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The Phenomenon of Urban Vacant Lands and Abandoned Building Structures in Ghanaian Cities: A Case Study of Fumesua, Kumasi, Ghana

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Abstract:
One of the common features of African cities is the existence of patches of unused or underdeveloped plots of lands. The environmental implications of these properties and the determinants underlying the incidence of the phenomenon has witnessed limited research and desired comprehension. Adopting the case study approach, Fumesua, a town located within the capital of Kumasi in the Ashanti region of Ghana, was selected as the study area. This paper examines current conditions of urban vacant lands, their duration of vacancy and also explores the causes and factors responsible for the vacant land and abandoned building conditions of these lands. Cost of development was identified as the major factor influencing the occurrence of the urban phenomenon. Speculative reasons also featured as part of the causes even though it was not much of an influence as compared to the high cost of development. Cumbersome land rights documentation and land tenure litigations constitute the underlying determinants of the phenomenon. Traditional authorities, along with government agencies, that own majority of the lands in Ghana and are primarily responsible for selling and transferring lands for use to individuals, have a significant role to play in addressing this urban phenomenon. Land buyers within urban areas must meet certain basic or minimum land development capability requirements before lands are transferred to them. Specified legally determined time frames must be in conformance failure of which the land will automatically revert to traditional or state ownership.

Keywords: *Urban vacant lands, speculation, development, fragmentation*

1. Introduction

Land encompasses various components which include soil, rocks, water and natural vegetation. It is a common or communal property that outlines the geographical boundary, the socio-cultural heritage and the economic power of a community. Land as a resource holds all minerals and fixed properties including buildings. According to Paaga (2013), in as much as land is very important in the area of agriculture and farming communities, it is also considered as the key resource that can be used to determine economic progress in terms of capital and wealth in modern times. Land as a resource is a good investment and a valuable asset whose value appreciates with time even though it has the potential to also depreciate. It is not in doubt that land is mankind's most significant economic resource as almost all economic activities take place on land. It will, therefore, be very difficult to successfully undertake any economic activity without the use of land. Land is, thus, an important physical resource that everybody depends on for survival. In most business transactions, an interest in land is very essential as it is an important need for any commercial activity (Gambrah, 2002). This unique nature of land makes it a powerful commodity worldwide as the level of demand for land in all areas of development keeps on rising.

In recent times, the phenomenon of vacant urban lands where most lands under private ownership are left unoccupied or unused in urban areas has been on the ascendancy. In a work that involved an assessment of African cities, it was identified by the authors of the existence of lot of patches of unused and undeveloped lands mostly at or close to city centres as one of the common characteristics (Lal *et al*., 2017; Song *et al*., 2020; Kim *et al*., 2018). This has led to a situation of highly uneven and fragmented cities with urban sprawl, as the cities grow outwards. It is for this reason that most African cities tend to be unproductive when analysed from the perspective of an urban economic theory as the disjointed nature of the cities prevents the agglomeration needed to make cities productive (Collier, 2016).

Vacant lands in urban areas constitute a unique subcategory of land in a city that exhibits the characteristic of increasing value where there is urban growth and public developments. Also, another unique nature of vacant urban land is the fact that people may hold it as a form of speculation because of the expected future increase in value which happens

as a result of public development and investments by the city. This development actually deprives people who are in actual need of land from its accessibility. It must, however, be noted that this is not the only cause of the phenomenon of urban vacant lands.

The mono-centric city models depict that the land at the centre of most cities commands the highest value. This is because the city centre is actually where the highest forces in terms of innovation and productivity exist (Lal *et al*., 2017). The land will not realise its productive potential in the form of income accrued privately and publicly in the form of tax revenue if left to remain vacant. The issue of fragmentation arising out of vacant lands may also lead to the creation of multiple density peaks throughout the city which will not be valuable and favorable by discouraging scale economies (Lal *et al*., 2017). The situation will, in the long-run, discourage governments from providing the investment, services and infrastructure needed to support the development of the city as it becomes more expensive to do that.

Ghana's population was 24.66 million in 2010 and now estimated at 30.8 million people (Pop & Housing Census, 2020). Just as about half of the world's population lives in urban areas, the census in 2010 revealed majority (52%) of Ghana's population resides in the urban areas. It also projected that, by the year 2020, urban population of the country will increase to 60% of the total population. This will result in higher population densities within urban areas like Accra and Kumasi which recorded population density of 1,236 people per square kilometer and 196 people per square kilometer respectively because of the increasing demand for land (GSS, 2010). Additionally, provisional results released in the current census (2020) give an indication that population densities of both cities have increased to 1,678 and 223 people per square kilometer for Accra and Kumasi respectively. In spite of these developments there are, however, a number of undeveloped or vacant lands which have not been put to any use even though they are under individual ownership.

The issue of undeveloped lands within urban areas might arise out of a number of reasons notable which may be as a result of land speculation, where investors buy more than one block of land with the ultimate motive of making huge profits from the appreciated land values over time. There are also other reasons in terms of cost, taxation, planning restrictions among others as land speculation is not the only reason that can be attributed to the phenomenon of vacant urban lands (Northam, 1971). The existence of undeveloped lands also comes with its attendant challenges among which include urban sprawl. Individuals, who are readily in actual need of land, do not have access to these lands, whilst the productive capacity of these lands is left untapped. The growing population is then forced to migrate to the outskirts of town causing urban sprawl (Harvey & Clark 1965). This increases government spending in providing the needed services for these new settlements. Also, the problem becomes aggravated in a situation where the control of lands by private owners contribute to the delay of new urban developments, thereby, impeding the evolvement of the city. Nonetheless, there are limited studies conducted on this urban phenomenon in Ghanaian cities. The causes of urban vacant lands are something that needs to be ascertained to find ways of resolving the challenge. It is, therefore, against this background that this study is being conducted to help find answers to some of these important questions.

2. Overview of Literature

According to Kim & Kim (2012), urban vacant lands, which he considers a waste product, arise out of urban growth, economic and industrial activities. Land vacancies are the end product of urban developments which include decentralization arising from demographic change, de-industrialisation, urban sprawl, and the taste for modern varieties of residential choices, as well as housing foreclosures, subsequent abandonment and demolition (Johnson *et al*., 2014; Kremer *et al*., 2013). This creates 'urban voids' or undesirable spaces within the urban structure. The large number of vacant lands within city, including, for example- ancient financially challenged cities such as Detroit, Michigan and Buffalo, become a huge challenge in the management of these cities.

Vacant lands are found in locations with roughly the same comparative occurrence in areas of all different land price classifications which tend to be contrary to the simple explanation given that they are always found either at the outskirts or in the centers of the cities. Furthermore, through a conducted poll, it was revealed that the phenomenon of vacant lands in urban areas is as a result of deliberate speculative choices on the part of land owners and not really a consequence of financial constraints facing the landowners (Sinn, 1985). In criticizing the situation, some politicians and economists have contended that economic productivity is violated when people withhold land on the basis of speculation. In their view, the issue of vacant land is, however, another indication of market failure for which reason a number of interventionist measures have been suggested as remedies, notable among which include an ad valorem and capital gains tax (Sinn, 1985).

There has been an advocacy for obligatory building or use of land and the takeover of land from resistant landowners by the state. These suggestions, however, are not new or different from the opinion expressed by Oppenheimer (1910), which dates as far back as the start of the twentieth century where he argued that the significant cause of abuse and exploitation of the working class comes from speculative land holdings. Besides, the contrary views expressed today against these positions in favor of urban vacant lands are not new because the first economist to view it in a more favorable light was possibly Adolf Weber (1908). He actually objected to the idea of government intervention because he viewed vacant land as an investment that might be preserved usefully to satisfy the needs of the future unlike building which just signifies an irreversible investment.

The stance of Weber (1908) on urban vacant lands received backing and a lot of support from a number of scholars (Ohls/Pines, 1975; Fujita, 1976; Bruechner and Rabenau, 1981; Wheaton, 1982), who demonstrated the possibility of a leapfrog development in urban land and also from the suburbs inwards. However, one thing, that has been overlooked in spite of all the useful contributions and conclusions made regarding the location of urban land, was the question as to why it exists, thereby ignoring a very important part of the issue.

According to Kivell (2002), 'derelict and vacant land is a significant part of the overall land use pattern of most cities and amounts to a major problem in a number of them'. This is because vacant and deserted lands often, which include abandoned structures, are used as dumpsites which devalue and carry bad images about the community. These abandoned lands, which sometimes include buildings, become fire threats and become grounds where activities such as drug trafficking are perpetuated (Cohen, 2001). This gives an indication of community decline, diminishes the sense of community, and reduces investment (Goldstein *et al*., 2001). It adversely affects the neighborhood by decreasing the quality of life and property values, additionally decreasing redevelopment and investment, negatively affecting the tax base of local taxes, and affecting municipal budgets as a result of costs incurred from administrative and maintenance expenses (Crauderueff *et al*., 2012; U.S. Government Accountability Office, 2011).

Urban vacant land is subject to both political and economic problems (Németh & Langhorst, 2014). Urban vacant lands predominantly in the U.S and other parts of the world tend to be observed from an economic standpoint in terms of its highest and best use. It is often ignored if it is unable to meet these conditions and expectations. However, there are also numerous options and opportunities to improve vacant lands with respect to its environmental and social value. It is for this reason that many urban design professionals and scholars are focusing on the subject of urban vacant lands and the potential it comes with, especially with regard to planning and design (Kim & Kim, 2012). These unused lands can be released or used to the benefit of the larger society who is in desperate need of land instead of allowing it to remain idle.

In the first place, urban vacant land signifies great prospects for smart development principles such as brownfield, infill and greyfield redevelopment, including the formation of undeveloped and green space in cities that are densely populated (Bowman & Pagano, 2001; Schilling & Logan, 2008; Peirce, 1995). Secondly, one negative effect of completely abandoned vacant lots is the fact that these unused lots tend to attract waste, debris which often has adverse impact on adjoining and properties nearby; consequently, for redevelopment planners, the need to identify the prospects of urban lands becomes a very key work for them (Burchell & Listokin, 1981; Accordino & Johnson, 2000). Vacant land has the potential to connect and link up unrelated parties, comprising landholders, community activists, fire departments and estate developers, around common interests to help solve externalities that are apparently undesirable (Hou, 2010).

Furthermore, undeveloped lands are often located in communities with extremely high levels of marginalized populations, a situation which is characteristic of (but not exclusive to) cities such as Detroit, Cleveland and St. Louis. The issues of social and environmental inequality are revealed in these circumstances of vacant lands which can be consequently addressed. Many researchers postulate that the increasing number of "shrinking cities", many of which include Detroit, St. Louis, Akron, and Stockton, Modesto and Phoenix, suggests that more of these vacant land will emerge in the future making it a subject that deserves concerted attention (Hollander & Németh, 2011; Pallagst, 2008).

According to Goldstein *et al*., (2001), most studies or policy works have overlooked the huge potential of the significant number of various vacant urban land in most economically challenged urban districts. Attention is focused largely on brownfields in the urban areas. Many state policies concentrate on the establishment of modern infrastructure and developments instead of rehabilitation or development of vacant spaces (Jackson, 1987). People are unwilling to invest in vacant urban lands and brownfields most of which resulted from the paradigm shift of the national economic base from an industrial to a service economy since the 1950s (Goldstein *et al*., 2001; Németh & Langhorst, 2014).

The problem of declining property values can be attributed to abandonment, but in the same vain, land speculation has projected the value of properties in other urban areas upwards (Goldstein *et al*., 2001). In a competitive free market economy, land speculation is a noted phenomenon that is inevitable but can also be responsible for increasing level of land vacancy and abandonment (Kivell, 2002). While Corbin (2003) took a different perspective in examining the cultural meaning of vacancy by redefining it both from the cultural and social standpoints, Forman (1995) also looked at the environmental benefits of these vacant lands. Nonetheless, these environmental and cultural values with respect to vacant land are often different from the normal and already known economic approach taken by many urban areas to lands. According to Bowman & Pagano (2004), urban vacant lands signify a common and a large section of the urban landscape available to be reused strategically in urban development policy. For vacant land to be beneficial to the larger society, it must be put to long-term and interim use including gardens, wildlife gardens, public plantings and recreational areas as this will help mitigate its adverse impacts on the immediate community (Bonham *et al*., 2002).

With Ghana battling an increasing level of housing deficit every year, the issue of urban vacant land is a challenge that needs to be addressed as land constitutes a very important resource input needed to tackle the issue of housing. Passing through the major urban areas in Ghana, one will identify quite a number of vacant and unoccupied lands which are owned by individuals, organisations and sometimes the state. There are limited research done on this subject in Ghana to specifically identify the factors and reasons responsible for this urban phenomenon. Due to the dearth of knowledge regarding the subject of vacant lands in Ghana, many scholars have tended to overlook that area. The purpose of this study was to examine the condition and state of urban vacant lands among land owners and to ascertain the reasons for the vacant status of these lands. This research is meant to fill some gaps in our understanding of the potential causes of various urban vacant lands to improve urban design, planning and management.

2.1. Urban Physical Land Density

Cities and urban areas in Africa have different features, notable among which include low exposure, high disintegration and fragmentation. To begin with is the new building cover and volume close to urban centers. There still exists areas where lands are either vacant or land developed with low volume of building structures even though a number of African cities have high rise buildings. This is responsible for the low level of capital concentration near urban centers, or infill on vacant parcels. City boundaries are forced and pushed outward by the expanded type of development.

African cities and urban centers are also unique for the large number of 'leapfrog patches'. These are small newly-built parcels of land that do not border on or connect existing buildings or developments. Due to its separation from existing developments, the quest of urban managers to provide a networked kind of service that increases economic and urban productivity is undermined. The occurrence of urban expansion, especially due to leapfrog, creates just a single pattern of development, making commuting in African cities very challenging. The physically disjointed nature of African cities makes urban settlers disconnected from one another. The phenomenon of city or urban expansion has largely occurred as leapfrog patches which do not connect with already built-up urban areas, resulting in increasing commuting costs including lower accessibility to other people and markets in the city.

When it comes to population density gradients or the proportion of open and vacant space surrounding urban built-up areas, cities in Africa do not show more spatial fragmentation as compared to cities and urban centers in other regions (Lall *et al*., 2017). Available data are unreliable as comprehensive and current dataset on built-up urban fragmentation is yet to be completed. The most recent data, for 2000, gives an indication that plenty of cities in Africa, on the average, have similarities with other cities across the world. The data shows that average proportion of vacant or open space around each developed space within a walking distance circle in African cities is 39%, quite similar to the average of advanced countries in Europe and Southeast Asia (Angel *et al*., 2011).

Also, the share of the city or urban footprint to the city's developed and built up area, which describes 'the average city footprint ratio', is 1.8 in African cities; it also similar to other cities across the globe in Latin America, North Africa, Europe and Japan. Cities in Sub-Saharan Africa do not seem to be more fragmented as others may assume due to the prevalence of urbanized vacant or open space as compared to other cities. African cities possibly will be more fragmented than the global average near the urban and city centers. In terms of economic drive and important spots for the exchange of goods and services including ideas, the city centers are most ideal. They are also areas where one can locate most of the valuable lands in the city. The underutilization of land in the city center deprives the city of the opportunity to make use of some of its productive land. However, lands in urban centers are also left vacant for green spaces as not all land parcels at the center require to be developed. For instance, K14% and 20% lands in the urban center is deliberately left unbuilt in Paris and Singapore respectively (Duranton & Puga, 2015). Conversely, African cities like Antananarivo, Brazzaville and Harare, which are not neighboring built-up areas, are dispersed throughout the center, with over 30% of land within 5km of the city center left vacant and unbuilt (Antos *et al*., 2016). Between 2000 and 2010, the phenomenon of leapfrog development was on the rise in many African countries, consequently resulting in fragmentation. A study conducted by Baruah (2015) in 21 African countries revealed that the proportion of total new fragments between the 1990s and 2000s was only found in Windhoek, Namibia. In only four cities, which consist of Windhoek; Addis Ababa; Lusaka and Ouagadougou, fell a quantity of leapfrog areas per square kilometer of footprint. Amongst the cities that are experiencing increasing level of fragmentation are Maputo, Nyala and Nairobi. An instance of Maputo, nearly 51% of the vacant patches formed from the year 2000 to 2010 were as a result of leapfrog. There existed in the city about 95 new patches for every square kilometer of land in 2010 (Baruah 2015).

A vacant land refers to a parcel of land purposely earmarked for development but has been put to the designated use within official time specification. Abandoned buildings comprise partially developed structures with the owner's cessation of maintenance responsibilities and the performance general custodial duties (Vom Hofe *et al*., 2019) and as such normally suffer physically impaired integrities (Fletcher, 2014). The quantity of vacant and abandoned building structures in cities are accompanied by negative impacts on the surrounding environments (Mikelbank, 2008). Findings from Porter *et al*. (2019) indicate that cities with many abandoned structures such as abandoned houses have a high potential of experiencing crimes within their vicinity because such properties serve as hideouts for thieves and make their operations much easier. According to John and Gary (2008), one of the clear signs of cities' deterioration is vacant and abandoned building properties which undermine the appearance and economic values of cities and their surroundings. Many elements of community life are impacted by vacant and abandoned structures, including housing neighbourhood and business district vitality (Accordino & Johnson, 2000). In the midst of the negative impacts of vacant and abandoned properties, is low economic growth because taxes attached to these properties are neglected but put some cost on local governments in situations where some maintenance has to be carried. As a case in point, the government of Ghana in 2019 commissioned US $51m to finance the completion of abandoned housing projects in the country (Ilolo, 2019). Bieretz & Schilling (2019) state that cities must handle the growing number of unoccupied and uncompleted structures, not only for the detrimental impact they have on the community, but also because of the countless costs they entail. The cost grows with each year that land remains vacant, underdeveloped and abandoned (Han, 2014). In Ghana, despite the housing crises, the 2010 PHC revealed that over 66,000 houses in urban areas were either vacant or has been abandoned (GSS, 2014).

Shore (2021) identified and grouped the causes of vacant and abandoned properties into various forms including the occurrence of natural disasters, the cost of renovating and repair of properties, environmental and sustaianability issues, economic bust, and violent neighborhoods. Vom Hofe *et al*. (2019) stresses the inability of property owners to either maintain or develop their land properties amounts to the abandonement of such properties.

According to Branas *et al*. (2012), a strong partnership between city managers and community memebers is very essential in formulating startegies for proper management and addressing of the issues of vacant land properties in cities. This implies that both the community and city authority must be prepared and willing to collaboratively fight against the incidence of vacant land and abandoned building structures to reduce cities' deterioration resulting from such displeasing situation. Han (2014) mentions that the impacts of vacant and structures increase as they stay abandoned for long, and as such suggets immediate reoccupation to mitigate the piling up of the negative impact.

2.2. Problem of Urban Vacant Lands in Ghana

The issue of urbanisation and its influence on the land and the environment at large is a major challenge facing the developing world and Ghana is not an exception because less has been done to address this challenge. Rapid urban growth is adversely impacting metropolises in developing countries in the area of land. Urban expansion, according to the UNFPA (2007), is happening at a rate that is quite unprecedented. It estimated that over 50% of the human population in the world is residing in urban areas. This, therefore, means that the demand for land for various uses will be very high and will also translate into an increased rate of development in these urban areas. The high level of development becomes a challenge to many city managers in developing countries as it becomes difficult for them to manage these lands. The rising demand for land for various uses in these urban areas is actually contributing to ever increasing land rent. The capital of the Ashanti region of Ghana, specifically Kumasi (figure 1) where the study was conducted has been growing at a faster rate in addition to the demand for land. Although urbanisation is rapidly rising, there still remain lands that have been zoned for use by individuals and organisations but continue to remain vacant and undeveloped.

Figure 1: Location of Kumasi in Ghana

The land use cover of Kumasi has changed in terms of size, development and green areas due to urban expansion. Data from secondary sources actually indicates that vacant and open spaces constituted a total land area of 28.8km^2 which represents 11.5 percent of the total land area of the city in 1995. The proportion of vacant lands in the city has, however, been reducing over the years. In the year 2013, for example, the amount of vacant lands reduced to 23.9km^2 representing 9.6 percent of the total land area. Also, data on the distribution of various land uses and changes over time throughout 1995 to 2013 is presented on table 2 below. Land use for residential purposes increased from 109.3km^2 (43.7%) in the year 1995 to 115km^2 (46%) in 2013. In addition, although the amount of developed land area increased by 17km^2, from the year 1995 to 2010, the vacant and undeveloped areas reduced by the same land size (see Table 1). This gives an indication of the increasing demand for land by people in urban areas over the years for them to start residential and other forms of physical development.

Land Use	1995		2000		% change	2005		% change	2010		% change
	km^2	%	km^2	%		km^2	%		km^2	%	
Developed Area	187	74.8	191.3	76.5	2.3	197.5	79	3.3	204	81.6	3.29
Undeveloped Areas	63	25.2	58.2	23.5	-7.6	52.5	21	-10.6	46	18.4	-12.3
Total	**250**	**100**	**250**	**100**	-	**250**	**100**	-	**250**	**100**	-

Table 1: Proportion of Developed and Undeveloped Land in Kumasi
Source: Adopted from Oduro-Ofori et al., (2015)

Land use	1995		2000		% change	2005		2013*		% change
	Area (km^2)	%	Area (km^2)	%		Area (km^2)	%	Area (km^2)	%	
Residential	109.3	43.7	109.6	43.8	0.5	110.3	44.1	115	46	0.8
Industrial	10.3	4.1	10.6	4.2	2.4	10.3	4.1	9.9	4	-0.1
Commercial	6	2.4	6	2.4	0	6	2.4	6	2.4	0
Education	43.8	17.5	43.8	17.5	0	43.8	17.5	42.8	17.5	0
Civic and cultural	18.8	7.5	18.8	7.5	0	18.1	7.3	17.9	6.8	-0.5
Open space	28.8	11.5	28.1	11.2	-2.6	28.1	11.2	23.9	9.6	-0.7
Circulation	33.1	13.3	33.1	13.3	0	33.4	13.4	34.6	13.9	0.5
Total	250	100	250	100	-	250	100	250	100	-

Table 2: Land Use Structure of Kumasi
Source: Adopted from Oduro-Ofori, et al., (2015)

2.3. Causes of Urban Vacant Land

One critical factor that determines the level of intensity in the phenomenon of urban vacant land is the value of these lands (Brueckner 1990; and Ding 2001). It suggests that the forces and determinants of land values are in no way different from the ones responsible for urban vacant land values. Adams *et al*., (2002) also indicated that one can ascertain the reason why land is vacant by determining the time period the land has been vacant and unused. Specifically, where land has been vacant for long time periods without any transaction recorded on land, it can be attributed to development challenges rather than land speculation. On the other hand, in a situation where a vacant land is frequently transacted but still remains vacant or undeveloped, it could suggest that this land is more suitable for development as the regular transactions on it give a clue of its marketability.

Schenk (1978) also made the point that vacant or unused land can be categorized depending upon the forces backing it: structurally unemployed land, frictionally unemployed land and land held in reserve for the future. He described structurally unemployed land as the type of land where the discounted value of the returns received from its productive use is to be higher than the cost required making it productive. It's as a result of a number of reasons, many of which include: ownership or tenure problems, lack of utilities, strict regulation, expected flood hazard, slope or foundations problems, odd-sized and shaped sites left unused in communities where land was legally transferred in fixed sites sizes, small lands arising from old sub-divisions, and neighborhoods effects. In terms of frictionally unemployed lands, the dearth of perfect and free information on prices, quantity and qualities of land both presently and in the future is responsible for its vacant state.

The third case comes into play once landowners must wait for the optimum moment to invest in any development project (Titman, 1985). Titman contends that it is often prudent and also productive to prolong the start of a development because it will help the investor to gather all the needed additional information on which vital decisions concerning the investment will be made. In the development of land use related policies, this category of urban vacant becomes very important. For example, in an instance where the authority executes a policy with the goal of reviving development activities, and there is uncertainty due to lack of information on the policy and its effects, it will rather result in a decrease in building activities.

This, therefore, suggests that the phenomenon of urban vacant lands is not in any way necessarily bad or an indication of a market failure as Evans (2004) clearly expressed. With regard to frictional unemployed land or land held for future use as a result of its nature, building on it must not be rushed or done in a hasty manner as it could, in the long run, lead to uses that are socially undesirable. A number of other studies have revealed several instances where the presence of vacant lands mean that resources are being used effectively and efficiently (Ohls & Pines 1975). But in a situation where the unused land is structural in nature then there will be the need for some intervention. Authorities in

making decisions concerning the use and development of vacant lands must know and understand the type of vacant land it is dealing with, otherwise efforts directed towards limiting its quantity may be socially unfavorable.

Insecure property rights and land tenure may be another factor responsible for land vacancy. This is actually a common feature for most developing countries that are still in the course of undertaking land regularization. The lower the level of security for land titles, the lower the level of investment by landowners in their land as they remain uncertain as to whether it will be expropriated in the future. Hence, the phenomenon of vacant land can be an indication of general challenges in a system where property rights formalization is being undertaken (Haas & Jones 2017).

It is very essential for urban planners to understand and appreciate the type of vacant land in question and the category within which it falls so as to inform the kind of policy to be instituted to ensure its efficient and optimum use through densification. One way by which land vacancy is managed and controlled is through land taxation. Such intervention will not actually yield any results in the event the vacant land is unbuildable. This is because a land tax will only have minimum effect on encouraging more efficient land use where the vacant land is really buildable. Most urban vacant lands not moving into the market before set to be developed actually makes it difficult to determine their buildability (Northam, 1971). Moreover, there are varied definitions of 'buildability'; for instance, a huge company in manufacturing may have the motivation to use vacant land that, due to natural or physical factors, was considered unbuildable (Adams *et al*., 2002).

Most lands remain vacant and undeveloped by reason of their size such that it is considered too small to be invested in. Such land parcels may be of great need to others, especially low income households, who use such small lands to put up their personal dwellings. For instance, large real-estate developers in Buenos Aires succeeded to buy out the smaller developers from the markets (Arujo de Larangeira, 2003). These large developers were, however, not interested in developing smaller parcels for low income families, resulting in a large number of plots of land in the city left vacant. Furthermore, urban planners seem not to recognise the option where a land tax may encourage non-speculative owners to give out parcels that may be unsuitable for large development but rather offer free spaces for communal activities such as parks, etc. Vacant land buildability will, therefore, depend on the owner and it is subject to change with time.

The factors responsible for occurrence of urban vacant lands are varied as the quantity of vacant parcels within an area - with every parcel having its unique reason for being vacant. These factors also differ between different cities, neighborhoods, and between different kinds of vacant lands in the same neighborhood. A number of theories have been developed to ascertain the existence of vacant land in urban areas. Northam (1971) also, from the point of view of an urban planner, outlined five reasons for vacant land in urban spaces.

2.4. Remnant Parcels

These are land parcels that are left undeveloped from other major developments close to them as they are considered not suitable for large-scale development due to their relatively small size and irregular shape.

2.5. Parcels with Physical Limitations

Key among the many factors responsible for the vacant state of lands especially in cities is that of topography. With these land parcels, they actually remain vacant due to natural factors. This is because they are normally sited in areas susceptible to flooding or where the land becomes unsuitable for construction as a result of the topographical shape of the city. Such parcels are either unsuitable for development of any kind, or besides the impracticalities and difficulty involved in developing them hinder their development so long as there are suitable lands available elsewhere which can be put to the same use.

2.6. Parcels Held for Corporate Reserves

Large businesses, especially those in the industrial sector, may also hold vacant lands which are normally in close proximity to their existing plots and buildings with the expectation of expanding the level of production in the future.

2.7. Institutional Vacant Land/Municipal Policies

Public authorities normally hold and have interests in these types of lands and leave them vacant for future infrastructure developments and shaping urban growth. It should also be clearly stated that where rigidity is applied in applying controls and restrictions without, form of flexibility will end up with the negative effect of discouraging any development. An example of this is an area, which has been over-zoned for a use, is of no current or future demand.

2.8. Vacant Land for Speculation

These are lands held by those who intend to obtain maximum benefit in terms of capital gains from the increase in land values due to the development of the city and related investments. The time period a land remains vacant will depend on the will of its owner. Often land owners hold land for reasons of speculation and the owner will choose to rather keep the land vacant and pay taxes until the favorable moment arrives and gives him the chance to realise his desired returns or profit. Sometimes, the lack of resources for investment could stall an ongoing development or the failure of a construction project. The challenge of capital shortage was a major reason for which several lands parcels in Guangzhou were supplied but not used. Additional studies show that the situation is not different in other cities in Europe and U.S. (Newman *et al*., 2016a; 2016b; Xie *et al*., 2018; Németh & Langhorst, 2014; Crowe & Foley, 2017).

2.8.1. Study Area – Fumesua

Kumasi (Map 1) is set between latitude 6° 35' N--6° 40' N and longitude 1° 30 W--1°35' W. It is the capital of the Ashanti Region of Ghana. It occupies a land surface area of 214.3 km^2 and is the home of 2 million people. It is the fastest growing city averaging 5.7 percent per annum a growth that is expected to continue and even rise (Afrane and Asamoah, 2011; Mensah Bonsu and Owusu Ansah, 2011). The rapid population growth has resulted in a relentless increasing urbanization and urban sprawl punctuated by undeveloped and underdeveloped plots of land. Typical of the phenomenon is evident at the instance of Fumesua, a suburb which has been selected for the case study.

The study area adopted is a community which is situated approximately 15 kilometers away from the centre of the Kumasi city. Specifically located within the Ejisu-Juabeng District in the region, Fumesua occupies a land size of about 250 acres and lies within the semi-deciduous Forest ecological zone of Ghana. Fumesua can be described as a dormitory town because it houses workers in a number of firms in Kumasi, therefore serving as a residential area. The town is surrounded in the north, south, east and west by other towns which include Kentinkrono, Ejisu, Oduom and Anwomaso respectively. Fumesua is a community that has endured the impact of urbanization as the rising demand for urban land in the area has made the town experience a steady transformation with respect to land tenure and economic growth. The population of Fumesua was estimated as 6,187 (Ghana Statistical Service, 2005). In the selected area, the level of demand for land for the purposes of property development in the urban area has been increasing annually. Due to the increasing demand for land and built up spaces for rent, developers, the government, private organizations and home builders have been acquiring large tracts of lands from previous villages leaving them undeveloped. This has resulted in urban sprawl and leapfrogging which increases the cost of infrastructure.

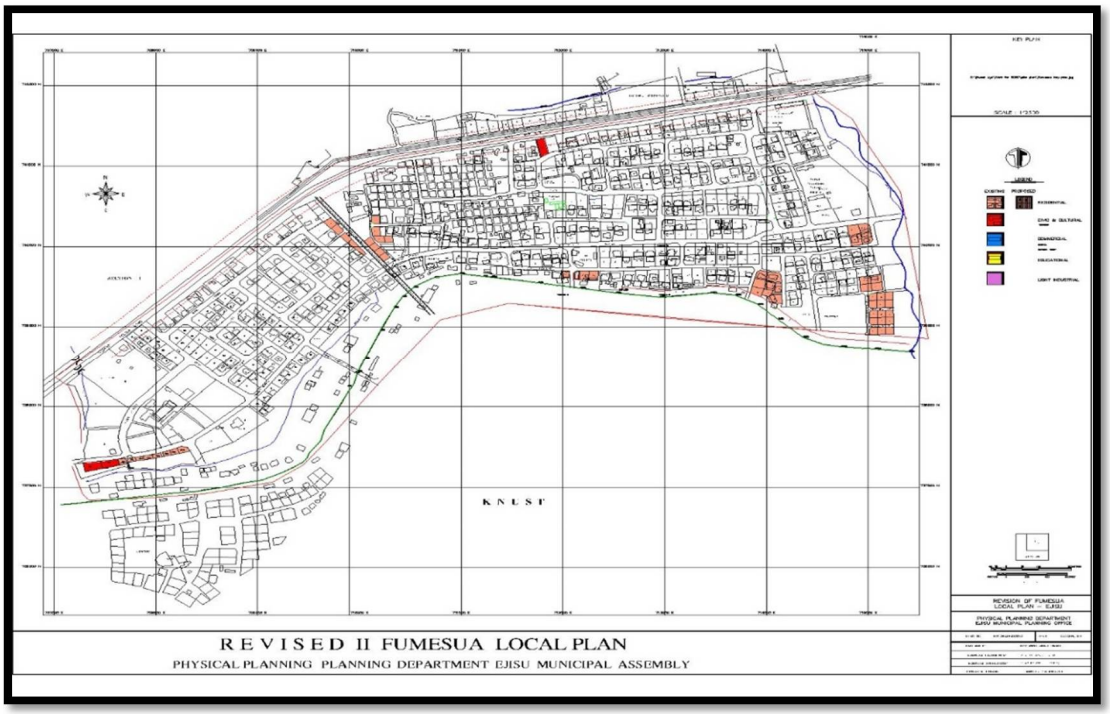

Figure 2: Map of Fumesua
Source: Physical Planning Department Ejisu Municipal Assembly 2021

3. Methodology

This work is mainly of a mixed analytical justification methodology. The study in this respect depended on both primary and secondary data to achieve its objectives. Primary data represents field information collected from respondents that participated in this study. Secondary data comprises written literature on the subject of urban vacant lands among land owners and the factors which cause land to be vacant. With this, we will be able to put into context and also highlight the literature gaps on urban land studies.

A research survey was used to meet the need of a data sample to be used (Ponto, 2015). Information obtained from literature aided in the development of a questionnaire which was administered by the respondents. In developing the questionnaire, both open and closed ended questions were used to capture all the important data needed for the purpose of this study. In categorizing the questionnaire into four main parts, it focused on the respondent's demographic characteristics, the state of land vacancy among the various sampled land owners, the duration of vacancy, the factors responsible for the phenomenon of urban vacant lands and the relationship between the demographic features of respondents and the state of their lands. The target population includes all people who currently hold rights to vacant land in Fumesua out of which 120 were sampled.

Both arithmetic and non-arithmetic data was analysed in this research due to its focus on both theoretical and empirical data. In this regard, the mixed method (Qualitative and Quantitative) of data analysis was used to draw the strengths of both the quantitative and qualitative research methods. The qualitative method offers an in-depth detail and understanding of the problem, whiles the quantitative approach gives statistical depth of variables. Descriptive and

inferential interests were also adopted in analyzing that gathered data for the study. Respondent's data were presented in the form of charts and cross tabulation. For data sets that are not statistical or numerical in nature, theoretical analysis was used in analyzing them. In effect, a combination of theoretical, statistical and illustrative approaches was employed in the analysis because of their relevance to the data generated from the research.

3.1. Population and Sampling Methods

The population of the study consists of all vacant landowners in Fumesua. These include people that have fully acquired land for use or have the rights to use any land within the study area. A total of 120 land owners responded to the survey. The real reason behind the selection of this set of respondents is because they qualify as people with most likelihood of having had the experience of making a choice as to whether to develop a land or keep it vacant which makes them most qualified to provide the needed information for this study.

In conducting this research, two non-probability sampling techniques, which include the convenient and purposive sampling methods, were used to gather research data. In purposive sampling, units from a pre specified group were selected. The study area was purposively selected out of which respondents were sampled to participate in the research. Two suburbs of the study area were also selected purposively to obtain the views of respondents based on the classification of these suburbs into low and high income regions in Fumesua. The convenient method of sampling was then adopted to identify the respondents for the study. With this approach, respondents were selected or allowed to participate in the study on the basis of their availability and willingness to participate. In this regard, the total number of respondents for the study was, however, based on convenience. The purposive sampling technique was used again to obtain information from the traditional authorities and district assembly with the jurisdiction and requisite information needed for the purposes of this research. Thus, they were selected on the basis of their expertise and information availability.

4. Results and Discussions

This research had four main objectives. They are:

- To examine the state of urban land vacancy among individual vacant land owners in urban areas.
- To determine the duration of land vacancy from the point of acquisition till now or when development started on the land.
- To identify the factors responsible for the vacant state of lands among individual urban land owners.
- To ascertain the relationship between the respondents' demographic features and the state of urban land vacancy.

Most of the lands held by respondents were partly vacant as they tend to have received some minimum level of development. As high as 58% of the total respondents either have their lands partly developed or developed just a small portion of the land to foundation or lintel level. These partly vacant lands were either 25%, 50% and 75% covered with development. It was, however, also observed that a large amount of these lands were 50% developed. As much as 42% of the respondents have not even started any development on their lands and it remains completely vacant after acquisition.

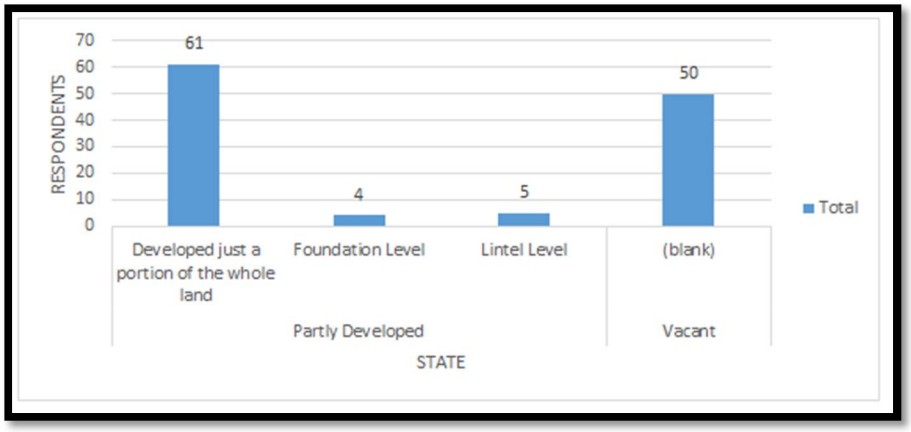

Figure 3: Current State of Lands
Source: Field Data (2021)

In terms of the duration of land vacancy, a significant part of completely vacant lands has remained in that state in the past 5 years after acquisition and it constituted 42% of that category of vacant lands. 36% of the remaining completely vacant land category was observed to have remained in that state for a duration between 6-10 years. The partly vacant land category was also observed to have remained in such state for a duration between 11-15 years (39%), 16 years and above (35%) and between 6-10 years (26%). In terms of how long it took before development started on the partly vacant lands, it was observed that close to 80% of the responses indicated that they began developing their acquired lands within a period of 5 years after acquisition showing they were not ready to immediately develop or use them., Most of the respondents (80%) blamed on the high cost involved in development for this occurrence. This occurrence, when not properly managed, has the tendency for these lands to be occupied by waste including an attractive ground for dangerous species and germs to breed, resulting in the loss of the environmental benefits to the community. Urban vacant lands have also been subjected to severe environmental challenges by way of pollution (e.g., brownfields) and soil erosion (Song *et al*., 2020).

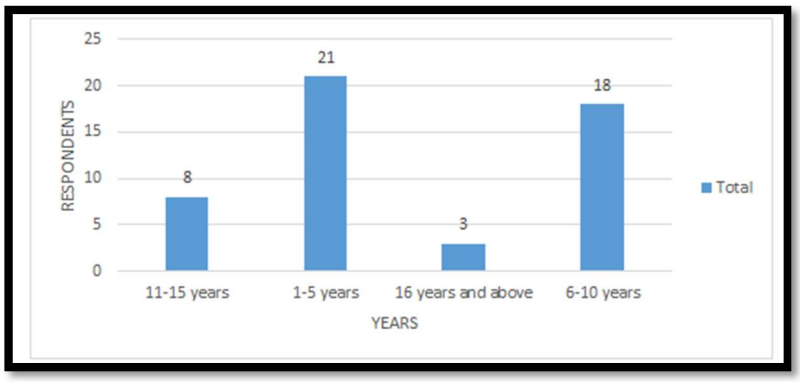

Figure 4: Duration of Whole Land Vacancy
Source: Field Data

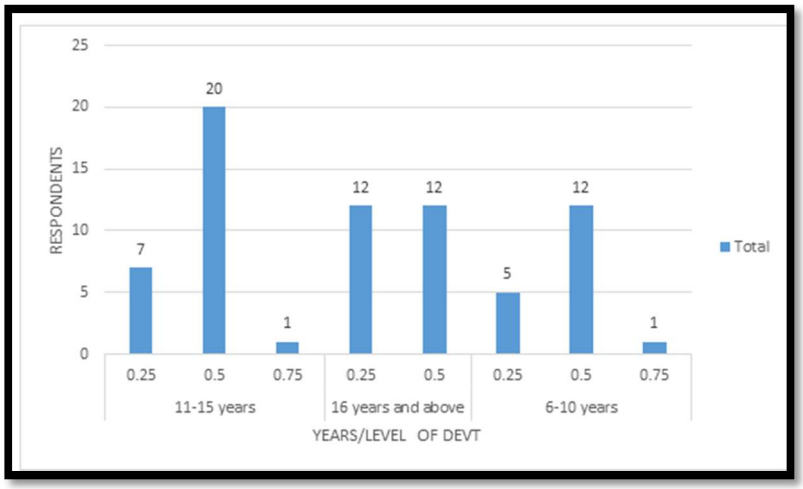

Figure 5: Duration of Partly Vacant Land
Source: Field Data

The main reasons or causes of the phenomenon of urban vacant lands include the cost of developing a property on land. The high cost involved in improving these urban vacant lands is the cause of the happening. With a large majority of them (84%) attributing it to the cost of development, just about 11% indicate the reason of land speculation; it is the assumption held by a wide number of people as a reason for the phenomenon of urban vacant lands for which reason suggestions on the taxation of these lands have been prescribed as a way of addressing it.

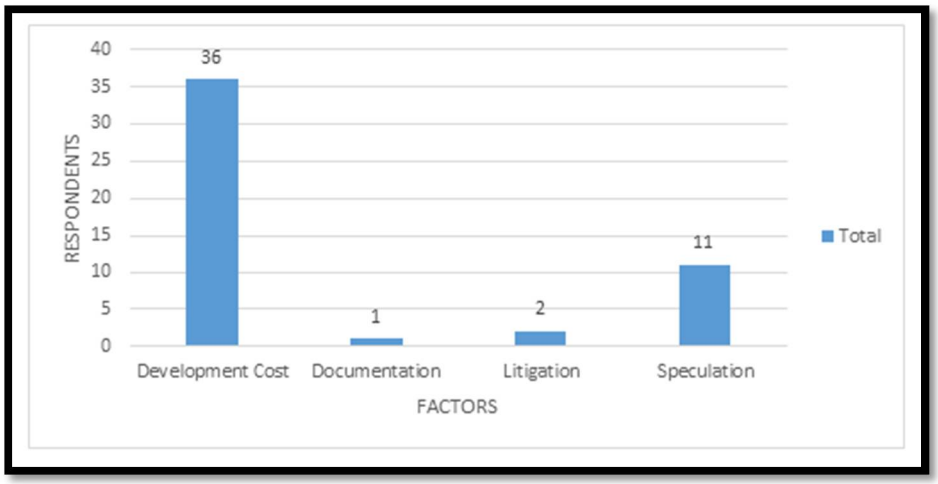

Figure 6: Factors Responsible for Vacant State of Lands
Source: Field Data

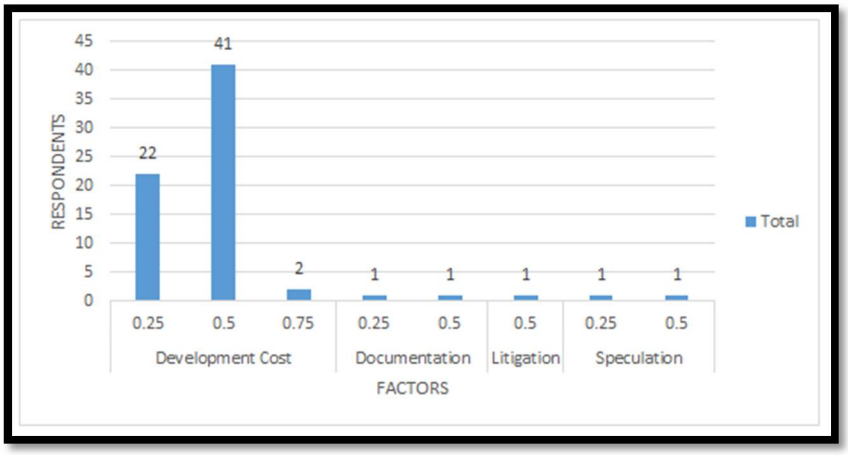

Figure 7: Factors Responsible for Partly Vacant Land
Source: Field Data

At a 95% confidence level of Chi Square testing, it was observed that a number of the demographic features which include the gender (P-value 0.022) and educational level (P-value 0.00) of respondents were found to be significant with p-values less than 0.05. This means that there is a relationship between these demographic variables of the respondents and the state of their land vacancy. However, the findings also suggested that the other demographic features such as that the age, employment status, and income level of respondents didn't show any form of relationship with the state of land vacancy among respondents due to the fact that their p- values were greater than the significance level of 0.05. In other words, the high level of partly vacant lands among the respondents is not due to the above demographic features inter alia.

State of Land Vacancy			
	Completely Vacant	**Partly Vacant**	**Total**
Age of Respondents			
40-49 years	38	39	77
Above 50 years	12	31	43
Total	50	70	120
Chi^2Value = 0.772		$p-value$ = 0.379	
Gender			
Female	5	4	9
Male	45	66	111
Total	50	70	120
Chi^2Value = 5.220		$p-value$ = 0.022	
Level of Education			
Basic School	4	1	5
Junior High	17	9	26
Senior High	29	31	60
Tertiary	0	29	29
Total	50	70	120
Chi^2Value = 30.851		$p-value$ = 0.00	
Employment Status			
Employed	48	67	115
Unemployed	2	3	5
Total	50	70	120
Chi^2Value = 0.005		$p-value$ = 0.938	
Income of Respondents			
Below GHS500	6	9	15
GHS 501-GHS 1000	1	4	5
GHS 1001–GHS 2000	17	17	34
GHS 2001–GHS 3000	15	13	28
Above GHS 3000	9	24	33
Unemployed	2	3	5
Total	50	70	120
Chi^2Value = 6.405		$p-value$ = 0.268	

Table 3: Influence of Demographic Factors on the State of Land Vacancy among the Respondents
Source: Field Data

4.1. Current State of Lands Held by Respondents

This seeks to identify the condition of the lands held by respondents in terms of its level of development or vacancy. This is a very vital information needed for the purposes of this research as it helps to appreciate the distribution of vacant lands and their condition with respect of its level of development or vacancy. Majority of the lands were found to be partly vacant due to its level of utilization as in these instances, large tracts of lands have been acquired by respondents for use but just small portions of these lands are put to use and the rest left vacant or unused. In some instances, these small portions are either fully developed or used, at the foundation or lintel level.

Even though they are not ready to fully develop the land, they need to secure their lands off encroachers. These lands are, therefore, used below their capacity. It was also evident from the outcomes of the study that the reasons attributed for the complete and in other instances partly vacant state of the lands was largely dominated by the cost of development. Landowners adopt a gradualist approach to develop the lands as a result of lack of income and resources. A number of speculators were also identified as they deliberately kept their lands undeveloped with the expectation of selling in the future when it appreciates in value (Figures 3 and 8).

4.2. Duration of Land Vacancy

The time period within which land has remained vacant since acquisition is one essential question this research seeks to answer. This part of the study, therefore, intends to measure the duration of time the land remained unused since the point of acquisition till now. The data revealed that out of the total number (50) of completely vacant lands sampled 42% (21) have remained vacant between the past 5 years followed by the duration between 6-10 years, 11-15 years and 16 years and above as they constitute 36% (18), 16% (8) and 6% (3) respectively of lands that have remained completely vacant since the day of acquisition by respondents.

4.3. Duration of Partly Vacant Land and Time Spent before Development Started

The study also sought to discover how long respondents' lands, which are partly developed or used, have their unused portion remain unexploited. The data shows both the time periods under which these partly vacant lands have remained in that state and the corresponding level of developments or the proportion of the whole land used or partly developed within these years. The proportion ranges from 25%, 50% and 75% of the total land size acquired by respondents. The data indicates that significant number of the land were 50% developed.

Additionally, figure 10 below also displays the length of time it took before any form of development was started on the partly vacant lands and the factors responsible for that phenomenon. The study discovered a large number of respondents, who had their lands partly vacant, started developing their lands within the first 5 years after acquisition followed by those who started developing their lands within 6-10 years. A predominant number of these respondents, however, attributed the cause of the delay to the high cost involved in developing the land as the main factor.

4.4. Determinant Factors Responsible for the Phenomenon of Vacant Lands

In order to help address the phenomenon of urban vacant lands, the study sought to identify the main push factors that are responsible for its existence. This is an important information that will aid municipal authorities and guide them in terms of the measures they will need to institute to address the challenge. The literature revealed a number of factors most of which we used in this survey to ascertain the factors responsible for urban vacant lands in Fumesua. It was, however, discovered through the study that most of the respondents attributed the vacant state of their lands to the high cost involved in developing them. And this is the same both for the complete and partly vacant lands (Figures 6 and 12). This result goes to dismiss the assertion held by some scholars and other stakeholders in the land sector that most people hold urban vacant lands for speculative reasons and therefore suggesting the use of vacant land tax as a way of addressing it (Hass & Kompanyi, 2017; Sinn 1985)

4.5. Influence of Demographic Factors on the State of Land Vacancy among the Respondents

Table 7 below presents a cross tabulation of respondents' demographic features and the vacant state of their lands. The vacant state of respondents' lands is represented by both 'completely vacant' and 'partly developed'. This served as the grounds for testing the influencing effect of these demographic features of respondents on land vacancy. At a 95% confidence level of Chi Square testing, a number of observations were made.

Firstly, it was observed that demographic features such as Gender was found to be significant with p-values less than 0.05 as it recorded both a Chi square value and p- value of both 5.220 and 0.022 respectively (see Table 7 for more details). This, therefore, suggests of a relationship between the age of respondents and the state of land vacancy. In other words, depending on the gender of the landowner, it is likely to influence or determine whether his land would be vacant or otherwise. The data, showing significant male dominance in terms of urban vacant land ownership, suggests that the urban phenomenon is more influenced by males than females.

Likewise, the Educational Level of respondents was also found to be significant with p-values less than 0.05 (see Table 7 for more details). It actually recorded a Chi square value of 30.851 and a p-value of 0.00 showing some kind of connection or relationship with the vacant state of respondents' lands. It, thus, indicates that depending on the level of education of urban landowners, it is likely to influence the state of their lands in terms of its level of vacancy.

Conversely, in the case of other demographic variables which include the Age, Employment status and Income level of respondents, there were not enough evidence that suggests the existence of a relationship between them and the vacant state of lands. This is because their p-values are greater than the chosen significance level of 0.05.

5. Conclusion and Recommendations

Understanding the existence of urban vacant lands including the factors responsible for this urban phenomenon is undoubtedly a possible way to begin addressing its negative impacts on cities including landlessness, land fragmentation and urban sprawl (Harvey and Clark 2013). Also urban vacant lands are likely to have negative effects on human health and the environment due to its tendency to attract a lot of waste (Accordino & Johnson, 2000; Burchell & Listokin, 1981). Therefore, studies conducted on this subject provide a host of major economic, social and environmental opportunities in the area of agriculture, social housing, recreation among others that are necessary for promoting sustainability. However, due to the cost of development and the lack of government focus relating to policies in managing them, urban vacant lands remain a notable feature of Ghanaian cities and urban areas. In this regard, this research investigated this urban emerging urban phenomenon among landowners, its duration and the determining factors that influence its occurrence.

As observed by Lal *et al*., (2017), there is the existence of a lot of patches of unused or undeveloped lands mostly at or close to the city centres in many African countries. This study confirms that a lot of land owners, both individual and institutional in urban areas, have their lands completely and partly vacant even though these lands have been designated for development by urban authorities. Moreover, about 42% of the respondents have their lands lying completely vacant. A large number of landowners have their lands vacant due to high cost of development with very few people indicating speculative reasons for the vacant state of their land. This confirms the position of other studies as they show the same situation in other cities in different parts of the world (Crowe & Foley, 2017; Németh & Langhorst, 2014; Newman *et al*., 2016a; 2016b; Xie *et al*., 2018)

The research concludes by recommending that government should initiate, encourage and support local city authority to implement policies and programmes targeted at addressing the adverse impacts of urban vacant lands such as urban sprawl, land fragmentation and among others across the country. Deliberate efforts need to be made by public authorities to reduce the cost of property development by resourcing the Building and Road Research Institutes to meet their core mandate of undertaking research and development of local building materials for construction purposes at a much cheaper cost. This will go a long way to curb the cost of development challenge indicated by the majority of the respondents as a major cause of this urban phenomenon.

As a way of addressing the issue of speculation, local authorities are to look at ways of raising revenue from these unused lands through taxation. The current property tax regime in Ghana only applies to the immovable structures on the land in the form of houses, estates, apartments and any other immovable property. Bare and unused lands and abandoned lands are, however, not subjected to any form of taxation from the local authorities. The central government with the help of parliament must consider amending portions of the Local Governance Act, 2016 (Act 936) to make provisions for unused or vacant urban lands to be subjected to a levy by the local authorities thereby making it expensive for lands to be held speculatively in urban area.

Traditional authorities, together with government agencies like the Lands Commission, who own majority of the lands in Ghana and are primarily responsible for selling and transferring lands for use to individuals, have a significant role to play in addressing this urban phenomenon. These institutions must ensure that land buyers within urban areas meet certain basic or minimum requirements before lands are transferred to them. Most important is the evidence of ability and capacity of these potential land buyers to start developing their lands within a specified time period as determined by these institutions through a legal framework. Failure of these will automatically revert back to traditional or state ownership.

Finally, traditional authorities through the Office of the Administrator of Stool Lands (OASL) can also explore the possibility of increasing the ground rent of unused or vacant urban stool lands as a way of discouraging the holding of these lands for longer time periods without developing and using them.

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