Land Subdivision in Peri-Urban Areas of Sub-Saharan African Cities: Conceptual Definitions and Policy Guidelines

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Abstract

This paper reviews the conceptual issues of land subdivision in peri-urban areas within the context of African cities. Land subdivision is often the first step in the process of converting rural land to urban uses. It involves the division of land into plots or lots for sale and development. The purpose is to provide orderly and efficient development of a new incorporated township. Research on the formation of urban fringe zones has not been explicit about land subdivision though its importance is implicit. Research on urban land subdivision provides us with useful conceptual link between rural-to-urban land use conversion and internal structural changes within a city. The lack of implementation of existing regulatory framework of land subdivision often creates land use conflicts especially in cities of developing countries. The review of literature thus provides clarity on the definitions of sub-themes and policy guidelines in urban land subdivision with particular reference to sub-Saharan Africa.

Key words: Land conversion, Planning, Regulation, Plat, Land use, Plot

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Introduction

Land subdivision is often the first step toward the creation of a new incorporated township in both developed and developing countries. Contemporary urban land subdivision relies on the lot and block survey system which was widely used in the United States in the 19th century as a means of addressing the expansion of cities into the surrounding rural areas (Schnidman, 1986). Land subdivision requires that proposed subdivisions be accurately surveyed and platted. The plat should be approved by local planning officials and recorded prior to any sale of lots (Town and Country Planning Law, CAP. 123, 1975). This subdivision regulation has become an important urban planning tool since the early 20th century as a model of land use control and guiding the growth of cities. Subdivision ordinances, according to Sunndin (2010) and Fox (2010), differ significantly from country to country.

Land subdivision regulations define standards for layout and lot sizes, street pattern, and procedures for assigning land for private and public uses. Land subdivision provides the essential characteristics of land uses, street patterns and public utilities. The amount of land which is thereby dedicated for public purposes differs between countries and may represent a substantial portion of the total urban land (Courtney, 1983). While land subdivision plans and regulations have proved to be a very efficient tool in urban planning and management in the developed countries, Courtney (1983) argues that, they have been less successful in the developing countries due to poor implementation of subdivision regulations. Consequently, the vast areas in the urban fringes are often illegally subdivided. Unregulated land subdivisions frequently cause haphazard development and environmental hazards.

Kombe and Kreibich (2000) have therefore argued that, the needs and conditions of land development in developing countries require a more flexible set of standards than what has been introduced based on the European countries. These standards should consider the rapid changes in the urban fabric, relate more to local conditions, and be easier to implement. It has been argued in some developing countries such as Bangladesh (Islam, 1995), Tanzania (Kombe and Kreibich, 2000) and Nigeria (Omuta, 2005) that land subdivision codes based on the Europeans and other developed countries have often been inappropriate and increased development costs substantially, making it difficult in particular for the urban poor to have easy access to land or afford housing built to legal building standards. For this reason, Payne (2001) asserts that there has been a tendency in many developing countries to ease land subdivision and building standards by reducing lot sizes and eliminating public amenities. This tendency

has resulted in informal land subdivision and associated informal settlements in many African cities.

The review of literature on urban land subdivision provides us with useful information about the concept and practice of the subject. In urban land subdivision literature, the land subdivision theme is mostly approached under the socio-economic point of view regarding urban land market, access to urban land, illegal occupancy, tenure security and tenure formalization (Ugalde, 2002; Durand-Lasserve and Selod, 2007). The geographical setting of urban land subdivision and the policy issues involved are often ignored in literature. Policy guidelines of urban land subdivision are often not in the domain of scholarly literature but in the Town Planning Laws of individual cities. Thus, not many people are familiar with the conceptual meaning, discourses and debates on the subject matter. This paper therefore aims at providing straightforward operational definitions of land subdivision theme and sub-themes within the contexts of the geographical setting. The paper also aims to situate the concept in the scholarly domain in order to expose it to a wider audience for better understanding and to highlight the policy guidelines that underpin formal land subdivisions, as it relates to contemporary urban land management practices. No attempt is made here to critically assess the validity of existing conceptual definitions, rather, to clarify them with more emphasis on informal land subdivision as the dominant channel of land supply in the context of sub-Saharan African cities.

Methodology

This paper adopts an integrated approach in explaining land subdivision in peri-urban areas. It discusses how urban land subdivision affects the planning, land uses and development of towns and cities in developing countries, particularly sub-Saharan African countries. Information from the review of published research articles, textbooks, official documents and case study reports were utilized in the analysis. The aim of this study is to contribute to the growing literature on land subdivision from a geographical perspective and to expose the concept to uninformed geographers and non-geographers that land subdivision is the first step in the process of conversion of rural land into urban uses. The analysis presented is premised on the juxtaposition of experts' operational definitions of land subdivision, textual land subdivision data and case studies detailing informal land subdivision largely drawn from sub-Saharan African cities to illustrate the increasing role of non-state actors in urban land management.

The paper is arranged into seven sections, each detailing a different sub-theme of urban land subdivision. The first section introduces the concept of land subdivision as a modern urban planning tool. The second section is the methodology detailing the literature review approach and specifies the different land subdivision sub-themes. The third section attempts a definition of the various land subdivision sub-themes in an attempt to reinforce the existing definitions. The concept of informal land subdivision often represented with negative epitaphs in mainstream land subdivision literature was systematically reviewed by highlighting several case studies largely drawn from sub-Saharan Africa. Section four provides the geographical setting within which urban land subdivision takes place. Though the conceptual understanding of rural-urban fringe dates back to the 1960s, the contemporary conceptualization of peri-urban area is emphasized here. Section five presents some land subdivision initiatives to address the problem of shortages of urban land, and to increase access to land for the urban poor by many municipal governments in developing countries. Section six provides some of the policy guidelines of urban land subdivision often cited in regulatory framework of most cities in developing countries. In the policy guideline section, a number of policy issues and concerns are raised regarding land subdivision regulation that requires compliance from land developers. The final section is the concluding remarks which offer some recommendations that will help in preventing the pitfalls that developers are often confronted with in urban land subdivision.

Land Subdivision: Sub-themes and Conceptual Definitions

The definitions of land subdivision provide us with useful conceptual link between rural-to-urban land use conversion and as a geographical process at the edge of cities. The rapid expansion of cities in sub-Saharan Africa over the past decades is exacerbated by the unregulated informal urban land subdivision practices. This has had repercussions not only on the uses of land at the fringes of the cities but also on urban way of life of the inhabitants that live in the urbanized fringe zones and informal settlements. The rapid expansion of cities in sub-Saharan Africa has been accompanied by an unprecedented population growth of the cities. As a result, land dedicated for public uses which characterized the central areas of the cities is largely absent at their fringes (Agheyisi, 2016). The indiscriminate allocation of land, the speculative holding of land, the disorderly use of land in the fringes, and the lack of implementation of the planning law to tackle these problems are escalating the disorderly land use pattern in the urban fringe zones of African cities. The emerging order in the combination of different land use types in a particular city gives rise to the prevailing land use pattern which is a reflection of the decisions made by different land users and managers (Braimoh & Onishi,

2005). The proportion of developed urban land, supplied through informal channels of land delivery, reflects the changing role of urban land managers and structure of towns over the past years. The present pattern of urban land use in African cities suggests a change in the urban land management and administration from formal to informal.

Formal Land Subdivision

The concept of land subdivision, as it has been used in the literature, refers to the process of converting rural land to urban uses. As an activity, Fox (2010) defines land subdivision as "the division of a parcel of land into two or more lots, plots, sites, or other divisions of land for the purpose, whether immediate or future, of sale or of building development". The creation of roads, streets, lanes and alleys by dedication is also termed subdivision (Sunndin, 2010). Land subdivision so defined, means the division of a parcel of land by means of an agreement, subdivision plan, survey plan, or any instrument transferring or creating an estate or interest in part of the parcel. Every division of a piece of land into two or more lots, parcels or parts, is of course, a subdivision. The immediate or ultimate purpose of land subdivision is selling of lots and building on them. Subdivisions may also be for the purpose of commercial or industrial development, and vary from retail malls with independently owned parcels to industrial parks. The purpose of land subdivision is to provide for the orderly and efficient development of land. This is to ensure that development can be carried out safely without danger to health, or peril from fire, flood, erosion, excessive noise or other adversity (Town and Country Planning Law, CAP. 123, 1975), and that adequate sites are provided for public uses so that residents of all neighbourhoods should have convenient access to community services and facilities (Obateru, 2003).

This definition serves to underscore some important points about the legal nature of subdivision. The legal requirement of subdivisions is that the area so subdivided must be plated. A plat is a plan, drawn to scale, indicating prominent existing features of a tract of land and its surroundings. It shows the precise location and dimensions of such features as streets, lots, easements and the general layout of a subdivision. It is prepared for permanent record submitted to the town planning commission technical staff for approval. A subdivision plat approved by a local planning commission, once recorded in a registry of deeds, is generally deemed to have created the parcels of land identified on the plat itself. A subdivision approval may be initiated upon application by the landowner, developer or his agent.

If the land subdivision is entirely used for housing development, it is typically known as a housing subdivision. If, on the other hand, it is entirely used for commercial or industrial purposes it is known as a commercial or industrial subdivision respectively. A subdivision is usually divided into blocks and lots or plots. A block means a tract of land subdivided into individual lots or plots. It is a parcel of land entirely surrounded by streets. In other words, street and lane system defines a block. A lot, on the other hand, means a tract of land created and given specific dimensions for the intended use as a unit of transfer of ownership or for development. It is a portion of a subdivision intended for occupancy by one or more buildings, together with the necessary adjuncts. The locality within which jurisdiction of the subdivision lies has an opportunity to impose development standards and other requirements which will influence the resulting land use pattern. Most subdivision regulations require land dedication and reservation for streets and other public uses. Coordination of subdivisions through regulations is an important means of ensuring that developers comply with this demand.

Informal Land Subdivision

Informal land subdivision often runs parallel with formal land subdivision in most cities of developing countries. Informal land subdivision mainly takes place in peripheral areas which have been incorporated into the municipal urban areas following the extension of cities' administrative boundaries. This ultimately affects the direction and quality of urban development in addition to engendering spontaneous growth and add-on development. The term "informal" connotes negativity which in the context of human settlements refers to non-conformity with urban planning laws and development control norms, and to some extent, land tenure regularization (Durand-Lasserve, 2006; Agheyisi, 2016).

Informal subdivisions are frequently brought about in two ways. Firstly, informal land subdivision, according to Angel *et al* (1993), is undertaken by unscrupulous land developers who are often in league with corrupt elected and appointed government officials, including the police and town planners. With the protection of these corrupt officials, developers subdivide and occupy government land and build according to government planning regulations. Plots of land are sold, at almost nominal prices, without services to households in desperate need for shelter. These officials also ensure that their clients are not forcefully evicted by using their political influence to protect them. As the settlement grows, services such as electricity and water supplies are illegally tapped from existing government infrastructure.

Secondly, informal subdivision, according to Angel *et al* (1993), occurs when landowners subdivide and sell their plots in contravention of government subdivision regulations. As the motive behind their development is maximum profit, they often have no provision for public amenities and land for public uses. Furthermore, as the plots are developed, contravention of planning rules and a lack of coordination of transport access to subdivision blocks can cause traffic problem in the future (Brennan, 1993). Omuta (2005) also reports that official connivance of contravention of planning laws and development control measures is one of the ways informal land subdivision is brought about.

In most cities and towns of developing countries, increasing inequality of land ownership, lack of access to land by the urban poor, under-utilization of public-owned land and official maladministration of urban land have created room for the private sector to thrive in urban land supply. According to Islam (1995), urban land supply in Bangladesh is mainly through the private sector, more so through the informal private sector for both residential and commercial uses. According to him, more than 90% of the residential land supply and development is through the informal private sector. The formal (commercial) private sector which operates as Commercial Housing Societies, Housing Cooperatives, or Real Estate Companies, is a recent phenomenon and still limited within the largest metropolitan centers. Together, they have provided for a few thousand residential plots, mostly in the fringes of urban centers. Recent survey in Nigeria (Butler, 2012) has shown similar high percentage of over 90% of land supply through the informal sector.

In the process of land and housing development, developers face a series of bureaucratic obstacles created by public sector agencies, and quite often informal private sector have to take recourse to illegal or irregular methods of land supply. In Dhaka alone, Islam and Chowdhury (1992) reported that the informal private sector supplied residential plots for nearly 40% of the population and in other cities and towns between 10-30 %. The settlements produced by the informal private sector are unplanned. Infrastructural and housing standards are very low with absence of public amenities. Land subdivision regulations in these informal settlements are not adhered to. In each of the studies highlighted above, it was suggested that a number of legislative actions such as the formulation of appropriate zoning and enforcement of land subdivision regulations to control land use and building development are to be put in place.

Vigorous private participation in urban land supply and development, and the involvement of relevant government ministries in the coordination of the activities of non-state actors in urban

land subdivision and supply should also be encouraged. These have become very necessary because, informal land subdivision, according to Kombe and Kreibich (2005), 'mandatorily require public surveillance if the environmental condition of the settlements is not to worsen in the long run'. The deficiencies of formal land subdivision, especially in the context of land allocation and accessibility in developing countries, have led to the evolution of informal land markets (Kombe, 2005; Rakodi 2007; Butler, 2012). Owing to the dominance of informal channels in land supply, Kombe (2005) asserts that 'ownership and management of urban land has henceforth remained in the public domain, at least in theory'. Informal land subdivision involves complex processes, procedures and many non-state actors in the ownership, transfer, conversion and development of urban land (Dinye, 2003; Agheyisi, 2012).

Case Studies of Informal Land Subdivision in Sub-Saharan Africa

Some studies that examined contemporary informal land delivery systems in some sub-Saharan African cities, such as Kumasi (Dinye, 2003), Dar es Salaam and Kihonda (Kombe and Kreibich, 2001 and 2005), Dar es Salaam (Magigi and Majani, 2005; Rakodi, 2007), Enugu (Ikejiofor, 2009) and Benin City (Agheyisi, 2012), have greatly improved understanding of informal urban land supply and development processes. Many of these case studies focused on the efficacy of informal land delivery systems vis-à-vis the failure of the formal land administration systems in land delivery, particularly to the urban poor. Nonetheless, the demise of land for public uses and the emerging disorderly land use pattern engenders by the lack of clear policy guidelines have not been given much attention. The informal settlements created through informal land subdivision are unplanned; infrastructural and housing standards are low and public amenities are absent or inadequate. Land subdivision regulations in these informal settlements are not adhered to. These shortcomings are clearly evident in the following case studies.

Kihonda, Tanzania

In their study of informal land management in Kihonda-Tanzania, Kombe and Kreibich (2001) revealed that most of the housing development in informal settlements in the country originated from informal land subdivision and sale of unserviced land by customary and quasi-customary landowners. The subdivision mainly takes place in the former rural villages which have been incorporated into the expanding municipal areas. These settlements are often referred to as 'squatter' housing by municipal officials, ostensibly because they have developed without the permission of the Municipal Authorities. Besides, the land use development in these areas do

not conform to the town planning standards, building codes and municipal land use zoning plans. It should be pointed out here that, what Kombe and Kreibich (ibid) referred to as 'squatter' housing can also be referred to as illegal or informal subdivisions because squatter settlements are illegal settlements usually in public land in many developing countries. Whereas squatter settlements are spontaneous and unorganized, informal subdivisions are planned and organized by informal sector. Also, whereas squatter settlements usually occur in large tracts of vacant land owned by the government, informal subdivisions on the other hand, usually occur in the periphery of the city; often in communal lands. Informal subdivisions are also more permanent than squatter settlements which frequently face threat of eviction by the government.

The role played by informal institutions in land management, as the Kihonda case study has shown, does not mean that the grass roots are persistently efficient in checking externalities arising from the informal land market which they had created. Their capability to regulate local land management issues wither out as the land market heats up (Kombe, 2005). As land disputes intensify and spatial disorganization is no longer checked, uneconomical use of land and development patterns ensue. State guidance and intervention are therefore indispensable as soon as the local regulation is withering. It was therefore suggested that progress can be made in overcoming the wide-spread deficiencies of the formal land management system by a gradual integration of the informal sector into political decision-making process and administrative institutions concerned with housing, land supply, security of tenure rights, layout regularization and land servicing (Kombe & Kreibich, 2000; Kombe & Kreibich, 2001).

Kumasi, Ghana

Dinye (2003) carried out a similar study in Kumasi, Ghana. His study of the dynamics of the peri-urban land market in Kumasi revealed that it involves complex processes, procedures and many actors that had to do with the ownership, transfer, conversion and development of land. He categorized the actors into three groups; predevelopment owners (indigenes), intermediate actors (developers) and final consumers (land users). He argued that the inability of the state institutions, which include the Land Commission, the Town and Country Planning Law and the Kumasi Metropolitan Assembly to keep pace with land demand, has led to informal subdivision of land for urban uses in the peripheral areas by the traditional authorities. The land development processes are based on the rules of the game recognized by the actors involved (Hammond, 2001). The marginal role of the state was meant to open the doors of the private

sector for it to play a greater role in land management and development. The implications are, nevertheless, far-reaching because once an area is irregularly developed, retrospective remedy is both difficult and expensive.

The informality of the peri-urban land market, according to Dinye (ibid), is a manifestation of the failure of both the market-led and public-led approaches of land management in Kumasi. He concludes that the existing land management approaches, standards, procedures and regulation processes in the city are reactive and inappropriate to meet the land demand and supply challenges in the city. Actors in the peri-urban land market have created and adapted their own parallel and indigenous structures, procedures and institutions. The emerging issues, as shown by the study, are that the informal sector based on the social rules of indigenous tenure systems has been making up for the shortfalls of the formal or public land management system. The informal land market is adaptive and responsive in providing the bulk of the urban population with buildable land. What then can be done is to make both segments complement each other. They have to adapt and adopt from each other the more practical and realistic approaches in urban land delivery.

Dar es Salaam, Tanzania

The adoption of formal planning standards is often difficult in informal land subdivisions. This is why residents in informal settlements adopt their own planning standards (unwritten norms) through communities agreed standards. This was revealed in Magigi's (2004) study of local community involvement in managing land development in the informal settlement of Ubungo Darajani in Dar es Salaam, Tanzania. The adoptability of these unwritten norms augmented haphazard housing development on one hand but seems to meet communities' needs in service provisioning and access to land on the other hand. These empirical facts informed the study of informal planning standards of two informal settlements: Ibungilo and Ubungo Darajani in the cities of Mwanza and Dar es Salaam respectively in Tanzania (Magigi & Majani, 2005). The communities' agreed planning standards, approved by the local and municipal governments, include the provision of residential and commercial areas, roads and right-of-ways, minimum plot coverage and plot ratio, building lines and setbacks, solid waste collection points, lands for education facilities, health facilities, recreational facilities, religious facilities and public facilities. The major actors involved in the land use planning decisions in determining planning standards and implementation in the two informal settlements include provincial governments, municipal authorities, tribal groups, community development associations (CDAs), University

College of Lands and Architectural Studies (UCLAS), individual landholders, tenants and donor community.

The study revealed that the minimum plot size (12-meter square) does not conform to the national planning plot standard which is 400-meter square, although approved by the local government. This shows recognition of informal setting in policy reforms and institutional support which facilitated community involvement in decision making in determining planning standards in line with land availability (Magigi and Majani, 2005). The study also observed that the formal land use planning standards and regulations used for new formal settlements development would generally not be appropriate for upgrading many informal settlements since they could impose severe payment burdens on residents. Also, the building of a particular type of housing will not be appropriate and may be too expensive for many poor people. Poorer residents depending on small plots may find it very difficult to remain in a settlement upgraded according to conventional regulations because they have no means to begin building an approved permanent house due to their unsustainable income levels.

One serious shortcoming the study observed is the continuous land subdivision after land use plan approval in the informal settlements. This negatively affects the growth and land management of the settlements. The study concludes that unless land use planning activities in informal settlements are closely monitored and regulated as the settlements grow, it will be socially and economically costly to retrofit if planning standards does not conform to socio-economic, ecological and investment ties that sustain livelihood strategies in informal settlements. The involvement of local government and urban planning experts from UCLAS in the plans preparation to a very large extent made the planning standards of the informal settlements effective and the implementation successful. The effectiveness of informal planning standards in an informal settlement context should therefore be assessed by its land subdivision process, provision of land for public uses and the land use pattern that eventually emerged before recommendation for its adoptability can be made.

Benin City, Nigeria

Agheyisi (2012) identified six channels of land delivery in Benin City, Nigeria. Five out of the six channels are informal (see Table 1). His study supports Rakodi's (2007) survey of land delivery channels for residential use in Eldoret (Kenya), Enugu (Nigeria), Gaborone (Botswana), Kampala (Uganda) and Maseru (Lesotho), which also identified five alternative channels of informal land delivery system namely: purchase of land through the market,

delivery of customary land through state-sanctioned channels, delivery of land through customary channels to members of the group, purchase of customary land, and self allocation. Agheyisi's work confirmed Rakodi's stated hypothesis, that is, "the practical attributes of informal land delivery make the arrangements more suited to the needs of urban land rights holders and those seeking land for housing" and that "wide understanding and acceptance of the social rules that enable transactions to occur and govern relations between actors in the system serve to secure wider compliance than is common for formal land regulation".

Table 1: Channels of Land Supply in Benin Metropolis

Channels of Land Supply	Methods of Land Supply	Problems/Risks of Tenureship
Private-held land	Plots are sold to willing buyers by willing sellers	Dubious land deal involving multiple sales of a plot to more than one buyer
Customary land	Plots are sold to members of the community and public by organized cartel called Community Development Association (CDA)	Multiple sales of same plot; transfer of plot owner to a different but usually interior location as a compensation for seizure of land
Cooperative land	Sales of plots to members from money borrowed from their cooperative or are made to pay for the plot of land from monthly deductions	Plots of land can be on speculative holding for a very long time before development reach the area
Inheritance	Plots of land are shared to the children of the diseased	Women have no share as they are often excluded by local culture; dispute among family members over land sharing formula is rife
Government layouts	Sales of serviced land	Allocation process is very slow, cumbersome and fraught with corruption; plots are often granted to political party loyalists; the prescription of higher building standards are unaffordable by low income earners
Squatting	Self-allocation of plots in marginal areas or areas liable to flood and under or right-of-way of power transmission lines	Settlers are prone to eviction by the government or environmental degradation

Source: Agheyisi (2012).

Other African Cities

Ikejiofor (2004) and Leduka (2004) reported that the purchase of customary land is the dominant means of land delivery for new residential development in Enugu-Nigeria and

Maseru-Lesotho respectively. Supporting the Ikejiofor's findings, Butler (2012) reports that over 90% of land supply in Nigeria is through the informal sector. In Kampala (Uganda), Nkurunziza (2004) reports that the sale of customary land contributes a greater volume of land supply. In Gaborone (Botswana), Rakodi (2007) found that the informal channel of land delivery is also significant in the peripheral parts of the built-up areas. Since the sale of customary land contributes a significant volume of plots for housing development in many African cities, as studies have shown, those acquiring plots through this channel have confidence that they have a de-facto security of tenure (Durand-Laserve and Selod, 2007).

The consensus among urban geographers is that, the informal channels of land supply based on social rules of indigenous tenure systems has been making up for the shortfalls of the formal land supply in developing countries. The informal land market is adaptive and responsive in providing the bulk of the urban population with buildable land (Rakodi, 2007). Kombe and Kreibich (2001; 2005) have suggested that what can be done is to make both sectors complement each other. They have to adapt and adopt from each other the more practical and realistic approaches in urban land delivery. Informal land management however has far-reaching implications which include conflicting urban land uses, haphazard land development, the demise of land for public uses, encroachment into government acquired land, land disputes and land tenure insecurity. In most cities and towns in sub-Saharan Africa, increasing inequality of land ownership, lack of access to land by the urban poor, under-utilization of public-owned land and official maladministration of urban land have created room for the private and informal sector to thrive in urban land supply.

Informal land subdivision suggests that a number of legislative actions such as formulation of appropriate zoning and density control, and enforcement of land subdivision regulations to control land use and building development are to be put in place. It is often difficult for informal housing and land providers to adopt formal planning standards which are regarded as too high or foreign. This is why residents in informal settlements adopt their own planning standards (unwritten norms) through communities agreed standards (Magigi, 2004). The adoptability of these unwritten norms augmented haphazard housing development on one hand but seems to meet communities' needs in service provisioning and access to land on the other hand (Rakodi, 1987).

Rural Land Conversion as a Geographical Process at the Edge of Cities

Land subdivision is an inherent precursor in land use change, land use pattern, land use planning and land conversion from rural to urban uses. Whenever these issues are examined, land subdivision is always found to underlie all of them. Land subdivision is very intense at the fringes of cities and it is an ongoing activity. This is because the urban fringe is a zone of transition where rural land is first converted to urban uses. Research works on urban land subdivision provide us with a useful conceptual link between rural-to-urban land use conversion and internal structural changes within the city. The formation phase of urban fringe is one during which rural land is converted for urban uses. The modification phase is the incorporation of those uses within the urban complex as a whole. Research on the formation of urban fringe zones has not been explicit about land subdivision though its importance is implicit.

The chronology by which fringe belts have formed around major urban centres has been described by the students of the morphogenetic approach to urban growth as early as the 1940s to 1960s. However, the principal focus of attention has always been the modifications experienced by these fringe belts once they ceased to be at the urban fringe. Much of our present thinking about the characteristics of urban fringe stemmed from the studies of American cities in the 1940s. T. L. Smith's pioneering work on the study of Louisiana, U. S. A had been followed by many others in Europe and Australia focusing on the land uses of the urban fringe. The unanimity that has emerged from the scholarly literature is that the urban fringe is a problem area worth studying.

The underlying factor of the problem of urban fringe is land subdivision. Land subdivision, in the first place, influenced the presence of the other characteristics and the observed land use pattern. Land subdivision and speculative buying of land in anticipation of development create a complex urban land market that is difficult to monitor in this zone (Butler, 2009, 2012; Durand-Laserve, 2012). All these create conflicts in which mediating institutions such as government agencies are sought. Informal institutions and non-state actors operate unfettered where such mediating institutions are lacking or ineffective (Agheyisi, 2012; Hussain, 2012). The manner in which a city expands at its fringes and the land subdivision process by which land is taken from the countryside for urban uses are critical in the interpretation of urban land use pattern in cities of sub-Saharan African countries.

Five broad categories of urban land subdivision problems have been identified from the review of literature. First, there are some problems which stemmed from the piecemeal land subdivision for residential and commercial development that often occur on unplanned urban fringes. Second, land use conflicts in urban fringes arise from the intermixture of non-conforming and incompatible land uses. Third, there are the problems of lack of land reservation for public uses. Fourth, there is the problem of inadequate installation of completely new urban infrastructure such as water, electricity and drains to dispersed development which often lead to a lower level of service provision than in the central city. Fifth, there are the difficulties which follow from the intermixture of different social groups, some with urban-based and others with rural-based attitudes and ways of life.

Many geographical changes at the urban periphery are associated with the transfer of land from rural to urban purposes, which may be more fundamental than many other land use changes that take place in central city. Although adjustments to land use change are always being made, surviving relics form an enduring part of the urban pattern. The various forms of urban development taking place in the fringes of cities of sub-Saharan African countries are likely to give a direct expression of the behaviour of contemporary urban society and perhaps provide a more accurate clue to the nature of the emerging cities in the future.

Peri-urban Area

The space into which the city expands as the process of urban dispersion operates has created an area with distinctive characteristics which is only partly or recently assimilated into the growing urban complex. This has come to be known as peri–urban area. According to Lambert (2011), the expression originates from the French word *périurbanisation*, which is even used in official statistics of the French Institute for Statistics and Economic Studies–Institut National de la Statistique et des Études Économiques (INSEE) – to describe spaces between the city and the countryside that are shaped by the urbanization of former rural areas in the urban fringe. It is used to refer to the zone around the core cities of metropolitan areas. The peri-urban concept attempts to move understanding beyond definitions considered solely in terms of geographical location and spatial land use (Nyarko and Adu-Gyamfi, 2012). It rather considers the peri-urban interface (PUI) as the meeting of rural and urban activities–in effect a process rather than a place (Brook and Davila, 2000). As cities expand, the surrounding peri-urban areas also grow.

The integration of rural areas surrounding cities into urban regions represents a common spatial development phenomenon all over the world. Physical conversion of open space– agricultural

land in particular–for urban purposes and socio-cultural transitions in rural areas through adoption of urban life styles or in-migration of urban dwellers, leads to the establishment of a peri-urban space, and sets different forms of urban and rural living and working into close contact (Zasada et al, 2011). The notion of peri-urban area has been introduced to describe the heterogeneous pattern of settlement pattern at the urban-rural interface, replacing the former concept of an urban-rural dichotomy (Errington, 1994). Peri-urban areas are often understood as mixed areas under urban influence but with a rural morphology (Caruso, 2001). The peri-urban area is not ephemeral but instead forms new kinds of permanent landscape (Antrop, 2000). Changes in peri-urban space are often results of a high pressure towards urban development. However, peri-urbanization coincides with massive land subdivision whether formal in the context of developed countries or informal in the context of developing countries.

The conceptual definition of peri–urban area includes elements like location, land use characteristics, transitional zone, population density and social organization. It is a zone of mixed land use elements and characteristics in which rural activities and modes of life are in rapid retreat, and into which extensive urban land uses are intruding. In terms of land use, and often in an administrative context, the area is only partially assimilated into the growing urban complex. As currently being used, the peri-urban area applies to the zone on the outer borders of the central city, an area between the complete urban and complete rural areas. The land use at the zone is dynamic because of the transitional nature of the zone. Land inside the zone is used in a distinct and different ways from that outside the zone. Consequently, confusion may arise in an attempt to integrate both urban and rural land uses in the zone.

Land Subdivision Initiatives on Access to Urban Land

Many initiatives to address the problem of shortages of urban land and increase access to land for the urban poor have been taken by many municipal governments in developing countries. Some of these initiatives include land pooling/readjustment, guided land subdivision and development, and sites-and-services schemes.

Land Pooling/Readjustment

A definition of land readjustment (also known as land pooling) is provided by Archer (1987) as a "technique whereby a group of neighbouring landowners in an urban fringe are combined in a partnership for the unified planning, servicing and subdivision of their land with project costs and benefits being shared among them". A land readjustment scheme is typically initiated by the municipal or regional government designating an area which is about to be converted

from rural to urban land uses. A subdivision plan is developed for a unified planning of the area. Provision of infrastructure and services is financed by the sale of some of the plots within the area. The original landowners are provided plots within the reshaped area, which, although smaller in sizes than their original parcels of land, now have access to infrastructure and services.

There are many advantages with land readjustment. Archer (1987) had identified two of these. First, it provides an opportunity for a planned development of land with services and infrastructure. Second, it is an attractive method to influence the location, direction and timing of new urban development since it is becoming increasingly difficult to obtain public support for the use of expropriation for land development and infrastructure provision. According to Mattingly (1994), it has the enormous advantage of avoiding the problems of public land acquisition and compensation. Unlike expropriation, land readjustment will return a major part of the land to the original landowners. Ideally, a partnership for development should be formed between the public sector and the landowners. It provides an opportunity for the provider of infrastructure and services to recover the incurred costs as well as to get access to land for this purpose. This in turn leads to increased public revenues from property taxation. This will require that the land ownership situation is first of all clarified and an accurate land registration system provided. If administered properly it could provide increased equity in land distribution (Lee, 1987). It is not only a means of providing serviced land for the landowners within the area, but it could be a means of providing access to land for low-income earners for housing purposes. Despite its many advantages, land readjustment has not been fully embraced in many developing countries as a means of providing serviced land in urban areas. Notwithstanding the above advantages, there are a number of problems with land readjustment technique. According to Larsson (1991), the method is fraught with serious equity problem in the allocation of plots and the provision of financial compensation.

Instances of land readjustment scheme in Africa have been initiated by non-state actors. Operators of such schemes often adopt their own planning standards (unwritten norms) through communities agreed standards because of the difficulty in adopting formal planning standards. This fact has been verified in the empirical study of two informal settlements in Tanzania by Magigi and Majani in 2005. The study revealed that the minimum plot size in the informal settlements does not conform to the national planning standard. One serious shortcoming the study observed in the informal settlements is the resubdivision of building plots after land use

plan approval for the schemes. This is because poorer residents can only afford small plots due to their low income levels. The schemes were adjudged effective in providing affordable and buildable plots for local residents who could not meet the higher national planning standards.

The effectiveness of informal land subdivision in such land readjustment scheme should therefore be assessed for its due process, allocation of land for public uses and the land use pattern that eventually emerged before recommendation for its adoptability can be made. Inadequate compensation for land rights and unfair allocation of pooled plots of land have become the major sources of disputes and violent conflicts in most communities in Nigeria. In Benin City, informal land pooling often involves readjusted boundaries of individual farm plots where land subdivision takes place (Agheyisi, 2012). As plots of land are allocated some powerful members in the community get more than fair share of allocated plots. The less powerful members may be cheated or completely dispossessed of their land. Many transfer these grievances to land buyers and developers by demanding extra money as compensation for their loss of right of ownership.

Guided Land Development

Guided land development (GLD) is a land management technique for guiding the conversion of private owned land in the urban periphery from rural to urban uses. Guided land development, also known as guided land subdivision, uses the provision of infrastructure as a mechanism to guide urban development. It is done in partnership with land owners who pay for the cost of servicing their land through the donation of land for public infrastructure and payment of a betterment levy (Lee, 1991). The only advantage that guided land development has over land pooling/land readjustment is that, the government does not need to decide on the amount of land to be returned to the landowners at the end of the project (Billand, 1993). According to Mattingly (1994), guided land development does not usually increase the number of plots, but improves conditions for plots which already exist. One of the traditional government functions has been to provide urban infrastructure and services such as primary or arterial roads, trunk water, electricity, drainage and sewerage. Government can use infrastructure investment policies to guide the direction of urban development as well as to ensure that land development is efficient, environmentally sound and equitable.

Guided land development uses a combination of traditional government role of providing infrastructure and the enforcement of land subdivision regulations. The key advantage of the approach is that, it is less costly than outright land acquisition and more equitable than sites-

and-services scheme and land readjustment. The principle behind guided land subdivision is that the government entrusted with urban planning and development proactively selects the direction where it feels urban development should take place and provides infrastructure in those areas. This encourages private land developers to develop land in those areas. The non-provision of public infrastructure in other areas acts as a disincentive for private development in those areas.

The cost effectiveness of guided land development approach results from the fact that land development is planned, designed and implemented with the landowners of the designated area who donate land for roads and right-of-way for infrastructure and other public spaces as well as pay a betterment levy to meet the costs of the project. The betterment levy is justified because of the increase in the value of land resulting from the provision of infrastructure and from conversion from rural to urban land use (Devas, 1983). As landowners are expected to donate land as well as pay betterment levies, the infrastructure development plan is prepared to ensure that wherever possible roads and infrastructure follow the existing plot boundaries. The infrastructure provided in the scheme is paid from betterment levies provided by landowners either on an instalment basis or in lump sum, upon sale of land. In case of formal land subdivision, adherence to subdivision regulations is strongly imposed in the designated area. With the proliferation of informal settlements in most developing countries, individual landowners are meant to subdivide or service their own plots.

Sites-and-Services Schemes

Early attempts by governments in developing countries to provide low-income housing focused on the provision of fully serviced public housing units. As it became increasingly obvious during the 1960s to 1970s that government housing programmes were completely incapable of keeping pace with the enormous urban housing demand, there was a growing awareness that alternative methods would have to be found. Many housing experts advocated that if low-income groups were provided secured land tenure and some basic infrastructure such as roads, electricity, water, drainage system and waste disposal system, residents would build their houses on incremental basis to the desired minimum standards. The government was expected to recover costs whereby the price of plots would have to cover the costs of the services provided. It was argued (Skinner, Taylor and Wegelin, 1987) that the role of government in housing should be changed to be an enabler rather than provider. After plots allocation, the

target low-income developers were expected to construct their houses as their income levels allowed. But this is not with the expectation to conform to some minimum standards.

During the 1970s and 1980s, sites-and-services schemes were implemented in nearly one hundred countries, mostly in developing countries (Choguill, 1994). The World Bank, for example, implemented thirty-six sites-and-services schemes between 1972 and 1981 worth more than one billion US Dollars, benefiting nearly two million people (World Bank, 1983). Cost-recovery has been difficult partly because of the high expenses which allottees typically have to bear after moving into the area. They would have to pay for the infrastructure and construction of the house, while at the same time they may either have high transportation costs to their workplace or have not been able to find a source of income in the new area (UNCHS, 1991). Furthermore, the method has also been expensive for governments as they were typically required to provide land which became expensive mainly because of land price increases, and to some extent, resistance to land expropriation. Many other problems have been encountered with sites-and-services schemes over the years and gradually settlements upgrading has become a more favoured government response to the needs of low-income groups.

In Nigeria, the National Sites and Services Scheme was established in 1986 to provide serviced land with essential public infrastructure such as paved roads, water and drainage system for housing development in planned layouts in all the States of the Federation. It was one of the strategies by the Federal Government to encourage greater participation by the private sector in housing development (Federal Republic of Nigeria, 1991). However, the performance of the scheme in terms of facilitating land and housing delivery has been very low. According to the national survey carried out by Ajanlekoko (2001), only 20,000 plots have been successfully allocated in 20 States of the Federation since the commencement of the program in 1986. Even at places where plots were allocated, many are speculated and undeveloped because the needed infrastructures are not provided (Ikelegbe, 2000). The State Governments have also been accused of allocating plots only to their political party members (Butler, 2012). Ademiluyi (2010) blamed the low performance of the scheme on poor implementation and inconsistency in government policies.

In Tanzania, empirical study was carried out by Mwiga (2011) to evaluate the effectiveness of the regulatory framework in facilitating the process of providing planned land in urban areas within the context of 20, 000 plots project in peri-urban Dar es Salaam. His findings indicated

that the regulatory framework as well as its implementation is not supportive of basic infrastructure provision and land development because plots are not developed as expected. Bureaucracy in getting building permits, very short plot development duration to finish construction and land speculation were all identified as the problems of the site-and-services scheme. These problems inevitably pushed people into informal land market and slum development.

In Kenya, sites-and-services program was implemented in Dandora, Nairobi in the early 1970s. But it did not achieve its objective because existing standards were too high for many people to conform to (Payne, 2001). Kironde (2006) reports that similar program did not succeed in Dar es Salaam, Tanzania in the 1970s and 1980s because of mismanagement and the failure of cost recovery. The failure of these programs has led to haphazard growth of informal settlements in these African cities.

Sites-and-services schemes have often proved to be unaffordable or inaccessible for low-income groups. Gilbert (1993) highlighted some of the problems including urban fringe location in order to reduce costs of purchasing land which in turn increased the distance to the existing public services and the lack of access to finance and income-generating activities at the fringe location. Other problems include the unhealthy mix of residential and commercial land uses, and the problems of defining criteria for eligibility in order to avoid corruption and accusation of beneficiaries being selected for political reasons. Administrative delay which eventually increases the costs for beneficiaries is another problem that has been mentioned (Butler, 2012). From the foregoing discussion, it can be said that although sites-and-services approach offers many opportunities in providing access to urban land, it is not a feasible method for providing land for housing to the majority of urban low-income residents because of the huge shortage in the existing housing stock and high cost involved. In most developing countries such as Nigeria, decisions on land allocation are not only closely controlled by the government in a rather opaque manner but strictly based on gubernatorial consent (Butler, 2012).

Urban Land Subdivision Policy Guidelines

The foregoing conceptual definitions, literature review and highlight of case studies raised a number of policy issues that are often overlook in urban land subdivision. Land subdivision regulations allow governments to exact much compliance from land developers. This provides benefits not only to the particular area to be subdivided but also to the greater community.

Some of the often-cited policy guidelines of urban land subdivision in regulatory framework are discussed below.

Requirement for Subdivision Plat Approval

Government policy on land subdivision requires the developer to submit an application for a subdivision approval including a subdivision plat and any other supporting document which may be required by the Planning Authority before embarking on land subdivision (Town and Country Planning Law; CAP. 123, 1975). The Planning Authority established specific requirements for the subdivision as a whole as well as all individual plots within the subdivision. Study has shown that government bureaucracy and gubernatorial consent, particularly in developing countries, can make approval to be delayed, cumbersome and costly (Butler, 2012). In addition, there are a number of professionals that are involved in land subdivision process. As a result of the technicality involved, the developer needs to hire the appropriate professionals such as town planners, land surveyors, estate surveyors and civil engineers. After plat approval, it is expected that no alteration should be made to the subdivision plan during the actual subdivision of the parcel of land. This is a major challenge to potential developers in developing countries. Given the dearth of professionals in the civil service, coupled with the high cost of hiring private professionals, the bureaucratic policy of government, corruption and the developers' preference for short-cut rather than due process, plat approval processes could be avoided altogether by developers and landowning communities.

Land Registration Processes

Upon the Planning Authority's approval, land subdivision regulations require that the plat is recorded with the land registry. The tax assessor is then provided with the necessary information and legal authority to demand maps, drawings and papers pertinent to such property. When sufficient information is received, the tax assessor assigns each lot a parcel number and sets up the land subdivision file. The department of real estate in government ministry reviews all submitted documents and performs an inspection of the subdivision. If the application submitted is determined to be complete and is found to be acceptable, a public report on the subdivision may be issued and the developer may proceed with advertisements and sales activities (Fox, 2010; Sunndin, 2010). In recent years, the application of Geographical Information System (GIS) has proven to effectively handle these cumbersome processes. The application of GIS in urban land administration in most sub-Saharan African countries is still

at infancy owing to the inadequate technical staff and lack of political will of the municipal governments to develop this technical tool.

Legal and Administrative Framework of Urban Land Subdivision

In many countries the legal and administrative powers to enforce the planning standards, regulations and procedure for the design and approval of layouts are vested on the municipal governments. Many Federal and Regional Governments in sub-Saharan African countries have Town Planning Laws that regulate the use of land and physical development in urban areas. In addition to these laws, regulatory agencies such as Ministries of Land, Surveys, Housing and Urban Development are set up to oversee and enforce the orderly development of the urban areas. Poor enforcement is a major problem in subdivision regulation as with other land use controls in these countries. Evasion of subdivision regulations most frequently takes the form of land parcels being subdivided without an approved plat. The use of subdivision regulations as a tool for carrying out land subdivision is limited in many sub-Saharan African countries because land subdivision is undertaken on piecemeal basis; plot by plot and block by block, rather than a complete layout.

Studies have shown that the principal weakness in subdivision regulations lie in inadequate enforcement of enabling legislation. Other identified weaknesses include the concentration on residential development to the exclusion of other uses for which land may be subdivided, the lack of procedural coordination with other related land use control instruments and the concentration of concern by the courts on private property rights rather than on the general public good (Dowall, 1991; Courtney, 1983; Islam, 1995; Magigi, 2004). Added to the above major weaknesses is that enforcement of subdivision regulations generally focuses more on approval or disapproval of building plans rather than the regulation of urban land subdivision.

Land Subdivision Exaction

The argument that unregulated land subdivision leads to congestion of community services has led to the issue of subdivision exaction imposed on developers. Subdivision exaction has most commonly arisen under state enabling statutes or municipal enactments, authorizing municipalities to condition approval of subdivision plats upon the dedication of parcels of land within the subdivision for public uses such as park or recreational facilities. While compulsory land dedication has been favourably looked upon as a means of meeting costs imposed by incoming subdivision residents, statutes providing for the payment of fees to the municipality

in lieu of dedication have encountered some judicial resistance in some countries (Adelstein and Edelson, 1976). Subdivision exactions are only possible in formal land subdivision. Formal land subdivision is paid for either in two ways by the developer or landowning community: the developer is mandated to compulsorily dedicate some parcels of land for public uses; or pay some money or fee to the municipal government in lieu of compulsory land dedication. Such costs or exaction of land subdivision is completely lost in cases of informal land subdivision.

Although the assumption seems probable that neighbourhood public facilities increase the value of lots in a subdivision, an economically rational land developer might not set aside any land for public uses in situation of absence of compulsory land dedication. The realities of residential investment in many developing countries is that, developers might hope that the municipal government would provide public facilities in or adjacent to the subdivision which would confer these indirect economic benefits upon them (as externalities) without the requirement for land dedication.

Requirement of Land for Public Uses

A common government policy that developers are often confronted with in land subdivision is the demand by government for land to be used by the public within a subdivision. Governments can accomplish this goal by two methods. First, they can require the dedication or reservation of land for public uses within a particular subdivision as a prerequisite for approval of the proposed subdivision. Second, they can require that funds be provided by the developer or land-owning community to acquire such land for public uses which will serve residents of the subdivision or other subdivisions within the immediate area (Town and Country Planning Law; CAP. 123, 1975). The contending issue here is that, developers want to reserve the right to dedicate any portion of their subdivisions for public uses at their own will and this should not be decided for them by the government. Another concern is that there is no guarantee that government, particularly in less developed countries, will fully utilize the fund provided by developers to acquire land for public uses in the subdivision or whether the land reserved or dedicated for public uses will be developed on time by the government so as to increase the value of plots within the subdivision. This suspicion has led to land re-subdivision after plat approval and encroachment on government reserved land in sub-Saharan African cities.

Creation of Roads and Streets

Governments regulate land subdivision in order to coordinate the creation of streets and roads within the proposed subdivision with existing or planned streets and highways. This is for the circulation of traffic in a manner that will avoid congestion and create conditions essential to public health, safety and general welfare. In addition to street connectivity issues, planning laws also authorized the government to require that streets made necessary by the subdivision are provided by the developer (Town and Country Planning Law; CAP. 123, 1975). This can be achieved by the government requiring that the developer construct the necessary streets as a condition of approval of the subdivision plat. While this regulation has been adhered to by developers in many cities of developing countries through the creation of excessive streets and lanes, their maintenance are often left for the government to undertake.

Conclusion

The review of literature reveals that the concept of land subdivision can refer to both an activity as defined and an area. A Subdivision as an area, is a parcel of land that has been subdivided into individual residential plots. A subdivision as an area is also called a layout in some countries. Whereas some subdivisions comprise of exclusive gated communities, others are merely demarcations denoting a specific neighbourhood. The formal land subdivision process can be very complex and lengthy. It can also require a significant financial investment. A planned subdivision scheme can be as short as several months or as lengthy as several years to complete; depending on the prevailing political and regulatory environments.

The growth of urban centres in sub-Saharan Africa should be planned and regulated with a view to ensuring a healthy, efficient and satisfying environment for living, work and recreation. One of the essential means of achieving these is by regulating the subdivision of land—whether in public or private ownership—so that the new areas added to the town form an integral part of the overall urban structure of the present as well as the foreseeable future. Land subdivision regulation makes all developments – whether residential, commercial, or industrial– conforms to certain standards of spatial planning. Such regulations are normally enforced by a physical planning agency, such as Municipal Town Planning Authority, in the best interest of the community. In the absence of land subdivision regulations, the town is likely to grow chaotically, as the real estate developers may embark on land subdivision without adequate provision for roads, open spaces, sites for community buildings and services. Subdivision regulations are also intended to prevent premature and sporadic development of land and the

misuse of land. Adherence to standards laid down in subdivision regulations ensures an efficient network of roads and streets for the movement of people, goods and services, and facilitates the provision of utilities which are necessary in urban development.

To prevent non-conforming uses of land, some subdivision regulations required that no subdivision or layout should be approved unless it is in conformity with the approved planning scheme or master plan if it exists. If none exists, the subdivision plan should conform to the outline plan of the area declared as the interim scheme. To prevent clandestine growth of towns and cities, no building or structure should be erected on a plot of land for which a layout plan has not been approved or prior clearance has not been given by the planning authority. To prevent excessive subdivision, no parcel of land should be subdivided, unless it may reasonably be expected to be used for the purpose for which it is proposed. To prevent premature subdivision, no parcel of land should be subdivided unless it may be reasonably expected to be used within a stated number of years or period from the time of approval of the plan. To prevent sporadic subdivision, no parcel of land should be subdivided unless it has or it is possible to provide proper access or circulation. Yet violations of these regulations abound in most developing countries particularly in sub-Saharan Africa, owing to the involvement of informal sector and official connivance in unregulated urban land subdivision. The indiscriminate allocation of land, the speculative holding of land and the disorderly use of land at the peri-urban areas around most cities in sub-Saharan African countries reflect the lack of implementation of the planning instrument to tackle these problems.

Biographical Note

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References

Adelstein, R. P. and Edelson, N. M. (1976). Subdivision exactions and congestion externalities. *The Journal of Legal Studies*, Vol. 5, No. 1, p.147–163.

Ademiluyi, I. A. (2010). Public housing delivery strategies in Nigeria: A historical perspective of policies and programmes. *Journal of Sustainable Development in Africa*. Volume 12, No. 6. P 153–161.

Agheyisi, E. J. (2012). Channels and institutions of informal land delivery in the urbanizing fringes of Benin City. *Sokoto Journal of the Social Sciences*. Vol. 2. (1), 73-88.

Agheyisi, E. J. (2016). Evaluating the conformity of informal land subdivision with the planning law in Benin metropolis. *Land Use Policy* 59, 602–612.

Ajanlekoko, J. S. (2001). "Sustainable housing development in Nigeria–The financial and infrastructural implication". International Conference on Spatial Information for Sustainable Development. Nairobi, Kenya. 2–5 October, 2001.

Angel, S., Archer, R. W., Tanphiphat, S. and Wegelin, E. A. [eds] (1993). *Land for housing the poor*. Singapore, Select Books.

Antrop, M. (2000). Changing patterns in the urbanised countryside of Western Europe. *Landscape Ecology,* Vol. 15. (3). 257-270.

Archer, R. W. (1987). The possible use of urban land pooling/readjustment for the planned development of Bangkok. *Third World Planning Review*, Volume 9, Issue 3, pp. 235-254.

Bertrand, N. and Kreibich V. (2007). Europe's city-regions competitiveness: Growth regulation and peri-urban land management, *Geografisk Tidsskrift – Danish Journal of Geography*, Vol.111 (1). 59–72.

Billand, C. J. (1993). Private sector participation in land development–Guidelines for increasing cooperation between local government and private developers. *Habitat International*. Vol. 17, (2).

Braimoh, A. K. and Onishi, T. (2005). "Spatial determinants of urban land use change in Lagos, Nigeria". A United Nations University Institutes of Advanced Studies, International Organizations Center, Yokohama 220–8502, Japan.

Brennan, E. M. (1993). "Urban land and housing issues". In Kasarda, J. D. and Parnell, A. M. (eds), *Third World Cities: Problems, policies and prospects*. Newbury Park, United States of America. Sage Publications.

Brook, R. and Davila, J. eds (2000). *The peri- urban interface. A tale of two cities*. Gwasg Francon, Bethesda, Wales. In Nyarko, J. O. and Adu-Gyamfi, O. (2012)." Managing peri- urban land development: Building on pro-poor land management principles".

International Federation of Surveyors (FIG) Working Week 2012. Rome, Italy, 6-10 May 2012.

Butler, S. (2009). "Improving Land Policy for Private Sector Development in Nigeria: Lessons and Challenges Ahead". World Bank Conference on Land Governance in Support of the MDGs, March 9–10, 2009. Washington, DC.

Butler, S. (2012). Nigerian land market and the Land Use Law of 1978. Brief on focus on land in Africa. World Resource Institute.

Caruso, G. (2001). Peri-urbanisation: the situation in Europe. A bibliographical note and survey of studies in the Netherlands, Belgium, Great Britain, Germany, Italy and the Nordic Countries, Report prepared for DATAR, France. In: Zasada, I., Fertner, C., Piorr, A. and Nielsen, T. S. (2011), Peri-urbanisation and multifunctional adaptation of agriculture around Copenhagen. *Geografisk Tidsskrift – Danish Journal of Geography*. Vol. 111. (1). 59–72.

Choguill, C. L. (1994). Crisis, Chaos, Crunch? Planning for Urban Growth in the Developing World. *Urban Studies*, Vol. 31, Issue 6, pp. 935–945.

Courtney, J. M. (1983). "Intervention through land use regulation". In Harold, B. D. (ed). *Urban land policy–Issues and opportunities*. Oxford University Press, New York.

Devas, N. (1983). Financing urban land development for low income housing: An analysis with particular reference to Jakarta, Indonesia. *Third World Planning Review*. Vol. 5. (3), pp. 209-225.

Dinye, R. D. (2003). The dynamics and realities of the peri-urban land market: The case of Kumasi, Ghana. *International Journal of Environmental Issues*. Vol. 1, (1). 102–114.

Dowall, D. E. (1991). "The Land Market Assessment–A New Tool for Urban Management. Urban Management Programme". Discussion Paper no. 4, The World Bank, Washington DC. In Economic and Social Commission for Asia and the Pacific (ESCAP) (1995). *Municipal land management in Asia: A comparative study.* New York. CITYNET.

Durand-Lasserve, A. (2006). Informal settlements and the Millennium Development Goals: Global policy debates on property ownership and security of tenure. *Global Urban Development Magazine*, Volume 2, Issue 1. Retrieved from *http://www.globalurban.org/GUDMag06Vol2Iss1/MagHome.htm*

Durand-Lasserve, A. and Selod, H. (2007). "The Formalisation of Urban Land Tenure in Developing Countries". Draft paper prepared for the World Bank's 2007 Urban Research Symposium, May 14–16, Washington DC.

Durand-Lasserve, A. and Selod, H. (2012). "Land Markets and Land Delivery Systems in Rapidly Expanding West African Cities". The Case of Bamako, Mali. Sixth Urban Research and Knowledge Symposium, 2012.

Errington, A. (1994). The Peri-urban Fringe – Europe's Forgotten Rural-Areas. *Journal of Rural Studies*. Vol. 10 (4). p 367-375.

Federal Republic of Nigeria (1991). National Housing Policy. Lagos, Federal Ministry of Works and Housing.

Fox, M. (2010) The Land Subdivision Process. Retrieved from http://www.tuggleduggins.com/publications/Fox.htm.

Gilbert, A. (1993). "The Housing of the Poor". In Gilbert, A. and Gugler, J. [eds] (1993). *Cities, poverty and development-Urbanization in the Third World.* Oxford University Press, New York.

Hammond, D. N. A. (2001). "Land Tenure and Policy in Kumasi, Ghana". In Dinye, R. D. (2003). The dynamics and realities of the peri-urban land market: The Case of Kumasi, Ghana. *International Journal of Environmental Issues*. Vol. 1, No. 1, 2003. Pp 102–114.

Hussain, N. (2012). "Informal Governance and Role of State in Cities in Developing Countries: Comparing Karachi and Cairo". Transnational Crime and Corruption Center (TraCCC), Middle East Institute. Washington, DC. Retrieved from http://www.mei.edu/content/informal-governance-and-role-state-cities-developing-countries-...htm

Ikejiofor, C. U. (2009). Planning within a Context of Informality: Issues and Trends in Land Delivery in Enugu, Nigeria. Case study prepared for Revisiting Urban Planning: Global Report on Human Settlements, 2009.
Retrieved from Retrieved from http://www.unhabitat.org/grhs/2009.htm.

Ikelegbe, A. (2000). The effectiveness of housing policy instruments in Nigeria. *Benin Journal of Social Sciences*. Vol. 8 & 9, Nos. 1 & 2. p 161–170.

Islam, N. (1995). Urban Land Management in Bangladesh: The Status and Issues. UMP–Asia Occasional Paper No. 12. January 06, 1995. Retrieved from http://www.serd.ait.ac.th/ump/op12.pdf.

Islam, N. and Chowdhury, A. I. (1992). "Urban Land Management in Bangladesh – Dhaka". In Islam, N. (1995). Urban Land Management in Bangladesh: The Status and Issues. UMP – Asia Occasional Paper No. 12. January 06, 1995. Retrieved from http://www.serd.ait.ac.th/ump/op12.pdf.

Kironde, L. (2006). The regulatory framework, unplanned development and urban poverty: Findings from Dar es Salaam, Tanzania. *Land Use Policy, 23(4),* 460–472.

Kombe, W. J. (2005). Land use dynamics in peri-urban areas and their implications on the urban growth and form: the case of Dar es Salaam, Tanzanian. *Habitat International.* Volume 29, Issue 1. 113-135.

Kombe, J. W. and Kreibich, V. (2001). "Informal Land Management in Tanzania and the Misconception about its Illegality". A paper presented at the ESF/N-Aerus Annual Workshop: "Coping with Informality and Illegality in Human Settlements in Developing Countries" in Leuven and Brussels, May 23–26, 2001.

Kombe, J. W. and Kreibich, V. (2005). Strategic planning for urbanisation in poverty–Managing growth in informal settlements. *Habitat International*. Volume 29, Issue 2. 111-133.

Lambert, A. (2011). The (mis)measurement of periurbanization. *Metropolitics* (Online). Available from: http://www.metropolitiques.eu/The-mis-measurement-of.html. [Date accessed: August 22, 2016].

Larsson, G. (1991). *Land registration and cadastral systems–Tools for land information and management.* Longman Scientific & Technical, New York.

Leduka, R. C. (2004). Informal Land Delivery Processes in Maseru, Lesotho. Summary of Findings and Policy Implications. International Development Department, School of Public Policy. The University of Birmingham, England. Informal Land Delivery Processes in African Cities, WP 5.

Lee, B. (1991). India Private/Public Partnership in Land Development. Washington DC, Office of Housing and Urban Programs, USAID.

Lee, Tae-II. (1987). Land readjustment in Seoul–Case study on Gaepo Project. *Third World Planning Review*. Vol. 9, Issue 3, pp 211-234.

Magigi, W. (2004). Local Community Involvement in Managing Land Development and Management in Tanzania: The Case of Ubungo Darajani Informal Settlement in Dar es Salaam City. *An unpublished M.Sc. Dissertation submitted to the University College of Lands and Architectural Studies (UCLAS), University of Dar es Salaam, Tanzania*. [Retrieved from http://www.fig.net/pub/Cairo/papers/ts.pdf]

Magigi, W. and Majani, B. B. K. (2005). "Planning Standards for Urban Land Use Planning for Effective Land Management in Tanzania: An Analytical Framework for its Adoptability in Infrastructure Provisioning in Informal Settlements". International Federation of Surveyors (FGI) Working Week 2005 and GSD-8. Cairo, Egypt. April 16–21, 2005.
[Retrieved from http://www.fig.net/pub/Cairo/papers/ts.pdf].

Mattingly, M. (1994). Urban Land Development in Nepal: A Case for a Management Approach. Nepal Guided Land Development (GLD) WP 64.

Mwiga, B. G. (2011). Evaluating the Effectiveness of the Regulatory Framework in Providing Planned Land in Urban Areas. The Case of Dar es Salaam City 20,000 Plot Project, Tanzania. *Thesis submitted to the Faculty of Geo-Information Science and Earth Observation of the University of Twente, Enschede, The Netherlands in partial fulfillment of the requirements for the degree of Master of Science in Geo-Information Science and Earth Observation.*

Nkurunziza, E. (2004). Informal Land Delivery Processes and Access to Land for the Poor in Kampala, Uganda, Birmingham: International Development Department, School of Public Policy, University of Birmingham, Informal Land Delivery Processes in African Cities, WP 6.

Nyarko, J. O. and Adu-Gyamfi, O. (2012). "Managing Peri-Urban Land Development: Building on Pro-Poor Land Management Principles". International Federation of Surveyors (FIG) Working Week 2012: "Knowing to manage the territory, protect the environment, evaluate the cultural heritage". Rome, Italy, 6-10 May 2012.

Obateru, O. I. (2003). Land *subdivision basics.* Penthouse Publications (Nig.), Ibadan.

Omuta, G. E. D. (2005). "Regulatory standards and urban environmental performance". In Onokerhoraye, A. G. and Omuta, G. E.D. [eds] (2005). *Perspectives on Development*. Benin City. Centre for Population and Environmental Development (CPED).

Payne, G. (2001). Lowering the ladder: regulatory frameworks for sustainable development. *Development in Practice, 11(2),* 308–318.

Rakodi, C. (1987). Sef-help housing: The debate and examples. Upgrading in Lusaka, Zambia and Hyderabad, India. *Habitat International*. Vol. 13, (4), 5–18.

Rakodi, C. (2007). Land for housing in African Cities: Are informal delivery systems institutionally robust and pro-poor? *Global Urban Development (GUD) Magazine.* Volume 3, Issue 1, November 2007.

Schnidman, F. (1986). "Land Readjustment: American Style". Paper presented at the Conference on Subdivision Design and Neighbourhood Pooling. Sponsored by Lincoln Institute of Land Policy, Florida International University Joint Center for Environmental Urban Problems and the Florida Atlantic University Institute of Governance. Held at Florida, U. S. A., April 27–30, 1986.

Skinner, R. J.; Taylor, J. L. and Wegelin, E. A. (1987). *Shelter upgrading for the urban poor: Evaluation of Third World experience*. Island Publishing House Inc, Manila.

Sunndin, P. (2010). Land Subdivision: Making Sense of a Complex Process. Retrieved from http://www.EzineArticles.com/?expert=Paul Sunndin.htm.

Town and Country Planning Law; CAP. 123 (1975). Bendel State of Nigeria Land/Development, Building and Provision of Roads Regulations Order, 1975.

Ugalde, C. M. (2002). Land Subdivision in Brazilian Metropolitan Context: The Case of the Greater Porto Alegre, Brasil. Universidade Federal do Rio Grande do Sul, Porto Alegre, Brasil. Retrieved from http://www.spacesyntax.org/symposia.pdf

United Nations Centre for Human Settlements [UNCHS] (1991). *The Incremental-Development Scheme: A Case Study of Khuda-ki-Basti in Hyderabad, Pakistan.* UNCHS/Habitat, Nairobi, Kenya.

World Bank (1983). Learning by doing: World Bank lending for urban development, 1972-1982. In Mayo, K. S. and Gross, J. D. [eds] (1987). "Sites and Services-and Subsidies: The Economics of Low-Cost Housing in Developing Countries". The World Bank Economic Review, Vol. 1, No. 2, Washington DC.

Zasada, I., Fertner C., Piorr, A. and Nielsen, T. S. (2011). Peri-urbanisation and multifunctional adaptation of agriculture around Copenhagen. *Geografisk Tidsskrift – Danish Journal of Geography*. Vol. 111, (1), 59–72.