

Drivers of Gated Community Developments in Urban Areas (Case Study: Nairobi, Kenya)

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Recieved 20.09.2017 ; Accepted 30.10.2017

ABSTRACT: Higher and middle income residents in Nairobi, Kenya have demonstrated a great craving for gated community housing. The phenomenon is manifested in all forms of residential property advertisements and in most new residential developments. The objective of this paper is to establish the drivers of the gated community developments in Nairobi County by identifying and documenting the push factors causing migration of a section of urban dwellers from open to gated neighborhoods. The study results are expected to influence urban housing policy decisions towards developing sustainable urban housing typologies. The researcher reviewed existing literature from local and international scholars in order to understand the variables in the phenomenon before engaging in a field study. This study adopted a cross-sectional survey design so as to allow the researcher to relate many different variables at the same time. The target population of gated communities was restricted to only those classified as lifestyle and prestige types that were found to be complete and occupied at the time of study. Eight gated communities were randomly sampled for the study. The main findings that drive GCs were security, lifestyle and location. Further, residents wanted to be involved in the decision making in management of the GCs. The study recommends clear development guidelines, flexible building standards and offer quality public services

Keywords: Gated community, Housing, Residents

INTRODUCTION

In the last few years, Gated Communities (GCs) have rapidly increased in Kenya. These types of homes are becoming increasingly popular among urban upper and middle class residents. A casual observation of the Kenyan urban housing market today reveals that, there is a great craving for gated neighborhoods. This phenomenon is visible in the adverts on housing carried in all forms of marketing media such as newspapers and magazines, radio, television, real estate product exhibitions and network marketing platforms. Developers, marketing parcels of land and complete houses, promise the goodies of GCs in advertising brochures using fascinating terms such as: relaxed, friendly ambience, serene, quiet, secure, safe, manicured lawns, immaculate fairways, carefully crafted water features, meticulous landscaping of the highest possible standards, among others. The phenomenon of GC's is thus not only a local but is also an international concern, as revealed in

existing literature and the intense debates on GC's. This study was carried out in order to answer the question on; what are the major drivers of gated communities' development in Nairobi County? The objective was to establish the drivers of the gated community developments in Nairobi County. The compelling reason for carrying out the study was to ensure that; one, the push factors as to why residents move into gate communities are identified and documented. The study results will go a long way in influencing urban housing policy decisions, clearly demonstrating the underlying reasons for rapid growth of GCs development from the main stakeholders in order to identify and develop sustainable urban housing typologies.

Drivers of Gated Community Development

This section forms a discussion of the theoretical foundations of motivations towards developing gated community. The section examines the major drivers from the physical, social and economic dimensions.

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Physical Features and Space Design as Drivers to GCs

This subsection discusses the theoretical debate that explains how physical attributes such as location, proximity to other urban frames and space design; contribute to the attractiveness of gated community living.

Convenience and Access to Outside: Some GCs are located in the city periphery emphasizing the distance from the urban violence however, the adjacency and access to urban life is of value as expressed by marketing slogans like 'only 20-25 minutes far away from the city'. There are two main features visible in these developments; 'hiding' behind the rising walls of the settlements in the city and 'diverging' from the urban centre to the new settlements constructed at the periphery (Ozkan and Kozaman, 2006).

The Neighborhood Space Design of GCs: Ghonimi et al. (2010) comments that developers use different designs strategies to make gated communities unique developments. Firstly, physical boundary barriers for visual screening, permit privacy, define property and limit access (Grant et al., 2004). Secondly, street network are inward oriented, mostly cul-de-sac. Thirdly, land use patterns are single land use type, commonly residential. Fourthly, housing type pattern, developers separate different housing type in order to control services, amenities and maintenance for residents who share the same social and financial standards. According to Blakely and Snyder (1997), these features mirror the design goal of control and privacy.

Social Aspects as Drivers to GCs

This subsection looks at the theoretical foundations that explain the social needs of the people in a neighborhoods and how they act as motivation to live in gated community in order to satisfy those needs.

Need for Exclusivity, Isolation, Prestige and Increased Safety: Blakely and Snyder (1997) observes that although the reputation of GCs has varied significantly, their evolution and emergence until recently have been slow. Further, Blakely and Snyder (1997) state that even if there have been minor design modifications; motivation towards their development has not changed. The need for prestige, increased safety and community organization remains the most important push factor for the development of gated communities.

The history reveals that from ancient days, the main drivers to gating have been the fear of threats from outsiders. The threats are of various forms such as; security of lives and property, keep away immigrants, shield from siege and pandemic, to define status and class. These motivations together represent the three types of gated communities that exist to date. These communities are: prestigious communities to preserve the class and status of the insiders like the wealthy, kings and royalties; lifestyle communities where the insiders enjoy some privileged provisions of amenities and exclude the outsiders; and, security zones, which have existed throughout man's history as cities surrounded by walls, for the purpose of safety, security and

preventing the easy entry of immigrants (Dillon, 1994).

In Turkey, the situation is different from that of Nigeria, Austria, Malaysia, South Africa, Brazil and United States of America, where a rise in urban crime is viewed as a major driver of the popularity of GCs. Ozkan and Kozaman (2006) state that, in Istanbul City, the demand for GCs is mainly driven by market offers of social security in the event of social tension in the city. He explains that the fear for 'others' is not because of social crime. But rather, in the case of Istanbul, 'others' are mostly the immigrants who live in bad conditions without any health, education or dwelling security, mostly unemployed or working for illegal sectors or living in derelict areas in the urban center. Elites seek isolation from the immigrants hence the fear of 'others'. Gradually, as the social and spatial privileges of the elites rise, the differences crystallized thus triggering the new elite's feel of 'under threat'. Ozkan and Kozaman (2006) indicates that the fear for 'others' is exaggerated and has led to the feeling of secured land with the following qualities; walls, digital security systems (like cameras), security guards.

According to Csizmaday (2011), the GCs investments in Eastern Europe are built for higher status clients in order to serve two main functions; first, to provide a suitable home for the (rich) winners of change of the regime i.e. symbolic of their social status, and second, to separate and in a certain sense to protect the rich (winners of change) from the poor (losers of change).

Need for Intimacy in a Local Community and Social Capital: Desire for intimacy in a small local community is inherent in urban dwellers; an effort to achieve this can be traced back to the 1980s, in Eastern Europe, where urban dwellers started moving out of the amorphous city with the hope of building up small, more intimate communities. The long distance to work and home worked against the possibilities of building the social ties and much time was wasted commuting to work in the city. Urban dwellers became dissatisfied because the sense of community was not built and the tedious journeys made became worthless. Today, the GCs are an effort towards the search for security and new relationships, in a local community of intimacy reminiscent of the 1980s (Donzelot, 1999). GC residents desire a safe environment, living with like-minded people with whom they share and treasure similar standards.

Social Dynamics towards Individualism and Private Initiatives: Changing understanding and organization of governance is perceived as a factor influencing the GCs development. New liberal tendencies and the orientation towards individualism and private initiatives are perceived as important drivers of fragmentation and segregation. Moreover, the economic crisis, growing poverty, terrorism, and the increase in crime in many Latin American countries, have enhanced the demand for safe enclaves, providing protection from a dangerous social environment. Finally, consideration should be made to the basic human demands, such as the desire for a quiet and safe place to live, a safe environment to raise children, a life without fears and horrors. Moreover, the upper social classes search for exclusivity, individuality and the possibility to realize their own lifestyles.

Economic and Institutional Policy Aspects as Drivers to GC Developments

This subsection discusses the theoretical foundations underlying both the economic and institutional policies that have influence on the motivations towards the development of gated communities.

Globalization and Neo-Liberal Market Forces: Csizmady (2011) outlines two major drivers to the development of GCs in Eastern Europe i.e foreign investor and local government authorities. In the 1990s, the state withdrew from housing construction and hence GCs are a product of private funds in the form of private investors or foreign capital. Exceptions to this are found in Budapest, Sofia and Prague where foreign investor and domestic architects rule this segment of the market. The situation in East Berlin is different because the plans of internationally acclaimed architects are realized and commissioned by German investors. Examples of these are the Arcadia and Tiergarten Dreieck gated communities. Foreign investors play a significant role in the transformation of the urban structure since they import designs of American and Western European luxury dream homes for adaption in Eastern Europe (Csizmady, 2011).

Civic leaders and chief architects are to a certain extent also cooperating partners of the private investors. In some cases, civic leaders openly embraced GCs investments in order to serve two potential goals; one help to renew the urban environment since the state could no longer afford to demolish and build new house or renovate the old derelict apartment blocks. Two, the investors are helping in stopping or reversing migration, which has accelerated in the past decade away from the city. A good example of this is the 13th district in Budapest. In Eastern Europe, a high proportion of the population of the capital cities has migrated from the centre to the surrounding agglomeration and thus, the aforementioned 'decline' of the inner districts have begun (Csizmady, 2011). In the years 2000s, investment in GCs exploded onto a stagnant market environment, which had neither capital nor regulations. In order to revitalize the housing sector, civic leaders created favorable conditions for attracting foreign investors.

There have been changes in the economic and social realm that tend to give bearing to the development of GCs in Latin America. In the 1980s, a re-democratization process replaced the military regimes of 1970s, and in that period, the politics implemented happened to be capitalist and neo-liberal. The political changes coincided with a crisis in the development strategies that had existed since the end of WWII promoting import substitution by local industrialization through active economic intervention by the state. The new economic model promoted integration in the world market, the reduction of tax barriers, privatization of state-owned companies and state-organized services and thus ensured attractiveness of the market (Borsdorf and Hidalgo, 2009). Foreign Direct Investment and the implementation of open market laws weakened the significance of the state. The severe competition from imported products induced a de-industrialization process

in many countries. Despite the high economic growth rates experienced in the 1990s, unemployment escalated noticeably. The political and economic transformations of the last 15–25 years have led to rapid modernization of urban structures. Companies that provide services conforming to international standards, for the middle and upper classes now own the basic urban services such as telephone lines and water provision, in a drive led by foreign investors. However, more investments went into urban elements that exemplify the globalization of urban spaces and illustrate the growing importance of a new imported lifestyle, oriented towards leisure activities. These include gated and access-restricted residential quarters in urban and suburban areas. These infrastructural innovations are signs of post-modern urban development, which finds expression in the exclusive architecture, and social target as the state did not intervene in urban planning processes, and private investment (Borsdorf and Hidalgo, 2009).

The changing parameters at the global, national and personal level, explain the rise of gated communities all over the world. The GC is really a global phenomenon as well as a phenomenon of globalization. This is evident in the distribution of gated communities in Latin America where they are not limited to the regions heavily incorporated into the global market system such as the Central Zone of Chile, the Mexican border region with the U.S., or the metropolitan areas of the Iberian nations. Indeed, Barrios-cerrados have been established in very conservative regions in the Ecuadorian or Peruvian sierra, the extreme South of Chile, and the Yucatán peninsula, as well as in several medium sized Brazilian towns (Borsdorf and Hidalgo, 2009).

Utopia Models of Gated Communities: The economic transformation towards neo-liberal models, enforced privacy and generated deregulation policies that have liberated the real estate market, weakened urban planning and undermined the norms and rules of previous habitat policies. These economic factors have facilitated the rise of neighborhoods outside the public space. There are considerable disagreements over the cause and effect of this phenomenon. It is suspected that the reputation of GCs' is driven by the motivation of developers and local governments on the supply side, and the consumers of housing delivery service, on the demand side with the supply side predominating over the demand side (Mc Kenzie, 1998). Atkinson and Blandy (2005) concur with above position, stating that the revolution of GCs is driven by three main forces first, developers prefer pursuing higher density housing in order to maintain profits, and given the rising costs of land, they can locate more people on less land and provide amenities to buyers by creating common ownership of parks, swimming pools and other facilities. Second, the local governments seek growth and increased tax revenues with minimal public expenditure in the context of these developments. Third, there are many middle and upper class homebuyers, fearful of crime and dissatisfied with public services that are in search of a privatized utopia, that offers security, a homogenous population and privately managed spaces.

It is argued that GCs are a response to the fear of crime (Atkinson et al., 2004), but other drivers also appear significant. In particular, the desire for status, privacy and the investment potential of gated GCs in all forms is an important aspect or motivation to live behind gates. Many argue that GCs represent a search for community living, with residents seeking contact with like-minded people who socially mirror their own aspirations. Developers, primarily in America, communicate this community ideology in their advertising.

By adopting the capitalist modes of the urban economy, urban managers, are entangled in the proliferation of gated communities due to various factors. Barnes (2009) outlined the factors as; one capitalist forms of production and consumption have a philosophical impact on the way we live and interact in the urban environment and space, which has now become a commodity with economic implications. Two, the decline in the role of government, along with the continued rise of market forces, neo-liberalism and the tendency towards privatization, have encouraged unimpeded development including housing market. Private developers effectively advertise gated communities using marketable tactics such as; desire for class, seclusion and investment. The age of modernity and individualism encourages such utopian aspirations through the privatization of public life. Three, the socio-spatial control, is shaped by commercial decisions and corporate selling approaches. More often than not, the construction of urban space is about commercial and property interests, rather than assisting the disadvantaged to make 'legitimate' claims on their own consumer spaces. The winners, in this case, are always the wealthy customers and the shareholders. Xavier (2008) adds that other factors contributing to this phenomenon are increasing affluent population, rapid changes in trends and consumer preferences and demand, and provision of exclusivity as part of a community's lifestyle.

Housing Policies and Institutional Frameworks

According to Xavier (2008), some of the basic features of GCs in Malaysia are illegal and against the government policy of blending of the race to build a multi-cultural nation, such features include erection of gates and operating of guardhouses to prevent the right of passage on public roads, and, polarization by race or class. Further, Xavier (2008) notes that there must be rules and regulations that govern GCs, touching on access to public areas, payment of rates, taxes, and user charges on public services. Xavier (2008) warns that in Malaysia, the GCs are developing rapidly and at a greater speed than legislative reform and calls for urgency in streamlining the existing legislation and enacting new ones in order to cater for this new phenomenon. Xavier (2008) adds that developers rely on contractual agreements and there is no clear legislations to guide the development of GCs. Inevitable, is the fear that in case the residents are disappointed with services, they may refuse to pay the service fees leading to a breakdown of essential facilities such as lifts, supply of water and security services.

Other government policies that have favored the proliferation

of GCs in South Africa is the strategy towards crime reduction; here, the government committed to promote safety and security for all its residents through the development of a range of policy documents and strategies, among them, the White Paper that is referred to as Crime Prevention through Environmental Design (CPED). Many developers and homeowners use this policy paper in order to justify GCs developments. This development has aggravated tensions on whether the GCs will continue to prevent crime, regardless of its probable impacts on urban reconstruction and development in future. The South African government is still not clear on how to address these tensions (Landman, 2004). However, the human right commission of South Africa has challenged the use of road closures and boom gates, which are basic features of GCs, stating that they violate the following rights: right to privacy, right to human dignity and equality, freedom of movement and freedom of trade, occupation and profession.

In the USA, and particularly in Las Vegas, the local government requires developers to construct virtually all new housing in the form of GCs. Bonanza village was literally walled by the local authority, following protests by residents' protests who were demanding recognition of their new status as contemporary GCs. In Kenya, legislation to facilitate the development of GCs exists in form of the Sectional Properties Act, 1987 No. 21 of 1987, and Rev. 2009. The Act provides a legal framework on fractional ownership, regulation of conduct of residents and participatory governance of the GCs. Barnes (2009) notes that the European welfare states appear to be opposed to this kind of development due to their strong public planning policies and a deeply rooted concept of public space.

In Kenya, according to a Ministry of Transport, Infrastructure, Housing and Urban Development housing survey carried out in 2015, housing developers quoted access to affordable land (45.9%), high returns on investments (43.7%) and prospective future returns on investments (41.45%), as the key factors in determining where to develop (ROK, 2015). Further, the, cost of input and high cost of land are the two biggest challenges facing the housing sector.

The Sectional Properties Act, 1987 No. 21 of 1987 Rev. 2009 of the Laws of Kenya

This Act of Parliament, provides the legal framework on which the GCs are developed, sold and managed. The Act provides for the division of buildings into units to own by individual proprietors, and common property to co-own by proprietors of the units as tenants-in-common, and to provide for the use and management of the units, common property and connected purposes. This Act applies only in respect to land held on freehold title or on leasehold titles, where the unexpired residue of the term is not less than forty-five years. It stipulates how one can own a unit in buildings and other commonly owned properties. All the interest affecting the parcel of land before the transfer to unit titles is transferred to the sub-section unit titles. No other land, except the share of the common property apportioned to the owner, may be referred to the same register. The Act is clear on how the common property

will be managed by the corporation, through the institutional manager and the duties are well defined. There are regulations on how a residential owner can rent out the unit to a renter by giving a written notice to the corporation of his/her intention. There are by-laws that guide the conduct of the residents and the corporation is empowered by the Act to enforce them. The corporation may make by-laws to provide for the control, management and administration of the units, the movable and the immovable property of the corporation and common property. The Act is clear on matters of property ownership, regulation of conduct of residents and participatory governance of the homeowners.

However, a report dated September 14, 2009, indicates that since the introduction of the Act in 1987, only 8100 individual units have been registered as per the Act (ROK, 2009). Ayieko (2010) states that 'developers have shunned this law arguing that the registration of apartments, as provided for under the Act is cumbersome. Instead, they advocate for the combination of three laws such as; Registration of Titles Act, Cap 281, Registered Land Act Cap 300 and Companies Law Cap 486, for registering properties. Because of the sub-lease status above, apartment buyers suffer because they no longer enjoy full benefits since their rights have been limited to sub-lease instead of title deeds. The major limitation of sub-lease arrangements is that the buyer is reduced to a mere-tenant status given that the sub-lessees do not enjoy the transferability and acceptance as security that title deeds confer. Apartment buyers with a sub-lease cannot transfer their unit or units without the consent of the management company. In many cases, there is the requirement that anybody selling or transferring a unit must get signatures of agreement from other apartment owners in the same block, before the transaction can proceed. The enactment of the Section Properties Act was meant to cure the inadequacies of the sub-leases. Under the Act, the buyer enjoys more rights and interests by the virtue of the fact that one issued with a title deed (Ayieko, 2010).

The poor implementation of the Act has been linked to poor sensitization of the public, officers in the ministry of lands and local authorities. More so practitioners in the built environment, private sectors such as surveyors, architects, planners and bankers have also not been sufficiently sensitized. Another obstacle to its application as has been mentioned before is the delay occasioned by conversion of titles registered under other Acts, to the Registered Land Acts, before application of the Sectional Properties Act. This is because the gazette process for conversion of titles has no stipulated statutory minimum periods within which relevant government ministries, developers and landowners must transact the deeds (Ayieko, 2010). Other hindrances to the implementation of the Act are lack of technical capacity in the public and private sector, lack of institutional goodwill and parallel use of the Registration of Documents Act (Ayieko, 2010).

Local Authorities as Facilitators of Gated Community Developments

Goix (2005) reveals that local authorities have played a major

role in the proliferation of GCs. Local authorities have within their jurisdiction, the mandate to regulate, approve and control housing development projects in the urban areas. It can be alleged that the urban managers favor this form of urban housing delivery. GCs enable the public body to transfer the overall cost of urbanization to the private developer, who consequently makes the final buyer pay for these infrastructures in the course of purchasing the property. In that arrangement, the public provision of services is substituted with private provision of public services. The developer is required to finance the infrastructure, landscaping and improvements, to ensure the consistency of the development with any applicable general plan, approved by the public authority. Other tools are also available for the transfer of the costs of urbanization costs to the final homeowner, instead of the general taxpayer. Such tools include the developers' fees, which are paid by a developer to the public authority to cover the public services improvements needed by every additional unit. All common public facilities (schools, libraries, recreation, healthcare, community centers, among others), located within the boundaries created, transfer the cost to the local homeowner instead of charging the general taxpayers. These transfers of urbanization costs to the homeowner only outline the interest of GCs in the urban planning process. Because of the gate, public money cannot be spent within the gates, otherwise the public's access to any public-owned facility located inside the GCs would be granted and the gates would eventually become useless and fail to achieve their goal of exclusion. Consequently, no public money is spent for the maintenance of the private roads within a gate. As compensation, the homebuyers are granted private and exclusive access to sites and former public spaces. Such exclusivity favors the location rent, and can positively affect the property value. On the other hand, it provides the public authorities with wealthy taxpayers, who thus consider GCs as property taxes cash cows (McKenzie, 1994). The above indications point out that the phenomenon of GCs may have emerged from a partnership between local governments and private land developers, favoring the sprawl of a peculiar form of urbanism.

Ajibola et al. (2011), Barnes (2009), "Behind the Urban Curtains" (2005), Landman (2004), Ozkan and Kozaman (2006) and Xavier (2008) agree that the inability by the urban managers to ensure safety and security in the urban space coupled with a rise in urban crime, is a major driver to the proliferation of GCs in most cities. Proliferation occurs in both developed and developing countries, among them; Austria, Malaysia, South Africa, the United States of America and Turkey. Hall (2000) and Ozkan and Kozaman (2006) state that, the loss of the social vision in architecture, and the lack of a planning tradition in the city are the major drivers to the proliferation of GCs. Xavier (2008) adds that residents are driven by the need to have: opportunity to participate in management, well-represented resident's associations and clear developments guidelines. Residents prefer GCs since the building standards are flexible, offer better quality 'public' services and thus allow the local authority to concentrate on the

provision of other aspects (Grant, 2003).

It is possible to conclude that urban problems are the trigger for the development of gated neighborhoods'. A growing under-class, high levels of foreign migration and a restructured economy that leaves many urban residents feeling insecure. GCs are indeed a search for stability and control in the face of these dramatic demographic changes. In addition, proponents have justified the existence of GCs and their sustainability due to the following variables; weakness of states, problems with raising local taxes, a revolt against high local taxation, an ideological shift towards lean governments, problems with accountability, transparency and responsiveness of local governments, the superior knowledge of the private sector in supplying capital, the superior knowledge of communities in organizing and evaluating demands for shared goods and services, and, active divestment of state responsibilities (McKenzie, 2005).

MATERIALS AND METHODS

This section explains the methods used for the study. It outlines the study design, study sites, target population, sample size and sampling procedures. It presents data collection tools, data collection procedures, data analysis procedures and data presentation techniques used for effective interpretation in order to adequately answer the research questions. It also explains how the study was carried out.

Research Design: This study adopted a cross-sectional survey design. The study was concerned about adopting a design robust enough to study complex real life phenomenon of people, which is, not the subject of the natural sciences. The researchers recorded information about the subjects without manipulating the study environment. The cross-sectional research design was the most preferred in this particular study, because it was observed that it would enable the researcher to investigate perceptions that are built upon the stakeholders and make observations regarding the gated communities in order to evaluate their influence on urban space. The benefit of cross-sectional survey design is that it allows the researcher to relate many different variables at the same time with little or no additional cost (Obala, 2011).

Research Sites: The researcher selected gated communities within the Nairobi County that were complete, occupied and most accessible to the researcher, for the study. The rationale behind this was to draw a sample of sites from across all county districts.

Target Population: The study covered only the lifestyle and prestige type aspects of gated communities. These units are controlled access, with non-permeable physical boundaries enclosing the neighborhood which completely denies the general public access to the enclosed private space, facilities and amenities. The house designs include semi-detached maisonettes and flats. Gated neighborhoods, without shared community facilities and amenities, unbound by a set of regulations, and covenants that regulate the behavior of residents and the management of the shared properties were not covered in the study. Neighborhoods with through roads open to public were also not studied. Community members

living or working in spaces adjacent to a gated community were interviewed in order to capture their views on gated communities. Other stakeholders in development of gated communities both in production process, management and as regulators were identified as interviewees.

Sampling Plan: A multiple embedded case study of gated communities, located along randomly selected districts of Nairobi was undertaken and three out of the eight Nairobi administrative districts was selected. They include; Embakasi district in the eastern part, Westlands/Parklands district on the western side and Kasarani district on the northern side of the Nairobi CBD. The research team visited all gated communities in the selected districts, in order to identify those that meet the criteria for lifestyle communities as per the scope of the study and to develop the list for random sampling. The pilot survey established that some gated communities are completely inaccessible for purposes of the study; because the security guards refused to allow the team entry neither did they reveal the contacts of the Management Company or the developer. All the inaccessible gated communities were in high income neighbourhoods, in the western region of the county that is Westlands district. The inaccessible gated communities were therefore removed from the random sampling list.

A list of gated communities in Nairobi County compiled by Knight Frank indicates that by 2013, there were an estimated one hundred gated communities. However, the list was not comprehensive as some of the gated communities listed did not meet the minimum criteria of lifestyle communities required by the study. Moreover, there were more gated communities released to the market after the list was compiled. However the list gave the researcher a working approximation of plus or minus eighty. According to Mugenda and Mugenda (1999), in descriptive studies, a sample size of 10 percent of the accessible population is enough. As a result, the researcher considered a random sample of three gated communities per district, with the aim of getting nine gated communities, thus giving slightly more than 10 percent of the estimated total population.

In Westlands district, there are two constituencies namely; Dagoretti North and Westlands. Dagoretti North, which formed the random sample, has five wards namely; -Kilimani, Kawangware, Gatina, Kileleshwa and Kabiro with 29-gated communities in the constituency. Due to the high population of gated communities concentrated in the constituency, Kileleshwa ward was randomly sampled out of the five wards. Kileleshwa Ward had twelve gated communities in total and three of the communities was selected randomly. The sampled gated communities were; Chiluma Apartments, Duluxe Plaza and NHC Park Kileleshwa. In Embakasi District there were fewer GCs than in Westlands and hence the researcher randomly sampled GCs at the constituency level rather than the ward level. There are five constituencies out of which, Embakasi East was randomly sampled. There were five GCs within the constituency out of which three were randomly sampled namely; Greenspan Housing, Nyayo Estate Embakasi and Simba Villa. In Kasarani, one constituency, Roysambu, was randomly sampled out of the two in the district. There

were only two-gated communities and therefore both were studied. The total number of GCs sampled was eight.

Since there was no list of residents of gated communities available, the first step was to map the communities and estimate their population. The researcher made visits to the clusters selected; interacted with residents from the cluster area for example, guards, in order to identify the neighborhoods and the number of households that formed the scope of this study. After gaining a better sense of the population available, the researcher worked out a representative sample of gated communities in each cluster as a ratio, based on the population and density characteristic. The second step consisted of sampling residents within the chosen neighborhoods. The researcher applied a simplified formula for proportions, derived by Yamane (1967), to calculate sample sizes. In this formula, the researcher desired a 95 per cent confidence level and a maximum variability (P) of 0.5 and ± 17 per cent precision. A sample on 60 households per district was chosen for residents' respondents.

Adjacent communities' sample: The community members of adjacent communities, existing existed before the gated community was established and who still reside in the immediate neighborhood, within a radius of 0.5km, were identified. Random techniques were employed to obtain a sample of at least ten participants in each neighborhood.

Research Tools: The study employed various research instruments for collection of quantitative and qualitative data. Quantitative data was collected through a household survey, and the administration of structured questionnaires for mortgage institutions, and adjacent community members. Qualitative data was collected from all categories of respondents through guided questionnaires in addition to observation checklists. The use of various tools and approaches further facilitated the acquisition of detailed and comprehensive data ensuring that there were no obvious gaps in the study results. The following tools were used for the data collection process.

Observation Checklist: The researcher used an observation checklist in the study for all GCs. This list was appropriate because it did not require the researcher to ask questions but rather to observe the physical structures of the GCs and recorded the information real-time in the spaces provided in the checklist. Other data captured was on the general setting of the surroundings as well as the environmental features within and outside the GCs. A camera was used to record the observations and capture the information in the form of photographs.

Questionnaire for Residents of the Gated Community: This was applied to residents of the GCs, the questionnaire investigated the demographic characteristics of the GCs households and the general practices of residents that have implications for the social, economic and environmental sustainability of the gated communities. The reasons why residents of gated communities opt for gated living, their perceptions on the sustainability of gated communities as well

as an assessment of the satisfaction level of residents living in gated communities in Nairobi, was also investigated.

Interview Schedule for Neighborhood Manager/ Developer:

This instrument was used for a dual purpose; one, to capture data from the developer of the particular gated community and second, to collect data from the manager of the company in charge of the day-to-day running of the GCs. The data collected from this group focused on the motivation for developing the GC, the size of the developments, facilities provided and how they are managed, the challenges of creating these developments, and the challenges that the GC management face, the future of GCs as well as perceptions from the different interviewees on the sustainability of GCs.

Interview Schedule for Neighbours Adjoining a Gated Community: Community members from communities adjacent to the GCs, facilitated the triangulation of results and provided a general picture GCs in Nairobi County. The data collected from this category touched on the demographic characteristics of the adjacent community, assessment of their social-economic classes, their perspective on the impact of the gated community on their neighbourhood, perceptions on drivers to gated living, and perspectives on the sustainability of GCs in Nairobi County.

Key Informants Interview Schedules: Semi-structured questionnaires were used as a guide in the collection of data from key informants, such as planners at the Nairobi City Council, architects/urban designers, the director of housing, and regulatory bodies such as NEMA. The data collected this way was useful for explaining the existing institutional arrangements and their contribution to the phenomenon of GC development.

The study is purely relational and therefore quantitative and qualitative data collection and analysis methods were employed. Data collection methods included interviews, and observation.

Qualitative and Quantitative Methods: Qualitative and quantitative methods were used to complement one another because each has unique strengths beneficial to the study. These benefits are as follows; quantitative methods, as stated by Sayer (1984, 1992, and 2000) and Senkantuka (2009), allow for extensive investigation of a phenomenon while qualitative data generates more intensive knowledge using the two methods enabled the researcher to triangulate the findings with different analysis techniques. As stated by Senkantuka (2009) quoting Winchester (2005), the mixed methods approach enabled the researcher to effectively investigate the research questions basically because the questionnaire enabled a general level investigation of the perspectives of residents and bankers providing a more extensive understanding of the questions, on an aggregated level. The qualitative methodologies such as observation, in depth and structured interviews allowed evaluation of the perceptions of stakeholders' at a more specific and individualistic level.

Data Collection Methods

The researcher used the following data collection methods:

The Pilot Study: The pilot study was undertaken by the research assistants in 2015, after the review of the literature, just before the main fieldwork commenced. It was necessary to pilot the study as one way of increasing reliability, research tool and data to be collected. The researcher's understanding of the phenomenon in context, was to identify and refine the theories and to improve the research design and the survey instruments for the main fieldwork. Thus, the overall aim was to improve the research process and the quality of the study findings.

The pilot study provided insights on the phenomenon, the key issues and also helped to focus the research design, improving the research aims and the research questions. The questionnaire was improved through removing confusing words, simplifying difficult words, rewriting vague words and adding headings to some sections. The pilot study also provided information that the improved data collection process, including who to approach in order to get access into the access restricted/ enclosed neighborhoods as well as the best time to collect data. It also revealed issues that needed further investigation. The requirement or skills needed by the research assistants and the methodology used became more apparent after the pilot study was undertaken. In this regard, the research assistants were de-briefed by the researchers on their experience, and the difficulties faced when carrying out the study.

Household Interviews: The second phase took place in the period between September to December 2015. During this phase, the field instruments were refined and the research assistants were trained. The main field survey took place in this phase of the study. This involved interviews with residents, developers, and management companies, communities living or working in spaces adjacent to GCs. It also involved observation of the physical environment of the GCs and the behavior of residents as they interact with the spaces within. Field notes were taken real-time and recorded in notebooks. The residents preferred to fill in the questionnaire independently because it was long and all respondents were literate. Following up and collection of filled questionnaires was costly and time consuming but return rate was good as a total of 186 questionnaires were filled and returned out of 400 issued.

Key Informant Interviews: Phase three involved interviews with key informants in professional categories such as architects/urban designers, planners, bankers and directors in regulatory bodies like National Environmental Management Authority (NEMA) and Nairobi City County (NCC). Five developers and management companies of the following gated communities were interviewed; Willmary Development. Simba Villas. Greenspan Housing. Jacaranda Gardens, Duluxe Plaza and Nyayo Estate Embakasi. In some cases, the developer would respond to both sections of the interview, (developer and manager) while in others, both would respond to their respective sections. In the worst cases situation, developers had handed over the management of the GCs long before, and

could not be traced to answer some specific questions. One developer was traced but unwilling to respond. However, those available provided good insight, filling the gaps effectively. The study found it difficult to get NCC planners to cooperate. In order to overcome this obstacle and capture the data needed, the researcher organized in-depth discussion with the director of development control, and obtained good insights to adequately answer questions needing further probing. Director of development control at the Nairobi City County and the Nairobi County Director of Housing were also interviewed. The study also conducted a structured oral interview with the Nairobi county director of NEMA.

The key challenge with conducting key informants interviews was time, because some respondents required two weeks to grant appointments and this only prolonged the data collection period. However, the interviews were rich with information that gave good insights to the study.

Adjacent Community Interviews: Members of the communities surrounding each gated community were selected randomly for interview. The interviews were carried out in the workstations of the respondents including; business premises, offices, homes, among others. This facilitated observations of the normal environment of the respondent and facilitated the collection of other non-verbalized information in their most familiar setting thus enhancing the quality of data collected. The researchers, guided by questions in the structured questionnaires, engaged the respondents in a conversation, rather than reading the questions out directly. In most cases, the researchers translated the questions from English to the Kiswahili language in order to achieve a better flow of the interview, especially where the respondents had difficulties in expressing themselves in the English language. This removed the language barrier thus improving the quality of data collected. The method was excellent as more respondents were willing to participate and thus the interviews exceeded the initial target of 60, realizing responses through 64 interviews. Field notes were taken in real time, and recorded in a notebook.

Observations: Direct observation was important for ascertaining the status of built forms physical observations were made of the features of house blocks, infrastructure, community facilities and elements of the natural environment such as the vegetation, natural water courses and landscaping features. The data collected during observation was recorded as field notes, the researcher also filled in the checklist, and wrote out notes on new information not previously expected, as more data was recorded in form of photographs.

The data collected using different research tools was on key drivers of GCs were; security, life style, convenience location, house price, design of houses, social amenities, security features, eases of the building processes, social interaction, high privacy levels, sense of equity within community, service charge, local transport models. Shared facilities and utilities.

Secondary Data Collection Methods: In this phase, the researcher reviewed literature from previous surveys such

as the 1999 Central Bureau of Statistics survey and reports from various bodies such as the Kenya Property Developers Association Report 2014 (KPDA, 2014). Scholarly literature on the subject area was indicated that not much direct research had been done on the study area in Nairobi County. In addition, the researcher analyzed other material that included: Hass Consult report, newspaper articles on gated communities, Kenya Private Developer Association reports, residents' association newsletters, audit reports of the Homeowners Associations (HOAs), minutes of HOAs Annual General Meetings (AGMs) and Special General Meetings (SGMs). These gave the researcher ideas of studies carried out as well as providing a better understanding of the study area.

Data Analysis and Presentation Techniques

Qualitative analysis: For the qualitative data, the responses were paraphrased and in some instances reported verbatim. In cases where more than one respondents were interviewed based on the same questionnaire, the data was organized into themes. The study used an interpretative approach in order continually interpret the data, draw inferences, and understand the meaning and implications from the data so collected. Narrative and performance analysis was applied in order to discover and reveal repeated similarities in the perception of respondents', particularly on the challenges of the management of GCs and the implications of gated communities in Nairobi. These perceptions were drawn from key informants and the observations that the researcher had noted on the checklist.

Quantitative Analysis: For the quantitative data; the socio-demographic, economic and environmental characteristics of GCs were presented through calculating frequencies and percentages for the categorical variables whereas mean and standard deviation (SD) were used to summarize the normally distributed continuous variables, for example, age under demographic data. The median and range were used in summarizing the non-normally distributed continuous variables in the preliminary analysis, for instance, the income levels of various groups. The continuous variables were then converted to categorical variables, for example, age was categorized in a range of below 25, 26 to 35, 36 to 45 and above 45 for easy understanding and interpretation of results; these were then presented as frequencies and percentages.

In the preliminary analysis baseline, association and differences in relation to the outcome were assessed using chi-square for categorical variables, t-test for normally distributed continuous variables like gender, to measure the difference or relationship. Wilcoxon tests were used for the non-normally distributed continuous variables, to measure the relationships. However, after the continuous variables were converted to categorical variables in the final analysis, the study used chi square tests to establish associations between the categorical variables and reported the chi square value (χ^2), the degrees of freedom (df) and the p-values (p).

Bivariate logistic regression models were then fitted to estimate and determine relationships between the dependent (Likelihood

for a resident to recommend GC housing to a close friend or relative) and the independent (Nature and drivers for GCs and the sustainability of GCs) variables. The study reported the Odds ratios (ORs) giving the 95 per cent confidence intervals (CIs). The odds ratios represent the odds that an outcome, in this study case recommendation of GCs, will occur given a particular exposure, in this study case, the nature, drivers and sustainability of GCs, compared to the odd of the outcome occurring without the exposure. All odds ratios greater than 1 indicate positive association and that the exposure (Nature, drivers and sustainability) are associated with higher odds of the outcome (recommendation) whereas all odds ratios less than 1 show negative associations and that the exposure is associated with lower odds of outcome. When the Odds ratio=1, there is no association and the exposure does not affect the odds of the outcome. Large CI indicates low level of precision of the or whereas small CIs indicate higher precision.

A p-value of less than 0.05 was considered statistically significant. Data Analysis was done through using Statistical Analysis Software version 9.2 (SAS v9.2, SAS Institute, Cary, NC, USA).

Data Presentation

Tools were applied in the presentation of the findings for information generated from the field survey. The tools included photographs, a graph and tables. Maps were also used, specifically to illustrate the locational characteristics and use patterns in the study area. Data from oral interviews was presented in the form of narratives. Descriptive statistics in form of percentages were used to analyze data, enabling the researcher to describe the distribution of various variables in the study.

RESULTS AND DISCUSSIONS

Drivers of Gated Communities

The study established that security was a key driver of the gated community; this was reported by most of the respondents (70%). This was followed by lifestyle and location of the gated communities (42%) and (39%), respectively (Table 1).

Table 1: The Main Drivers of GCs. (Source: Field Survey, 2015)

Attractions to GCs	%
Lifestyle	42
Price	17
Design	20
Location	39
Social amenities	1
Security features	70
Eases the building process	1

Sample size n=186

Other main drivers noted were the design, and the price, (20%) and (17%), respectively. Most respondents did not view social amenities and ease of building as key drivers (Table 1).

The findings from the residents' questionnaires were corroborated by the findings from in-depth interviews with a resident of Greenspan, and the chairperson of Dulexe Plaza-Kileleshwa. According to the residents, the following reasons for moving out of open neighborhood to a gated community were; one, security is guaranteed. Two, reduced interactions with nosy neighbors thus reducing conflicts and lastly the homogeneous house designs created a sense of equality within the community thus reducing unhealthy competition amongst neighbors on who had the best house design or who has the classiest finishing. The respondent provided the Figure 1 showing the house she had owned and lived in, in an open neighborhood in the peri-urban area of Embakasi Nairobi. The house was a detached five bedroom on its own compound of a quarter of an acre, but the respondent had sold the house off for Kshs. 6 million, and bought a three bedroom, semi-detached maisonette off plan for Kshs. 6.7million, at Greenspan Housing which was a gated community situated in the same district of Embakasi (Figure 2).

The management company respondent indicated that security is the main driver to living in gated communities, because a resident can be away for a long duration without worrying about break-ins. The respondent argued that in gated communities, there were few responsibilities, because one did not have to hire gardening and gate keeping services. There was no need to hire and manage domestic workers who sometimes were difficult to manage, in addition, that one learnt to live with others in close proximity and to build cordial relationships with neighbors.

Residential Security

Security was a major driver to choice of living within GCs, the study therefore sought to establish how safe the GCs were. 92% of the respondents observed that it was safe to walk alone during daytime; however this number reduced to 81% when asked if it was safe to walk alone at night. Only a few residents had been victims of security threats with 11% reporting that they had been attacked in one way or the other. Car theft was the most common security breach, 5% followed by house break-ins and racist attacks, eight (4.30%), each. Mugging and physical attacks were also reported 3% and 2% respectively.

Further analysis revealed that though residents who felt it was safe to walk alone during the day were more likely to recommend GCs to a friend, even those who felt unsafe were likely to recommend GCs to a friend, (OR=4.23, 95% CI [0.78,23.09], p=0.10). It was also established that the residents who felt it was safe to walk alone in the GCs at night were eight times more likely to recommend GCs to a friend than those who felt it was unsafe to walk at night, (OR=7.90, 95% CI [1.79,34.82], p=0.01). The study also established that there was no difference in the likelihood to recommend GCs to a friend among residents who had been attacked (been a victim

of security threat) and those who have never been attacked, (OR=1.20, 95% CI [0.14, 10.25], p=0.87).

An in-depth interview with the management of Nyayo Estate Embakasi revealed that design of the neighborhood design enhanced the management of security. The neighborhood was sub-divided into 80 unit courts, a perimeter wall with a guarded gate and patrol guards were provided for each court. In addition, there was a 24-hour CCTV surveillance camera at the main gate and an audio doorbell for all houses.

The study was informed that anybody leaving the court with an item or a child had to seek clearance from the security team at the gate. Despite having all these measures in place, the estate still experienced cases of petty stealing of clothes and bicycles being reported, with the worst case being the reporting of the kidnap of a two-year old boy by the care giver.

In another interview with the neighborhood management in Kileleshwa, it was found that Dulexe Plaza community was very secure. The neighborhood security design was such that entry was highly restricted to residents and authorized visitors. All visitors identified themselves at the gate, where the security officers interrogated them through the gate holes, after they had been fully identified; the host was then called to give instruction on whether or not the visitor was to be allowed in. The study found, through the records that since its habitation in 2003, there had not been any incidents of insecurity. According to the respondent, success in securing the neighborhood could be attributed to its proximity to the Kileleshwa Police Station and to the fact that the area was home to very senior officers in the government. This was also observed to be the case at Simba Villa estate, where the study was informed by the management company that the neighborhood was very secure and there was only one incident of burglary, suspected to be an inside job, had been reported in the preceding seven years.

Location and Social Amenities

One of the drivers of GCs was the location. The study sought to establish the convenience of the location given shared resources including leisure spots, education and health facilities. 87% of the respondents reported that there existed good local transport in their area. 41% and 38.17% of the respondents reported that the leisure and entertainment facilities were more than 15 minutes away, closely followed by 5 to 15 minutes away respectively. 48% of the respondents used user charged (pay as you use) facilities.

55% and 34% of the respondents reported that education facilities were 5-15 minutes away from their houses, followed by more than 15 minutes away respectively. 98% of the respondents took their children to private schools. 51% and 44% of the respondents reported that the health facilities they attended were more than 15 minutes away, closely followed by 5 to 15 minutes away respectively. 97% and 57% of the respondents attended private health facilities and a bigger proportion used health insurance to pay for treatment respectively.



Figure 01: Respondents old residence, a five-bed roomed house in an open neighborhood. (Source: Survey, 2014)



Fig.2: Residents new residence, a three-bedroom house in a gated community. (Source: Survey, 2014)

Pricing and Design of Houses

Pricing and design were also reported to be drivers of the choice to live in GCs. 72% of the respondents felt that the houses were well priced, while 28% felt that the houses were overpriced. 81% of the 186 respondents felt that the houses were affordable while 78% of them reported that there were a variety of houses to choose from.

Further analysis revealed that the residents who felt that the houses within GCs were well priced were more than four times likely to recommend GC housing to a friend, compared to residents who felt the houses were overpriced, (OR=4.65, 95% CI [1.07, 20.20], $p=0.04$). It was also observed that residents would still recommend GC housing, regardless of the affordability of the house, (OR=1.47, 95% CI [0.17, 12.38], $p=0.72$).

During an interview with the Simba Villa management, the study was informed that the initial price of a three bedroom apartments was 3.2million, in 2006 with an asking price of 7.5million, by 2014. The groundbreaking price of a three bedroom maisonettes was 4.2 million, while on completion, the

last unit sold by the developer in 2006, was 5.2million. In 2010, the maisonettes sold for 10million per unit, four years later, in 2014, the asking price was 14 million. The study also learnt that the three bedroom maisonettes were rented at Kshs. 38,000 while the apartments were rented at Kshs. 37,500.

The study learnt from a resident of Greenspan, that the house design of a three bedroom maisonettes with a detached servant quarter, which was bought off plan was not ready, although the show houses were ready for viewing. The price as of 2014 was 10.5 million, with a rent of Kshs. 45,000 and the service charge of KSHS.1300 per month to cater for garbage collection, gardening and security.

The study learnt that the developer of Duluxe Plaza-Kileleshwa, EliteShelter, charged Kshs. 4.5 million per each unit in 2000. By 2013, the same houses were selling at Kshs. 13 million per unit. The rent charged for a three-bedroom unit in 2003 was Kshs.35,000. In 2008, the same unit was charging Kshs. 45,000, and Kshs. 70,000 in 2014. The management company indicated that such charges were low, compared to what other developments in the neighborhood charged.

Neighbors Perception on Drivers of GCs

This study established that 89% of the respondents, if given a chance would live in a GC. When asked why 35% respondents gave good security as their main reason. Good lifestyle/comfort, good amenities, change in class and beautiful houses were mentioned as main reasons for the readiness to move to GCs (Table 2).

Clean and neat houses, the controlled nature and good playground for kids were also cited reasons for the readiness to live in GCs. Its however important to note that not all the respondents would love to move to GCs. Own house and compound design, lack of interaction among residents and good lifestyle/comfort were given as the main reasons for not wanting to move into GCs.

The proprietor of a supermarket who also owns a block of flats near the Jacaranda Gardens, indicated the main drivers attracting people to live in in GCs in Nairobi, were rooted in the post-election violence (PEV) of 2008, where people relocated to Nairobi and its environs. The high demand on urban areas led to the extreme high values in land, beyond the capacity of many to afford, and people now begun to accept the idea of sectional properties in gated communities as opposed to stand-alone properties in open neighborhoods. Other drivers included the non-availability of vacant land in preferred locations, high bank interest rates and non-affordability of land. The respondent felt that more people were striving towards owning homes and therefore demand on rental houses may come down.

Adjacent Communities Likes and Dislikes Aspects of GCs Living

The study established that the respondents liked the access controls (94%), shared facilities and utilities (72%), social status (70%), homogenous house designs and community spirit (59%). Its however important to note that a good proportion did not like the order and regulation (61%) and the prohibitive cost/charges of GCs, (75%).

Security was a major push factor to gated community living in Nairobi County; indeed, 70 per cent of GCs residents quoted security as the main attraction to living in the gated neighborhoods. The findings concur with the work by Atkinson and Blandy (2005) which notes that the appeal legitimizing GCs is based on the notion that people's preferences are increasingly based on fear because the state has not fulfilled its contract in delivering security. Further analysis revealed that residents who felt it was safe to walk alone were more likely to recommend GCs to a friend, than those who felt it unsafe. Security was closely followed by lifestyle and location of the gated communities at 42 and 39 per cent, respectfully. A number of scholars in the field have confirmed the same, including Landman and Schonteich (2002) who found the fear of crime to be the main reason why gated communities have become so popular in South Africa and Brazil.

Other attractions to GCs, according to the study are; some residents, about 47 per cent feel that they were well informed about local issues and 46 per cent believed they could influence decisions affecting their area. Moreover,

Table 2: Reasons for/ Against Attractiveness to Gated Living.

If yes, Why?	%	If no, why?	%
Good security	33.34	Own house and compound design	57.14
Good lifestyle/comfort	21.05	No interaction among residents	28.57
Good amenities	17.54	Good lifestyle/comfort	14.29
Change in class	12.28		
Appealing houses	7.02		
Clean and well neat	3.51		
The controlled nature	3.51		
Good playgrounds for kids	1.75		
<i>Number of respondents = 75</i>		<i>Number of respondents = 75</i>	

a majority, 85 per cent believed that collectively they could influence decisions affecting their area. This perception of participatory leadership contributes to the social sustainability of the gated communities. The above study findings resonate with Xavier (2008) who noting that residents are attracted to GCs because they have the opportunity to participate in their neighbourhoods management, and are well represented in the residents associations. In addition, GCs have clear development guidelines, flexible building standards and offer quality public services.

CONCLUSION

In the search for safe living spaces and security of both life and property, at a time when the government's role in the supply of urban housing has declined to that of enabling the private sector take up housing provision. New models of neighborhoods, for example the gated communities have sprung up, to satisfy the stated need. The research question the on establishing the major drivers to gated housing in Nairobi County was identified in this study as; security, lifestyle and location respectively.

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