

An Examination of Private Real Estate Developers' Perspectives on Effectiveness of Government Support to the Ghanaian Housing Industry

Ebenezer Afrane and Ahmad Ariffian Bin Bujang

Abstract—The centric role of housing in socio-economic development of nations makes many governments across the world play significant direct or indirect role in improving the housing industries for national development. Nonetheless, some governments, particularly in developing countries, have reduced their support for the housing industry to the creation of an enabling environment as a result of advised from World Bank. This appears to be failing due to economic challenges. Consequently, the entire Ghanaian housing sector has been left to private developers, who have very limited capacity to address the country's rising housing deficit, among other challenges. The purpose of this study is to make suggestions to the government to consciously improve its assistance to private real estate developers to help them in overcoming the challenges they face in the housing industry. The study was quantitative and made use of a survey questionnaire that was designed after reviewing relevant literature. Fifty-two (52) registered members of Ghana Real Estate Developers with offices were purposively sampled, and the data collected was analysed by SPSS v20 using descriptive statistics: cross-tabulations (correlation matrix) and frequencies. The findings revealed that the government's support to private real estate developers in housing development was inadequate. As a result of the affordability issues, private developers are discouraged from investing in housing for low to middle income households. Therefore, the study concluded that government commitment to the housing industry is critical, including streamlining the land tenure system, establishing land banking, assisting in the provision of infrastructure development, and assisting them in mortgage financing schemes.

Index Terms—Housing, private developers, government support, policy.

I. INTRODUCTION

Human survival and civilization have relied on shelter. UN-Habitat encourages member states to provide adequate housing for their citizens (UN-Habitat, 2011) [1]. As a result, most countries have prioritized housing provision, particularly for low to middle income groups (Ametefe et al, 2011) [2]. In this regard, housing has been dubbed the most important human right because it provides more than just physical shelter, as it also includes utilities and social services necessary for decent community living (Afrane et al, 2016; Ebie, 2009) [3], [4]. According to Afrane (2014) [5], many governments around the world are committed to expanding housing delivery due to the housing industry's sectorial importance to integrated economic development for communal benefit.

Manuscript received October 19, 2021; revised December 21, 2021.

Ebenezer Afrane and Ahmad Ariffian Bujang are with is Faculty of Built Environment and Surveying at the Universiti Teknologi Malaysia (UTM), Malaysia (e-mail: eafrane2007@yahoo.com).

Ghana is one of many developing countries with a growing housing deficit of more than one million units (GoG/MWRWH, 2012) [6]. Thus, the ever-growing shortages in many ways has constituted a socio-economic crisis where lower-income and vulnerable families are customarily forced to live in inadequate shelter, oftentimes in informal settlements (Gilbert, 2014 as cited in Feather, 2019) [7]. Meanwhile, the housing deficit continues to grow as a result of a lack of effective government policy to coordinate private real estate developers' efforts to provide affordable housing for low and middle-income earners (Afrane, 2014; Mahama and Antwi, 2006) [2]-[5]. It is against the backdrop this study is being conducted to examine how effective government support is in helping private real estate developers to overcome the challenges they are confronted in the housing industry. Although there have been other similar studies (see Owusu-Ansah, Soyeh and Asabere, 2019; Sarfoh, Kavaarpuo and Ayitio, 2016) [9-10] but they did not consider how the effectiveness of government assistance can go a long way to help private real estate developers to provide decent, adequate and affordable housing to satisfy the low and middle incomes earners.

II. LITERATURE REVIEW

A. Brief of Housing Situation in Ghana

Every government has prioritized the provision of adequate, suitable, and equitable housing. Nonetheless, because the housing problem is complex and pressing, no nation has been able to provide adequate housing of acceptable standards for all of its citizens (UN-Habitat, 2010) [11]. It is worth noting that there has been an extreme disequilibrium between housing supply and demand since the 1980s, leading to the housing deficit being described as a major socio-economic problem (Ghana National Development Plan, 2008) [12]. The shortage of housing in urban areas as described by Ofori (2020) [13] has compelled many people to congest in small rooms in houses, where there are no acceptable housing facilities. These houses are mostly overcrowded and unfortunately a room which is meant to accommodate at most 3 persons, in accordance with the UN-Habitat standard, is used by at least 6 persons (UN-Habitat, 2016 as cited in Ofori, 2020) [13]. To just have access to a single bathroom or lavatory, tenants as a matter of fact have to queue in the morning and in the evening as posited by Ofori (2020)[13]. According to Ghana's Housing Policy, 5.7 million rooms are needed by the end of 2020 at a preferred occupancy threshold of two people per room to bridge the gap and provide housing for new households. To address this, more than 100,000

housing units are required each year to meet current demand (Amegayibor, 2020 as cited in Centre for Affordable Housing Finance in Africa, 2020)[14]. Based on 2010 Population and Housing Census Report, Ansah (2014) [15] made a projected calculations for housing stock and deficit from 2010 to 2020. This is shown in Table I below.

TABLE I: ESTIMATED HOUSING STOCK AND DEFICIT

Year	Population	Households	Housing Stock	Estimated Housing Deficit
2010	24,658,823	5,467,136	3,392,745	2,074,391
2011	25,275,294	5,603,814	3,477,564	2,126,251
2012	25,907,176	5,743,910	3,564,503	2,179,407
2013	26,554,855	5,887,508	3,653,615	2,233,892
2014	27,218,727	6,034,695	3,744,956	2,289,740
2015	27,899,195	6,185,563	3,838,580	2,346,983
2016	28,596,675	6,340,202	3,934,544	2,405,658
2017	29,311,592	6,498,707	4,032,908	2,465,799
2018	30,044,381	6,661,174	4,133,730	2,527,444
2019	30,795,491	6,827,704	4,237,074	2,590,630
2020	31,565,378	6,998,396	4,343,000	2,655,396

Source: 2010 Population and Housing Census and projected calculations by Ansah (2014)

B. The Nascent of Private Real Estate Developers in Ghana's Housing Sector

Housing has become a growing concern around the world, and with an increasing number of urban poverty, particularly in Africa, the situation has deteriorated to unprecedented levels, and it appears that the trend will continue (Chirisa & Matamanda, 2016 as cited in Ofori, 2020) [13]. Without a doubt, the concern of change in policy direction for housing development in the new era has grown significantly. Furthermore, as Ogu and Ogbuozobe (2001) [16] pointed out, many African countries had spent vast amount of money in an attempt to implement public housing programmes in order to address the acute housing shortage, but all of these efforts had proven futile. They also asserted that a shift from public provision to providing an enabling environment for private sector investment in housing delivery can significantly alleviate housing deficit situations, owing to the failure of states' public housing schemes. It is important to note that, when Ghana embarked on the World Bank/IMF-supported Economic Recovery Programme (ERP) and Structural Adjustment Programme (SAP) to restore macroeconomic stability and growth in 1983, the World Bank advised Ghana to withdraw from various sectors of the economy (Nugent, 2004)[17]. In accordance with the economic policy, the government shifted from direct state housing delivery to the creation of an enabling environment for private sector participation Afrane (2014)[5]. The objective of the enabling approach is to foster conditions conducive to the industry's delivery of affordable housing stock (Mayo and Angel, 1993

as cited in Feather, 2019) [7]. This period, however, saw the emergence of private real estate companies in the Ghanaian housing market (Bank of Ghana, 2007) [18]. Since then, real estate developers have played an important role in housing delivery, while the government works to create a favourable environment (Afrane et al, 2016; Bank of Ghana, 2007) [3]-[18]. Now housing supply in Ghana has been dominated by the private sector. According to GoG/MWRWH (2012) [6], the annual supply of housing is between 30,000 and 40,000, with the private sector providing ninety-five (95) percent of this number and the government only about five (5) percent. It is common knowledge that the majority of private real estate developers have built the most of the well-planned communities in Accra, Tema, Tarkoradi, and Kumasi.

C. Challenges Facing Private Developers in the Housing Industry

The housing deficit in Ghana has not been contained over the years because of government's failure to formulate effective housing policy (Mahama and Antwi, 2006)[8], thereby leaving private developers with no clear direction regarding government's role in the real estate and construction industry (Business World, 2012)[19]. Some of the challenges private developers face in the housing industry are discussed below.

1) High cost of land

One of the issues confronting the private developers in the housing industry is the high cost of urban residential land (Daily Graphic, 2012 and cited in Afrane et al, 2016) [3]. The cost of land to buyers today is far higher than it should be. As a result, developers can only purchase a limited area of land for development, and hence reducing the contribution of housing production (Afrane et al, 2016) [3]. As a matter of fact, due to lack of transparency in land transactions, the industry has struggled with very high land costs in urban areas over the years.

2) High cost of funding

Apart from the high cost of land, there is also a problem with high funding costs and lack of long-term capital in the housing industry (Kyeremateng, 2012 as cited in Afrane, 2014) [5]. The fact is, there are insufficient mortgage financing institutions in Ghana as they are in developed countries (Bank of Ghana, 2007) [18]. In Ghana, there are only a few private commercial banks that offer mortgage financing. However, the costs of borrowing money from these institutions are extremely high, making private developers unable to obtain loans from them. Essentially, the majority of these institutions lack substantial equity capital to fund long-term real estate projects in Ghana.

3) Inadequate mortgage facilities and industry

In developed countries, the mortgage facilities and industry has proven to be the most capable and superior financier of the population's housing needs (Bank of Ghana, 2007) [18]. In the case of Ghana, access to decent, affordable housing is the most pressing issue confronting a large proportion of the population. This is because the Ghanaian economy is constrained by lower savings and borrowing than that of more developed countries. The issue with housing finance is that, the majority of Ghanaian banks are portfolio lenders, and they run a low-cost as well as low-risk business where

mortgage lending fits well in relation to other investment activities (Noah, 2002)[20]. However, Okonkwo (1997) as cited in Afrane et al, (2016) [3] noted that the demand for resources in all sectors of the economy results in an under-funded housing finance system.

4) Lack of infrastructure and support services

In the construction industry, infrastructure development is a key component in the cost build up. Without a doubt, these provisions promote development and attract potential investors to these areas. However, such infrastructure and services are lagging behind building development in many parts of Ghana. According to UN-Habitat (2010) [11], inadequate (or non-existent) housing infrastructure and support services posed a serious threat to real estate developers in the housing industry. Afrane (2014) [5] noted that, the burden of providing these public infrastructure and social services results in cost overruns, which pushes the prices of houses developed by the private sector above the affordability levels of low to middle income households.

5) High cost of building materials

The high cost of building materials has also been identified as one of the challenges confronting private real estate developers in the housing industry. In Ghana, building materials account for half of the total value of construction (Asibuo, 1994 as cited in Afrane, 2014) [5]. Definitely, the rising cost of building materials is primarily due to the insecurity of micro-economic indicators such as high tariffs and indirect taxes on imported building materials (Danso and Manu, 2013 as cited in Afrane et al, 2016) [3]. Due to this, the real estate industry is finding it difficult to deal with such a situation because of the effects on the cost of housing construction.

6) Multiple Sales and Land Litigation (over lapping land transaction)

High cost of the land itself as posited by Business World (2012) [19] is said to be only one of the many problems associated with land acquisition. Concerns about procurement, on the other hand, are a bigger issue for those looking to buy. Ghana has a complicated system of land tenure. According to Business World (2012) as cited in Afrane (2014) [5], ownership is frequently difficult to identify, processes are slowed by bureaucracy, and there are ongoing reports of exploitation in which people are allowed to sell lands several times (multiple sales), depriving legitimate owners of their property. According to UN-Habitat (2010) [11], this has resulted in multiple land sales, as well as numerous land litigation issues. Ghana's courts are currently overburdened with numerous land litigations. Approximately 80% of the cases before the court are land-related. Particularly in Ghana, a large-scale housing delivery system is difficult, if not impossible, due to a lack of secure tenure.

III. RESEARCH METHODOLOGY

The study objective was achieved after carefully collecting and analyzing primary data via survey questionnaires developed following an initial review of related literature. Accra-Tema was chosen for the study due to the high number of housing deficits recorded in the area, as well as the

concentration of private developers. As a result, a 69.2 percent responding rate at 90 percent of confidence level was obtained after purposively sampling 52 registered members of Ghana Real Estate Developers Association (GREDA) with established offices. Descriptive statistics were used to analyse the data including frequencies. Lastly, Cross-tabulation using a correlation matrix and frequency analysis were conducted to measure the relationship between the dependent and independent variables. This was to determine whether or not there were a significant correlation between government incentives and developers overcoming the housing challenges as well as correlation between effectiveness of government support and private developers overcoming the housing challenges.

IV. RESULTS AND FINDINGS

A. Years of Experience in the Housing Industry

This was in order to determine the years of experience these private real estate developers have been in the Ghanaian housing industry. The results revealed that the majority of the respondents (22.2%, 19.4% and 33.3%, n=36) have been in the housing industry for over 10 years while the rests (5.6% and 19.4%, n=36) have been in for less than 10 years. The results indicated that the majority of the developers had been able to survive and establish themselves well for a long time, which may have been a source of motivation for the new private developers who are also increasing in number in the housing industry.

B. Contribution to Housing Delivery in Ghana

The study also seeks to find out the contribution of private developers in housing delivery. The line of questions was based on the type of houses they have built, the number of houses built in the last five years, and annual housing production. According to the findings, 12 out of the 36 respondents (33.3%) built both semi-detached and detached houses. This could be due to the high demand for these types of houses in Ghana's housing market. However, only 5 of the respondents (13.9%) are involved in the development of flat accommodations, while 4 (11.1%) are only involved in the development of detached houses. While 27.8 percent are also involved in the development of detached, semi-detached, and apartment buildings. Furthermore, with regards to both housing production over the last five years and annual housing production to determine the capacity of private developers in housing delivery. The results gathered from the respondents indicate that, 22 out of the 36 developers, or 61.2 percent, have produced fewer than 100 housing units in the last five years. In terms of annual production, 8 out of the total 36 respondents, or 22.4 percent, are able to produce between 41 and 50 housing units. The analysis of the results revealed that, while private developers are doing well in contributing to the production of housing, more needs to be done if we are to catch up with housing deficit which stands well over 1million as stated by GoG/MWRWH (2012)[6]. This means that the country should be able to build between 150,000 and 200,000 houses per year on average. The study also found out from the developers a price for typical 3-bedroom house they develop to the housing market. The findings revealed that the majority of the private developers' representing 58.3 percent of their house prices range between

\$101,000 and \$120,000. With an annual average household income of around \$2,329.25 Ghana Statistical Service (2014) [21], most developers' price levels indicate that their target market is high-income earning households. This could be one of the reasons why some developers do not believe there is a housing deficit in the country, because most private developers' target market is not for the low to middle income households, resulting in the rising of housing deficit. This means that only a few people in the highest income brackets can afford to buy houses, leaving the vast majority of people (low and middle incomes earners) unable to do so. As a result, the private sector has been chastised for targeting their housing units at the rich and prominent members of society at the expense of the low and middle incomes group earners. However, this is due to the difficulties that private developers face in the housing industry.

C. Challenges Facing the Housing Industry

Additionally, the study seeks to identify the challenges that private developers face in the housing industry. The first question asked was to know if they or (there) are challenges in the industry. All the thirty-six (36) respondents answered affirmatively. This explains why developers are having difficulties in the housing industry and why they may not able to produce affordable housing for the low and middle income groups, who make up the majority of the population in need of housing. The developers were questioned about some of the challenges encountered in the housing industry. The findings from the field revealed that, out of the total 36 respondents, 10 (representing 27.8%) stated that high land costs were the major issues for the housing industry. This assertion is confirmed by Daily Graphic (2012) as cited in Afrane et al, 2016[3] that land cost is high to be purchased by the developers in urban Ghana. As a result, it is difficult for the developers to build affordable housing. This was followed by insufficient mortgage financing facilities, which has resulted in high borrowing costs from commercial banks, which accounted for 22.2 percent of the response (see Afrane et al, 2016; Bank of Ghana, 2007; Noah, 2002)[3, 18, 20]. While high building costs, land litigation, and delays in obtaining building permits all contribute to the difficulties that private developers face in providing housing. All of these have become major challenges for the industry, affecting their performance in addressing Ghana's housing deficit. Despite the challenges that the housing industry has been facing all these while, developers have been pleased with their performance in housing provision over the years. As all 36 of the developers attested to the fact, there are challenges in the delivery, but they are doing quite well in the housing industry.

D. Correlation between Government Incentives and Developers Overcoming Housing Challenges

The correlation analysis between the government incentives and private developers to overcome housing challenges as shown in Table 4.1 below revealed a (Kendall's tau-c, $r = -0.648$ and $v = 0.000$) reveals a perfect correlation between government incentives to developers and developers overcoming housing industry challenges. Unfortunately due to the fact that lack of incentives serve as a demotivation to the private developers, it has become very difficult for the private developers to produce housing that can cater for the low and middle incomes group earners in order to reduce the housing deficit in those categories. Therefore, the indication

is that the developers are not receiving the necessary incentives from the government to motivate them sufficiently to overcome, if not all, of the challenges they are facing. According to the preceding analysis, an increase in incentives may result in an increase in housing production as well as reducing their cost of production to build affordable housing to reach the low and middle incomes grouped earners. Eventually, this will help address the housing situation and in effect reduce the housing deficit to the minimum level. Table II shows the results of a correlation analysis between government incentives and developer incentives for overcoming housing challenges.

TABLE II: CORRELATION BETWEEN GOV'T INCENTIVES AND OVERCOMING HOUSING CHALLENGES

Government Incentives		Overcoming Housing challenges		Total
		Yes	No	
Yes	Count	0	15	15
	% of Total	0.0%	41.7%	41.7%
No	Count	14	7	21
	% of Total	38.9%	19.4%	58.3%
	Count	14	22	36
% of Total		38.9%	61.1%	100.0%

Symmetric Measures^c

		Value	Asymp. Std. Error ^a	Approx. T ^b	Approx. Sig.
Ordinal by Ordinal	Kendall's tau-c	-.648	.106	-6.088	.000
N of Valid Cases		36			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Correlation statistics are available for numeric data only.

E. Correlation between Effectiveness of Government Support and Developers Overcoming the Housing Challenges

The correlation analysis between the effectiveness of government supports and the ability of private developers to overcome housing challenges, as shown in Table IV-2, revealed a strong significant relationship (Kendall's tau-c, $r = -0.648$ and $v = 0.000$). This indicates that when there is effective government support to private developers they can reduce their cost of production and help them to produce affordable housing to sell or rent to the low and middle income households. However, the majority of respondents (58.3%) were not sure of the effectiveness of government assistance to private developers in the housing delivery process. In any case, the government's commitment to the real estate industry has been viewed negatively. This has become a problem for developers in providing for low-income families who are severely impacted by housing issues. As a result, private developers' efforts to assist the government in addressing the housing deficit have proven futile.

F. Suggestions to Support the Private Real Estate Developers in the Housing Industry

According to the findings gathered the respondents suggested that, the government's active participation in the land acquisition process is regarded as one of the ways in which the government can help to strengthen Ghana's

private real estate industry. The government assisting in the land acquisition process, according to 27.8 percent of developers, would strengthen Ghana's real estate industry. Another suggestion was for the government to create a proper system for resolving land tenure issues. 25 percent of developers believe that if the government streamlines the land tenure system, it will reduce land litigation and thus strengthen the real estate industry. The third issue raised by respondents is that the government should established adequate mortgage financing facilities or institutions to aid in the securing of mortgages (22.2%). Providing infrastructure and expediting the process of obtaining a building permit are two other suggestions for the government to strengthen the housing industry, accounting for 5 percent and 4 percent of the total.

TABLE IV-2: CORRELATION BETWEEN EFFECTIVENESS OF GOVERNMENT SUPPORT TO PRIVATE DEVELOPERS

Effectiveness of Government Supports		Housing Challenges		Total
		Yes	No	
Ineffective	Count	0	15	15
	% of Total	0.0%	41.7%	41.7%
Not sure	Count	14	7	21
	% of Total	38.9%	19.4%	58.3%
	Count	14	22	36
% of Total		38.9%	61.1%	100.0%

Symmetric Measures^c

	Value	Asymp. Std. Error ^a	Approx. T ^b	Approx. Sig.
Ordinal by Ordinal Kendall's tau-c	-.648	.106	-6.088	.000
N of Valid Cases	36			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Correlation statistics are available for numeric data only.

V. RECOMMENDATIONS

The housing problem continues to increase overwhelmingly, both in quantity and quality, and particularly for the low and middle incomes group. Therefore appropriate action is needed to address the housing situation in Ghana. To help the private developers, it is recommended that the government develop a long-term national housing policy to provide investors and developers with clear policy directions on where to put their money. Furthermore, the Lands Commission, along with various local government authorities with authority over planning and all physical developments within their jurisdictions, should be restructured to ensure that their activities are coordinated in order to regularize the free for all land market. The market is already stressed due to issues such as tenure, multiple sales, land banking, and speculation, all of which have a negative impact on large-scale housing development. Once there is sanity in the land administration process, which is supported by a strong national housing policy, commercial banks will eventually find business opportunities in the industry and roll out mortgage financing schemes for developers and the general public. A national housing policy is also expected to address rising building material, labour, and technology costs

through the promotion of local alternative building materials and tax breaks.

VI. CONCLUSION

Private developers dominate the formal housing sector, with little government involvement. However, because there is little evidence of government support for the housing sector, the overall output of private developers is very low to significantly reduce the national housing deficit. Despite their willingness to diversify their markets to include low and middle-income households, it is clear that private developers cannot do much on public housing without government support. The lack of government policy does not provide private developers with a clear direction as to the types of low-end houses in which they can invest to avoid high risks of voids and vacancies caused by ineffective demand. In brief, the provision of housing is both the state and private, where the state creates enable environment and all the necessary support to the private sector to perform.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

This study is based on the first author's Master's Project Work, which was supervised by the second author and submitted to the Department of Real Estate, Universiti Teknologi Malaysia. Both the first and second authors approved the final version.

ACKNOWLEDGMENT

We would like to acknowledge the financial support of Kumasi Technical University, Ghana during the first author postgraduate studies. Heartfelt thanks also go to members of the Ghana Real Estate Developers Association for providing the primary data for the research work.

REFERENCES

- [1] U. Habitat, *Ghana Housing Profile*, United Nations Human Settlements Programme, 2011.
- [2] F. Ametefe, A. Aboagye, and E. S. Kumankoma, "Housing and construction finance, deposit mobilization and bank performance in Ghana," *Journal of Property Research*, vol. 28, no. 2, pp. 151-65, 2011.
- [3] E. Afrane, A. A. B. Bujang, H. S. Liman, and K. Iddrisu, "Major factors causing housing deficit in Ghana," *Developing Country Studies*, vol. 6, no. 2, 2016.
- [4] S. P. O. F. Ebie, "Public sector driven housing; Achievements and problems," presented at the 2009 Faculty of Environmental Sciences Annual lecture, Nnamdi Azikiwe University, Awka, 2009.
- [5] E. Afrane, "The contributions and challenges faced by private developers in addressing the housing deficit in Ghana," M.S. thesis, Dept. Real Estate, Universiti Teknologi Malaysia, 2014.
- [6] GoG/MWRWH. (2012). Brief on Ghana National Housing Project. [Online]. Available: <https://www.ghana.gov.gh/>
- [7] C. Feather, "The two million housing drive in Korea a supply solution for affordable housing in the developing world," *International Journal of Housing Markets and Analysis*, vol. 12, no. 5, pp. 906-933, 2019.
- [8] C. Mahama and A. Antwi, "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, 2006.
- [9] A. O. Ansah, K. W. Soyeh, and P. K. Asabere, "Developer constraints on housing supply in urban Ghana," *International Journal of Housing Markets and Analysis*, vol. 12, no. 1, pp. 59-73, 2019.

- [10] K. O. Sarfoh, G. Kavaarpuo, and J. Ayitio, "Affordable housing in Ghana — Sector study," *Technical Report*, 2016.
- [11] U. Habitat, "Housing as a strategy for poverty reduction in Ghana," United Nations Human Settlements Programme, 2010.
- [12] Ghana National Development Plan, Policy Document. Accra: Ghana Publishing Corporation, 2008.
- [13] P. Ofori, "Housing poverty in developing countries: Challenges and implications for decent accommodation in Swedru, Ghana," *Acta Structilia*, vol. 27, no. 2, pp. 57-92, 2020.
- [14] Centre for affordable housing finance in Africa. (2020). Housing Finance in Ghana. In Africa Housing Finance Yearbook 2020. [Online]. Available: <https://housingfinanceafrica.org/app/uploads/V13-Ghana.pdf>
- [15] S. K. Ansah, "Housing deficit and delivery in Ghana: Intervention by various governments," *International Journal of Development and Sustainability*, vol. 3, no. 5, pp. 978-988, 2014.
- [16] V. I. Ogu and J. E. Ogbuozobe, "Housing policy in Nigeria: Towards enablement of private housing development," *Habitat International*, 2001
- [17] P. Nugent, *Africa Since Independence*, New York: Palgrave Macmillan, 2004.
- [18] Bank of Ghana, *The Housing Market in Ghana: Prospects and Challenges*, Bank of Ghana, Accra, 2007.
- [19] Business World. (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/>
- [20] K. K. Noah, "Alternative options to mortgages in Ghana," *Housing Finance International*, vol. 17, no. 2, pp. 26-30, 2002.
- [21] Ghana Statistical Service, Housing in Ghana. The Eight Monograph from 2010 Population and Housing Census, 2014.



Ebenezer Afrane is currently a Ph.D. candidate at Faculty of Built Environment and Surveying at the Universiti Teknologi Malaysia (UTM). He received his M.Sc. in real estate from Universiti Teknologi Malaysia (UTM) in 2014 and a higher national diploma in estate management from Kumasi Technical University, Ghana in 2006. He is an academic staff member at the Department of Estate Management, Kumasi Technical University, Ghana.



Ahmad Ariffian Bujang is currently a chair professor at Southern University College, Johor Bahru, Johor, Malaysia after compulsory retirement as an associate professor at Faculty of Geoinformation and Real Estate, Universiti Teknologi Malaysia (UTM). With over 30 years' experience as academic staff at UTM carried out teaching and learning, research and write various papers for conferences, journals, books, monograph and chapters in book in related field of real estate.

Supervision of post graduate students for Master Degree and Ph.D. Specialization in housing and property taxation. Working experience with the City Hall of Kuala Lumpur as a Valuation Officer in the Department of Valuation and Property Management. Graduated Ph.D. from Universiti Malaya (2007), M.Sc. Town and Country Planning UTM (1996), B.Sc. Surv. (Hons) Property Management, UTM (1982) and Diploma in Valuation, UTM (1980). A Registered Valuer with the Board of Valuers, Appraiser, Estate Agents and Property Managers, Malaysia.

Copyright © 2022 by the authors. This is an open access article distributed under the Creative Commons Attribution License which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited ([CC BY 4.0](https://creativecommons.org/licenses/by/4.0/)).