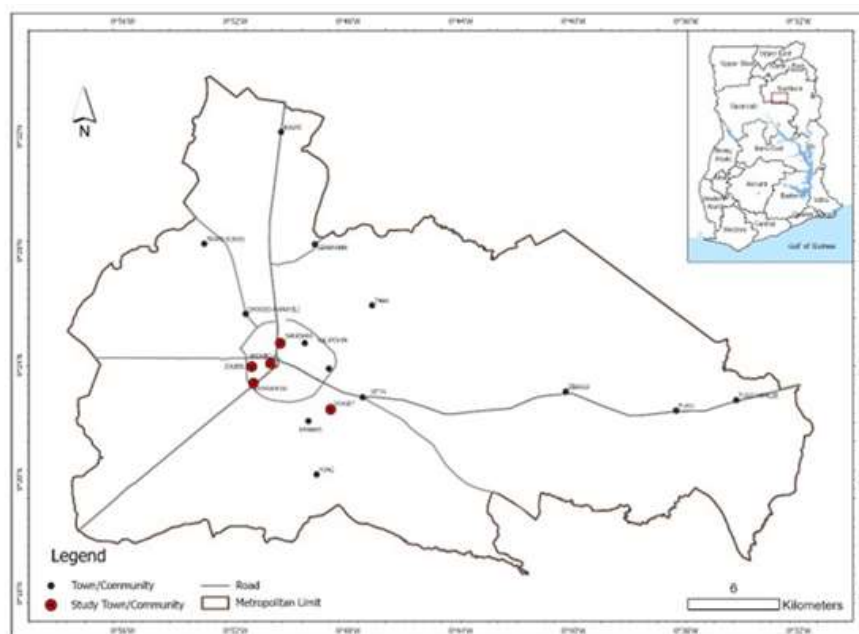


Figure 2.1: Map of Tamale Metropolis indicating the Sampled Study Communities (Source: Author Construct via Arc GIS)

According to the 2021 Population and Housing Census, the population of Tamale Metropolis was 374,744. The male population was 185,051 (49.4%), whereas the female population was 189,693 (50.6%). This demonstrates that the Metropolis has more females than males (Ghana Statistical Service, 2021). Also, according to the 2010 Population and Housing Census, generally, the metropolis portrays a young populace. The population aged 0-14 accounted for 36.4% of the total population, while those aged 15-64 years accounted for 131,826, or 59.0% of the total population. The population of the aged was relatively less with only 4.6% of the population aged 65 and above, 63.3% of the population were economically active, with 92.6% employed and 7.4% jobless. Economically active males accounted for 65.5% of the population, with 92.8% employed and 7.2% jobless, while economically active females accounted for 61.1% of the population, with 92.3% employed and 7.7% unemployed (Ghana Statistical Service, 2012).

Methodology

The study's methodology considers research design, sources of data, sampling, data collection methods and tools, and techniques of data analysis and presentation.

The researcher resorted to mixed methods research approach, a blend of qualitative and quantitative research approaches for the study. Mixed methods research is especially beneficial for deciphering discrepancies between quantitative and qualitative findings. It also represents the viewpoints of the participants. According to Creswell (2014) when qualitative approaches are blended with quantitative approaches, they yield more complete and reliable results. Also, mixed methods approach was useful in this research because issues on population growth and housing deficit involve multi-stakeholders and thus require all encompassing approaches to enhance a comprehensive and robust discussion. Again, mixed methods approach was also useful in this study because it achieves the logic of triangulation since no single method could capture all the relevant features of any study and maximizes the strengths of the quantitative and qualitative data and minimizes their weaknesses (Neuman and Robson, 2014 cited in Laari, et al., 2019). Data sources of every study are crucial. As a result, the study resorted to two main sources of data. They are primary and secondary sources. Primary data is information generated originally from the field (Currie, 1997), and secondary data is mainly sourced from text books, published articles and magazines. The study made good use of probability and nonprobability sampling techniques. Purposive sampling as a non-probability sampling technique was used to select the study communities, namely Sakasaka, Target, Lamashegu, Aboabo, and Zogbeli, which are the hardest hit in terms of housing challenges in Tamale Metropolis. Also, key informants including the Tamale Metropolitan Head of Ghana Statistical Service and the Tamale Metropolitan Coordinating Director, were purposively selected for interaction because they had in-depth knowledge on the subject matter and that their phenomenon of interest was supreme (Creswell and Plano, 2011 cited in Zakaria, 2021). More so, simple random sampling was used to select landlords/house owners for questionnaire administration. This technique helped to minimize bias and was also simple to use (Taherdoost., 2017).

A total of 100 questionnaires were administered in the five selected communities.

The sample size was determined using the formula developed by Yamane in 1967;

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

Where; n designates sample size, N designates the total population of the five selected communities based on the statistics of the 2010 population and housing census, e designates the margin of error which is 10% given a confidence interval of 90%. The sample size of the study communities is computed as follows.

$$n = \frac{60,076}{1+60,076(0.10)^2} = \frac{60,076}{1+60,076(0.01)} = \frac{60,076}{1+601} = \frac{60,076}{602} = 99.7 = 100 \text{ in}$$

approximation.

Proportionate sampling was used to arrive at the sample size of each study community. In the light of Creswell (2014), proportionate sampling is used when a study is composed of sub-groups that differ in number. The number of participants from each sub-group is determined by their number relative to the entire population.

Table 1: Communities, Population and Calculated Sample Size

Community	Population	Computed sample Size
Lamashegu	19,733	$\frac{19,733}{60,076} \times 100 = 33$
Zogbeli	15,978	$\frac{15,978}{60,076} \times 100 = 27$
Aboabo	10,485	$\frac{10,485}{60,076} \times 100 = 17$
Sakasaka	3,986	$\frac{3,986}{60,076} \times 100 = 7$
Target	9,894	$\frac{9,894}{60,076} \times 100 = 16$
Total	60,076	100

The study resorted to questionnaire administration and key informant interviews as data collection methods. In all, hundred (100) questionnaires were administered to and lords/house owners in the five sampled study communities for data. The questions on the questionnaires were both close-ended and open-ended. Using an interview guide, the Key Informants were interacted with to solicit in-depth information on the subject matter. An interview guide was used to conduct the key informant interviews. The interview questions were open-ended. The essence of the open-ended questions was to allow for a detailed discussion of issues and to create room for probing to clarify issues that have not been given due attention. Data analysis took into consideration the following. Quantitative data was analysed using a descriptive statistics component of SPSS version 21. and presented using tables. Also, regression analysis was done to determine how population growth in the Tamale Metropolis is influenced by fertility, mortality, and net migration. The regression equation is presented as follows:

$$PGR = \beta_0 + \beta_1 \text{FertilityRate} + \beta_2 \text{MortalityRate} + \beta_3 \text{PositiveNetMigration} + \varepsilon_t$$

Also, qualitative data was analysed by means of content analysis and presented using quotations.

Results and Discussion

Influencing Factors of Human Population

The study reveals that the influencing factors of population growth in the Tamale metropolis are an increase in birth rates (fertility rates), low mortality rate, and positive net migration due to expansion in economic activities and education. The high fertility rate results from the desire to have more children by people in the metropolis. Low mortality rate is as a result of improved health services. Positive net migration results from inward movement of people from nearby rural communities for educational and commercial purposes and job opportunities. Respondents were asked on what they think are the influencing factors of population growth in the Tamale metropolis. Table 2 illustrates the responses of landlords/house owners concerning the influencing factors of population growth in the Tamale metropolis. Of the total respondents, 39 of them, representing 39% said population growth in the Tamale metropolis is influenced by high fertility in the metropolis, while 26 of them, representing 26% said low mortality rates in the metropolis is the cause of high population growth in the metropolis. Also, 35 of them representing 35% indicated that high net migration of people in the metropolis is the cause of high population growth in the metropolis. Considering the responses, it means that population growth in the Tamale metropolis is caused by high fertility, low mortality and high net-migration in the metropolis. On the issue of high fertility, Ashraf et al (2013) strongly argue that fertility is a major influencing factor of population growth. In other words, population growth serves as an impediment to the economic performance of a country. The pressure it puts on limited infrastructure such as housing is catalysed by fertility. Also, on the issue of low mortality, the United Nations (2013) states categorically that, declines in mortality is partially responsible for population growth. The modern rise in population in the world is attributed to a decline in mortality (Bynum, 2008). On the issue of high net migration, the United Nations Department of Economic and Social Affairs (2017) argues that positive net migration has been responsible for population growth in developed regions of the world. The developed regions experienced an increase in net migration from 0.3 million to 3.1 million migrants per year between 1950-1970 and 2000-2010. The primary source of population growth in the world's developed regions since the 1990's has been migration (United Nations Department of Economic and Social Affairs, 2017). A Key Informant said,

No one can dispute the fact that population growth in Tamale Metropolis is catalysed by high fertility, low mortality, and high net migration (KII-Head of Tamale Metropolitan Statistical Department).

Table 2: Causes of Population Growth in Tamale Metropolis

Community	High Fertility	Low Mortality	High Net Migration	Total
Sakasaka	3 (3%)	2 (2%)	2 (2%)	7 (7%)
Target	7 (7%)	3 (3%)	6 (6%)	16 (16%)
Lamashegu	15 (15%)	8 (8%)	10 (10%)	33 (33%)
Aboabo	7 (7%)	8 (8%)	2 (2%)	17 (17%)
Zogbeli	7 (7%)	5 (5%)	15 (15%)	27 (27%)
Total	39 (39%)	26 (26%)	35 (35%)	100 (100%)

(Source: Field Survey, 2021)

Table 3 illustrates total births and deaths in the Tamale metropolis as of 2020 as a justification for high fertility and low mortality as influencing factors of population growth in the Tamale Metropolis.

Table 3: Total Births and Deaths in Tamale Metropolis as at 2020

MONTHS	TOTAL BIRTHS	TOTAL DEATHS	DIFFERENCE
JANUARY	1,491	35	1,456
FEBRUARY	1,147	47	1,100
MARCH	805	65	740
APRIL	566	28	538
MAY	1,297	40	1,257
JUNE	1,501	44	1,457
JULY	1,301	40	1,261
AUGUST	1,398	52	1,346
SEPTEMBER	1,250	42	1,208
OCTOBER	1,543	40	1,503
NOVEMBER	1,220	46	1,174
DECEMBER	1,344	29	1,315
TOTAL	14,863	508	14,355

(Source: Annual Report- Tamale Metro Births and Deaths Registry, 2020)

Regression analysis was used to test and unearth the significance of the relationships between the response variable and the explanatory variables. The regression model was used to assess the influence of fertility rate, mortality rate and positive net migration on the population growth rate in Tamale Metropolis. The results were tested at a 5% significance level. The regression results of determinants of the population are presented in table 4.

Table 4: Regression Results of Determinants of Population Growth in Tamale Metropolis

Model	Estimate	Std. Error	t-value	Pr (> t)
Intercept	428.770	72.247	5.935	0.000 ***
Fertility	18.654	3.915	4.765	0.000 ***
Mortality	-3.007	0.424	-7.092	0.009 *
Positive Net Migration	5.318	0.963	5.522	0.000 ***
Residual Standard Error (dof:10)		148.2		
R-Squared		0.6148		
Adjusted R-squared		0.6016		
F-Statistic		61.59 (P-value=1.61e-06)		

Population growth in the Metropolis can be explained through the use of the independent variables included in the regression model. The approximation of the model is reasonable and provides an adequate fit for the data. The results of the regression model reveals a number of factors influencing population growth in Tamale Metropolis. It is observed from the regression analysis that the independent variables influencing population growth in the Tamale Metropolis, namely, high rate of fertility, low rate of mortality and positive net migration, are statistically significant. The high rate of fertility is positive and statistically significant at 1%. This indicates that an increase in fertility of a household will lead to an increase in the population of the Tamale Metropolis. The low rate of mortality is negative and statistically significant at 1%. This indicates that a decrease in mortality will lead to an increase in population. Positive net migration is also positive and statistically significant at 1%. This also indicates that an increase in net migration will lead to an increase in population. This is confirmed by the findings of Ayisata (2016) that positive net migration due to economic activities, increase in birth rate, and decrease in death rates are responsible for population growth. On the issue of birth and death rates as influencing factors of population growth in the Tamale Metropolis, a respondent indicated that:

"The increase in the population of Tamale Metropolis is due to the fact that there are more births than deaths. This leads to a natural increase in the population." (KII- Head of Department of the Tamale Metropolitan Statistical Service).

The birth rate was given by the Head of Department of the Tamale Metropolitan Statistical Service as 2.8%, and 84.2 of children ever born are

surviving. The findings of Kasarda and Crenshaw (1991), Mirkin (2010) and Eja et al. (2011) that a natural increase in population results in population growth confirms the findings of this study.

Effects of Population Growth on Housing in Tamale Metropolis

The types of occupied dwelling units, stock of houses and households by types of localities, as well as effects of population growth on housing in Tamale Metropolis are presented as follows:

Types of Occupied Dwelling Units in Tamale Metropolis

Table 5 is an illustration of the types of occupied dwelling units in the Tamale Metropolis. It is revealed that, the types of occupied dwelling units in Tamale Metropolis are separate house, semi-detached house, flat/apartment, compound house, huts/buildings in the same compound, huts/buildings in different compounds, tent, improvised home such as kiosk and container, living quarters attached to office/shop, uncompleted buildings and others. It is however noted that the compound house is the dominant occupied dwelling unit in the Tamale Metropolis, with a total number of 28,528. Apart from the compound house, the next dominant occupied dwelling unit is a separate house with a total number of 2,672, followed by huts/buildings in the same compound with a total number of 1,534. The least occupied dwelling unit in Tamale Metropolis is an improvised home such as kiosks or containers, with a total number of 29.

Table 5: Types of Occupied Dwelling Units in Tamale Metropolis

Type of Dwelling	Tamale Metropolis			
	Total		Urban (%)	Rural (%)
	Number	Percentage		
Total	35,408	100	100	100
Separate House	2672	7.5	5.8	16.1
Semi Detached House	1211	3.4	3.1	4.9
Flat/Apartment	739	2.1	2.3	1.0
Compound House	28,528	80.6	85.4	57.2
Huts/Buildings (Same Compound)	1534	4.3	1.3	19.1
Huts/Buildings (Different Compounds)	103	0.3	0.2	0.7
Tent	90	0.3	0.3	0.3
Improvised Home (Kiosk, Container etc)	29	0.1	0.1	0.1
Living Quarters attached to Office/Shop	81	0.2	0.2	0.2
Uncompleted Building	358	1.0	1.2	0.1
Others	61	0.2	0.2	0.2

(Source: Tamale Metropolitan Assembly, Medium Term Development Plan, (2014-2017).

Stock of Houses and Households by Types of Locality in Tamale Metropolis

Table 6 is an illustration of the stock of houses and households in the Tamale Metropolis. From Table 6, it is obvious that, as at the year 2010, the total population of Tamale Metropolis stood at 223,252. Also, the total household population in Tamale Metropolis in 2010 stood at 219,971. Also, the total number of houses in Tamale Metropolis as at 2010 was 19,387 as compared with a total number of households of 35,408. Average households per house in Tamale Metropolis as at 2010 was 1.8, whereas the population per house was 11.5. More so, the average household size in the Tamale Metropolis was 6.3. Obviously, the housing supply in the Tamale Metropolis cannot match the demand. By implication, housing is in deficit in the Tamale Metropolis. This is supported by the findings of the Ghana Statistical Service (2012) that the 2010 population and housing census of Ghana recorded a population of almost 25 million in Ghana, which means that a total of about 4.9 million housing units were required as against the actual recorded stock of about 3.4 million. This confirms that there is a housing deficit of about 1.5 million in Ghana.

Table 6: Stock of Houses and Households by Type of Locality in Tamale Metropolis

	Tamale Metropolis	Urban Tamale		Rural Tamale	
	Number	Number	Percentage	Number	Percentage
Total Population	233,252	180,472	80.8	42,780	19.2
Total Household Population	219,971	177,483	80.7	42,488	19.3
Number of Houses	19,387	13,694	70.6	5,693	29.4
Number of Households	35,408	29,322	82.8	6,086	17.2
Average Household per House	1.8	2.1	-	1.1	-
Population per House	11.5	13.2	-	7.5	-
Average Household Size	6.3	6.2	-	7	-

(Source: Tamale Metropolitan Assembly, Medium Term Development Plan (2014-2017)).

Effects of Population Growth on Housing in Tamale Metropolis

When the respondents were asked about the effects of population growth on housing in the Tamale metropolis, 38% of the respondents said population growth leads to an increase in demand for housing, 30% of the respondents said population growth leads to an increase in rent of houses, 19% of respondents said population growth leads to the creation of slums, whereas 13% of respondents said population growth leads to housing deficit. On the issue of an increase in demand for housing as an effect of population growth, the Ghana Statistical Service (2005a) cited in Boamah (2010) indicates that the increase in demand for housing in the Tamale Metropolis is a result of the insufficiency of housing in the metropolis in particular and Ghana at large. Focusing on the creation of slums as an effect of housing, the United Nations (2013) indicates that the urban population of Ghana grew after independence in 1957 due to the movement of people from rural areas to urban centres in search of jobs and better living conditions. This resulted to the creation of slums in urban centres in Ghana. According to the United Nations (2013) about 5.5 million people in Ghana live in slums due to population growth in urban centres. Touching on housing deficit as an effect of population growth, it is noted that, housing shortages in Ghana is as a result of increasing population in urban centres which supports the UN-HABITAT (2006) position that the rapid population growth in Ghana has been complemented by a relatively slow rate of housing provision in the past decades leading to housing deficit. It was also revealed that, the major effects of population growth on housing are an increase in demand for housing, an increase in

rent of houses and the creation of slums in the metropolis. The Coordinating Director of Tamale Metropolitan Assembly in a Key Informant Interview had this to say:

“Some residents in the Tamale Metropolis rely on shift dwelling units such as kiosks, tents, cargo containers, shop attachments and shelter offices as a result of housing deficit. This leads to the creation of slums in the Tamale Metropolis”.

Responses to the effects of Population growth on housing in Tamale Metropolis are illustrated in Table 7.

Table 7: Effects of Population Growth on Housing in the Tamale Metropolis

Name of community	Increase in Demand for Housing	Increase in Rent of Housing	Creation of Slums	Housing Deficit	Total
Sakasaka	3 (3%)	1 (1%)	2 (2%)	1 (1%)	7 (7%)
Target	8 (8%)	3 (3%)	3 (3%)	2 (2%)	16 (16%)
Lamashegu	11(11%)	9 (9%)	8 (8%)	5 (5%)	33 (33%)
Aboabo	8 (8%)	5 (5%)	2 (2%)	2 (2%)	17 (17%)
Zogbeli	8 (8%)	12 (12%)	4 (4%)	3 (3%)	27 (27%)
	38 (38%)	30 (30%)	19 (19%)	13 (13%)	100 (100%)

(Source: Field Survey, 2021)

Measures Put in Place to Address Housing Challenges in Tamale Metropolis

The providers (stakeholders) of housing in Tamale Metropolis and measures put in place by landlords/land ladies to address housing challenges in Tamale Metropolis are as follows

Providers of Housing in the Tamale Metropolis

In every activity, there are always people that must see to its success. On that basis, it was critical to identify people usually involved in the provision of housing in the Tamale Metropolis. Table 8 is an illustration of people involved in the provision of housing in the Tamale metropolis. The results show that 40% of the respondents believed that housing units are provided by individual landlords in the Tamale Metropolis, whereas 20% of respondents indicated that housing units are provided by the government (public sector). Examples of housing units provided by the government include SSNIT bungalows and

state housing. Furthermore, 30% of respondents indicated that the private sector (real estate companies) are the providers of housing in the Tamale Metropolis, 10% of respondents indicated that the provision of housing in Tamale Metropolis is the responsibility of the public (government) sector in partnership with the private sector (real estate companies). The results manifest that the major providers of housing in Tamale Metropolis are individual landlords, which is closely followed by private sector (real estate companies). On the issue of housing provision by individual landlords, the finding of Owoade (2007) that in the city of Lagos over 90% of the housing stock is provided by the individual landlords is in line with the finding of this study. Also, in the light of Boamah (2010), individuals are instrumental in housing delivery in Ghana. It is estimated that about 90% of housing stock in Ghana is provided by individuals and the contractors they engage. On the issue of housing provision by the private sector (real estate developers), it is noted that, due to failure of government interventions in recent times, real estate developers have been instrumental in the supply of housing to land lords, individual owner occupiers, and institutional investors (CHF International, 2004).

Table 8 : Providers of Housing in the Tamale Metropolis

	Individual Landlords	Public Sector (Government)	Private Sector (Real Estate Companies)	Public-Private Partnership	Total
Sakasaka	3 (3%)	2 (2%)	1 (1%)	1 (1%)	7 (7%)
Target	8 (8%)	2 (2%)	4 (4%)	2 (2%)	16 (16%)
Lamashegu	14 (14%)	6 (6%)	10 (10%)	3 (3%)	33 (33%)
Aboabo	6 (6%)	4 (4%)	5 (5%)	2 (2%)	17 (17%)
Zogbeli	9 (9%)	6 (6%)	10 (10%)	2 (2%)	27 (27%)
	40 (40%)	20 (20%)	30 (30%)	10 (10%)	100 (100%)

(Source: Field Survey, 2021)

Measures Put in Place by Providers of Housing to Address Housing Challenges in the Tamale Metropolis

As the demand for housing is on the rise, the various actors into the provision of housing are taking the appropriate actions to remedy the challenges associated with housing. The efforts put in by the various providers of housing in the provision of housing needs of the residents of the Tamale Metropolis are presented in Table 9. In the views of the respondents, it is revealed that, efforts made by providers of housing in the Tamale Metropolis in addressing the housing challenges in Tamale metropolis are as follows: 35% of the respondents said they are into the provision of subsidized and affordable housing, 20% of respondents said their efforts are directed towards the provision of quality housing with the necessary facilities such as toilet and bath, 29% of respondents indicated that, they regulate the rent of housing to ensure affordability. 16% of the respondents said they play a pivotal role in housing market liberalization. Evidence from the results points to the fact that provision of subsidized and affordable housing and regulating the rent of housing are the dominant efforts made by providers of housing in the Tamale Metropolis. On the issue of subsidized and affordable housing, the Real Estate Developers Association (GREDA) was formed in Ghana in 1988 with a major intention of developing and promoting residential estates to increase the stock of housing units so as to enhance the adequate provision of affordable housing for the masses (Antwi-Barfi, 2001). Focusing on the provision of quality housing, it is noted that the quality of housing serves as a fundamental basis for examining the standard of living of households and the nation at large. One of the means of ensuring that households have access to basic services such as effective sanitation and water is improved investment in the housing sector (UN-Habitat, 2010). A Key Informant had this to say on the issue of subsidized and affordable housing:

“The major providers of housing in the Tamale Metropolis are individuals. However, the formation of GREDA has contributed significantly to the quality and affordable housing in the Tamale Metropolis” (KII-Head of Tamale Metropolitan Statistical Department).

Table 9: Efforts of Stakeholders in Addressing Housing Challenges

	Provision of Subsidized Housing	Provision of Quality Housing	Regulating Rent of Housing	Liberalization of Housing Market	Total
Sakasaka	2 (2%)	2 (2%)	1 (1%)	2 (2%)	7 (7%)
Target	4 (4%)	3 (3%)	6 (6%)	3 (3%)	16 (16%)
Lamashegu	11(11%)	4 (4%)	12 (12%)	6 (6%)	33 (33%)
Aboabo	8 (8%)	4 (4%)	3 (3%)	2 (2%)	17 (17%)
Zogbeli	10 (10%)	7 (7%)	7 (7%)	3 (3%)	27 (27%)
	35 (35%)	20 (20%)	29 (29%)	16 (16%)	100 (100%)

(Source: Field Survey, 2021)

Conclusions and Recommendations

The study focused on the effects of population growth on housing in the Tamale metropolis with emphasis on identifying the influencing factors of population growth, assessing the effects of population growth on housing and identifying measures put in place to minimize the effects of population growth on housing in the Tamale Metropolis. The study concluded with the following: On the issue of factors influencing population growth, it was observed that positive net in-migration in the Tamale metropolis and high fertility rates with low mortality rates are the key factors influencing the growth of the population in the metropolis. The study also disclosed that there are more people moving into the metropolis for educational, commercial and job opportunities since the metropolis is the regional capital of the Northern Region. The study also revealed that high fertility rate in the Tamale metropolis is as a result of the desire of people in the metropolis to have large family sizes as a form of security at old age. It was again observed that improved health services accompanied by low rates of accidents in the metropolis account for the low mortality rates. More so, it was observed that the factors influencing population growth are positive net migration and high natural increase in population due to high birth rate coupled with the low death rate in the metropolis. On the issue of types of occupied dwelling units in the Tamale Metropolis, the study disclosed that the Tamale Metropolis is dominated by compound houses. However, there are other dwelling units in the metropolis which include separate houses, semi-detached houses, flats/apartments, huts/buildings in the same compound, huts/buildings in

different compounds, tents, improvised homes such as kiosks and containers, living quarters attached to office or shop, uncompleted buildings, and others. On the issue of stock of houses and households in the Tamale Metropolis, it is disclosed that the total population of Tamale Metropolis as at 2010 was 233,252 and a total household population of 219,971. Also, the total number of houses in the Tamale Metropolis as at 2010 was 19,387, with a total number of households of 35,408. More so, the average household per house in Tamale Metropolis as of 2010 was 1.8, whereas the population per house and average household size as at 2010 were 11.5 and 6.3, respectively. It is obvious that the housing supply in the Tamale Metropolis is unable to match the demand, and thus housing deficit in the Tamale Metropolis. On the effects of population growth on housing, the study discovered that population growth leads to a corresponding increase in demand for housing dwelling units, as well as an increase in rent and the creation of slums. The providers of housing units in the Tamale metropolitan include individual landlords/house owners, public sector (government), private sector (real estate companies) and public-private sector collaboration. The landlords are perceived as the major providers of housing units in the Tamale Metropolis. In terms of efforts of housing providers in addressing the housing challenges, it is disclosed that they are into the provision of subsidized housing, provision of quality housing with toilet and bath, regulating rent of housing and liberalization of the housing market.

The following recommendations are forwarded for consideration: In collaboration with the Ministry of Health, measures should be implemented to control population growth in Tamale Metropolis by the Planned Parenthood Association of Ghana. The populace in the Tamale metropolis should be educated on the need to use family planning or birth control measures. Social amenities such as (schools and markets) should be made available in the rural areas around the metropolis to reduce rural-urban migration so that the problem of massive in-migration into the metropolis can be solved. Government should support housing providers with long term loans as housing is capital intensive, so that quality housing can be provided. The government could also liaise with financial institutions to provide loans to housing providers at affordable interest rates and long term repayment periods to enable them to construct more houses. Also, the provision of mortgage loans by the government in partnership with financial institutions to individuals to construct their own houses is an important

strategy in solving the housing deficit problem. The Government should also provide a conducive environment for affordable housing for the poor and low-income groups. Rent Control Act (act220) should be strengthened enough to protect the tenants who are the majority from the high cost of accommodation and unpardonable payment terms by some landlords since those into renting are the majority in the metropolis. This act established in 1963, mandates the Rent Control Division to monitor and establish guidelines to manage the Tenant-Landlord relationship. The act regulates the eviction of tenants by landlords. The act procures the tenant a period of time to search for accommodation, normally three months. The act seeks to protect tenants from arbitrary increases in rent and frequent evictions by landlords. The board could adopt measures that will protect tenants from the arbitrary increase in rent and frequent evictions by landlords. The Rent Control Division should provide a general tenancy agreement that defines the relationship between landlords and tenants, which must be strictly enforced. Enforcement of building regulations is necessary as housing demand is rising and developers are rushing to put up housing facilities. The Tamale Metropolitan Assembly in partnership with the Town and Country Planning, could enforce building rules. In this collaboration, the Town and Country Planning will have to draw the plans of all the suburbs before developers can put up structures. When the site plans are developed, the Metropolitan assembly must ensure that the developers have valid site plans and permits to put up their structures before any construction work begins. The Metropolitan Assembly should fine developers who put up structures without following due process, and such structures must be demolished to serve as a warning to others. When that happens, unauthorized structures will not spring up, blocking roads and destroying the beauty of the city. The promotion of Public-private partnerships in housing provision is necessary in order to increase the housing stock in the Tamale Metropolis. It is obvious that the housing supply in the Tamale Metropolis is unable to match the demand, which requires strategies to tackle this supply deficit. In order to solve the problem of housing deficit in the metropolis, it is important that the government (public sector) partner with the private sector (Real Estate Developers) to build affordable housing for sale or rent. With such collaboration, more houses will be built. As the housing stock increases, the rent rates will reduce significantly, thereby reducing the vulnerability of the tenants' low-income earners.

References

- Al Surf Saied M., Trigunaryah, B. and Susilawati., C. (2013). "Saudi Arabia's Sustainable Housing Limitations; the experts views". *Smart and Sustainable Built Environment*. Vol2. No3, pp 251-271. <https://doi.org/10.1108/SASBE-04-2013-0022>
- Annual Progress Report for 2020. Tamale Metro Births and Deaths Registry-
- Antwi-Barfi, F.Q. (2001). Ghana Housing Crises. Accessed on: February 20, 2013 from <http://www.modernghana.com/news/110212/1/ghana-housing-crisis.html>
- Ardayfio-Schandorf, E., Yankson, P. W., & Bertrand, M. (2012). *The Mobile City of Accra*.
- Ashraf QH., Well DN., Wilde J. (2013). The Effects of Fertility Reduction on Economic Growth. *Popul Dev Rev*. 39(1):97-130.
- Ayisata (2016). Effects of Population growth on housing in Wa Municipality.
- Boamah, N.A. (2010). Housing Affordability in Ghana: A Focus on Kumasi and Tamale. *Ethiopian Journal of Environmental Studies and Management*. Vol. 3 No. 3, 2010.
- Bynum B. (2008). McKeon Thesis. *Lancet*. 371(9613):644-645. CrossRef.Medline.
- CHF International (2004). *Strategic Assessment of the Affordable Housing Sector in Ghana*. Cooperative Housing Foundation International. Silver Spring, USA.
- Creswell, J. . (2014). *Research Design; Qualitative, Quantitative, and Mixed Methods Approaches* (V. Knight, J. Young, K. Koscielak, B. Bauhaus, M. Markanich, A. Hutchinson, & R.-A. Goodwin (eds.); 4th ed.). SAGE Publications Inc.
- Currie CE (1997). Indicators of socioeconomic status for adolescents: the WHO Health Behaviour in School-aged Children survey. *Health Education Research*, 1997, 12:385-397
- Eja, E.I., Otu, J. E., Ndomah, B. N. and Ewa, E. E. (2011). Tourism as a catalyst for hospitality industry development in Calabar, Nigeria. *e-Review of Tourism Research (eRTR)*, Vol. 9, No.1, pp. 14-33.
- Galor, O. and D. N. Weil (1998). *Population, Technology, and Growth: From the Malthusian Regime to the Demographic Transition*. & Centre for Economic Policy Research, London (United Kingdom).
- Ghana Statistical Service (2002). *Ghana population data analysis report: Socioeconomic and demographic*. Accra, Ghana.
- Ghana Statistical Service (2012). *Ghana population data analysis report: Socioeconomic and demographic*. Accra, Ghana.

- Ghana Statistical Service (2021). Ghana population data analysis report: Socioeconomic and demographic. Accra, Ghana.
- GoG/MWRWH (2012). Brief on Ghana National Housing Project. [Online] Available: <http://www.ghana.gov.gh> [October, 2013]
- Greenhalgh, S. (1995). Anthropology theorizes reproduction: Integrating practice, political economic, and feminist perspectives. *Situating fertility: Anthropology and demographic inquiry*, 3-28.
- Kasarda, J.D. & Crenshaw, E.M. (1991). Third world urbanization: Dimensions, theories, and determinants. *Annual Review of Sociology*, 17, 467-501.
- Laari, P.B., Bayorbor, S.A., & Sagoe, G. (2019). Urban Land Use Planning and its Effects on Provision of Public Sanitation Facilities in the Wa Municipality, Ghana. *Journal of Geography and Regional Planning*. 12(4), 60-75.
- Lanrewaju, A. F. (2012). Urbanization, housing quality and environmental degeneration in Nigeria. *Journal of Geography and Regional Planning*, 5(16), 422-429.
- Malthus, T. (1798). *An essay on the principle of population* (Printed for J. Johnson).
- Mirkin, B. (2010). *Population Levels, Trends and Policies in the Arab Region: Challenges and opportunities*. United Nations Development Programme Regional Bureau for Arab States Arab Human Development Report Research Paper Series.
- Owoade, A.O. (2007). *Rapid urbanization and coping strategies: The case of Lagos, Nigeria*. Unpublished Master's Thesis, Urban Planning and Environment Division of Urban and Regional Studies Kungliga Tenaska Hogskolan, Stockholm.
- Simon, H. (1977) *The New Science of Management Decisions*. Englewood Cliffs, NJ: Prentice Hall.
- Simon, J. L. (1986). *Theory of Population and Economic Growth*. Oxford ; New York, NY, USA, Blackwell.
- Taherdoost. (2017). Sampling Methods in Research Methodology ; How to Choose a Sampling Sampling Methods in Research Methodology ; How to Choose a Sampling Technique for. *International Journal of Academic Research in Management (IJARM)*, January 2016. <https://doi.org/10.2139/ssrn.3205035>.
- Tamale Metropolitan Assembly, *Medium Term Development Plan (2014-2017)*. Prepared under Ghana Shared Growth and Development Agenda II.
- The State of Housing in the European Union (2015). *A Housing Europe Review*. The European Federation for Public, Cooperative and Social Housing. Brussels.

- Turok, I., & McGranahan, G. (2013). Urbanization and economic growth: the arguments and evidence for Africa and Asia. *Environment & Urbanization* 25(2), 465–482.
- UN Habitat. (2016). Global Housing Strategy: Framework Document. UN Habitat. Retrieved from <http://www.unhabita.org> [Accessed at: 25th August, 2016].
- UN-DESA (2014). World Urbanization Prospects: The 2014 Revision, Highlights. ONU, Département des Affaires Économiques et sociales, Division Population.
- UN-Habitat (2006). Innovative Financing for Affordable Housing. (Online). Available: www.unhabita.org (March, 2014).
- UN-Habitat. 2008. The state of African cities: A framework for addressing urban challenges in Africa. Nairobi, Kenya: UN-Habitat.
- UN-Habitat (2010). Housing as a Strategy for Poverty Reduction in Ghana. Nairobi, UN-HABITAT Retrieved from: <http://www.unhabitat.org/pmss/listitemDetails.aspx?>
- United Nations (UN) (2013). Department of Economic and Social Affairs, Population Division. World Population Prospects. New York. Available from : <http://esa.un.org/unpd/wpp>
- United Nations Department of Economic and Social Affairs (2017). Migration and Population Change; Drivers and Impacts.
- World Bank Group. (2016): Rising through cities in Ghana: Ghana urbanization review overview report.
- Yamane (1967). *Statistics: An Introductory Analysis*. Second Edition. New York. Harper and Row.
- Zakaria A. (2021). Community Participation in the Management of Forest Flora and Fauna of Mole National Park (Unpublished Thesis, University for Development Studies, Tamale).