

Major Factors Causing Housing Deficit in Ghana

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Abstract

Importance of housing in the economic and social development of a nation cannot be over estimated. Housing is the key element in the generation of economic growth and development. As a result, it has had strong positive impact on the growth and development of many societies in the world but this is not the case in Ghana. The country has been suffering for many years in trying to solve the housing situation through so many programmes and policies but to no avail. The consequences have resulted in a housing deficit of well over one million houses. It was against this background the study was being carried out to examine the major factors causing housing deficit in Ghana. Questionnaires survey was sent to the members of Ghana Real Estate Developers Association operating in Accra Metropolis. Out of the total fifty-two (52) questionnaires sent, only thirty-six (36) of them were able to receive from the private estate developers. This showed a response rate of 69.2%. The data from these professionals were analyzed using Average Mean Score and Cross-tabulation (Correlation Matrix). The findings from the study revealed that; inadequate mortgage finance, defective land tenure system, high cost of land and among others were the major factors influencing housing deficit in Ghana. Hence streamlining the land tenure system by proper implementation of Land Administration Project (LAP), assisting the developers to access mortgage loan at low rate and provision of lands from land banks were some of the recommendations suggested to help reduce the housing deficit in Ghana.

Keywords: Housing Deficit, Housing stock, Cost of land, Ghana

1. Introduction

It is a well known fact that shelter is one of the basic needs of human survival in addition to food and clothing. However, for any developing countries, the provision of shelter is of paramount importance to low- and moderate-income households (Ametefe, Aboagye, and Sarpong-Kumankoma, 2011). For that matter, the importance of housing to individual lives, community living and society as suggested by UN-Habitat (2011) cannot be over-estimated. Ebie (2009) stressed that, housing is the most important of all rights. This is because of the importance attach to its provision and coupled with the fact that housing in all its ramifications is more than mere shelter since it embraces all social services and utilities that go to make a community or neighbourhood a livable environment. Having identified housing as a very important sub-sector of the economy and a critical factor in tackling poverty, social stabilization and economic growth, many governments over the world have been committed in improving housing situations for their countries which Ghana is not exception (GoG/MWRWH, 2012). However, the gap now between intentions and achievements is wide both in the rural and urban settings as opined by UN-Habitat (2010). The country is facing a housing deficit of well over one million houses (GoG/MWRWH, 2012). This figure has matter of fact has kept compounding annually due to government inability over the years to develop schemes to meet the housing needs of the people as opined by Mahama and Antwi, (2006).

2. Housing Deficit Situation in Ghana

Provision of affordable housing for the mass of the population has remained a major challenge for many countries. Several interventions have been seen as the way to remedy the ever growing demands which far outstrip the supply creating an acute shortage. Unfortunately, the shortage of housing continues to be one of the most critical socio-economic challenges facing the country (Ghana National Development Plan 2008). Ghana currently has a social housing problem, with a deficit of 1.7 million units and a minimum of 170,000 housing units would have to be built annually (Daily Graphic online, 2014). Table 2.1 below shows estimated and projected delivery housing deficit as against relative low complement of housing supply over the years.

Table 2.1: Estimated Housing Stock and Deficit in Ghana

YEAR	DEFICIT	DELIVERY	% OF DELIVERY	NEED
1980's	250,000	70,000	22%	133,000
1998	300,000	30,000	25%	140,000
2000	700,000	25,000-30,000	21%	199,000
2008	1,000,000	37,000	22%	150,000
2010	1,200,000	199,000	23%	300,000

Source: Kwofie et al, (2011).

3.0 Factors Causing Housing Deficit in Ghana

3.1 Lack of Continuity Due to Consistent Change of Government

Ghana has suffered a lot of setbacks in provision of public housing due to lack of continuity from the part of government. The result has contributed to the housing situation facing the country at the moment. For instance, in seeking to boost housing supply, the Government of Ghana in the year 2005 pursued various programs such as the affordable housing program to build over 100,000 thousand units of housing through Private, Public Partnerships (PPP) across the country (Bank of Ghana, 2007). However, just after a change of government in the year 2009 all the projects have been abandoned and left to squatters up till now with no tangible reason given to complete them. This housing project when completed in any case could have accommodated hundreds of families (Ghanaweb, 2012).

3.2 Rural-Urban Migrations

Another major factor causing housing deficit in Ghana has been attributed to rural-urban drift. This according to Business World Ghana (2012) has increased the pressure on urban housing. Consequently, provision of housing has scarcely moved in tandem with demand, leading to pockets of slums and communities that seem to consist entirely of kiosks, containers and little by way of plumbing or drainage. Specifically, this can illustrate a situation of urban poverty especially in major cities and towns. For instance, in the year 2005, as a result of acute shortage of housing and poor conditions of housing, sub-Saharan Africa had 199 million slum dwellers constituting 20% of the world's total slum population and had the highest urban growth rate of 4.58% and the high annual slum growth rate of 4.53%. However, Ghana in the same year had 5.4 million slum dwellers and is anticipated to reach 7.1 million by 2020. The worse hit cities are Accra, Kumasi and Sekondi-Takoradi as explained by UN-HABITAT (2006).

3.3 Population Growth and Urbanization

Ghana's urban centers are at bursting streams from rural-urban drifts and bear the brunt of rapid urbanization. It is estimated that Ghana's urban population will be about 52% of the national total growth and centered to this rapid urban growth are serious housing shortages and poor sanitation (UN-HABITAT, 2006). An increased in population growth and urbanization had made housing as one of the most serious problems presently faced by the government. The rapid population growth in the past few decades has been complemented by a relatively slow rate of increase in housing in many parts of the country. The rapid population growth in Ghana for instance is straining urban infrastructure, and degrading social amenities and shelter conditions, particularly in the Accra and Tema Metropolis (Modern Ghana, 2010).

3.4 Inadequate Mortgage Financing Institution

Apart from rapid population growth which is not met with increasing supply of housing, there is also a problem of mortgage financing. In well developed countries, the mortgage industry has proved to be the most capable and superior financier of the housing needs of the population (Bank of Ghana 2007). However, access to decent affordable house/home is the biggest challenge facing a greater proportion of the population in Ghana. This is due to the fact that, the Ghanaian economy is limited by fewer savings and borrowing than that of more developed countries. In addition, the demand for resources in all sectors of the economy also results in an under-funded housing finance system as described by Okonkwo (1997). Moreover, the problem of housing finance among the banks in Ghana is that most of them are portfolio lenders as pointed by Noah (2002). This means that the banks run a low-cost and low risk business where mortgage lending fits well in relation to other investment activities. In other instances, the banks have short-term funding and are unable to lend on a medium- or long term basis, the support of mortgage financing which takes about 25 to 30 years before full payment is made, is not common and all these problems have crippled the housing industry. Now it has become the biggest challenge facing a greater proportion of the population in Ghana to access decent affordable house/home (Noah, 2002).

3.5 High Cost of Land

Land is a fundamental resource to every country's economic and social growth, since it is seen as an economic good

more than just a social good. In time past, a small amount of money was paid as allegiance of holding the land for economic or social activities. Nowadays, in urban property markets uncertainty over the ownership of land, long delays in approvals and the issue of titles, unscrupulous land sales, lack of compliance with planning requirements, delayed provision of infrastructure and other services, ill-disciplined land agents and corruption in all aspects of the industry have led to distortions and inefficiencies in urban land markets (CDD, 2000). Moreover, Dr. Tweneboah, the immediate past president of Ghana Real Estate Development Association also made this same assertion. He attributed the high percentage of vacant land available for development to behaviour of some traditional rulers who treat stool lands which by the constitution of Ghana are not saleable but only alienable by lease and consideration payable thereof is ground rent (Daily Graphic, 2012). The implication of this situation is that the cost of land to the purchasers is much higher than it should be. As a result, developers are only able to purchase few tracts of land for development and this affects the contribution of housing production.

3.6 Defective Land Tenure System

The cause of defective land tenure system in Ghana has been attributed to the traditional land administration system where ownership of land takes different forms; each with peculiar legal rights and incidents attached thereto (Ollenu, 1962; Appiah, 2007). Ownership is often unclear and the processes are bogged down by bureaucracy. As a result, it has become a major barrier to real estate developers to be able to obtain large tracts of land for real estate development. Moreover, the absence of efficient system of land ownership inventory has resulted in multiple sale of land creating an issue for real estate developers. This dispute has often led to unnecessary delays of projects as a result of legal suits (Appiah, 2007).

3.7 High Cost of Building Materials

The provision of infrastructure and affordable housing for the citizens is constrained by high cost of building materials (BRRI, 2012; Danso & Manu, 2013). Building materials account for 50 percent of the total cost of construction in Ghana (Asibuo, 1994). In addition, the high cost of building materials in Ghana is attributed by the over-dependence on imported raw materials for buildings for which local substitutes could be used if the necessary supports are given to the manufacturers (Yeboah, 2005).

3.8 Lack of Infrastructure and Provision of Utility Services

Infrastructural development is one of the components in the construction industry. The provisions of these infrastructures boost the development and attract potential investors to such areas. However, in many parts of Ghana such infrastructures and services are lacked. Therefore, the lag in infrastructure provision by Metropolitan and Municipal District Assemblies and service providers in newly developing areas have affected the production of housing (UN-Habitat, 2011). The developers estimated that infrastructure varies from 10 per cent to 30 per cent of the price of a dwelling, depending on the location of the site in relation to the existing infrastructure. However, developers end up bearing all these costs which affects the cost of production. This makes it impossible to provide houses which are affordable to the housing market.

4. Research Methodology

To identify the major factors causing housing deficit in Ghana, Questionnaires survey was sent to the members of Ghana Real Estate Developers Association operating in Accra metropolis. The objective for data collection was to solicit the views from these established developers over the years of being in the housing industry. The questionnaires consisted of forty-two questions mainly; closed-ended and scaled-response types. Therefore, out of the total fifty-two (52) questionnaires sent, only thirty-six (36) of them were able to receive from the private developers. This showed a response rate of 69.2% and this number of respondents obtained for the study in a way was enough and accepted for the analysis according to Tarro Yamane (1967) formula with 90% degree of confidence. Therefore, from the formula the sample size should be more than thirty-four (34) respondents. The calculation of the sample size is shown below.

$$\text{Yamane formula, } n = \frac{N}{1+N(e)^2}$$

Where n= Sample size

N= Population size

e= level of precision, 10% or 0.1

$$\text{Therefore, } n = \frac{52}{1+52(0.1)^2} = 34.21$$

5. Analysis and Discussion

The analysis in this section intends to identify the major factors causing housing deficit in Ghana. Average Mean was used to determine the factors and Cross-tabulation using correlation matrix was used to analyze the

significant factors causing them. The mean rating of each of the factors were computed. The computed means were then compared with the theoretical mean rating (assuming normal distribution of responses above neutral) of 3.0 to determine the factors causing housing deficit in Ghana. Seven (7) of the factors (i.e. consistent change of government, rural-urban migration, high population growth, inadequate mortgage finance, high cost of land, defective land tenure system and lack of infrastructure and provision of utilities) had mean ratings exceeded the theoretical mean. However, two (2) of the factors (i.e. political instability and high cost of building materials) had mean ratings less than the theoretical mean. Therefore after determining the major factors causing housing deficit in Ghana, it was deemed appropriate to determine the statistically significant of the factors using Kendall's test at the 0.05 level of significance. The Table 5.1 below shows the average mean score of the factors causing housing deficit in Ghana.

Table 5.1 average mean score of the factors causing housing deficit in Ghana.

Factors Scale	1	2	3	4	5	Total Average	Average Mean Score
Political Instability	5 5	9 18	4 12	18 72	0 0	36 107	2.97
Consistent Change of Government	0 0	7 14	8 36	21 84	0 0	36 134	3.72
Rural –Urban Migration	0 0	4 8	4 12	27 108	1 5	36 133	3.69
High Population Growth	4 4	4 8	5 5	23 92	0 0	36 119	3.31
Inadequate Mortgage Financing Institutions	0 0	0 0	7 21	22 88	7 35	36 144	4.00
High Cost of Land	0 0	7 14	8 24	14 56	7 35	36 129	3.58
Defective Land Tenure System	0 0	0 0	14 42	0 0	22 110	36 152	4.22
High Cost of Building Materials	15 15	0 0	7 21	14 56	0 0	36 92	2.55
Lack of Infrastructure and Provision of Utilities	0 0	0 0	22 66	14 56	0 0	36 122	3.39

Scale

- 1 - Not caused
- 2 - Less caused
- 3 - Neutral
- 4 - Caused
- 5 – Highly caused

Therefore after determining the major factors causing housing deficit in Ghana, it was deemed appropriate to determine the statistically significant of the factors using Kendall's test at the 0.05 level of significance. The Table 5.2 below shows the significant relationship between the major factors and housing deficit.

Table 5.2: Significant Relationship between Factors Causing Housing Deficit

Factors Causing Housing Deficit	Kendall's τ -c, r-value	Significant value	Relationship
Consistent change of government	0.324	0.001	Significant
Rural-urban migration	0.151	0.031	Significant
High population growth	0.281	0.002	Significant
Inadequate mortgage financing	0.627	0.000	Significant
High cost of land	0.302	0.017	Significant
Defective land tenure system	-0.475	0.000	Significant
Lack of infrastructure/provision of utilities	-0.302	0.002	Significant

5.1 Correlation between Consistent Change of Government and Housing Deficit

Frequent change of government in every four (4) years has contributed to the significant cause in the housing deficit in Ghana. Especially, in Africa for that matter Ghana governments have their own political ambitions to be fulfilled. Lack of continuity lead to abandonment of many projects started by previous government in which housings are included just because when completed the credit would be given to the previous government. Therefore, this section discussed the correlation analysis between consistent change of government and housing deficit. The result of the analysis is shown in Table 5.3 below.

Table 5.3: Consistent Change of Government and Housing Deficit

Consistent Change of Government		Housing Deficit		Total
		Yes	No	
Less influenced	Count	7	0	7
	% of Total	19.4%	0.0%	19.4%
Neutral	Count	8	0	8
	% of Total	22.2%	0.0%	22.2%
Influenced	Count	14	7	21
	% of Total	38.9%	19.4%	58.3%
	Count	29	7	36
% of Total		80.6%	19.4%	100.0%

(Kendall's tau-c, $r = 0.324$ and $v = 0.001$)

Table 5.3 above also showed a significant correlation of (0.001) between consistent change of government and housing deficit. This is due to the facts that, the tenure of office for elected governments are short. As a result completion of housing projects within their period in office becomes virtually impossible. Moreover, elected new government tends not continue with existing projects but would start entirely new projects. This is one of the major problems in Ghana political system and it is affecting the country as a whole. For this reason, many housing projects are left uncompleted due to lack of continuity and this has worsened the housing situation by increasing the deficit day in day out.

5.3 Correlation between Rural-Urban Migration and Housing Deficit

The rural-urban drift is one of the problems confronting many African countries. This is due to the fact that, rural areas are less developed especially in Ghana as a result the people tend to migrate to the urban centers to enjoy social amenities lacking in the rural. This in effect increases the pressure on urban housing and hence leads to pockets of slums in the cities as opined by Business World Ghana (2012). The Table 5.4 below shows a significant correlation between rural-urban migration and housing deficit. The implication is that, an increase in migration to the big cities put pressure on existing housing which affects the number of housing units to be provided.

Table 5.4: Rural-Urban Migration and Housing Deficit

Migration		Housing Deficit		Total
		Yes	No	
Less influenced	Count	4	0	4
	% of Total	11.1%	0.0%	11.1%
Neutral	Count	4	0	4
	% of Total	11.1%	0.0%	11.1%
Influenced	Count	20	7	27
	% of Total	55.6%	19.4%	75.0%
Highly influenced	Count	1	0	1
	% of Total	2.8%	0.0%	2.8%
	Count	29	7	36
% of Total		80.6%	19.4%	100.0%

Kendall's tau-c, $r = 0.151$ and $v = 0.031$

5.4 Correlation between High Population Growth and Housing Deficit

An increase in population growth is also one of the major factors influencing housing deficit in Ghana. The reason is that, this increase in population is complemented by a relatively slow rate of increase in housing in many parts of the country. This section explores the relationship between high population growth and housing deficit as shown in Table 5.5 below.

Table 5.5: High Population Growth and Housing Deficit

High population growth		Housing Deficit		Total
		Yes	No	
Not influenced	Count	4	0	4
	% of Total	11.1%	0.0%	11.1%
Less influenced	Count	4	0	4
	% of Total	11.1%	0.0%	11.1%
Neutral	Count	5	0	5
	% of Total	13.9%	0.0%	13.9%
Influenced	Count	16	7	23
	% of Total	44.4%	19.4%	63.9%
	Count	29	7	36
% of Total		80.6%	19.4%	100.0%

(Kendall's tau-c, $r = 0.281$ and $v = 0.002$)

From Table 5.5 above the results from the correlation analysis between high population and housing deficit was significant (0.002). This is due to the fact that high population and housing deficit are correlated. When population continues to increase and is complemented by increase in supply of housing, it affects the housing stock thereby increasing the housing deficit.

5.5 Correlation between Inadequate Mortgage Finance and Housing Deficit

Mortgage financing is essential to both individuals and companies who want to buy house or enter into the property market. A mortgage, or more precisely a mortgage loan, is a long-term loan used to finance the purchase of real estate. This however, gives the borrower the flexible time period to pay off. In the developed countries like United States of America and United Kingdom this type of loan arrangement is very common and it has proved to be the most capable and superior financier of the housing needs of the population (Bank of Ghana 2007). The purpose of the correlation analysis between inadequate mortgage financing and housing deficit is to explore whether there exists relationship between them. Table 5.6 below presents the analysis.

Table 5.6: Inadequate Mortgage Finance and Housing Deficit

Inadequate Mortgage Finance		Housing Deficit		Total
		Yes	No	
Neutral	Count	7	0	7
	% of Total	19.4%	0.0%	19.4%
Influenced	Count	22	0	22
	% of Total	61.1%	0.0%	61.1%
Highly influenced	Count	0	7	7
	% of Total	0.0%	19.4%	19.4%
Count		29	7	36
% of Total		80.6%	19.4%	100.0%

(Kendall's tau-c, $r = 0.627$ and $v = 0.000$)

From Table 5.6 above, the results revealed that inadequate mortgage financing institutions and housing deficit are perfectly correlated. This shows a significant of (0.000). The implication is that, where mortgage financing is inadequate it affects housing supply as suggested by the majority of the respondents (61.1%) because housing projects involves a lot of money to complete. Therefore, when there is avenue for accessing mortgage at a lower rate it helps both in the supply and demand of housing. This however will solve the housing situation and thereby reducing housing deficit.

5.6 Correlation between Cost of Land and Housing Deficit

The purpose of the correlation analysis between cost of land and housing deficit is to explore the significant relationship between them. The reason is that land is a fundamental resource to everyone who intends to build and is also a basic economic asset to humanity and any economic development requires the use of land. The Table 5.7 below shows the results from the analysis.

Table 5.7: Cost of Land and Housing Deficit

Cost of land		housing deficit		Total
		Yes	No	
Less influenced	Count	7	0	7
	% of Total	19.4%	0.0%	19.4%
Neutral	Count	1	7	8
	% of Total	2.8%	19.4%	22.2%
Influenced	Count	14	0	14
	% of Total	38.9%	0.0%	38.9%
Highly influenced	Count	7	0	7
	% of Total	19.4%	0.0%	19.4%
Count		29	7	36
% of Total		80.6%	19.4%	100.0%

(Kendall's tau-c, $r = -0.302$ and $v = 0.017$)

The correlation between cost of land and housing deficit from Table 5.7 was significant (0.017). This is due to the fact that, the cost of land in Ghana especially in the urban center is very high. This makes it difficult for individuals to buy land. Commercial real estate developers can also afford few tracts of land for housing production. As a result of the high cost of land in the housing market, it does not encourage the housing industry and this affects production of housing hence influencing housing deficit as suggested by the majority of the respondents representing 38.9%.

5.7 Correlation between Defective Land Tenure System and Housing Deficit

Ghana has an unorganized land tenure system. It is not well structured and efficient as compared to the developed countries. It is very difficult to identify those who have interest or actual owners of the land. As a result of that, a piece of land is sold to many people by different owners resulting in land litigations. Therefore,

the correlation analysis seeks to find out if there is relationship between defective land tenure system and housing deficit. Table 5.8 presents the analysis of the results.

Table 5.8: Defective Land Tenure System and Housing Deficit

Defective land tenure system		Housing Deficit		Total
		Yes	No	
Neutral	Count	7	7	14
	% of Total	19.4%	19.4%	38.9%
Highly influenced	Count	22	0	22
	% of Total	61.1%	0.0%	61.1%
	Count	29	7	36
	% of Total	80.6%	19.4%	100.0%

(Kendall's tau-c, $r = -0.475$ and $v = 0.000$)

The analysis of the correlation between defective land tenure system and housing deficit showed a strong significant relationship (0.000). This is due to the facts that many housing projects have been halted due land issues which need to be resolved before the projects could be completed. The result of this has affected supply of housing in many parts of the country hence increasing the housing deficit. This explains that defective land tenure system has highly influenced housing deficit in Ghana as suggested by majority of the respondents (61.1%).

5.8 Correlation between Lack of Infrastructure and Provision of Utilities and Housing Deficit

Infrastructural development and provision of utilities are much contributing factor to the life of every human being. When an area is developed it attracts individuals and developers to channel their investments to such places without any additional cost. This also helps in housing production. Therefore provisions of such amenities are very important to the housing industry. Table 5.9 below shows the correlation analysis between lack of infrastructure and provision of utilities and housing deficit.

Table 5.9: Lack of Infrastructure/Provision of Utilities and Housing Deficit

Lack of infrastructure/provision of utilities		Housing Deficit		Total
		Yes	No	
Neutral	Count	15	7	22
	% of Total	41.7%	19.4%	61.1%
Influenced	Count	14	0	14
	% of Total	38.9%	0.0%	38.9%
	Count	29	7	36
	% of Total	80.6%	19.4%	100.0%

(Kendall's tau-c, $r = -0.302$ and $v = 0.002$)

The correlation analysis from table 5.9 above regarding lack of infrastructure and housing deficit was significant (0.002). This is due to the facts that the provision of infrastructures speed up supply of housing because developers do not incur any additional cost to provide auxiliary infrastructure for housing. However, if developers are supposed to provide all these infrastructures and utilities to the area it will increase their production cost thereby increasing the price of their products. Sometimes these discourage the developers and affect their housing productions thereby increasing the housing deficit.

6.0 Conclusion and Recommendation

Housing provision and delivery has been a major concern to many developing countries in the world particularly, the issue of housing needs. The study revealed that many factors have contributed to the housing deficit in Ghana. For instance, rural-urban migration due to lack of basic social amenities, lack of continuity due to consistent change of government has also led to abandonment of housing projects started by previous administrations; ineffective land system resulted in multiple of sale of land. Moreover, the challenges like high cost of land, delay in obtaining building permit and high cost of building materials have also hindered the housing industry. Therefore, to help address these issues even though it may not miraculously solve the housing problem in the country, but then it has the potential to make a huge contribution towards the alleviation of

housing deficit situations the following have been suggested. These are Provision of social amenities and infrastructural development being extended to the rural communities to help better their lives. The reason is when people can fairly access these basic needs it will prevent them from migrating to the urban centers to put unnecessary pressure on existing housing. Moreover, streamlining the land tenure system by proper implementation of Land Administration Project (LAP) has also been suggested to address the defective land tenure system. Assisting both developers and individuals to access mortgage loan at low rate and provision of lands from land banks for commercial housing development are some of the suggestions to address high cost of fund and cost of land enumerated as major factors causing housing deficit in Ghana. Lastly, government departments in charge of provision of infrastructures should be effective and swiftly in their roles in expanding infrastructure development to new areas of the country where much development are on-going and ensure its access by all citizens through a clear infrastructure policy and development programmes.

References

- Ametefe, F., Aboagye, A. and Sarpong-Kumankoma, E. (2011). Housing and Construction Finance, Deposit Mobilisation and Bank Performance in Ghana. *Journal of Property Research* 28, 2:151-65
- Appiah, N.K., (2007). The Role of Government and Regulation in the Emerging Estate Industry in Ghana. A published thesis submitted to Iowa State University for the Award of Master's Degree
- Asibuo, S.K. (1994). Effects of Structural Adjustment Programme on Housing. Paper prepared for the Friedrich-Ebert Foundation at a Workshop in Accra-Ghana
- Bank of Ghana (2007). The Housing Market in Ghana: Prospects and Challenges. [Online] Available <http://www.bog.gov.gh/privatecontent/Research/PolicyBrief/pbrief-housing-new.pdf> [November, 2013]
- Business World Ghana (2012). Of Challenge and Opportunity: A Look at Ghana's Real Estate Industry. [Online] Available <http://www.businessworldghana.com/of-challenge-and-opportunity-a-look-at-ghanas-real-estate-industry> [October, 2013]
- CDD, Ghana (2000). Corruption and Other Constraints on the Land Market and Land Administration in Ghana: A preliminary Investigation.
- Daily Graphic Online (2014). Ghana has 1.7 -million Housing Unit Deficit. [Online] Available: <http://graphic.com.gh/news/general-news/18541-ghana-has-1-7-million-housing-unit-deficit.html> [May, 2014]
- Danso, H. and Manu, D. (2013). High Cost of Materials and Land Acquisition Problems in the Construction Industry in Ghana. *International Journal of Research in Engineering & Applied Sciences*. [Online] Available: <http://www.euroasiapub.org/IJREAS/mar2013/3.pdf> [March, 2014]
- Ebie, S.P.O.F. (2009). Public Sector Driven Housing; Achievements and Problems. Paper presented at the Faculty of Environmental Sciences Annual Lecture, Nnamdi Azikiwe University, Awka.
- Ghana National Development Plan 2008
- Ghanaweb (2012). Housing Deficit to Double. [Online] Available: <http://www.ghanaweb.com> [December, 2013]
- GoG/MWRWH (2012). Brief on Ghana National Housing Project. [Online] Available: <http://www.ghana.gov.gh> [October, 2013]
- Kwofie, T. E., Botchway, E. & Adinyira, E. (2011). Historical Overview of Housing Provision in Pre and Post-Independence Ghana.
- Mahama, C. and Antwi, A. (2006). Land and Property Markets in Ghana. A discussion paper prepared by the Royal Institution of Chartered Surveyors for presentation at the 2006 World Urban Forum held in Vancouver, Canada. June 19-23, 2006.
- Modern Ghana (2010). Effects of Population Increase on Housing as Land Use in Ghana. [Online] Available: <http://www.modernghana.com/news/299001/1/effects-of-population-increase-on-housing-as-land-.html> [May, 2014].
- Noah, K. K. (2002). Alternative Options to Mortgages in Ghana. *Housing Finance International* Vol. 17, No 2, pp26-30
- Okonkwo, O. (1997). Housing Finance and Housing Delivery Systems in Kenya: Bottlenecks, Recent Developments and the Way Forward.
- UN-Habitat (2006). Innovative Financing for Affordable Housing. [Online] Available: www.unhabitat.org [March, 2014]
- UN-Habitat (2010). Housing as a Strategy for Poverty Reduction in Ghana. United Nations Human Settlements Programme (UN-HABITAT). [Online] Available: www.unhabitat.org [February, 2014]
- UN-Habitat (2011). Ghana Housing Profile. [Online] Available: www.unhabitat.org [February, 2014]
- Yamane, T. (1967). *Statistics: An Introductory Analysis*, 2nd Edition, New
- Yeboah, E.A. I. (2005). Housing the urban Poor in Twenty-First Century Sub Sahara Africa: Policy Mismatch and a Way Forward for Ghana. *Geojournal* 62(2):147- 161 York: Harper and Row.