THE IMPACT OF GATED COMMUNITIES' DEVELOPMENTS ON THE QUALITY OF LIFE OF LOCAL RESIDENTS IN PERI-URBAN AREAS. A CASE OF ACCRA CITY

LETICIA AMOAKOA OWUSU

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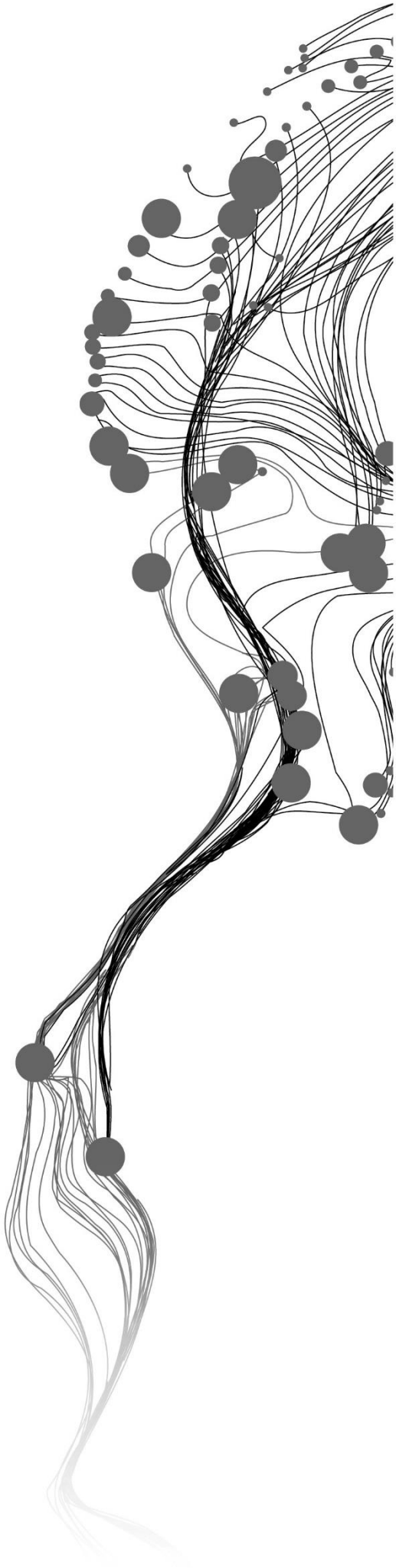
SUPERVISORS:
Dr. J.A. Martinez
Dr. M. Madureira



THE IMPACT OF GATED COMMUNITIES' DEVELOPMENTS ON THE QUALITY OF LIFE OF LOCAL RESIDENTS IN PERI-URBAN AREAS. A CASE OF ACCRA CITY

LETICIA AMOAKOA OWUSU
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SUPERVISORS:
Dr. J.A. Martinez
Dr. M. Madureira

THESIS ASSESSMENT BOARD:
Prof. dr. K. Pfeffer (Chairman)
Prof. dr. P. Gotsch (External Examiner)
Dr. J.A. Martinez (1st Supervisor)
Dr. M. Madureira (2nd Supervisor)

ABSTRACT

Gated communities are widespread in the Global South cities and their peri-urban areas. They are characterised by the privatisation of public spaces and restricted access to the neighbourhood and are found in various forms. Gated communities reflect socio-economic and environmental inequality in cities. Research has shown that gated communities have specific impacts on the population outside such settlement, such as limiting access to amenities and services, reducing social interactions, threatening security and loss of livelihoods which is likely to affect the local residents quality of life (QoL). However, there are also some positive impacts of these developments, like increasing working opportunities and reducing social stigmatisation. Planners and developers of most Global South cities see gated community developments as the perfect solution for improving integration and equality to basic social amenities in society. Their efforts in creating ideal cities leveraging on gated community developments sometimes fail to consider the needs of the local residents that will be affected by these developments.

This study analyses how gated communities influence the QoL of local residents in Abokobi, a peri-urban area in Accra-Ghana. It employed a mixed-method (qualitative and quantitative) approach using secondary and primary data to understand the impact of gated communities over local residents QoL from the perspective of developers, planners and local residents. Secondary data aided in selecting two different types of gated communities with varying characteristics across the study area (lifestyle and prestigious gated communities). Primary data was collected through key informant interviews, focus group discussions and household surveys. The household survey included 73 respondents, each living outside the selected gated communities, to determine the roles of the different types of gated communities and spatial proximity. In total, 146 questionnaires in the form of close and open-ended questions on a 6 Likert scale were administered. Descriptive statistics were used to understand the perceived QoL satisfaction of local residents. An independent t-test was computed to compare the differences in the subjective QoL of local residents living outside the two different types of gated communities.

The study found that both developers and planners claim only positive impacts of gated communities. However, not all benefits related to gated communities' claim materialise in urban areas as local residents perceive both positive and negative effects. The t-test shows no significant differences between the perceived QoL of local residents living outside the different gated communities. The assessment of the QoL satisfaction revealed that local residents perceive an improved overall QoL in the area after the development of gated communities. Satisfaction with social conditions of life was higher than expected among the local residents. However, residents close to the gated communities were less satisfied with their level of interaction than those further away. Regarding economic conditions, residents perceive better QoL conditions with employment and quality of work excerpt with living costs. For environmental conditions, local residents have higher dissatisfaction with access to open spaces and good drainage systems though potable water and improved sanitation services were made accessible in the area.

Studying the relationship between the gated communities and QoL through their socio-economic and environmental effects appears useful as it helps understand the urban concerns from a multidimensional context and offers insightful lessons for planners and decision-makers in formulating better policies that promote sustainable urbanisation when developing gated communities in peri-urban areas. It also contributes to exploring potential impacts of the different types of gated communities over local residents QoL.

Keywords: Gated community developments; socio-economic and environmental conditions; Quality of life; peri-urban areas.

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QoL	Quality of Life
GREDA	Ghana Real Estate Development Association
GSS	Ghana Statistical Services
SAP	Structural Adjustment Programme
SDF	Spatial Development Framework
RSDF	Regional Spatial Development Framework
DSDF	District Spatial Development Framework
SPSS	Statistical Package for Social Sciences
GIS	Geographic Information System
FGDs	Focus Group Discussions
KIIs	Key Informant Interviews
NDPC	National Development Planning Commission

1. INTRODUCTION

1.1. Background and Justification

The development of gated communities globally is rapidly increasing due to its potential impact on the well-being and quality of life (QoL) of people (Genis, 2007). For instance, Genis (2007) stated that gating creates spaces with high environmental quality and provides services and infrastructure to residential areas formerly not well equipped. According to Mycoo (2006), as cities present higher-income differences within their population and national governments leave housing developments to market forces (Blakely & Snyder, 1997), gated communities have become one of the urban strategies that real estate companies offer to the affluent and the middle-classes, who can afford to live in neighbourhoods with high-quality services and infrastructure such as tarmac roads, schools, green spaces, security among others (Caldeira, 2000). Since the 1990s, cities of the Global South have seen the rapid spread of gated communities, and it has been identified as an effective strategy to sell housing to the affluent and middle-income households (Libertun, 2012) as it improves their QoL. Staples (2000) views gated communities as an attempt by private developers to create an ideal world.

However, some authors (Low, 2003; Roitman, 2010) argue that gated communities exacerbate social inequality and disintegrate residents of surrounding neighbourhoods. This is manifested in the increasing levels of disparity between gated and non-gated residents in access to services and infrastructure such as security, green spaces, potable water, among others. Also, gating fragments surrounding areas, resulting in spatial inequality as well as social segregation (Goix & Callen, 2010). This is because it concentrates the poor in high-density neighbourhoods with inadequate public services, creates difficulties of access by blocking roads or diverting traffic around the gated community, affecting their quality of life. Gooblar (2002) asserted that gated communities are built as secured spaces but leave the street, it fronts vulnerable. In open communities, spaces are secure as many people have their "eyes on the street." Developing gates in such communities improve their residents' security, but the walls prevent people from having their eyes on the street, reducing the neighbourhood's safety (Gooblar, 2002).

Gated communities are closed residential developments voluntarily occupied by a group of people who share certain socio-economic traits, where public space has been privatised by restricting access through the employment of security devices (Roitman, 2008). From inception, gated communities are conceived as closed settlements, designed to provide their residents with a sense of security and prevent access by non-residents (Roitman, 2008). This physical development usually occupies a large area of communities with landscaping and higher quality than the surrounding neighbourhoods. Services and amenities can be used only by residents who commit to conforming to a strict set of codes and conduct (Caldeira, 2000).

The design and target population of gated communities may vary with the national and local context (Roitman, 2013). However, worldwide, its geographical location conforms to similar patterns as most gated communities are in peri-urban areas, where land is more affordable. Most of these peri-urban areas may include existing indigenous rural communities characterised by communal living (Woltjer, 2014). Therefore, their communal living can be distorted by the arrival of gated communities and fewer social interactions and loss of local residents livelihoods. Blandy (2006) found that the affluent and middle-income households in England would have been hesitant in moving to the peri-urban areas where these gated communities are located without a housing model targeting their needs. This is true, especially in the

global south, where the peripheries of the cities are characterised by informal settlement for the rural poor (Libertun, 2012).

However, gated communities in peri-urban areas can be sites for distinct and otherwise improbable social exchanges between the different social groups in society (Libertun, 2012), especially in settings where the more affluent tend to live in inner cities and the poor in peripheries. This integration is particularly true in the Global South, where socio-cultural interactions still form an important part of their social structure. Salcedo & Torres (2004) supports the above assertion by saying that the suburbanisation of the urban affluent and middle-income households into peri-urban gated communities open up some opportunities unlikely to happen in the traditional urban communities, hence influencing the life of people.

Gating of communities in the Global South is viewed as the direct outcome of post-colonial town planning inherited from colonialists (Home, 2014). This type of urban development is the new preferred housing model for the emerging middle-income group. It is characterised by the exclusion of those who live in informal settlements exposed to poverty and crime from those who can afford private services, comfort and luxury (Ferguson & Navarrete, 2003; Roy, Cawood, Hordijk, & Hulme, 2016). Gated communities lead to segregation in the cities and homogenisation of social networks by the fragmentation and privatisation of urban spaces. According to some authors (Roitman, 2013; Sabatini & Salcedo, 2007), the proliferation of gated communities in cities is part of a larger process of change in residential segregation patterns.

The impact of gated communities on the local residents as well as the city as a whole is disputed. Some researchers maintain that the proximity of peri-urban gated communities to informal housing has contributed to increasing the poor's working opportunities, hence reducing the socio-economic inequality within the localities (Roitman & Phelps, 2011). Additionally, gated communities in peri-urban areas have diminished the social stigma of living in the peripheries and created a new image about living in the area, one that is about positive economic consequences for the localities and not about poverty and criminality (Salcedo & Torres 2004). For instance, gated communities give economic benefits to the local area as they put less burden on the tax system, according to Sabatini & Salcedo (2007) and create low skilled jobs (Svampa, 2001).

However, other researchers have argued that the sudden occupation of gated communities in the peri-urban areas changes the social composition of the area and creates social tension as social differences and inequality in society become visible (Cáceres & Sabatini, 2004; Roitman, 2013). An additional impact is linked with the location of gated communities in peri-urban areas that does not seem to create opportunities for social interaction between its residents and those living outside the gate (Roitman, 2017). According to Manzi & Smith-Bowers (2006), social interaction within communities may increase, but by excluding the surrounding neighbourhood, it results in social segregation of the society. This leads to the poor's social isolation, reducing the sense of community in the area (Christakopoulou, Dawson, & Gari, 2001), hence affecting their quality of life (QoL). Social segregation may lead to the loss of community engagement, lower levels of sense of community and therefore affect people's QoL. Also, gating can exacerbate the socio-economic seclusion of the gated communities from the surrounding neighbourhoods (Goix & Callen, 2010).

Another impact is that the gated communities in peri-urban areas result in fragmenting of the wider community and physically dividing the area leading to the loss of a liveable centre. According to Glasze and Alkhayyal (2002), in some settings, gated communities' residents receive better quality services than can be provided by the government. This phenomenon can lead to spatial inequalities as well as the exclusion of residents in the non-gated surrounding neighbourhood, affecting both the quality of life of

people and their integration into society. Participation in community life, neighbourhood social networks, sense of security, living conditions, privacy, and social solidity significantly impact residents' QoL (Raman, 2014).

Quality of life (QoL) is a multidimensional concept that emphasises individuals' self-perception about their environment (Sinha, 2019). Most people usually understand QoL as "goodness of life" and how to live happily within the built environment (Brown & Brown, 2005). According to Marans & Kweon (2011), QoL embraces numerous notions such as satisfaction, well-being, happiness, and health status. Though there is no established definition of the concept QoL, a universal understanding of the term is life satisfaction (Das, 2008). This satisfaction is influenced by the people's ability to freely interact with all manner of persons without physical, social, economic, or environmental obstacles (Marans & Kweon, 2011). Also, this interaction and satisfaction are scale-dependent and can affect the behaviour of individual people and/or groups (Mulligan & Carruthers, 2011). This implies that the QoL of people is significantly affected by their neighbourhood's characteristics. Such neighbourhood characteristics can be grouped under social, economic, and environmental conditions (Stimson et al. 1999 as cited in Senlier, Yildiz, & Aktaş, 2009).

In this study, QoL is defined as the perceived satisfaction that a person has on the surrounding social, economic and environmental conditions.
The social, economic, and environmental conditions manifest differently in QoL (Yadav, 2019). The *social conditions* of QoL are associated with the relationship people have with their family and friends, their connectedness with neighbours and people they interact with, involvement in social groups, and people's safety (Senlier et al., 2009). Pazhuhan et al. (2020), in their study, said the sense of belonging to a social group or receiving help from neighbours reduces the feeling of social isolation and fosters integration. The *economic conditions* look at the employment rate within the community, the quality of the work and the overall cost of living (Lambiri, Biagi, & Royuela, 2007). This relates to the living conditions of people within their neighbourhoods. *Environmental conditions* involve access to open spaces such as parks, gardens, playgrounds, waste management efficiency in the community, and access to water (Sirgy, Phillips, & Rahtz, 2006). For example, according to Jennings & Bamkole (2019), access to urban green spaces can encourage place attachment along with a sense of place and community satisfaction. It also affords opportunities for people to get outdoors and interact with nature and others in ways that may not occur in other settings, hence stimulating integration (Jennings & Bamkole, 2019).

Several studies have focused on understanding the socio-spatial disparities in quality of life and strategies that increase the well-being of communities and their residents (Pacione, 2003) through identifying the connection between the different groups of people and their surrounding environment. As Igerud (2011) stated, spatial separation of communities' inhabitants based on social, economic, environmental and ethnic traits as an outcome of gated communities shapes the structure and composition of residential environs as well as cities as a whole and impacts the society. According to Goix & Webster (2008), gated communities as exclusive sites do not only maintain segregation but also increase the isolation of the low-income group of people hence may lead to an increase in poverty and deprivation. It may also lead to the belief that non-gated communities are characterised by a high crime rate, inadequate public facilities and infrastructure, low education, and career prospect (Borsdorf & Hidalgo, 2008). This exaggerates social stigma and affects the quality of life of the residents living in the surrounding neighbourhoods of the gated communities.

In this regard, comprehending the relationship between gated communities and quality of life primarily through identifying the effects and implications can help achieve inclusive cities and improve the quality-

of-life conditions of residents. Therefore, this study aims at understanding how gated community impact the quality of life of local residents in Abokobi, a peri-urban area in Accra.

1.2. Research Problem

In Ghana, the rapid increase of gated communities in cities has resulted in rampant suburbanisation, which creates challenges for planning as well as exacerbating poverty and exclusion of the poor (Grant, 2005). Gating has increased the privatisation of public spaces, fragmented the urban fabric and reinforced colonial-inherited socio-spatial segregation (Keeton & Nijhuis, 2019). This continuously leads to the uneven geographical distribution of public services such as water supply connections and sanitation, health services, education services, access to security, among others (Addai & Pokimica, 2012). Additionally, the gating of communities in the country has made security, amenities of higher quality, and other infrastructure affordable only by the affluent and middle-class groups in society (Van Noorloos & Kloosterboer, 2018). This has intensified inequality and continuous to socially segregate the poor decreasing public life in the communities (Van Noorloos & Kloosterboer, 2018). The majority of the gated communities rising up in the country are located in peri-urban areas as a result of the quest for a hassle-free environment and the availability of land (Asiedu & Arku, 2009). This is much evident in Accra, the capital city of Ghana.

Accra continues to experience growing inequality amidst consistent urban growth (Addai, Opoku-Agyeman, & Amanfu, 2014). This is reflected in the rapid development of gated communities which is inevitably linked to the peri-urban areas of the city. Their arrival in the peri-urban setting makes social differences more apparent in the landscape and intensifies social segregation. According to Okyere, Tasantab, & Abunyewah (2018), about 15% of the population in Accra lived in peri-urban gated communities, while the majority lived in dilapidated, congested, high-density neighbourhoods with poor public services. Gating continuous to seclude the greater proportion of the population into informal settlements with a comparatively high level of deprivation (Okyere et al., 2018). This physical development reinforces segregation, discrimination, and disintegration of society, leading to diminishing possible meaningful social interaction (Obeng-Odoom, Eltayeb ElHadary, & Jang, 2013).

To worsen the problem, gated communities in the city are in high demand by the growing middle-class populace, who seek to attain prestige in society, access homes of high quality, safety and security (Aboagye, Tanyeh, & Agyemang, 2013). Living in gated society's in the city is not just defined by having a house but having a certain lifestyle where one has advantages such as having easy access to commercial and social facilities (Asiedu & Arku, 2009). This mindset has widened the gap between the rich and the poor as having manifested in contrasting urban forms where exclusive gated communities are emerging beside rundown neighbourhoods, mostly in the peri-urban zones (Obeng-Odoom et al., 2013). This has increasingly limited the poor's access to economic opportunities, reducing their sense of community and decreasing social networks, hence affecting their quality of life (Aboagye et al., 2013). It is evident that the people that reside outside the gated communities, mostly the poor, experience not only social deprivation but are also trapped in economic poverty due to their seclusion from the rest of the society (Obeng-Odoom et al., 2013).

Gating communities is not a recent type of physical development in Accra but a legacy of colonialism that has persisted since the 19th century (Asiedu & Arku, 2009). Planners and developers of the city see it as the perfect solution for improving integration and equality to basic social amenities in society (Aboagye et al., 2013). This is because they consider gated communities as an innovative and efficient way of organising and distributing public facilities and services to all persons within the city. Nonetheless, the higher growth of gated communities in Accra city is increasingly resulting in underdevelopment, inequalities in the

distribution of community facilities and less interaction among people in public spaces due to the higher levels of social segregations among the people (Asiedu & Arku, 2009). This is becoming much evident in the peripheries of the city, which are characterised by traditional community ties of neighbourliness (Asiedu & Arku, 2009).

However, the gap between the claimed impact of gated communities by developers and planners and what local residents perceive at the community level have been overlooked by most studies. This study, therefore, aims to understand the form and impact of gated communities' development in peri-urban areas of Accra-Ghana and the likely effect of these developments on the QoL of non-gated residents. Identifying these gaps will help inform proper development interventions for the peri-urban environment and improve integration and interaction hence, improving QoL for all the residents.

1.3. Research objectives

1.3.1. Main Objective

The study's objective is to assess how gated communities in peri-urban areas in Accra city impact the quality of life of local residents outside of the gated community.

1.3.2. Sub-objectives and Questions

1.0. To understand the growth of gated communities in peri-urban areas in Accra.
- 1.1. How have local planning and policy influenced the development of gated communities in peri-urban areas over time?
- 1.2. What are the prevailing factors driving gated community developments in peri-urban areas?

2.0. To find out the socio-economic and environmental impact of gated communities' developments on local residents in peri-urban areas.
- 2.1. What are the socio-economic and environmental impacts of gated communities in peri-urban areas, according to literature?
- 2.2. What are the socio-economic and environmental impacts of gated communities in peri-urban areas, as claimed by planners and developers?

3.0. To understand how local residents perceive their QoL in peri-urban areas regarding the impact of gated community development.
- 3.1. What are the relevant domains and indicators of quality of life in peri-urban areas as defined by local residents?
- 3.2. What is local residents' perception about their quality of life due to gated community presence in peri-urban areas?
- 3.3. What are the matches or mismatches between the claimed potentials of gated communities by developers and planners and what the local residents perceive?

2. LITERATURE REVIEW

This chapter briefly explains the concepts and ideas of gated community developments, socio-economic and environmental conditions and QoL base on existing literature. It discusses the conceptual framework and relevant indicators to measure local residents' QoL in peri-urban areas regarding gated communities' impact.

2.1. The history of gated communities in the Global South

In most Global South cities, gated communities started developing in the 18th century but have become physically more prominent in hundreds of cities' urban landscape since the late 1990s (Roitman, 2008). In the Global South, gated communities developed along with the colonisation processes, neo-liberalisation, and elites' suburbanisation (Home, 2014; Njoh, 2010; Sheinbaum, 2010; Webster, Glasze, & Frantz, 2002).

Gated community developments in many global South cities have their origin traced back to colonisation (Njoh, 2010; Sheinbaum, 2010). During this period, the idea of gating involved the European colonisers using walls and gates to isolate themselves against the indigenes (Home, 2014). The forts and castles built, among other things, provided status and defence for themselves (Home, 2014). These settlements intended for the colonisers were conceived as self-sufficient developments, providing places for living and working for the privileged class (Libertun, 2012). They were well planned and enclosed neighbourhoods which provided them with adequate access to services and amenities such as housing, potable water, and green areas. Hence, it avoided the problems associated with the lack of planning experienced by the local people occupying unplanned areas (Libertun, 2012). These settlements of the indigenes did not have the infrastructures and amenities of the colonial settlers. The exclusionary nature of the earlier type of settlements is what the current gated communities try to capture.

The government fading as agents for development can also be seen as a push towards the development of gated communities (Webster et al., 2002). From the late 1960s into the 1980s, many of the Global South cities suffered a significant economic crisis (Ehwi, 2019; Sheinbaum, 2010; Xu & Yang, 2009). Governments adopted major social, economic, and administrative reforms during that period, including cutting government expenditure (ibid). Hence, the State attempts to sustain subsidised public housing provision were unsuccessful (Ehwi, 2019). Commencing in the early 1990s, the government retreated from housing and infrastructure provision, ushering in private sector involvement in housing delivery in many cities of the Global South (Coy & Pöhler, 2002). Gated communities that emerge after are new and innovative in design, structure and organisation (Libertun de Duren, 2006).

The suburbanisation of the elite in society has also caused the rise of gated communities in cities. In most Global South cities, the elite's suburbanisation on the periphery was in response to their need to escape from the core city's problems (overcrowding, pollution and noise) (Coy & Pöhler, 2002). The elites used to live in the core cities where colonial powers were established (Home, 2014). Later, they retreated to the peri-urban areas because the core cities deteriorated. Most Global South cities' elites looked for residential houses outside the core cities to live a more relaxed lifestyle with more contact with nature, escaping from the city's problem (Mycoo, 2006). This influences gated communities' development in the peri-urban areas associated with a better lifestyle (less noise, spaciousness, more green areas and more privacy) (Svampa, 2001).

Also, the elite sought more security because of the increasing violent crime rates in the inner cities. The high and growing middle-class families choose their place of residences and, according to Atkinson et al. (2005), influenced gated community development at the city's peripheries where the environment gives the impression that a high sense of security would be built. For example, in South Africa and East Asia, the growing urban crime rate has resulted in the rise of gated communities in their peri-urban areas (Goix & Webster, 2008). The increasing urban crime rate in societies evolves as a common reason fuelling the rise of gated communities in peri-urban areas across most Global South cities (Atkinson et al., 2005).

The limited housing supply alternatives for middle-and high-income families in the core cities drove them to gated communities in the peripheries (Roitman, 2013). In most Global South cities, the states cannot provide and maintain housing and civic services for the growing middle-income families (Roitman, 2013). Governments' inability has influenced people's decisions to retreat to the peri-urban areas, encircle their living space, defend it, and service their needs independently like the ancient walled cities' citizens (Mycoo, 2006).

Furthermore, the elites' drive for higher social status, social distinction, and community sense encourage settlement in areas outside urban centres (Roitman, 2008). The peri-urban areas are seen as exclusionary enclaves, where high-middle class residents search for social status and distinction (Webster et al., 2002). In most Global South cities, people define their status by their larger homes and exclusive access to amenities such as gardens, parks, and open space. This reinforces the development of gated communities (Libertun, 2012).

2.2. Types of gated communities

The typologies of gated communities in many countries often reflect, among other things, a collection of various features. These attributes often include but not limited to the security features, the enclosure's functions, housing type and size, location, amenities and services. (McKenzie, 2003; Webster, 2001). Based on the attributes, different types of gated communities have been identified in cities (Aalbers, Van Beckhoven, Van Kempen, Musterd, & Ostendorf, 2003; Blakely & Snyder, 1997; Libertun, 2012; Roitman, 2010).

The attributes associated with the different types of gated communities relate primarily to a single function (Grant & Mittelsteadt, 2004). For instance, the nature of boundary walls around gated communities may permit privacy, limit neighbourhood access, and define the property (Webster, 2002). It may also create an identity for their residents in society or inspire fear. Some of the boundaries walls are high or opaque, whereas others are easily permeable (Webster, 2002).

Furthermore, gated communities range from having few facilities to constituting a self-contained neighbourhood where residents can access all amenities and services needed like school, shops, recreational facilities, water provision (Grant & Mittelsteadt, 2004). The availability of amenities and services within the gated communities affect the degree of connection residents will have with their neighbourhood. The greater the availability of amenities and services within the gated communities, the fewer interaction residents make with non-residents outside the gate (Grant & Mittelsteadt, 2004). The gated communities' size can also influence the availability of amenities and services within the enclaves (Webster, 2002). Smaller-sized gated communities tend to have limited facilities, while the larger size may have greater amenities (McKenzie, 2003). Examples of gated communities' types and their characteristics are exhibited in Table 2.1.

Table 2.1; Several attributes describing different types of gated communities

	Attributes of gated communities																					
	Security Features and Barriers								Amenities and Facilities				Types of Residents			Location		Size		Tenure		
	Nature of boundary wall			Nature of security																		
Types of gated communities	Low fence in the private wall	High fence (with barbed wires) in the community	Hedges/lake	Guards at all times	Guards at designated times	Auto opener entry	Surveillance camera	Empty guard post	Recreational and common facilities	Landscape maintenance	Private roads	Open spaces	Middle-income group	Affluent	All income levels	Urban infill	Suburban greenfield	Neighbourhoods with tens of hundreds of units	Neighbourhood with few houses	Owner resident	Rental ownership	**AUTHORS**
1.Lifestyle communities	●	●			●		●		●	●	●	●	●				●	●		●	●	Blakely & Snyder, 1997.
2.Prestige communities		●	●		●	●	●			●	●			●		●	●		●	●		
3.Security zone communities		●		●			●				●				●	●	●	●	●	●	●	
4.Recreational gated communities	●	●			●		●		●	●	●	●	●				●	●		●	●	Aalbers et al. (2003)
5.Elite type of gated communities		●	●		●	●	●			●	●			●		●	●		●	●		
6.Urban security zone		●		●			●				●				●	●	●	●	●	●	●	
7.Recreational 'terrace gated communities		●	●		●		●		●	●	●	●	●	●	●	●	●	●	●	●	●	Hishiyama (2010)
8**.**Security zone 1		●					●	●			●		●				●		●		●	

Three main types of gated communities based on the attributes (security features and barriers, amenities and facilities, types of residents, location, size and tenure) are identified in the literature Table 2.1. They are called by Blakely & Snyder (1997) as lifestyle gated communities, prestigious gated communities and security zone communities, and recreational gated communities, elite type of gated communities and urban security zone by Aalbers et al. (2003). Hishiyama (2010) as recreational terrace gated communities and security zone 1. The recreational terrace gated communities display characteristics common to that of the lifestyle and prestigious gated communities. These three types of gated communities identified serve particular markets. The lifestyle or recreational (terrace) communities emphasise common facilities and cater to people interested in share lifestyle with neighbours through sharing of amenities. Prestige and elite communities include exclusivity and status features (e.g., lakes) catering for the people with the desire for prestige in society. Urban security zone communities emphasise protection and safety by permanent surveillance with guards.

Some characteristics, such as secure and exclusive leisure activities with high-level amenities, are exclusive to the lifestyle, the recreational gated communities and the recreational terrace gated communities. Access into these communities may not be hindered by security barriers such as the high walls and post guards. The features or natural barriers like lakes unique to the prestigious and elite gated communities provide residents with exclusivity over their area. Their security barriers hinder access into the community. The security zone communities close off public streets to non-residents. Some attributes such as high fence walls, surveillance cameras, private roads, landscape maintenance, and suburban greenfield are common to all the different gated communities.

Gated communities are developed on a dense territorial area bordered by fences, walls or natural barriers like lakes with restricted access through a secured entrance (Gruszczak, 2010). They take advantage of sophisticated technologies and surveillance devices or are guarded by private security (Gruszczak, 2010). Homeownership is linked to gated communities (Goix & Callen, 2010). Gated communities are characterised by individual housing, high-rise buildings, or a combination developed for the cities' urban affluent and growing middle-class (Roitman, 2008).

These gated community types identified by (Blakely & Snyder, 1997) and (Aalbers et al., 2003) has rapidly increased in most Global South cities. In the African context, the lifestyle and prestige gated communities are predominant in Ghana (Obeng-Odoom et al., 2013).

2.3. Location of Gated communities

Urban infill and suburban greenfield gated communities are located both in the inner cities and peri-urban areas of many countries. The different types of gated communities have been emerging as urban infills in most cities (Goix & Webster, 2008). Similar patterns of gated community developments are emerging in the peri-urban areas (Goix, 2005).

Peri-urban "suburban greenfield" gated communities are predominant in Southern America, Asia and Africa. In South America, Argentina is one of the cases where gated communities are located in peri-urban areas (Goix, 2005; McKenzie, 2005; Thuillier, 2005). In Argentina, the desire for leisure and a better lifestyle spurred gated community development in the peri-urban areas (Thuillier, 2005). They idealised the suburbs for their lush greenery and natural landscape, making it a perfect place for outdoor sports like football, cricket, golf, among others. Like Southern America, most gated communities in Asia, specifically China and Africa, are rising along with peri-urban development (Asiedu & Arku, 2009; Landman, 2004; Wu, 2010). This could be explained from the point that gated communities situated on the urban periphery tend to provide natural features like luscious vegetation and larger amenities and facilities than

those in the core cities (ibid). (see Figure 2.1 and Figure 2.2). The natural features and large amenities and facilities have given rise to developers seeking large greenfield sites to develop gated communities (Landman, 2004). In addition, the availability and affordability of vast spaces necessary to provide all the recreational and security amenities of closed communities give rise to a large market in the peri-urban areas than the core city (Asiedu & Arku, 2009). Thus, gated communities developing in the peri-urban areas are less expensive and more people can afford them. In most African cities, planning schemes are not developed for peri-urban areas (Morange, Folio, Peyroux, & Vivet, 2012). Most of the areas outside the core cities are plan after development start moving to the area (Morange et al., 2012). The lack of complicated planning regulations promotes gated community development in the peri-urban area (Morange et al., 2012).

Figure 2.1 A gated community in the peri-urban area of Accra with larger amenities and facilities
Source: By Devtraco Limited (2019). Retrieved from https://devtraco-limited.business.site/

Figure 2.2 A gated community in the core city of Accra with small amenities
Source: By Marshall (2015). Retrieved from https://alucobond.com.sg/villagio-vista-commercial-office-accra-ghana/

2.4. Socio-economic and environmental impacts of gated communities

Gated communities have provoked different impacts (Roitman, 2010). These effects are both positive and negative and can be analysed according to the sphere they influence; social, economic and environmental (Goix & Callen, 2010; Rafiemanzelat, 2016; Roitman, 2010). Some positive effects like social integration and improvement on poor neighbourhoods have been identified (Cáceres & Sabatini, 2004; Manzi & Smith-Bowers, 2006; Sabatini & Salcedo, 2007; Salcedo & Torres, 2004). However, some authors identified negative impacts such as social segregation, residential exclusion, social inequality and fragmentation of the city, especially in the peri-urban areas (Atkinson & Flint, 2004; Blakely & Snyder, 1997; Borsdorf, Hildalgo, & Vidal-Koppmann, 2016; Coy, 2006; Goix, 2005).

2.4.1. Positive social impacts

Integration of poor neighbourhoods surrounding the gated communities

Within the literature of gated communities, social impacts are perhaps the most often discussed effects. Gated communities positively impact poor neighbourhoods and foster integration (Roitman, Webster, & Landman, 2010). Integration refers to the inclusion of marginalised groups in society without any barriers (Sabatini & Salcedo, 2007). Integration as a concept has three dimensions, namely, functional integration, symbolic integration and community integration. Functional integration is based on the market relations between the gate and non-gated residents. Here, non-gated residents can contribute to the market as

employees and customers and access public services and facilities (Sabatini & Salcedo, 2007). Symbolic integration refers to the level of attachment residents feel for their neighbourhood (sense of belonging), and it may occur under unequal relationships (Sabatini & Salcedo, 2007). For example, a poor resident working as a gardener for a wealthy family in the gated community. Community integration is based on creating social ties, which can be expressed through friendship and social support networks (Salcedo & Torres, 2004). Symbolic integration is often confused with community integration which usually involves a certain level of equality.

Gated community developments may foster functional integration by providing employment opportunities to surrounding poor neighbourhoods (Sabatini & Salcedo, 2007). This is particularly true in most Global South cities when these developments are located near areas where the contrast between social groups is high (Salcedo & Torres, 2004). For example, Cáceres & Sabatini (2004) said gated communities' arrival in a poor area in Argentina helped integrate the low-income residents into society, especially in terms of gated residents purchasing food products from local residents and the job possibilities made accessible to them. Similarly, gated communities reduce physical distances between social groups in cities, especially when developed in poor neighbourhoods and attract development and modernisation of the physical environment (Sýkora, 2009). Consequently, it increases the social mix within the area and provides the poor residents better access to improved local infrastructures such as roads and other services like waste collection, electricity and water connection (Sýkora, 2009).

Aside from gated communities enhancing functional integration, it encourages symbolic integration via a growing sense of belonging towards an area. Developing gated communities in peri-urban areas diminishes the social stigma of living in poor neighbourhoods and increases residents attachment level (Sabatini & Salcedo, 2007). The poor people feel less stigmatised as their community is considered a good and decent place to live. This enhances their sense of belonging and motivates local residents to put in the effort to help improve their living environments (Tanulku, 2012).

Additionally, gated communities may encourage community integration by developing social ties among gated and non-gated residents (Manzi & Smith-Bowers, 2006). This has manifested in some Global South cities. For example, studying gated communities in Latin America cities, Cáceres & Sabatini (2004) found an increase in social support networks due to proximity living. Through these solidarity networks, the gated and non-gated residents could communicate and participate in their community life resulting in individuals' perception of ownership by sharing needs and increased residents commitment to each other (Cáceres & Sabatini). This also enhances people feelings of safety in the neighbourhood.

Nevertheless, there are diverging views on whether gated community developments indeed foster strong community relations between gated and non-gated residents. For example, upon examining evidence from Santiago de Chile, Borsdorf & Hidalgo (2008) argue that no familial connections or friendship exist between the gated residents and the poor people surrounding the gated communities.

2.4.2. Negative social impacts

Fragmentation/ exclusion and gated communities

Other researchers have found that gated communities' development in suburban areas reduces social life (Goix & Webster, 2008; Roitman, 2010). Gated community developments in suburban areas eliminate social proximity within the neighbourhood through physical barriers, delineating status and breaking social networks, and supporting structures (Borsdorf et al., 2016). This foster social segregation, creating social tension within society (Borsdorf et al., 2016). For instance, studying gated communities in Johannesburg, Beall (2002) noted that its rapid spread promotes residential exclusion and social inequality, reducing social cohesion within the city. Gated communities are viewed as a symbol of dystopian living, behind

which community ties are non-existent, with neighbours outside the gates discouraged from developing social connections with gated residents (Manzi & Bowers, 2004). This development socially fragments the broader communities, creating social disparities among social groups concerning access to opportunities and public facilities and services (Goix & Webster, 2008). The social fragmentation resulting from gated community developments has considerable effects on people's social life, like decreasing the unity within societies and losing social networks affecting people's quality of life.

2.4.3. Positive economic impacts

Living conditions and gated communities

The economic impacts of gated communities refer mainly to the living conditions of people and their local economy. Gated communities contribute to improving local economic conditions because they provide new employment and income opportunities for surrounding poor neighbourhoods (Salcedo & Torres, 2004). For instance, Sabatini & Salced (2007), upon examing evidence from Santigo de Chile, argued that gated communities create low skilled jobs in the area. This contributes to a significant improvement in the living conditions of the people in poor neighbourhoods.

Furthermore, gated communities bring new services and infrastructures to the locality in which it is located (Libertun de Duren, 2007). This is especially true in the Global South cities, where local governments struggle to provide local public services (Libertun, 2012). For instance, Libertun de Duren (2007) investigated gated community developments in three suburban areas made of a high proportion of low-income households in Buenos Aires, Argentina, namely, San Isidro, La Pilar, and Tigre. They found that local planning authorities support gated communities' development as they attract new services and local infrastructures like police post, street lights, and potable water to the area (Libertun de Duren, 2007). Thus, it gave local residents easy access to better public services and facilities and increased security, hence improving their living conditions (Libertun, 2012). Also, they contribute enormously to the hosting community's local economy by generating more revenues for the local government, increasing their ability to provide adequate local public services and infrastructure (Svampa, 2001). With gated communities' arrival in an area, the local government's tax base expands, increasing its revenues (Goix, 2005). The local government infuses back the proceeds into society providing local residents with services and amenities to improve their living conditions (Libertun de Duren, 2007).

2.4.4. Negative economic impacts

Cost of living and gated communities

Gated community developments can have an adverse economic impact on society (Roitman, 2010). One such impact is the rise in fresh produce's cost due to the loss of agricultural lands. Many gated communities occupy land with high agricultural value, limiting farming activities in the peri-urban areas and contributing to increases in the price of fresh produce in the neighbourhood and the city at large (Ginting & Sakinah, 2018). This development can be particularly harmful to Global South cities in which agriculture employs a significant number of people (Ginting & Sakinah, 2018). Residents lose their livelihoods, and this consequently affects their quality of life. Another such impact is the rise in property values leading to the displacement of poor residents. Once gated communities develop within an area, property values of non-gated surroundings neighbourhoods may increase (Lean & Smyth, 2014). When that happens, rentals go up, and many tenants may not afford housing, which leads to their displacement from the neighbourhood (Roitman, 2010).

Despite that, Sabatini & Salcedo (2007) consider that gated communities foster functional integration by bringing new services; Landman (2000) points in another direction that these services may not be affordable for the poor residents. Developing gated communities in suburban greenfield attract new

services and amenities like shops and malls, most of which target residents within the gates (Landman, 2000). These services and amenities are outside what the low-income residents can afford to pay, so they do not benefit the local residents.

2.4.5. Positive environmental impacts

Some environmental effects of gated communities have been identified in the literature. Developing gated communities within a locality create spaces with higher environmental quality and equipped areas formerly not well equipped by providing services and infrastructure such as roads and public transportations (Salcedo & Torres, 2004). For example, in Bangalore, Ganguly & Lutringer (2017) found that some gated communities developed in poor neighbourhoods with no water or electricity. The developers extended these services from a nearby community to their developments. Though the services were extended to the gated communities, they passed through the surrounding neighbourhood. Hence, local residents could connect and access water and electricity (Ganguly & Lutringer, 2017).

2.4.6. Negative environmental impacts

Nevertheless, gated community developments have detrimental effects on the local people and the environment (Keles, 2012). Developers' preferences and choice of gated community developments locations are characterised by large tracts of inexpensive, undeveloped land close to urban centres (Pejchar et al., 2015). These developments often affect local environmental conditions, including water and air quality, vegetation patterns and site-level biodiversity (Pejchar et al., 2015). For example, Klaufus et al. (2017) found that most gated communities rising in Latin America and Africa cities occur on greenfield, often destroying vegetation and wetlands vital to water drainage and air quality. The destruction of the wetlands and vegetation maximises water runoff, usually containing sediments and toxic contaminants and can cause water pollution and temperature changes (Michelini & Pintos, 2016). The gated communities characteristics like landscaping in open spaces often cannot serve the same ecological functions as the vegetation it replaces (Michelini & Pintos, 2016). Also, the replacement of these natural ecosystems with gated community developments causes habitat destruction, which has been identified as the leading causes of biodiversity decline and species extinction (Keles, 2012). The destruction of vegetations and wetlands due to gated community developments exposes areas to flooding, strong winds and threaten land productivity affecting local residents' quality of life (Michelini & Pintos, 2016). Furthermore, public spaces' privatisation through walls prevents local residents access to places like parks and green areas (Low, 2003).

2.4.7. Spatial effects

Blandy & Lister (2005) identified other adverse effects of gated community developments associated with the spatial sphere other than the social, economic or environmental dimension. Gated developments limit street connectivity, making movement difficult within an area (Landman, 2000). Their physical characteristics lead to the closure of streets, increasing travel time and cost within the community (Caldeira, 2000). It encourages private cars usage and discourages pedestrian mobility within the neighbourhood (Landman, 2000). Also, gated community's hinder emergency services in the area.

The development of gated communities and their social, economic, environmental, and spatial impacts can, directly and indirectly, affect local residents' quality of life along those dimensions.

2.5. Quality of life

Quality of life (QoL) is a broad concept that various authors have described from different fields (Eby, Kitchen, & Williams, 2012; Li & Weng, 2007; Marans, 2003; Mulvey, 2002; Türksever & Atalik, 2001). This concept is interpreted as the liveability and quality of place (Li & Weng, 2007). According to Mulvey (2002), QoL describes how well communities support residents' well-being and life satisfaction. McCrea et

al. (2011) define it as life satisfaction or dissatisfaction of people and the environment in which they live. QoL in urban areas has been a concern of many studies, yet there is no single universally accepted definition (Apparicio, Séguin, & Naud, 2008; Das, 2008; McCrea et al., 2011; Royuela, Moreno, & Vayá, 2009; Ülengin, Ülengin, & Güvenç, 2001). This is because of QoL's multidimensional nature, as agreed by many researchers (McCrea et al., 2011).

As a multidimensional concept, QoL is measured using objective and subjective conditions (Nooraie & Tabibian, 2012; Royuela et al., 2009; Tesfazghi, Martinez, & Verplanke, 2010). Objective QoL is measured using tangible conditions of the environment such as housing, access to public facilities such as schools and parks, safety and security, roads and transport, jobs, and water provision (Tesfazghi et al., 2010). On the other hand, the subjective QoL reflects individual perception and evaluation of their life's objective condition (Das, 2008; Malkina-Pykh & Pykh, 2008; Royuela et al., 2009; Shin, Rutkowski, & Park, 2003). Thus, in the subjective QoL approach, people's satisfaction or dissatisfaction with different life aspects is considered (Royuela et al., 2009). By analysing communities' quality of life, inequality patterns and unjust conditions may emerge and become visible (Martinez (2019).

For this study, subjective QoL is analysed. It describes QoL as individuals' perceptions, feelings, satisfaction, or dissatisfaction about different life domains. The domains of life include social (safety and security, sense of belonging, social network), economic (employment, living conditions and) environmental conditions (access to parks and green areas, provision of water and efficiency in waste management) (Kamp, Leidelmeijer, Marsman, & De Hollander, 2003; Lambiri et al., 2007; McCrea et al., 2011; Senlier et al., 2009; Sirgy et al., 2006). As suggested by Salleh & Badarulzaman (2012), individual satisfaction with the neighbourhood's social, economic, and environmental qualities contributes to residents' overall QoL. Therefore, to measure the subjective QoL, people's perception of life's social, economic, and environmental conditions are employed. The use of questionnaires as a research tool in this study gives residents perception of their QoL before and after developing gated communities in the peri-urban community.

2.6. Quality of life and gated community

This section summarises gated communities' impacts identified in the literature by framing them as positive and negative impacts on local residents' quality of life and across social, economic and environmental dimensions. The rationale behind is that subjective QoL is determined by one's perception, values, or overall feelings about the neighbourhood where someone lives, work and recreate (Salleh & Badarulzaman, 2012). The neighbourhood social, economic, and environmental characteristics influence the level of satisfaction or dissatisfaction that residents experience. QoL is created by a continuing integration between a community of people, economic and environmental qualities (Shafer, Lee, & Turner, 2000). The community of people represents social support networks through which its members communicate and participate in their community's life (Shafer et al., 2000). Such relations bind residents to their community, enhancing their sense of belonging. The neighbourhood's economic qualities provide residents with equal job opportunities and meet their basic needs, hence improving their living standards. And the physical environment supports conviviality and provides residents with equal access to services, amenities, and liveable places (Rinner, 2007). Thus, the neighbourhood and its qualities play a key role in creating overall quality urban life for residents.

In social conditions, the QoL of local residents is enhanced as functional integration positively influences local residents perception of safety and security in their neighbourhood (McCrea et al., 2011). The presence of social amenities like streetlights and police post located in the community provides security and safety for the gated residents and the local residents in the neighbourhood (Sabatini & Salcedo, 2007).

Also, symbolic and community integration positively influences local residents' trust and the feeling of belonging to their community (Senlier et al., 2009). Thus, community integration provides a connection among residents and enhancing their sense of belonging, social confidence, and in the long run, their perception of safety in the neighbourhood leading to an improvement in residents QoL (McCrea et al., 2011).

In economic conditions, functional integration positively influences the employment rate by increasing the number of people who work in the neighbourhood (Sirgy et al., 2006) but can negatively affect the quality of the work and the cost of living. As many local residents get employed, they are able to afford their basic needs, hence increasing their standard of living (Sirgy et al., 2006). The crime rate also decreases in areas where there is a high employment rate as many local residents' have access to work, offering their services in exchange for money; hence do not indulge in social vices like robbing the few that work (Ülengin et al., 2001). Positive influence on employment rate increases local residents' satisfaction with their living conditions, family life as a whole as well as their safety in their neighbourhood, which ultimately leads to better QoL (Lambiri et al., 2007)
Nevertheless, the work type may be of low quality as local residents may not have any security from their employers. The job may not be permanent and local residents may only be called when there is work. Again, income from these jobs may be inadequate. Furthermore, the cost of living base increases (Das, 2008). Amenities may be within reach of local residents but unaffordable, and so they have to commute to other places where they can access at an affordable price (Das, 2008). This adversely impacts local residents QoL.

In environmental conditions, functional integration positively influences water provision. Local residents get better access to adequate potable water, reducing the local residents' inequality and deprivation in the community (Ülengin et al., 2001). Local infrastructures such as roads, drainages, and services like collecting rubbish may be improved, impacting communities' waste management efficiency (ibid). This helps create an environment of high quality that enhances local residents' QoL (Ülengin et al., 2001).

Access to open spaces and green areas increases for gated community residents but decreases for local residents outside the gate (Low, 2003). The privatisation of public spaces through walls prevents local residents from accessing parks, green areas and open spaces (Low, 2003). The absence of these amenities within residents locality is likely to affect community life, hence residents QoL (Sirgy et al., 2006). Recent studies have shown that access to amenities play an essential role in promoting integration where residents communicate and participate in their community life (Brown & Barber, 2012). This contributes to building a sustainable community and improving residents QoL.

2.7. Conceptual framework

This study's key concepts are gated community development, socio-economic and environmental conditions, and QoL of local residents. The conceptual framework below (Figure 2.3) explains the relationships between the concepts in which the gated community developments are being studied. The aim is to assess how gated communities in peri-urban areas impact local residents' quality of life. The study discusses the socio-economic and environmental conditions of the communities outside the gates and assesses the likely changes in these conditions as claimed by institutions (developers and planners). QoL of residents is based on collective attributes that they experience in their neighbourhoods, namely social conditions (e.g. social networks and support), economic conditions (e.g. cost of living) and environmental conditions (e.g. access to public spaces and green areas) and the subjective assessment of these conditions (El Din, Shalaby, Farouh, & Elariane, 2013). Through the domains and indicators of QoL, the perception of the local residents is analysed. The indicators measure life conditions, which implies they uncover

social, economic, and environmental disparities in communities (Noll, 2004) as perceived by local residents (Subjective QoL).

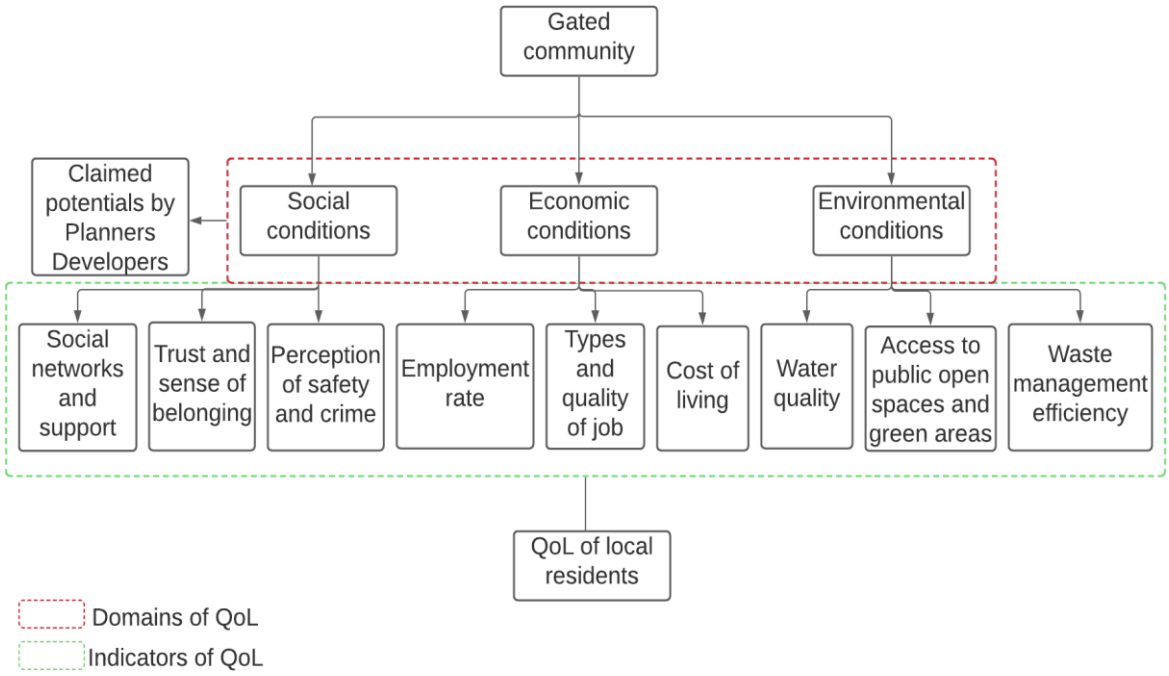

Figure 2.3: Conceptual framework
Source: Social conditions (Senlier et al., 2009), Economic conditions (Lambiri et al., 2007) and environmental conditions (Sirgy et al., 2006).

2.7.1. Selection of Indicators to measure the quality of life

QoL, which has been discussed earlier as a multifaceted concept and studied from diverse perspectives, is measured using different indicators (Marans, 2003). There is no standard method for selecting indicators (Diener, 1995). However, considering the various QoL studies, one must review the literature to select relevant and reliable indicators that best show an area's QoL conditions (Khaef & Zebardast, 2015). In this study, based on literature and considering the study area's needs, nine (9) indicators from different life dimensions are selected, reflecting in Table 2.2 below. This will help measure residents quality of life.

Table 2.2 shows indicators to measure subjective QoL

Domains	Indicators	Attributes	Studied literature
Social conditions	Social networks and support	Support from relatives, friends and neighbours	(Das, 2008), (McCrea et al., 2011)
	Trust and a sense of belonging	Feeling attached to the community with no intention to leave	(Senlier et al., 2009), (Eby et al., 2012)
	Perception of safety and crime	Safety in neighbourhood	(Ülengin et al., 2001)
Economic Conditions	Employment rate	Access to jobs in the neighbourhood	(Lambiri et al., 2007) (Sirgy et al., 2006)
	Types and quality of the job	Quality of the jobs in the neighbourhood	(Lambiri et al., 2007)
	Cost of living	Life expenses	(Das, 2008), (Lambiri et al., 2007)
Environmental Conditions	Water quality	Access to adequate water	(Ülengin et al., 2001), (Sirgy et al., 2006)
	Access to public open spaces and green areas	Availability and access to playgrounds and parks	(Sirgy et al. (2006)
	Waste management efficiency	Garbage collection system	(Ülengin et al., 2001), (Sirgy et al., 2006)

3. CASE STUDY AREA, RESEARCH METHODS AND DATA

This chapter describes the study area and the case study approach. It also describes the research design and processes performed before moving to the field to collect data, during and after collecting data. It also gives an overview of respondents' characteristics and the observed ethical considerations during the data collection and presentation phases.

3.1. Study area

Accra is the capital city and central economic hub of Ghana. Accra city, like many cities in Sub-Saharan Africa, is experiencing rapid urbanisation, making it one of the fastest-growing cities in West Africa (United Nations Development Programme, 1999). It has a growing population of over three million people; hence it is the most populated and largest city in the country (World Bank, 2015). According to the 2010 population and housing census figures given by the Ghana Statistical Service (2012), the city has a population growth rate of 3.1 per annum. One evident expression of this growth in the city is the spatial expansion of the city boundaries over the years.

Accra is bordered by the Gulf of Guinea of the Atlantic Ocean in the south. It is a cosmopolitan city in the country with many races, colour and creed of people represented from different nationals within West Africa and beyond (Grant & Yankson, 2003). Accra continues to experience much physical development as a city, including gated communities in its urban core and peri-urban areas.

With an area of 241km^{2,} Accra's capacity to accommodate physical development such as gated communities have exceeded, as shown by developments rapidly extending to its peri-urban areas, functionally connecting these areas to Accra centre (Yeboah, 2003). Accra's peri-urban zones include areas situated between 10km to 30km reach from Accra central like Abokobi, Prampram and Amasaman (Doan & Oduro, 2012). A decade ago, Accra's peri-urban areas consisted of dispersed countryside settlements where subsistence farming was commonly practised. But today, these areas are surrounded by new residential areas, often in a gated community type of arrangement with little area left for farmlands. The affluent and the growing middle-class families are moving into gated communities, rising in peri-urban Abokobi. Abokobi in the Ga East Municipality of Accra is the municipality's administrative capital and has a total of 2219 households in an area of 6.08km^2 (Ga East Municipal, 2018). Figure 3.1 below shows the location of the study area.

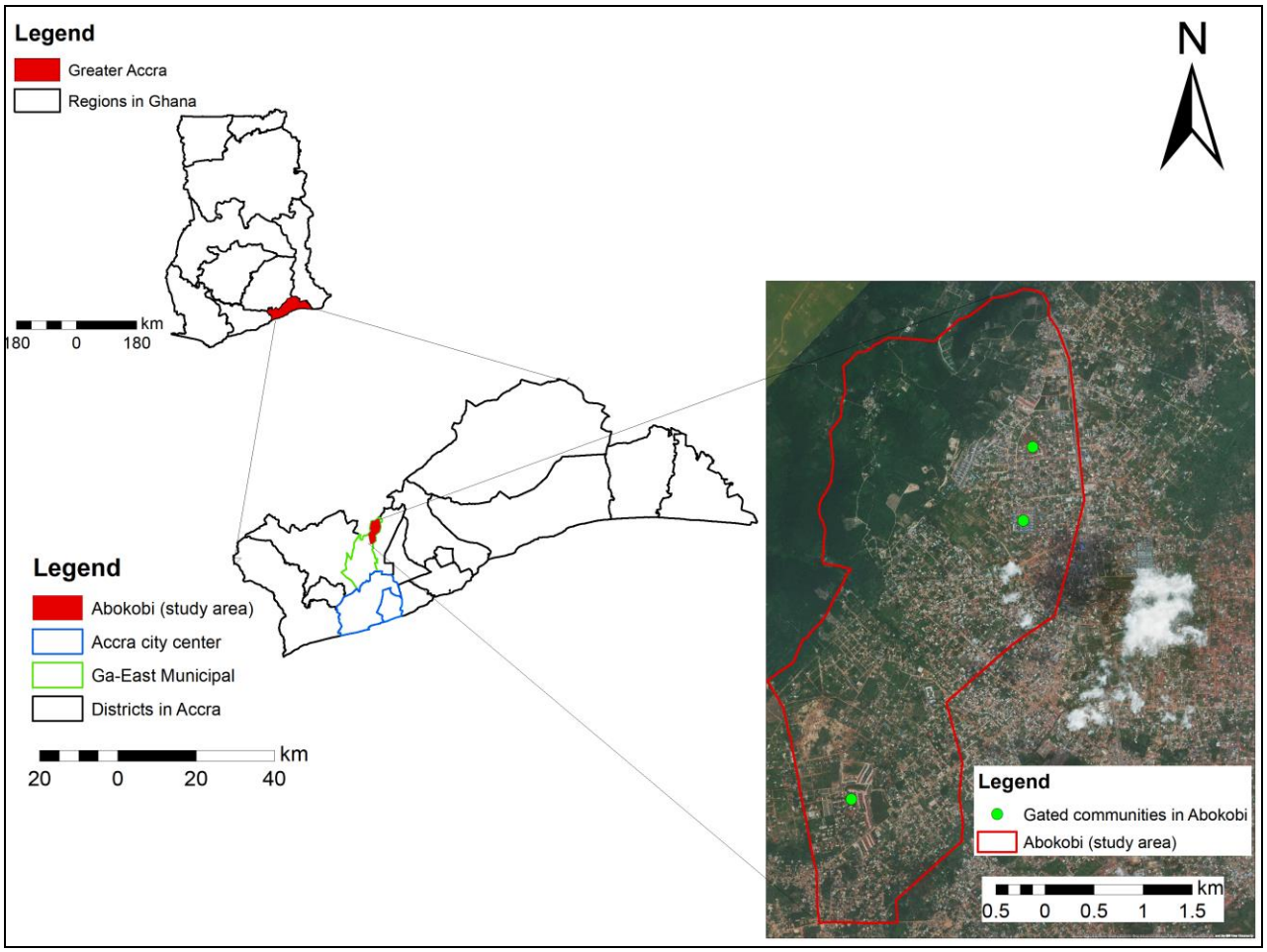

Figure 3.1: Location of the study area
Source: Google earth and DIVA-GIS, 2021

3.2. Case study selection

In this research, Abokobi is selected as a case study area. Two main reasons guided the selection of the study area. That is its location in the peri-urban area, and it is experiencing a high influx of gated community developments within the community in the last eight (8) years. This includes gated community developments with many units on large land spaces and others with fewer units on small land spaces. In this study, it was essential to select an area with different types of gated communities to understand how these developments impacted local residents' QoL. This is because, based on the literature reviewed (Grant & Mittelsteadt, 2004), it is hypothesised that the gated communities' with varying characteristics may influence the QoL of local residents differently.

Two case studies are selected from the case study area based on two types of gated communities, as presented in Table 2.1. They are similar to lifestyle and prestigious gated communities. Each case study consists of a cluster where certain characteristics prevail. Table 3.1 shows the characteristics of the gated communities identified in the Abokobi community, namely *Oak villa estate* and *Integral homes estate*. Figure 3.4 (a) and (b) show the photographs of the *Oak villa estate* and the *Integral homes estate*, respectively. The Oak villa estate is a neighbourhood with many housing units developed on a vast land plot. Middle-class families inhabit this estate, and they share amenities and services and recreational facilities such as children's playgrounds. Oak villa estate covers a land size of approximately 83.11 acres (Figure 3.2)

On the other hand, the Integral homes estate is a neighbourhood with fewer units on small land spaces (Figure 3.3). They are made of luxurious units serving as symbols of wealth and status for their residents. The integral estate covers a land size of approximately 15.4 acres.
Based on these two gated communities selected, 500- and 1000-meters buffer were made around each. Proximity is important because the closer one lives to developments like a gated community, the more impact it may have, either positive or negative (Doucet, Van Kempen, & Van Weesep, 2010). For instance, positive impacts for people nearby can be better access to amenities and services or for homeowners observing an increase in their property values due to the gated community developments. Negative effects can include displacement of residents from the neighbourhood and a sense of isolation. In this study, it was important to understand how proximity influences the QoL of the local residents. Local residents living within 500 meters away from the gated communities are said to be close. And those living beyond the 500 meters to the 1000-meter buffers are said to be far. The surrounding areas that fall within the buffers created around Oak villa estate and Integral home estate are classified as neighbourhood 1 and 2, respectively (Figure 3.2 and Figure 3.3).

There was a third gated community called *New Oak company estate* in the Abokobi community; however, the focus group discussions and household survey were explicitly conducted about the *Oak villa estate* and *Integral homes estate*. (see Figure 3.1 for the locations of all the gated communities in the study area)

Table 3.1 Characteristics of Oak villa estate and Integral home estate in the neighbourhood of Abokobi

	Attributes of gated communities																				
	Security Features and Barriers								Amenities and Facilities				Types of Residents			Location		Size		Tenure	
	Nature of boundary wall			Nature of security																	
Types of gated community within Abokobi	Low fence in the private wall	High fence (with barbed wires) in the community perimeter	Hedges/lake	Guards at all times	Guards at designated times	Auto opener entry	Surveillance camera	Empty guard post	Recreational facilities	Landscape maintenance	Private roads	Open spaces	Middle-income group	Affluent	All income levels of	Urban infill	Suburban greenfield	Neighbourhoods with tens of hundreds of	A neighbourhood with few houses	Owner resident	Rental ownership
1.Oak villa estate found in neighbourhood 1	●	●			●		●		●	●	●	●	●				●	●		●	●
2. Integral estate found in neighbourhood 2		●			●	●	●			●	●			●			●		●	●	

Figure 3.2 Neighbourhood 1 with the Oak villa estate
Source: Google earth and DIVA-GIS, 2020

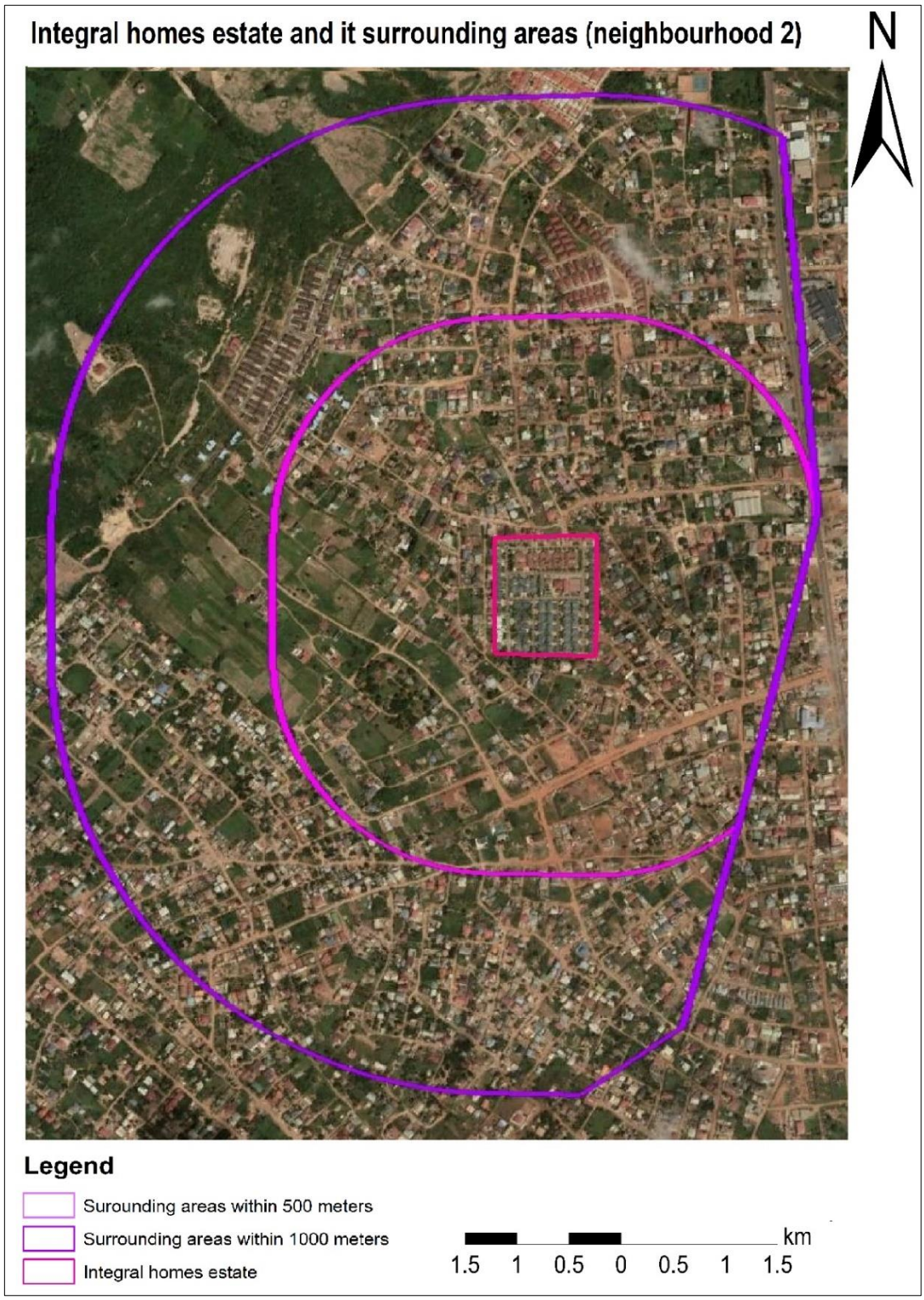

Figure 3.3 Neighbourhood 2 with the Integral homes estate
Source: Google earth and DIVA-GIS, 2020

Figure 3.4: (a) the entrance of Oak villa estate located in neighbourhood 1; (b) the back view of Integral homes estate located in neighbourhood 2
Source: Fieldwork, 2021

3.3. Research Design and Approach

The study's main objective is to assess how gated community developments impact the quality of life of residents living outside the gate in peri-urban areas in Accra city (see Figure 3.5). In this regard, the study employs a case study design because it helps operationalise the objectives and questions under study (Bryman, 2016). A case study design is an experimental analysis that helps investigate any contemporary phenomenon within its real-world situation (Yin & Hollweck, 2015). The case study in this research helps determine how local residents' quality of life in peri-urban areas is impacted due to gated communities' development.

The study adopted the mixed-method research approach for data collection and analysis through integrating qualitative and quantitative (QUAL-QUAN) methods (Bryman, 2016). Several authors (Bryman, 2016; Martinez, Verplanke, & Miscione, 2016; Tonon, 2015) have given various reasons for employing the mixed-method approach in research. These include *triangulation*, where both qualitative and quantitative methods are used together to supplement each other, *diversity* to get different views from participants and researchers, *completeness* to provide a more comprehensive explanation of the area one is enquiring about, by using quantitative and qualitative methods and *offsetting* to enable the qualitative method to cover the weakness of quantitative method and vice versa. Therefore, in this study, the mixed-method approach (qualitative-quantitative) in collecting and analysing data was used for triangulation and completeness to operationalise the objectives and questions. For example, interviews with key informants were used to explain the effects of gated community developments as claimed by the planners and developers, and that was analysed qualitatively. Simultaneously, questionnaires were used to collect data on local residents' perception of their QoL due to gated communities' presence.

3.4. Relevant domains and Indicators selected for measuring the QoL of local residents

It was essential to select relevant and reliable indicators to measure local residents' feelings about their lives in their neighbourhood. Nevertheless, as earlier indicated in section 2.9.1, there are no general indicators to measure QoL. Therefore, QoL indicators relevant to understanding the local residents' perception of the neighbourhood they live, work and recreate and their expectations in life regarding the impact of gated community developments were selected based on literature (Table 2.2). Since it is essential to measure QoL based on the domains and indicators considered important to the local

residents, a focus group discussion was held at the beginning of the fieldwork to validate the pre-selected indicators in Table 2.2. The focus group discussions revealed that the indicators identified in the literature (Table 2.2) were relevant in assessing local residents' satisfaction with their QoL. Also, accommodation cost and transportation cost were determined as additional relevant attributes for assessing local residents QoL. The final list of indicators relevant to the case area's local context was prepared (see Table 3.2). The indicators provided useful information about the changes taking place in the local residents' socio-economic and environmental conditions of life regarding gated community developments, thus informing subjective QoL in the area. The indicators show a linkage with each other, and some of the connections may reinforce the other. For example, participants from the focus group discussions said increasing access to job opportunities might reduce the crime rate, enhancing local residents' satisfaction with safety and security. The indicators are efficient in revealing if the QoL of local residents in a neighbourhood is getting better, dwindling, remaining stagnant or a mixture. Thus, indicators can show patterns of change in neighbourhood quality of life (Martinez, 2019). This study examined two moments, before and after gated community developments in the peri-urban area were built, to assess the local residents' satisfaction level with their QoL. The domains and indicators discussed below were considered for the household survey.

Table 3.2: Selected domains and indicators to measure local residents' quality of life

Domains	Indicators	Attributes
Social conditions	Social networks and support	Support from relatives, friends and neighbours
	Trust and a sense of belonging	Feeling attached to the community with no intention to leave. Chat and discussion of personal issues with neighbours
	Perception of safety and crime	Rate of robbery, stealing in the neighbourhood Fear of going out at night
Economic Conditions	Employment rate	Access to jobs in the neighbourhood Employment status of the household head
	Types and quality of the job	Adequacy with family income
	Cost of living	Life expenses Cost of accommodation in the neighbourhood Prices of food product in the market in the neighbourhood Transportation cost
Environmental Conditions	Water quality	Access to adequate potable water
	Access to public open spaces and green areas	Availability and access to playgrounds, open spaces and parks
	Waste management efficiency	Garbage collection system Availability of drains
		Access to good road networks.

3.4.1. Social Conditions

Social condition is an umbrella term for various indicators, including social network and support, trust and sense of belonging, and safety perception.

Social network and support describe the affection and instrumental help (which may be in the form of borrowing or lending of money or other items together with the emotional backing) mainly from family members, friends, as well as co-workers and neighbours (Lusher, Robins, & Kremer, 2010). Social networks and support measure the perceived quality of or satisfaction with available social ties in the

community (Lusher et al., 2010). Social groups' assistance helps seal the isolation gap among residents and increases integration (Rafiemanzelat, 2016). This may augment the local residents' sense of belonging. The satisfaction of living in a neighbourhood creates community connection and trust among residents, enhances the feeling of safety, and eliminates crime opportunities (Blanchard, 2008).

3.4.2. Economic Conditions

Economic condition is a term for various indicators, including employment, types and conditions of the jobs, and living cost (Lambiri et al., 2007).

Employment here refers to access to job opportunities and household employment status (Sirgy, Gao, & Young, 2008). A neighbourhood with a diversified mix of economic activities offers many employment opportunities for its residents despite one's level of skills (Sirgy et al., 2008), consequently increasing the standard of living among a wide range of residents (ibid). Accessing job opportunities increases residents' satisfaction with work, finances, and family life as a whole, which ultimately leads to better QoL (Lambiri et al., 2007).

The adequacy of family income may reflect the quality of the job an individual has. It is expected that families with adequate income have better QoL.

The cost of living is measured using the cost of accommodation and food product in the market. The cost of accommodation employed in this study is about local residents ability to rent a house. It is not easy to meet basic needs without proper shelter. The cost of accommodation in the neighbourhood has effects on individual's satisfaction with their life.

3.4.3. Environmental Conditions

Environmental conditions comprise varying attributes such as access to public open spaces, green areas/parks, water quality and waste management efficiency. Availability and accessibility to public open spaces or parks are vital to people's lives as they greatly influence residents' liveability in the community (Sirgy et al., 2006). Public open spaces and green areas serve as relaxing areas, allowing outdoor activities for people (playgrounds for all age groups) and a key in facilitating integration among residents (Van Kamp, Leidelmeijer, Marsman, & De Hollander, 2003). These green areas contribute to recharging underground water, necessary for adequate water provision in a neighbourhood. Access to adequate potable drinking water for all promotes equity and reduces social deprivation (Bentivegna et al., 2002), contributing to the development of good QoL.

The effectiveness of waste management in this study will be accessible using the services provided in terms of garbage collection and the availability and quality of drainage systems within the area. Effective waste management in an area helps keep the environment clean and contribute to air quality in the long run.

Local residents' access to good road networks may reflect the public transport services in the neighbourhood. Good road networks also enhance pedestrian movement in the community
Residents access to amenities and infrastructures positively influence their behaviour, attitudes, and perception of the QoL in their community (Lowe et al.,2015).

3.5. Data sources and software requirements

This study made use of both secondary and primary data. The secondary data comprised the 2010 population and housing census data that was obtained from the Ghana Statistical Services (GSS). This data is used to analyse the socio-economic characteristics of the local residents living outside the gated

communities. The city administration and sub-locations boundary obtained from Accra city planning authorities are adopted for the analysis. Aerial images of the city from google earth were used to identify gated communities' growth in the area over time. This was validated through the field inspection on the 29th and 30th January 2021. The analysis tools such as ArcGIS10.7.1 and statistical package for social science (SPSS) software is applied.

The primary data gathered from the field for the study consist of key informant interviews (KIIs), focus group discussions (FGDs) and household questionnaires. The KII and FGDs were transcribed and analysed using Atlas.ti9. From 13th to 27th February, the KoBoToolbox was used to administer the household questionnaires to local residents who lived in Abokobi before gated communities started developing. The data collected was analysed using excel and SPSS. Also, both scientific and grey literature review supplemented by KII is used to explain how local planning and policies have influenced the development of gated communities in the city. The data sources of both the secondary and primary data have been summarised in Table 3.3 below.

Table 3.3: A summary of data available and data to collect on the field

Pre-field data			
Type of data	**Format**	**Acquisition data**	**Source**
Aerial image	Images	2010, 2020	Google map
Population and demographic data at community level	Statistics (shp)	2010	GSS
The city administration and sub-location boundaries	Vector (shp)	2010	City planning office
Literature review on the socio-economic and environmental impacts of gated communities	Reports/plans and brochures		Literature.
Data collected on the field			
How planning and policy influence the growth of gated communities	Reports and discussions	February 2021	KII, City planners
Prevailing types of gated community developments and their driving factors in peri-urban areas	KII	February 2021	KII, Ghana real estate developer's association (GREDA
Socio-economic and environmental impacts of gated communities in peri-urban areas according to planners and developers	KII	February 2021	KII city planners and GREDA.
Validate indicators to measure the quality of life in peri-urban areas	FGDs	February 2021	Local residents
Perception of local residents on quality of life due to gated community development	Questionnaire	February 2021	Local residents
Matches or mismatches between the claimed potentials of gated communities by developers and planners (institutions) and what the local residents perceive?		March 2021	Integrating KII, FGDs and Questionnaire

3.6. Pre-fieldwork Phase

The research's pre-field stage involved preparation for fieldwork through a thorough review of existing literature on gated community developments' socio-economic and environmental impact in section 2.4. During this phase, the research instruments, which included interview guides for key informants and focus group discussions and household questionnaires (see Appendix 1), were prepared based on the research objectives and questions. The household questionnaires were designed based on QoL's selected indicators to measure local residents' subjective quality of life before and after developing gated communities in the peri-urban area. The household questionnaire was transferred to a data collection software known as koBoToolbox, a free and open-source kit platform. KoBoToolbox allows users to build a survey form, collect data on a mobile device and submit it to a central project website. (see Appendix 2). It was helpful to monitor the data collection carried out by the research assistants. The form allows the structuring of open-ended and closed questions as well as multiple responses. It

enabled the picking of the geographical coordinates of a household where data was being collected. The map of Abokobi was download from google earth and used during the focus group discussion to help identify areas that have been impacted after developing gated communities.

3.7. Fieldwork Phase

The research fieldwork phase involved the collection of primary data. At this stage, tasks such as reconnaissance survey of the study area, sampling strategy, focus group discussion, and a questionnaire survey was performed with a research assistant's help. The key informant interviews were organised online as I could not travel to my study area due to the COVID-19 situation.

3.7.1. Reconnaissance survey

My research assistant conducted a reconnaissance survey of the study area from 29th to 30th January 2021. This involved visiting the Abokobi community to observe the area and make contact with five (5) community leaders within the locality after visiting the chief's palace. This survey was important as it enabled the research assistant to familiarise with the study area environment and paved the way for the actual data collection, organising a focus group discussion and administering household questionnaires. Also, the neighbourhoods' names as defined by the local residents within the study locality were obtained for easy movement and collection of data. These neighbourhoods are Presby top, Teiman and New town. Figure 3.5 and Figure 3.6 show the pictures of the Abokobi community and the neighbourhoods within the area, respectively.

Figure 3.5: Photographs of Abokobi community
Source: Fieldwork, 2021

3.7.2. Sampling Strategy

The study used purposive, snowball and cluster sampling techniques. Purposive sampling was used to select the peri-urban community for the study in the city with an influx of different types of gated communities and for easy data collection within the limited time and resources.

The key informants were selected using the purposive sampling technique for experts to give in-depth information on gated community developments and how it affects local residents' QoL.
The purposive and snowball sampling techniques were used to select the respondents for the focus group discussions (FGDs). The respondents of the FGDs were residents who live in the communities since 2010 before the development of the gated type of communities. This was to derive their lived experiences within the community and their perception of gated communities' development in their neighbourhood. FGDs were conducted to provide a deeper understanding of the neighbourhood and helped in validating the selected indicators to measure local residents' perception of their QoL with regard to the impact of gated communities. The information from the FGDs aided in revising the household questionnaires.

The cluster sampling strategy was used to select the units for the household survey per the administrative boundary of the Abokobi community. The cluster was formed based on gated community's types and the geographical proximity to these different types of gated communities. Two neighbourhoods fall within the cluster around Oak villa estate, namely Presby top and Teiman. Presby top community is the closest neighbourhood, and Teiman neighbourhood is far. Teiman neighbourhood extends to the cluster around Integral homes estate. The new town neighbourhood also falls within the cluster around Integral homes estate. The new town is closer to the gated community than Teiman (Figure 3.6). Simple random sampling was used to identify household heads that are eligible to give responses to the questionnaire. Thus, persons that have lived in the community for ten years or more participated in the survey. In total, 146 questionnaires were administered, with 73 in each of the sub-location. The household questionnaires administered (Appendix 1) were in the form of closed and open-ended questions using a Likert scale of 1 to 6 with the option to give reasons for the select answers. The household survey gathered the local residents' perception of their QoL with regard to the impact of gated communities.

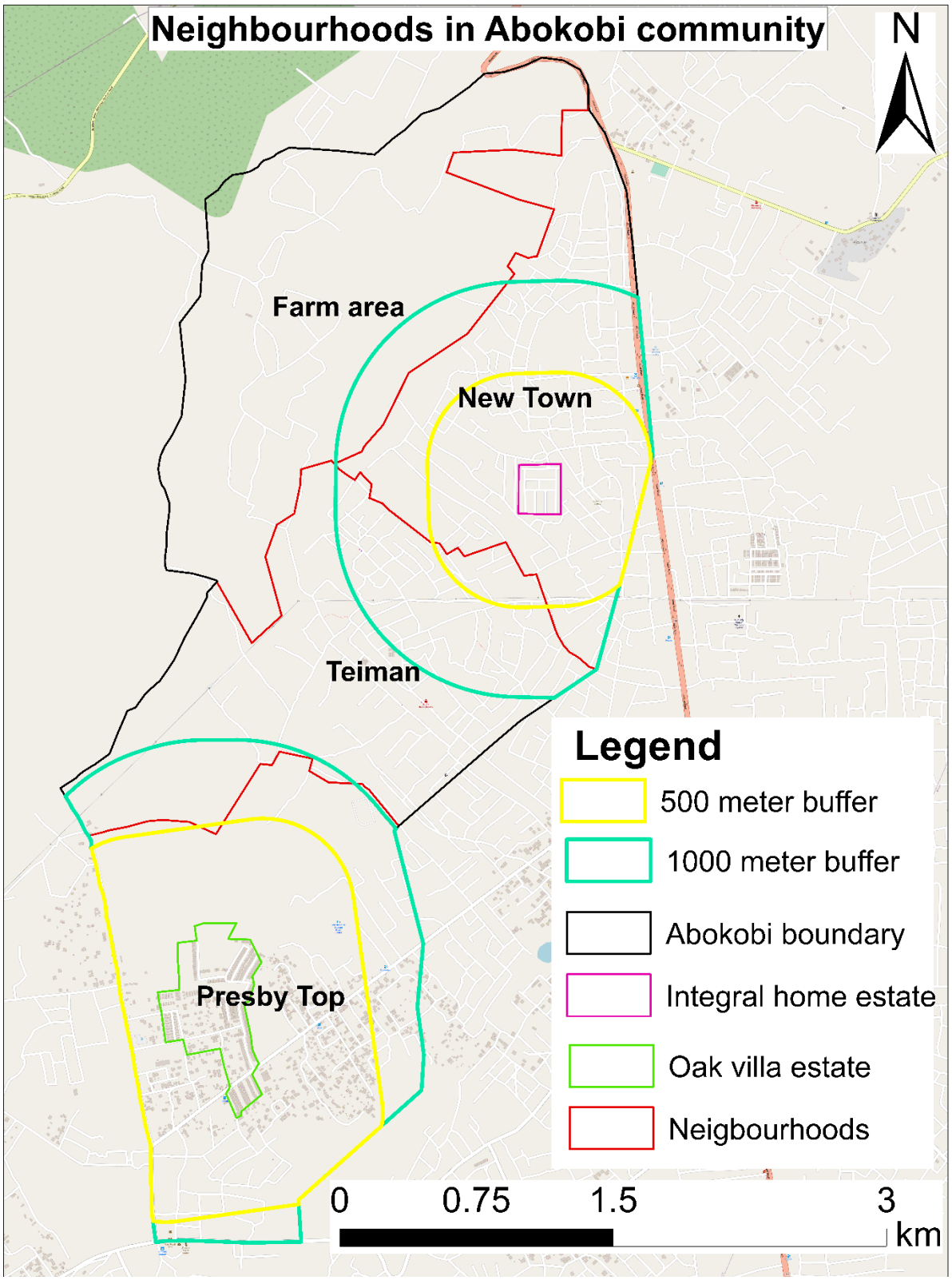

Figure 3.6: Neighbourhoods in Abokobi community
Source: Author, 2021.

3.7.3. Key informants Interviews

Key informants' interviews were conducted to understand how planning and policies influence gated communities' growth and the socio-economic and environmental impact of gated community development on local residents' lives in peri-urban communities as claimed by planners and developers. The interviews were conducted between 2nd to 27th February 2021, with one conducted on the 5th of March 2021. The interviews were organised via zoom with semi-structured questions as a guide. That allowed follow-up questions to be asked, making the process more flexible as has been advocated by (Bryman 2016). The interviews were recorded after obtaining consent from the participants. In selecting the participants for the interview, the research questions to be answered were taken into account. In total, six key informant interviews were organised, including participants from various fields, such as planners, developers, academic researcher, and an official from the Ministry of Works and Housing (see Table 3.4).

Table 3.4: The key informants from the various institutions

Interview type	**Status of Key Informant/ Department**
Key informant 1	Executive Director, Ghana Real Estate Developers Association
Key informant 2	Developer
Key informant 3	Development Planner, Ga East Municipality
Key informant 4	Physical Planner, Ga East Municipality
Key informant 5	Senior Lecturer at University of Ghana, Geography and Resource Department.
Key informant 6	An officer at the Ministry of Works and Housing

3.7.4. Focus Group Discussion

The FGDs were organized on the 6th and 10th February 2021 at the two neighbourhoods. These discussions were composed of five (5) community leaders from each of the neighbourhoods. They shared their experiences on the socio-economic and environmental impacts that have taken place in their neighbourhood due to the development of gated communities. Also, the focus group discussions helped validate the selected indicators to measure the QoL of local residents. The demographic composition of the participants is shown in Table 3.5. Semi-structured questions were used as a guide during the discussion (see Appendix 1). The sessions were audio-recorded after obtaining consent from all the participants and photographs taken. Figure 3.7 below shows the setting of the focus group discussions in both neighbourhoods.

Table 3.5: Demographics of the participants in the focus group discussions

Abokobi community			
Neighbourhoods	Demographic of participants		
	Gender	Number	The average age of the participants
Presby top neighbourhood	Male	3	65
	Female	2	52
New town neighbourhood	Male	3	47
	Female	2	42

Figure 3.7: Photography showing ongoing focus group discussions in Presby top (a) and new town neighbourhoods (b).
Source: Fieldwork, 2021.

3.7.5. Recruitment and training of field assistants and piloting of questionnaires

Three people were recruited and trained as field assistants for data collection. The field assistants recruited were university graduates with previous experiences in data collection. The research assistants were taken through the questionnaires to ensure a mutual understanding of the questions. I also trained them on using the KoBocollect software for the data collection to ensure data quality. The three field assistants were briefed on data collection ethics stated in section 3.9, as it is vital in research. The field assistants' training was conducted on the 27th of January 2021 via zoom, and a pilot test of the questionnaires was carried out on the 11th of February 2021 in the Abokobi community (Figure 3.8 a-b). The questionnaires' piloting enabled the researcher to make the necessary adjustments before the actual household survey commencement.

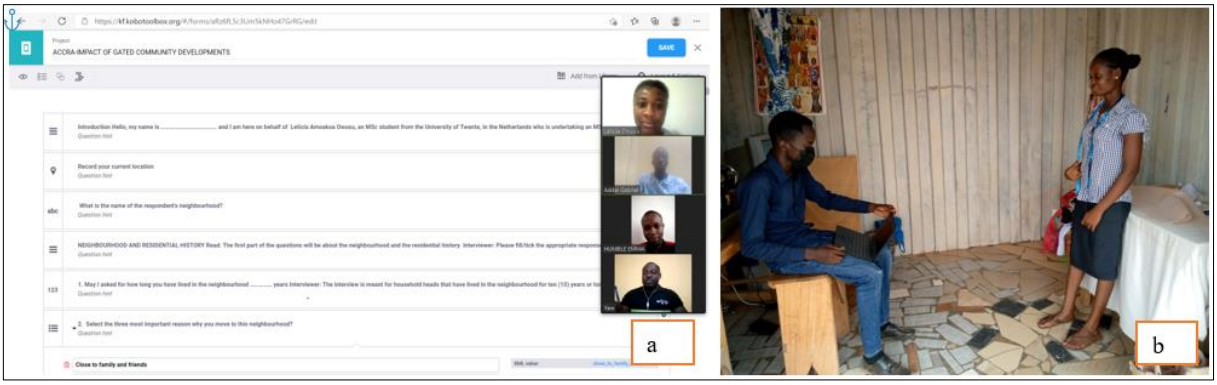

Figure 3.8: (a) Field assistants training session via zoom; (b) piloting of the questionnaires in Abokobi
Source: Fieldwork, 2021

3.7.6. Household Questionnaire Survey

The household questionnaires were administered to gather local residents' perception of their quality of life due to gated community developments in peri-urban areas. The survey was conducted in the two sub-locations within the Abokobi community between 13th to 27th February 2021. A household questionnaire is an important data collection tool because the information gathered can be aggregated and quantified and provide a stable range of responses, especially if closed-ended questions are used (Adams, 2015; Bryman, 2016). This study's household questionnaire was composed of closed and open-ended questions adding up to 48 questions (see Appendix 1). The closed-ended questions were

on a Likert scale of 1-6, with one (1) showing a low quality of life (very dissatisfied) and six (6) meaning a high quality of life (very satisfied). This generated quantitative data to be analysed. The open-ended questions aimed to ask the respondents to explain their choice, which generated qualitative data. The questionnaire was divided into three parts:

1. The first section focused on the residential history of the household heads. This section was important to determine the number of years one has lived in the community. This was because those who have lived in the community for ten (10) years or more (since 2010), when the gated community's development started in the community, were eligible to participate. This part also had questions on whether local residents knew somebody when moving to the neighbourhood. This was to assess the level of social ties in the area.
2. The second section was on the quality-of-life perceptions of the local residents. This part had questions on local residents' satisfaction level with their QoL conditions before and after developing gated communities in the neighbourhood. Thus, their access to services and facilities within the community before and after gated community developments.
3. The third section focused on the personal information of the respondents. That is the socio-economic characteristics, namely gender, age, education and employment level of the respondents.

For a clear spatial distribution, the researcher ensured that the questionnaire administration was completely carried out in one sub-location before going to the other. And the survey also took into consideration if the household was located within the 500 meters and 1000 meters from the gated communities. The household survey was carried out both in the evenings of weekdays and on weekends to interview those who were at work during the day. The interviewed households were geocoded and have been visualised (see Figure 3.9).

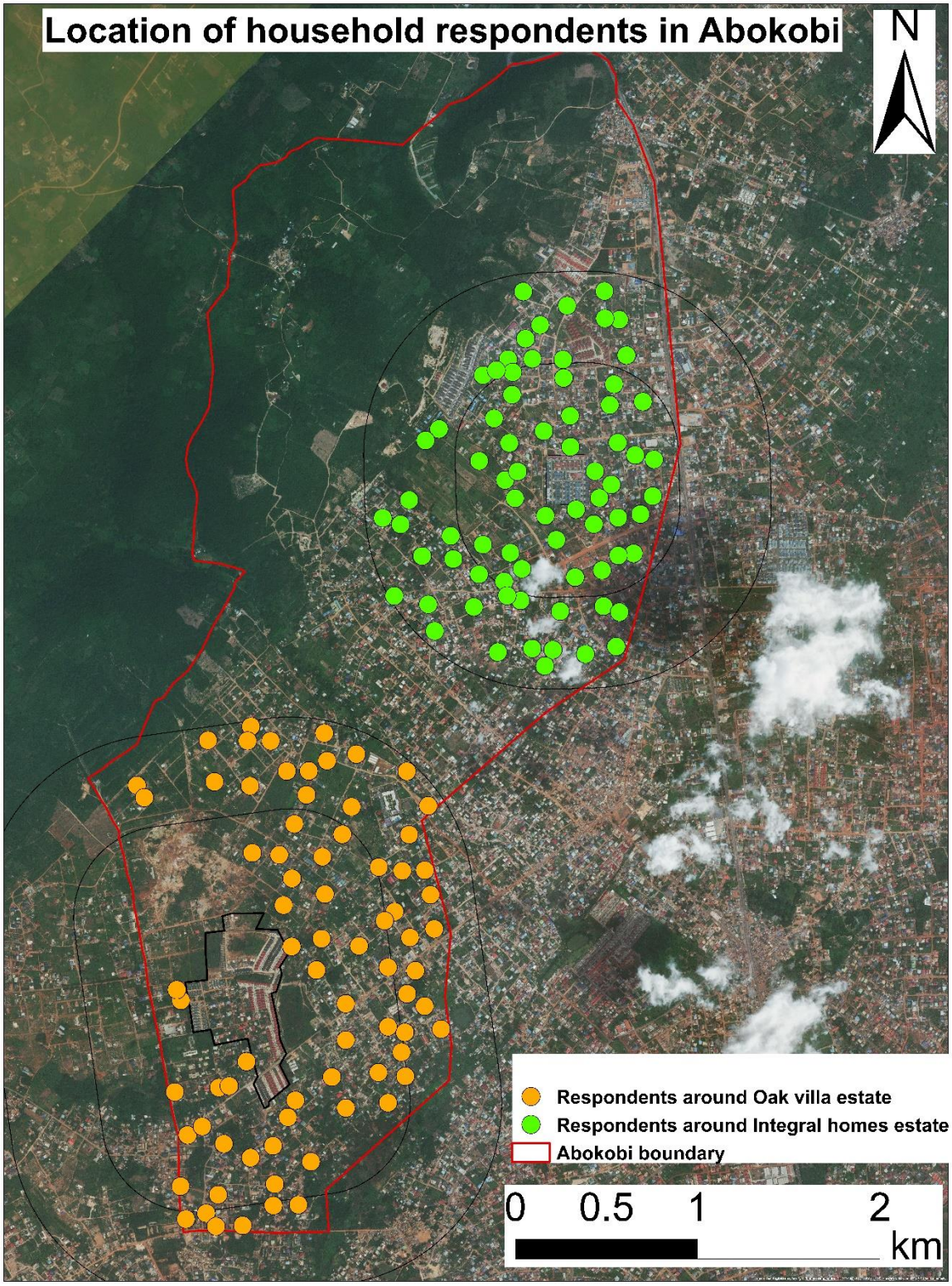

Figure 3.9: Geographical location of household respondents in Abokobi
Source: Author, 2021, fieldwork data, and google earth.

3.8. Post field Phase

The post field stage involved checking, processing, analysing and interpreting the data (both qualitative and quantitative) collected on the field to answer the research questions.

3.9. Data analysis method

The qualitative data entailed the transcription of key informant interviews and focus group discussions. The transcription was done in Microsoft-word and exported to Atlas.ti 9 for coding. The open coding style was used. The codes were grouped into three themes: social, economic and environmental for content analysis, and similar themes were grouped through networking. The analysis was used to discuss how local planning and policy influenced gated communities' development in peri-urban areas, the prevailing types of gated community developments, their driving factors in peri-urban areas, and their socio-economic and environmental effects on local residents in the peri-urban areas in Accra city.
The quantitative data was gathered through the structured questionnaires designed in KoBotool collect. The questionnaire was rated using a Likert scale one (1)-six (6), where one (1) mean low quality of life (very dissatisfied and six (6) means high quality of life (very satisfied) (see Appendix 1). We assumed there would be no neutral responses considering the context of the study; therefore, the two end divisions (very dissatisfied and very satisfied) were used to represent extreme levels of satisfaction and dissatisfaction as used in similar studies (Santos & Martins, 2007; Tesfazghi et al., 2010) The filled questionnaires were extracted in "CSV" format and exported to SPSS for statistical analysis. Ferrer-i-Carbonell & Frijters (2004) stated that individuals expressing their satisfaction response on either an ordinal or cardinal scale does not substantially change the answer. Thus, assuming ordinality or cardinality of the responses to general satisfaction questions is comparatively irrelevant to the answers. Quality of life indicators are frequently treated as cardinal and statistical methods like inferential statistics, descriptive statistics and multiple regression analysis are commonly employed for such indicators (Greyling & Tregenna, 2017; Kristoffersen, 2017; Richards, O'Leary, & Mutsonziwa, 2007). Also, Norman (2010) justified that parametric statistics like T-test, correlation and regression can be used with Likert scale data with no fear of "*coming to the wrong conclusion*". Keeping that in mind, descriptive statistics such as frequencies, cumulative percentages, together with mean and standard deviations, were used to analyse local residents' perception about their quality of life following the development of gated communities in the area. T-test analysis was computed using the means scores of the eighteen (18) QoL attributes to analyse and compare the difference between the local residents' perception of their quality of life following different types of gated communities in the two neighbourhoods. The statistically significant QoL indicators at a confidence interval of 95% ($p < 0.05$) were selected to analyse the differences across the two neighbourhoods. Aggregated means per indicators were calculated for analyses applying equal weight. By integrating the data collected with the interviews and questionnaires, the match and mismatch between institutional claims of gated communities' effect and local residents perception of QoL were assessed. Figure 3.10 below shows the overall workflow and a detailed summary of the research design in Appendix 6

3.10. Ethical considerations

In this study, research ethics were observed to protect all research participants' rights and the research's integrity (McKenna & Gray, 2018). The researcher obtained a written introductory letter from the University of Twente regarding the study and presented it to all relevant participants. Beforehand the research assistant explained to the participants the purpose for which the data was being collected and fully disclosed the consequences of the research on the community and the local residents for their information given for analysis and reporting in the study. The researcher also sought the informed consent of the participants before recording. Before the household survey, the researcher sought

permission from the community's assembly members and local leaders before commencing the area's data collection. All the data collected were cited appropriately and referenced. Participants of both key informants' interviews and focus group discussion were given prior notice of agreement on time and meeting place.

In adherence to the current measures in place for the Covid-19 pandemic in Ghana, the FGDs were of a maximum of five (5) persons. The discussion set was in an open area with enough space for the 1.5-meter distance. All the participants for the FGDs were provided with a nose mask and hand sanitiser. The research assistants were also supplied with nose masks and hand sanitisers during the household questionnaires' administration.

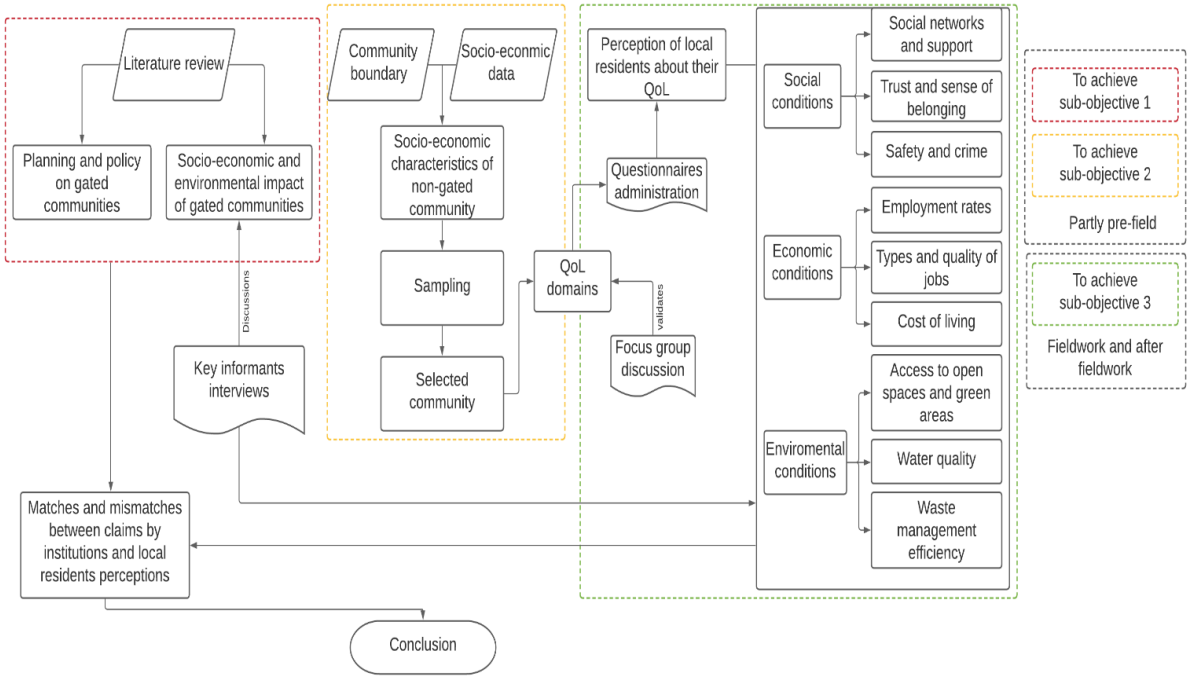

Figure 3.10: Methodology flowchart

4. RESULTS

This part of the study presents the results and findings concerning the research objectives specified in section 1.3. This chapter begins by examining how local planning and policies have influenced gated communities' development in Accra-Abokobi, followed by the driving factors of gated communities in the Accra peri-urban area, Abokobi. Secondly, findings of gated communities' socio-economic and environmental impacts in peri-urban areas as claimed by planners and developers are discussed. Finally, the perception of local residents about their quality of life due to the presence of gated communities are also discussed.

4.1. Local planning and policies influence on gated community developments in Accra

Physical planning is a process by which a society, through physical planning institutions, decides where within its territory, different socioeconomic activities such as housing, industry, agriculture, commerce, and recreation should take place (Cullingworth & Nadin, 2006). In this sense, physical planning is necessary for developments in urban areas and their peripheries as it aims to organize, control and facilitate efficient land use. For the effective and efficient implementation of a planning process, there should be policies to guide the planning authorities in their course of action.

Physical planning in Ghana is backed by the Land Use and Spatial Planning Act 925, 2016 (Land Use and Spatial Planning Act, 2016). The Land Use and Spatial Planning Act 925, 2016 aims to harmonise and regulate land use and planning laws, provide sustainable development of land and human settlement through a decentralised system, and ensure judicious land use to improve the quality of life. Act 925 adopts a three-tier spatial planning system, namely the National Spatial Development Framework (NSDF) [at the top], followed by the Regional Spatial Development Framework (RSDF) then the District Spatial Development Framework (DSDF), which corresponds with a three-tier institution structure, namely Land Use and Spatial Planning Authority, Regional Spatial Committee and the District Spatial Planning Authority.

Section 49(1) of the Land Use and Spatial Planning Act 925 empowers the Land Use and Spatial Planning Authority in consultation with the National Development Planning Commission (NDPC) to prepare the National Spatial Development Framework (NSDF), which provides a nationwide strategic vision regarding the distribution and coordination of future housing areas, and future development projects. From the NSDF, the Regional Spatial Committee prepares the RSDF, and then the District Spatial Planning Authority also prepares the DSDF. Following that, the District Spatial Planning Authority prepares the structure plans to guide the areas' development and redevelopment within their jurisdiction. Subsequently, the District Spatial Planning Authority prepares detailed local plans that conform to the land use prescribed in the structure plans to guide the specific local physical developments for particular areas within the jurisdiction. (See Figure 4.1 for a summary of the institutional structure for spatial planning under Act 925).

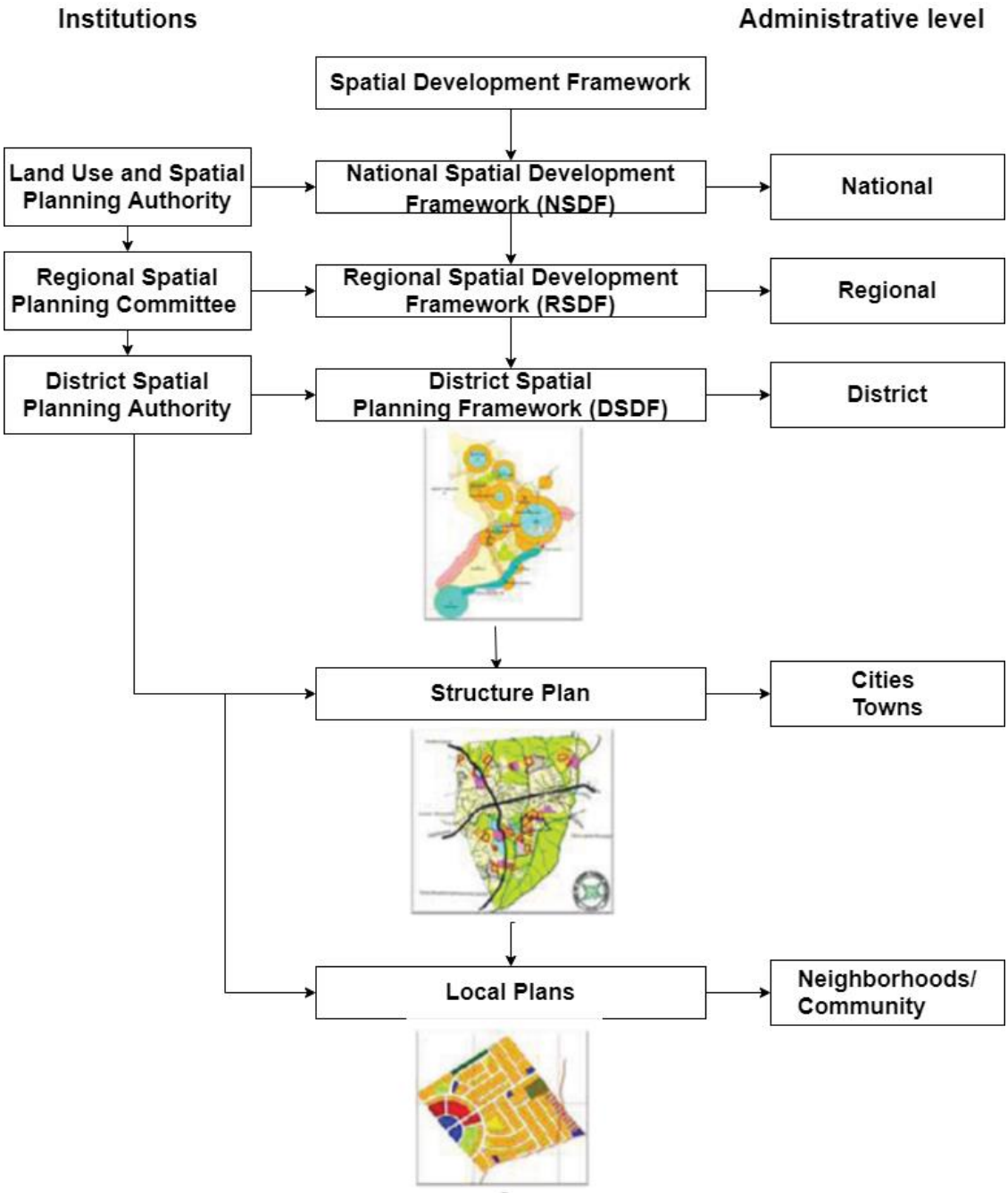

Figure 4.1 Institutional arrangement for spatial planning under the Land Use and Spatial Planning Act 2016 (Act 925) in Ghana
Source: Adopted from the Town and Country Planning Manual for preparing Spatial Plans in Ghana (Ministry of Environment Science and Technology, 2011a).

However, section 71 (6) of the same Act outlines that *"each estate developer, owner of a land of a size specified by the Authority or a traditional ruler who owns that land, shall submit to the District Assembly local plans in respect of estate schemes or schemes to develop the land for sale in the district."*

In the above section, it can be deduced that the Act is responsive to the local context and the needs of local stakeholders and considers changes taking place in the built environment, unlike CAP 84, where planning activities were controlled by the central government and did not allow for stakeholders preferential. But to some extent, section 71(6) of Act 925 limits the power of the District Spatial Planning Development Authority in influencing residential developments according to the local plans

as it privatises local plan-making. See (Table 4.1) for the requirements for granting re-zoning. Thus, private individuals can prepare their own local plan for an estate and submit it to the District Assembly. The District Assembly has the power to accept or reject the local plan; however, one of the key informants attested that:

"*The Assembly hardly rejects such plans by the developers. This is because such local plans by the developers are carefully prepared by qualified architects to satisfy the criteria for granting re-zoning*"—*key informant 4*.

Table 4.1 Conditions for Re-zoning/Change of Use

An application for a 're-zoning/change of use' will need to satisfy the following criteria:
i. The type of development is within the permissible uses as given in the zoning guidelines.
ii. Does not significantly alter the original intention of the plan or zone.
iii. Does not disrupt the surrounding land uses by way of;
• Significantly increasing traffic generation;
• Undermining the image of the area;
• Significantly increasing noise and or odour;
• Intrusion of privacy.
• Being a risk to public health;
• Increasing the risk of fire or explosion;
iv. Be of net benefit to the community in which the use is located.
v. Has minimal impact on existing services and infrastructure.

Source: Adopted from the Town and Country Planning Zoning Guidelines and Planning Standards (Ministry of Environment Science and Technology, 2011b).

Also, the land tenure system has given support for gated communities to grow. In Ghana, the land tenure system is grouped into statutory and customary land tenure systems. Under the statutory land tenure system, lands are owned by the state, constituting about 18% of all lands in Ghana (Kasanga & Kotey, 2001). These lands are also known as public lands.

On the other hand, the customary land tenure system refers to lands owned by tribes, families, or clans with designated traditional authorities such as chiefs[1] or family heads as trustees (Kasanga & Kotey, 2001), which are recognised by the 1992 constitution of Ghana. The customary land[2] is the most dominant in the country, constituting about 80% of all lands in Ghana (Obeng-Odoom, 2014). These lands are also known as private lands. Regarding development, planners control the state lands compared to customary lands where private individuals control them (Obeng-Odoom, 2014). Thus, customary landowners can determine what housing development they want in their neighbourhood and effectively implement it. This limits physical planners' authority to plan for lands under the customary land tenure system. Since the State owns and controls limited land, they compulsorily acquire lands to

[1] Chiefs are persons who hail from appropriate lineage who has been selected, accepted by the family and enstooled or enskinned as chief according to the customary laws which is backed by the 1992 Consititution of Ghana (Act 267).

[2]Customary lands are lands managed by the head of the corporate bodies like chiefs and family heads, who have the authority to enforce rights and obligations related to the land that has been granted according to the 1992 Consitution of Ghana (Act 267).

provide amenities and infrastructures (Obeng-Odoom, 2014). The remaining 2% are lands owned by customary groups but vested in the state due to conflicts (Kasanga & Kotey, 2001).

Hence, the Land Use and Spatial Planning Act, coupled with the land tenure system, has significantly contributed to the proliferation of gated communities.

This was evident in the findings obtained from the in-depth interviews with key informants. There is a local plan prepared by Ga- East Spatial Planning Development Authority to guide the physical developments of Abokobi. However, because of the nature of the land ownership, where the state owns lands and stools/private individuals also own lands,

"*We keep revising the local plans by application from prospective developers to re-zone so that certain activities can be shifted to other areas. This has assisted in developing gated communities in the area." Key informant 4*

The Ghana National Housing Policy (2015) also promotes the development of gated communities. The Ghana housing market is faced with a housing deficit, running over 2million for the growing middle class and low-income families (Ghana Statistical Service, 2012). Following the structural adjustment programme, successive governments have acknowledged their inability to provide adequate housing to meet the housing deficit (Grant & Yankson, 2003). The National Housing Policy has recognized the private sector as a key player to achieve adequate housing provision (Ministry of Water Resources Works and Housing, 2015). Initiative 3.1 of this policy seeks to create an enabling environment promoting strong private sector participation in housing delivery (Ministry of Water Resources Works and Housing, 2015). Given the National Housing Policy's explicit recognition of the private sector as key players in housing supply in Ghana, leveraging this, the Ministry of Works and Housing partnered with Ghana Real Estate Developers Association (GREDA) to provide housing to bridge the gap of housing deficit in the country. The GREDA, who are at the forefront of this partnership representing the private sector over the years, has been involved in developing gated communities when it comes to residential housing development in Ghana, as observed by Ehwi (2019). From my interview with the Ministry of Works and Housing, one of the key informants said:

"*Housing deficit in Ghana is high, and we try curbing it. We went into partnership with the Ghana Real Estate Developers Association (GREDA) [the body of private developers that develops gated housing] in 2000 to put up detached and semi-detached estate houses in 'Teshie'-Accra. Also, the Ministry support GREDA in terms of strategies and policies to ensure the successful development of gated houses." Key informant 6*.

From the above, it can be inferred that the Ministry of Works and Housing have indirectly promoted gated community development in Accra as they partner with GREDA in developing houses.

In summary, it can be deduced that in Ghana, local plans prepared for various communities do not directly influence gated communities' rise. Instead, the institutional arrangements in place combined with the land tenure practices have given support for gated communities to grow in Accra.

4.2. Driving factors of gated communities in peri-urban area-Accra

This part of the study analyses factors that drive gated communities to the peri-urban areas within Accra. As identified through interviews, these factors are land availability, land affordability, mass-market and the appearance of slums. These factors are discussed in the following sub-section.

4.2.1. Land availability

Interview findings reveal that Accra's core city is heavily built-up with no land plots to develop residential properties, particularly gated communities. The peri-urban areas like Abokobi are now places that have large tracts of land to accommodate these developments. One of the key informants said,

*"Accra city is fully developed with only a few spaces left. These spaces are zone for office developments and other uses and not for residential developments. So there is no space in the city centre to construct the gated communities that we are talking about, but the places that have the land for these developments are the peri-urban areas"—k*ey informant 5.

The practice of customary landowners wholesaling of big plots of lands within Accra's peri-urban areas also encourages the real estate developers to buy and develop gated communities in the area for their target market.

Interview findings also reveal that the privatisation of the economy and the liberalisation of the land market as a result of the Structural Adjustment Programme (SAP) initiated by the Ghana government in the 1980s contributed to gated communities' growth in the peri-urban areas. The Structural Adjustment Programme gave the private sector a leading role in housing delivery with many incentives. Thus, under this economic reform, several reforms which favoured the real estate industry were introduced. For instance, the Government of Ghana deregulated the housing market to revitalise housing as an attractive investment, five (5) years tax holiday was declared for real estate companies, and tariffs on importing some heavy-duty-construction equipment building materials removed. As a result, many private estate developers caught in to provide housing. Looking at the land tenure system in Ghana, the majority (80%) of lands are owned by chiefs; hence the needed land for these developments could be obtained from Chiefs. Developers approached them, and they were also willing to sell lands for these developments because they could benefit financially and develop their community. Thus, this economic reform has created an incentive for customary landowners to put out their lands for sale to persons with the purchasing power to buy and develop them, mostly real estate developers. This has led to the continuous spread of gated communities, no longer only at the core of Accra but also integrated into the peri-urban zones. The increasing development of gated communities in Abokobi is due to its vast land availability and the chief and customary landowners' willingness to sell to developers. One key informant emphasized that:

"*customary landowners of Abokobi prefer selling their lands to us because they say that when we develop the gated communities, it opens up the community as a whole, and other development also moves in. Also, the area gains government attention as they provide other public services for them"—key informant 2.*

Hence, various developers are rushing for vast lands at Abokobi for gated community developments, promoting these developments in the area.

4.2.2. Land affordability and mass-market

Another driving factor of gated communities to the peri-urban areas is the affordability of land fuelled by the mass market. Interview findings show that aside from the fact that developers will not get the lands within the core cities, the lands are relatively cheaper on the peripheries compared to the lands in the core city. The developers are able to afford vast lands, developing many gated housing units that meet the desires of the target market, in this case, the affluent and growing middle-class families. In

addition, there is a larger market in peri-urban areas than in the city centre. As land values are high in the core cities, the gated communities growing in these areas are unaffordable by about 80% of the target market. Many of Accra's target population demand gated communities in the peri-urban areas than the inner cities since the gated developments growing outside the city are less expensive. One key informant said:

"our target people demand gated communities in both the inner cities and the peri-urban areas. However, the mass market is not in the inner cities but the peri-urban areas, hence as business people looking out for profit, we develop in the peri-urban areas because there is a bigger market in that many people can afford the gated communities"—key informant 2.

Accra's peri-urban areas are experiencing an influx of gated communities because lands are available and relatively cheap in the peripheries. But scarce and expensive in the core and are not within reach of developers. Also, there is a mass market for peri-urban gated communities.

4.2.3. Slum factor

The study also found out that the presence of slums is a deterrent factor for the development of new, middle-class housing areas. Within the city of Accra, 43% of the city's population is living in slums. These slum areas are associated with violence, theft and other social vices, as is evident in the studies of Owusu & Afutu-Kotey (2010). One of the developers asserted that one of the ideas for creating gated communities is to provide security. To provide their target group with the needed sense of security, developers move to the peri-urban areas where these slums (Shanty developments) cannot be found. One of the key informants said:

"The perception is that slums have an untidy environment, and the target market for the gated communities do not feel right having their neighbourhood around the slums"—key informant 2.

4.3. Claimed socio-economic and environmental impact of gated communities

This section of the study focuses on gated communities' socio-economic and environmental impact on local residents, as asserted by developers and planners. All the findings are based on key informant interviews.

As reviewed in section 2.4, current research argues that gated communities have both positive and negative impact. However, during the key informants' interviews, only positive impacts were identified. The regulators [developers and planners] emphasise that no adverse impacts are associated with gated communities. A key informant stressed that:

"The development of gated communities is good for the city. Even the current president of the republic Nana Addo Danquah Akuffo Addo supports it as evidence in his recent attendance to the commission of Appolinia city[3], a gated community developed in a peri-urban area of Accra". Key informant 1.

The developers and planners maintained their position that gated communities are beneficial to local residents, as presented in the next section.

[3] Appolonia city is a gated community developed at Ayi-Mensah community which is at the north-eastern peri-urban of Accra. Ayi- Mensah community is about 15 minutes drive away from the Abokobi community (the study area for this research).

4.3.1. Social impact of gated communities on local residents

Both the developers and planners claimed that developing gated communities makes job opportunities accessible to local residents through which people with different social status interact. There is an exchange of money for services as low-income residents provide the gated community residents with labour. Through the market relationship, the local residents and gated residents interact. A key informant expressed that:

"*community ties that have been the hallmark of Ghana are diminishing due to urbanisation and not due to gated community development because the societies were smaller in size in the past, but now they have expanded. Individuals interact with people they have something to do with, and gated residents relate with local people who sell on the community's roadside as they purchase foodstuffs from them. This relationship created by gated communities enhances community connections between the rich and the poor, even as the city grows"*—k*ey informant 5.*

Also, gated communities are accompanied by non-residential developments such as shopping centres, convenience retails, and health facilities giving local residents better access to social amenities. In most peri-urban areas of Accra, local residents have limited access to water, health facilities, schools, good roads, among others, because the government pays little attention to these areas. Developing gated communities in the peri-urban areas attract government attention to provide amenities and services to the neighbourhood. Thus, it helps integrate social amenities in the entire neighbourhood and not restrict it to the gates, giving local residents better access. This implies that gated communities promote functional integration in communities.

Developing gated communities in peri-urban areas open up the areas for development. It contributes to the host community's growth as it attracts other people to the area. Developing gated communities in Abokobi drew other people to start developing their properties close by the area. It can be deduced that gated communities increase local residents feeling of attachment to their neighbourhood.

Aside from gated communities enhancing local residents' sense of belonging, it brings ample social mobility through observation. Gated communities emerging in peri-urban areas bring the rich people close to the low-income residents within the urban space. This challenges the poor local residents to aspire to be like the high-income people living within their space.

4.3.2. The economic impact of gated communities on local residents

Accra's city is faced with a lack of economic opportunities for which mostly their peri-urban areas. Most people within these communities have low standards of living. Developing gated communities within these localities bring about employment opportunities. Some local residents get employed as house helps, cleaners, gardeners, masons, artisan, and others start businesses like operating a shop and selling on the area's roadside. It contributes to enhancing local residents' living standards. A key informant said:

"*The concept of gated communities is encouraged by the sustainable development goal (SDG) eight (8). SDG 8 aims to ensure that communities can create economic opportunities for people and that poor residents get work in their communities. Developing gated communities contribute to achieving this aim by providing local residents with job opportunities in their neighbourhoods"—key informant 5.*

The developers and planners see gated communities as a concentration (clustered) of people in an area offering work to the communities.

Gated communities also provide the municipality with revenues. These proceeds are later injected back to society to undertake development projects like building schools, hospitals and improving the road networks. As stated by one key informant:

"*from the revenues we collect from the gated communities, the assembly is able to grade the roads within Abokobi township and its surrounding areas from time to time, keeping them in an accessible manner". Key informant 3.*

That means developing gated communities in a locality financially empowers the assembly to undertake more developmental projects that benefit the local residents.

Again, key informants' findings show that gated communities give local residents better access to amenities at an affordable price. The number of people residing in an area increases when gated communities develop in the area. Hence, if the government provides amenities like water and electricity, it will be at a lower cost, and the local residents pay less for public services.

4.3.3. The environmental impact of gated communities on local residents

Findings from key informant interviews revealed that gated communities create higher environmental quality spaces as it ensures orderly urban development. In Ghana, the National Building Regulation 1996 (LI 1630) requires all developments to be assigned a building permit before any building project commences. However, the overwhelming majority of residential developments taking place in Accra and its peripheries occur at the planning systems' blindside; hence, they do not secure building permits before commencing. This has led to haphazard development within the city. But the opposite is true for gated communities as they are planned and developed according to building regulations to ensure orderly development. In addition, most of the gated communities rising in Accra's city are ecologically friendly as they use renewable energy. A key informant emphasized:

"*Most gated communities developing in the peri-urban areas use solar powers and biogas, which are efficient and environmentally friendly*"—k*ey informant 2.*

Secondly, gated communities equip urban areas with better infrastructure and amenities. Key informants' findings show that gated communities help improve Accra's infrastructure and amenities, mainly the peri-urban zones characterised by poor infrastructures and amenities. In Abokobi, the increasing development of gated communities in the locality has helped improve their road networks and streetlights. This has enhanced local residents' accessibility in the community and to other parts of Accra. A key informant stressed:

"*that there were only footpaths in the Abokobi community and that limited public transport services within the area. No taxi or "trotro"*[4] *was willing to travel to the community no matter the amount of money residents are eager to offer. When gated communities were developed, the roads were widened, and that has enhanced public transportation in the community.*" *Key informant 3.*

Hence, commuting from Abokobi to surrounding areas in Accra has become easy and affordable for local residents.

[4] Troto is a public transport system where minibuses are used to convey people moving from one destination to the other within the city. These mini buses operate with a driver and a mate who collects charges from the passengers. There are no mandatory bus stops,therefore the mates notified the driver where to stop for a passenger to get off.

Thirdly, the developments of gated communities were found to be helpful in the area of solid waste management in Accra's peri-urban areas. The developments of the gated communities in Abokobi have positively influenced the local residents' attitude and behaviour on how they manage their surroundings by embracing the solid waste disposal system of the gated communities. Thus, some of the local residents have employed the services of waste management companies who empty their household waste bins on schedule period. Others also engage in the services of individual waste collectors on a daily basis. One key informant said:

"*Before gated communities developed in Abokobi, local residents use to dump refuse in an embroiled manner. There were patches of unapproved refuse dumpsites littering. Some of these refuse ends up in drains, resulting in flood when it rains. You see the municipality now and then going to eradicate refuse from unapproved sites. This continuously increased the assembly's expenditure, leaving them with less money for other developments. But after the arrival of gated communities, the local residents have organized themselves to ensure refuse is deposited at the right place*". *Key informant 3.*

From the key informant's perspective, gated communities in Accra's peri-urban areas provide infrastructural and socio-economic improvements to the community.

4.4. Overview of Abokobi community

This section of the study first looked briefly at the neighbourhood and residential history of the Abokobi community. This contributes to show to what extent the changes that have taken place in local residents' satisfaction with their QoL in the neighbourhood are associated with the gated community developments. The area's socio-demographic characteristics follow this, and it is all based on primary data.

4.4.1. Socio-demographic characteristics of Abokobi community

The characteristics of the Abokobi community was analysed from both primary (household survey and focus group discussions) and secondary data (2010 census data). This was to give a general overview and the socio-demographic status of the Abokobi community by examing the gender, age and education level. (see Table 4.2 and Figure 4.2, and Figure 4.3).

Table 4.2: Gender of local residents in the Abokobi community

	Abokobi community		**2010 census data- Abokobi community**	
Variable	Frequency (N=146)	Percentage (%)	Frequency (N=1654)	Percentage (%)
Gender				
Male	74	50.68	847	51.21
Female	72	49.32	807	48.79
Total	**146**	**100**	**1654**	**100**

Source: Author, fieldwork data and 2010 census data

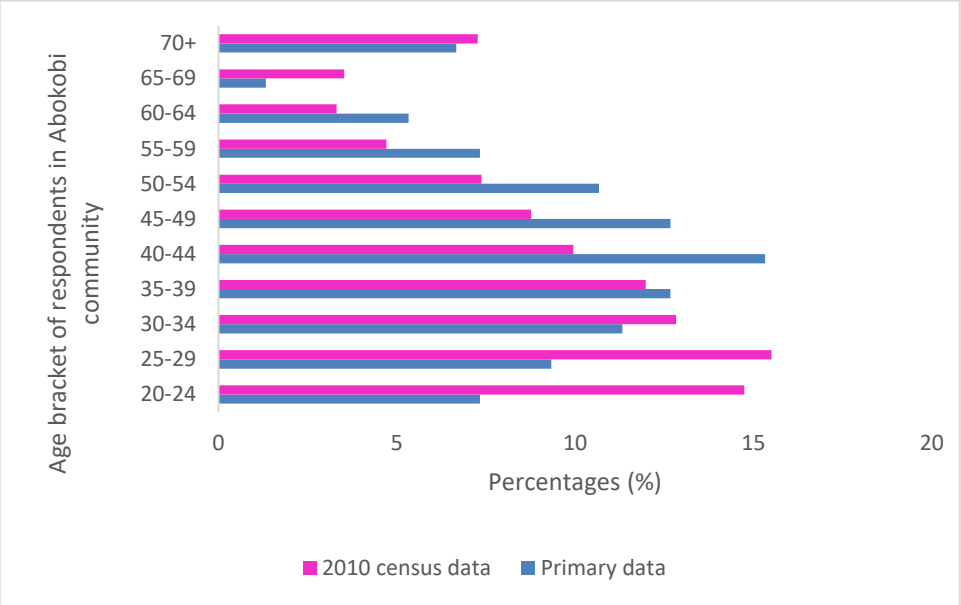

Figure 4.2*:* Age of respondent in the Abokobi community compared with the 2010 census data
Source: Author, fieldwork data and 2010 census data.

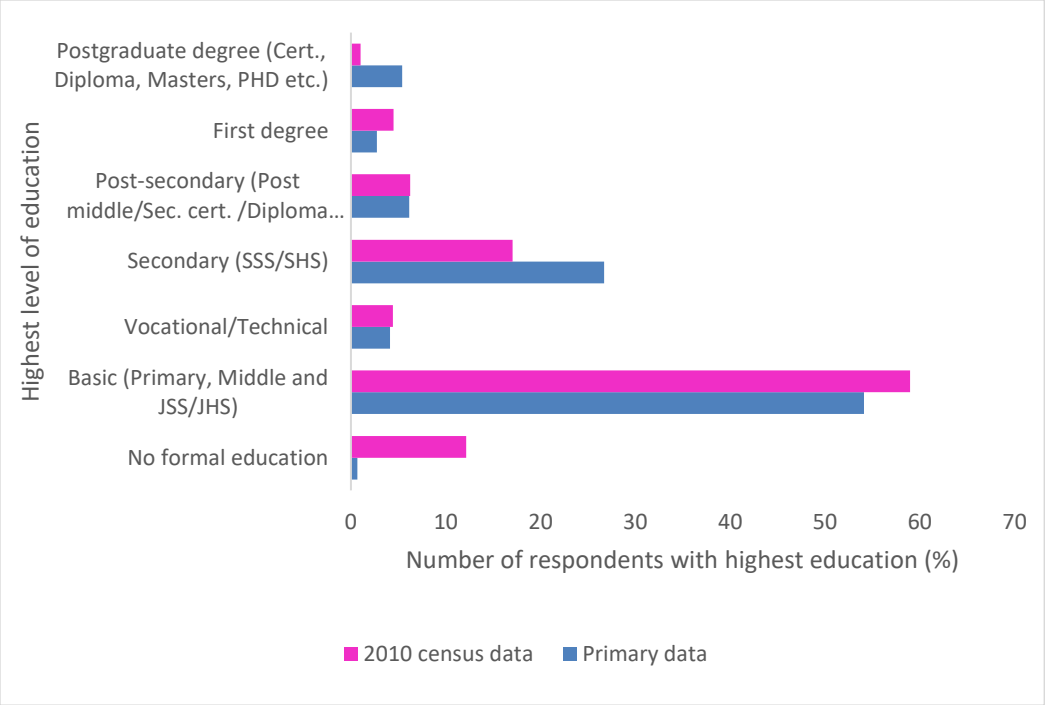

Figure 4.3*:* Respondents highest level of education in the Abokobi community compared with the 2010 census data
Source: Author, fieldwork data and 2010 census data

From the household survey, the number of male respondents was (n=76), which is marginally higher than the female respondents (n =74). This analysis shows that in the Abokobi community, most of the residents are males, as they represent over 50%. (see Table 4.2). This trend was confirmed by observing the 2010 census data from the Ghana Statistical Service (GSS), where men in the community are around 51.21%. However, this result of males being the majority residents in the Abokobi community

is opposite for Accra's whole city. According to the 2010 census data from the Ghana Statistical Service, around 51.67% of Accra city residents are female.

The primary data (household survey) results reveal that most of the Abokobi community respondents are young (n=84), between the ages of 20 and 44, and a small share of residents falls between the ages of 45 and 70 (n=66). The 2010 census data from the Ghana Statistical Services reinforces this trend by showing that about 66.5% of the local residents and 76.26% of Accra city's entire population are young. Thus, most people fall within the prime working age. (see Figure 4.2 and Appendix 4).

Education is important for Ghana's development, as it imparts knowledge, develops individuals' ability, and exposes them to opportunities. Individual skills and capabilities determine their employability. The education level assessment gives an overview of the literacy level of local residents in the Abokobi community. Ghana's education system starts with basic education, through vocational, secondary and post-secondary to tertiary institutions (Ghana Statistical Service, 2012). There are also people with no formal education. The household survey analysis shows that most local residents of the Abokobi community's highest education level are basic education. The secondary level of education followed this. A hand full of the residents have no formal education (Figure 4.3). The same trend was revealed when the primary data was compared with the 2010 census data from the Ghana Statistical Services. Basic education was showing as the highest level of education attained by most residents (58.99%). This was followed by the local residents with a secondary level of education, representing 17.07%. It can be deduced that most local residents in the Abokobi community have low skills.

4.4.2. Neighbourhood and residential history of Abokobi

Findings from the focus group discussions show that the gated communities' development opened up the Abokobi community for development and attracted other people to move and settle in the area. Before gated communities started springing up in the area, the Abokobi community was a small town with vast forest cover, farmlands, and few distant houses apart with a low population. Access routes into the community were few narrow paths (Figure 4.4a). The majority of the population were predominantly farmers, subsistence and commercial cultivating crops such as mangoes, plantain, cassava and vegetables. The household survey analysis confirmed this as 75.18% of the respondents said farming had been the common job found in the community. Very few households were connected to the electricity grid and the Ghana water company supply system. The localized boreholes available were few and had a salty taste making access to potable water very difficult. After developing gated communities like Oak villa estate and Integral home estates, the Abokobi community has rapidly expanded (Figure 4.4b). Thus, when the gated communities developed in the area, it changed the area's appearance, improved infrastructures such as water and attracted people to move in there. This has resulted in changes in the local residents' satisfaction with their community. One of the participants said:

"*The development of the gated communities became the main attraction in the community as it drew people to the settlement. Individuals have bought a plot of lands in Abokobi, but they were not developing them because they saw the area as more of a rural area. But not long ago, when the gated communities started growing in the area, we saw many people who have lands quickly developing their houses. Simply because the community is developing and infrastructures like water and electricity have improved. So there is a solid link between a large project like gated communities and the area's development. It has brought a difference in our life".*

This means that the Abokobi community is growing rapidly, changes are taking place in the QoL of local residents, and gated community development is the reason for the growth and changes.

The household survey analysis also reveals that community ties existed in the Abokobi community. In this area, 82.7% of the respondents said their move to the Abokobi community was a conscious choice since they had their family or acquaintances living in the community. More than 50% of the respondents said they talk daily with their neighbours. Thus, the neighbourhood can be regarded as a place where social connections exist.

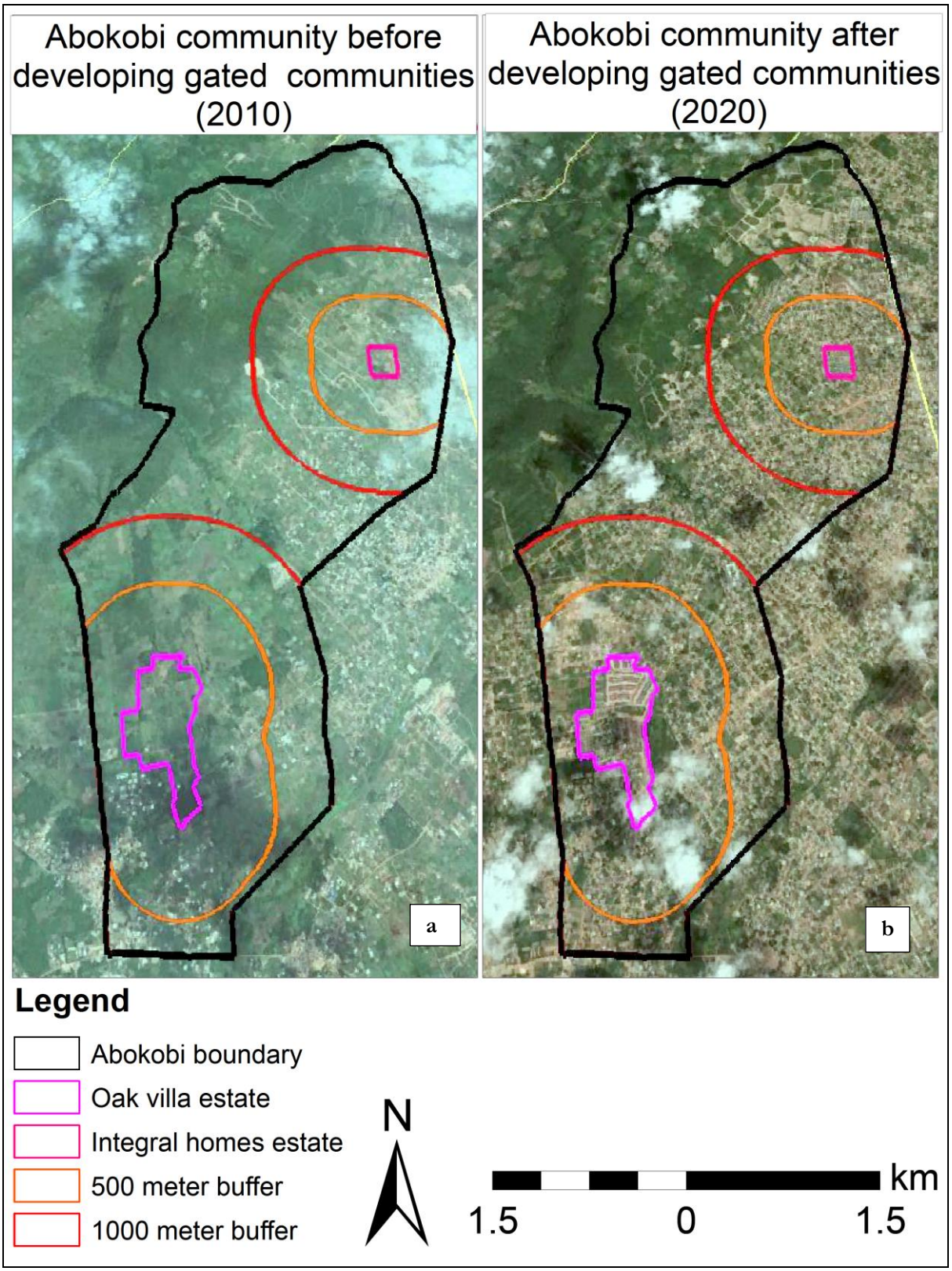

Figure 4.4: The Abokobi community (2010) before the development of the gated communities (a) after the development of gated communities (b)
Source: Google earth and DIVA-GIS, 2021

4.5. Quality of life perception of local residents

This section's objective was to understand how local residents perceive their subjective QoL before and after the development of gated communities in the Abokobi community. This was analysed using local residents' satisfaction level with their neighbourhood's social, economic, and environmental conditions. In achieving this aim, the section begins by comparing the QoL as perceived by local residents living outside two different types of gated communities (Oak villa estate and Integral estate) in the area. Local residents found around Oak villa estate are said to be in neighbourhood one (1), while those around Integral home estates are neighbourhood two (2). This will be followed by discussing the local residents' perception of their subjective QoL based on their proximity to the gated communities.

4.5.1. Quality of life satisfaction levels in the two neighbourhoods

The two neighbourhoods (around two different types of gated communities) were selected to observe the differences in the subjective QoL of local residents. The two different types of gated communities are the Oak villa estate and the Integral homes estate. The assumption was that there would be differences between the types of gated communities because the literature (Grant & Mittelsteadt, 2004) says that gated communities designed to provide middle-class families with leisure activities may have a more positive effect on the QoL of local residents outside the gate than gated communities designed to provide the affluent with exclusivity over their area.

However, the t-test revealed that the differences in the local residents' satisfaction level regarding their subjective QoL in the two neighbourhoods were not significant and instead showed strong similarities. (See Table 4.3). Therefore, the results presented below reflected the responses of local resident's satisfaction level with their subjective QoL in both neighbourhoods.

Table 4.3: Aggregated mean scores of the indicators of QoL and the independent sample t-test

		Neighb. 1 (Oak villa estate)	**Neighb. 2 (Integral homes estate)**	**Neighb. 1 (Oak villa estate)**	**Neighb. 2 (Integral homes estate)**
		Before	Before	After	After
Social conditions					
Social networks and support	Mean	4.24	3.94	4.29	4.60
	Independent sample t-test	**2.242**		**-1.065**	
	Sig. (2-tailed)	**0.088**		**0.347**	
Sense of belonging	Mean	4.58	4.28	5.00	4.84
	Independent sample t-test	**1.613**		**0.428**	
	Sig. (2-tailed)	**0.248**		**0.710**	
Perception of safety and security	Mean	3.91	4.08	5.22	5.27
	Independent sample t-test	**-0.191**		**-0.220**	
	Sig. (2-tailed)	**0.866**		**0.846**	
Economic conditions					
Employment	Mean	3.27	3.25	4.32	4.42
	Independent sample t-test	**-0.054**		**-0.074**	
	Sig. (2-tailed)	**0.962**		**0.948**	
Quality of job	Mean	3.96	3.34	4.34	4.32
	Independent sample t-test	**1.77**		**0.185**	
	Sig. (2-tailed)	**0.219**		**0.871**	
Cost of living	Mean	4.35	4.25	3.54	3.71
	Independent sample t-test	**0.133**		**-0.212**	
	Sig. (2-tailed)	**0.900**		**0.842**	
Environmental conditions					
Access to water	Mean	2.84	2.93	4.02	4.28
	Independent sample t-test	**-0.022**		**-0.044**	
	Sig. (2-tailed)	**0.984**		**0.969**	
Access to open spaces, green areas and parks	Mean	1.77	1.98	1.63	1.93
	Independent sample t-test	**-0.511**		**-2.191**	
	Sig. (2-tailed)	**0.659**		**0.159**	
Waste management efficiency	Mean	2.51	3.12	2.98	3.16
	Independent sample t-test	**-0.941**		**-0.088**	
	Sig. (2-tailed)	**0.445**		**0.938**	

The T-test is significant at 0.05 level (2-tailed)

[5] Mean score 1-6 where one (1)= worst off and six (6)= better off

4.5.2. Local resident's satisfaction life with their Quality of Life

The study assesses the subjective QoL of local residents in the neighbourhoods using QoL's domains and indicators previously discussed in section 3.3.1. The local residents' satisfaction level regarding their subjective QoL at the neighbourhood level was measured using descriptive statistics, as recommended by Tesfazghi et al. (2010). Thus, the residents were asked how satisfied they were with the indicators of QoL before and after gated community development within their community, and six (6) point Likert scale ranging from one (very dissatisfied) to six (very satisfied). The results were presented in the form of mean scores, standard deviation and percentage scores (stacked bars). A high standard deviation indicates that the responses from the residents deviated from the mean, and a low standard deviation means there is homogeneity in the local residents' responses. A high level of satisfaction shows better subjective QoL, and a low level of satisfaction proves worse subjective QoL. Local residents' satisfaction with their subjective QoL is discussed under the overall QoL, social, economic and environmental conditions of life.

4.5.2.1. Satisfaction level with overall QoL

As anticipated, the overall QoL of local residents improved after the development of the gated communities. Table 4.4 present the mean scores and standard deviation and the percentage of respondents for each satisfaction level with their overall QoL. The mean scores increased from 4.36 to 4.93, which shows an improvement in overall QoL satisfaction. Thus, the local residents of the Abokobi community perceive slightly better QoL conditions after gated community developments. About 96% of the respondents felt so.

Table 4.4 Overall QoL satisfaction of local residents in the Abokobi community

Attributes		**All the gated communities Neighbourhood**			
		Before		After	
	Level of satisfaction	Percentage (%)	Cum. (%)	Percentage (%)	Cum. (%)
Overall QoL	Very dissatisfied	0.7	0.7	-	-
	Dissatisfied	6.0	6.6	0.7	0.7
	Fairly dissatisfied	11.3	17.9	3.3	4.0
	Fairly satisfied	21.2	39.1	12.6	16.6
	Satisfied	60.9	100.0	69.5	86.1
	Very satisfied	-	-	13.9	100.0
	Mean	**4.36**		**4.93**	
	Standard deviation	**0.94**		**0.67**	

[6] Likert scale1-6 where one (1) = Very dissatisfied and six (6) = Very satisfied

4.5.2.2. Satisfaction levels with social conditions of life in the community

The overall mean scores of satisfaction level per the indicators of the social conditions in the community after respective aggregating attributes for each indicator (Appendix 5) and standard deviation are given in Table 4.5. Looking at the mean scores across the indicators of QoL, they show an increase in QoL satisfaction, especially in safety and security and imply that local residents felt satisfied with their social conditions after the development of the gated community.

Table 4.5 Means score of social conditions of life satisfaction per domain

Indicators of Social conditions		**Neighbourhood**	
		Before	After
Social networks and support	Mean	4.09	4.23
	Standard deviation	0.93	0.94
Sense of belonging	Mean	4.34	4.84
	Standard deviation	0.86	0.82
Perception of safety and crime	Mean	**4.00**	**5.23**
	Standard deviation	0.95	0.59

Social networks and support

This indicator of QoL entails local residents' perceived satisfaction level with interactions between families, friends and neighbours, asking neighbours for help and neighbours asking for help within the neighbourhood before and after the development of gated communities. Table 4.6 shows the percentage of respondents for each level of satisfaction for each attribute and the mean scores and standard deviation of the attributes of social networks and support. The findings from the mean scores show an improvement in interaction within the community but a decline in asking for help from each other after developing gated communities. This may imply that most respondents felt satisfied with the level of interaction among local residents within the community, but they felt dissatisfied about asking neighbours for help and neighbours asking for help. The percentage of respondents satisfied with interaction within the community increased from 69.95% to 84.1%, while the percentage of the respondents who felt satisfied with asking for help from each other decreased from 72.2% to 61.0% as the community is growing much bigger after developing gated communities.

The reasons given by the respondents for the perceived increase in interaction levels within the community included that the development of the gated communities have encouraged the development of much residential housing, thereby bridging the gap of houses being distant apart. Therefore, one does not have to walk for a long distance from one's house to the next for interaction. Residents also indicate that places like "eating joint" and drinking spot provide them with the platform to interact and network with other neighbours. These have contributed to increasing local residents' level of interaction within the community. It was also observed that there had been an influx of persons into the Abokobi community after developing the gated communities. People with different cultural, ethnic, educational, and professional backgrounds moving into the community facilities in the levels of interaction from a different perspective where people learn from each other and know how to communicate with one another, creating a harmonious environment and fosters unity.

On the other hand, respondent's rationale for the perceived decline in asking for help from each other within the community was instigated by the increase in economic activities. The developments of gated communities have helped enhance local residents' financial situations as they have jobs where they offer their services in exchange for income and no longer ask for help from each other compared to before.

Table 4.6 Statistics for satisfaction level of the attributes of social networks and support

Attributes	**Interactions within the community**				**Asking for help from each other within the community**			
	Before		After		Before		After	
Level of satisfaction	Percentage (%)	Cum. (%)	Percentage (%)	Cum. (%)	Percentage (%)	Cum. (%)	Percentage (%)	Cum. (%)
Very dissatisfied	0.7	0.7	-	-	5.3	5.3	3.3	3.3
Dissatisfied	11.3	11.9	7.9	7.9	13.2	18.5	20.5	23.8
Fairly dissatisfied	19.2	31.1	7.9	15.9	9.3	27.8	15.2	39.1
Fairly satisfied	21.2	52.3	13.9	29.8	22.5	50.3	19.9	58.9
Satisfied	41.7	94	50.3	80.1	40.4	90.7	35.8	94.7
Very satisfied	6	100	19.9	100	9.3	100	5.3	100
Mean scores	**4.10**		**4.66**		**4.07**		**3.80**	
Standard deviation	**1.16**		**1.13**		**1.37**		**1.35**	

Trust and a sense of belonging

The local residents of the Abokobi community perceive higher satisfaction levels with trust and a sense of belonging after gated community developments. Table 4.7 shows the mean scores, standard deviation and the percentage of local residents' responses on the satisfaction level of trust and sense of belonging based on the level of friendliness and the feeling of attachment to the community before and after the development of gated communities. The mean scores on the satisfaction level reveal that local resident's satisfaction level with both levels of friendliness and feeling attached to the community improved from 4.23 and 4.44 to 4.70 and 5.01, respectively, after gated community developments. This indicates that in the Abokobi community, a higher percentage of local residents felt satisfied with the friendliness level (86.1%) among them in the community and the feeling at home (94.0%) after the gated communities were developed as compared with before its developments.

On the level of friendliness within the community, local residents responses pointed out that the increase in population within the community has increased their satisfaction level with friendliness as they can make more new friends and may confide in them. One of the respondents said,

"in the previous times, before the gated communities were developed in the area, there were not many people in the community and as such, people were always in their homes, making it a bit difficult to make friends. But after the gated communities were developed, many people have moved to the area, making it easy to meet, interact and make friends with people. I moved to Abokobi 15 years ago because of cheap housing, so I barely had friends I could share my problems with for a long time until more people started moving to the area after the gated communities were developed. Now I have more helping hands in case of any problem".

Concerning feeling attached to the community, respondents mentioned that the development of gated communities opened up the Abokobi area and attracted better social amenities and services like roads, water and entertainment hubs making the place lively and attractive to belong. One respondent said,

"Previously, I did not feel connected to Abokobi township and wanted to leave because friends visiting me were very scares as they mostly complain of the bushy nature of the area. But after the development of the gated community, they always wanted to visit, most especially during weekends as the area has become interesting".

Other respondents of Abokobi expressed that they feel at home and belong to the community because after developing gated communities, individuals associate the area as a place for the rich and prominent people. The increase in the level of friendliness and the local residents' feeling of attachment enhances trust and one's sense of belonging to the Abokobi community.

Table 4.7 Statistics for satisfaction level of the attributes of trust and sense of belonging

Attributes	**Level of friendliness within the community**				**Feeling attached to the community**			
	Before		After		Before		After	
Level of satisfaction	Percentage (%)	Cum. (%)	Percentage (%)	Cum. (%)	Percentage (%)	Cum. (%)	Percentage (%)	Cum. (%)
Very dissatisfied	0.7	0.7	1.3	1.3	-	-	-	-
Dissatisfied	9.9	10.6	6.6	7.9	10.6	10.6	5.3	5.3
Fairly dissatisfied	17.2	27.8	6.0	13.9	11.3	21.9	0.7	6.0
Fairly satisfied	17.9	45.7	13.9	27.8	13.2	35.1	9.3	15.3
Satisfied	46.4	92.1	51.7	79.5	53.0	88.1	56.7	72.0
Very satisfied	7.9	100.0	20.5	100.0	11.9	100.0	28.0	100.0
Mean scores	**4.23**		**4.70**		**4.44**		**5.01**	
Standard deviation	**1.17**		**1.14**		**1.16**		**0.94**	

Safety and security

This indicator of QoL aims to assess residents' perception of satisfaction with safety and security in the Abokobi community after developing gated communities. Safety and security entail safety on the street at night and the level of security in the community. Table 4.8 shows the mean scores, standard deviation and the percentage of the respondents' satisfaction level for each attribute. The means scores show that safety on the street at night improved, and the security rates have increased after developing gated communities. This may mean that most respondents felt satisfied with the safety on the street at night and the level of security because less crime takes place in the community. About 95.4% and 98.7% of the respondents felt satisfied with safety on the street at night and the security rate, respectively, after gated communities developed. Thus, local residents perceive that safety in the area has improved and security-enhanced.

The majority of the local residents in the Abokobi community felt satisfied with the safety and security in the neighbourhood. Their reasons for the satisfaction are the presence of streetlights, security checkpoints, a regular police patrol in the area, narrow footpaths that have been widened and bushy places cleared off. One respondent said,

"*the gated community has improved on the neighbourhood's safety because now there are no bushy areas that serve as a haven for wild and harmful animals like snakes, and there have been some installation of great streetlights. So walking in*

the neighbourhood at night is not dangerous as previously when the bushes existed". The street is safe, and there is no sense of fear as the streetlights have opened up the area.

The perception of local residents about the crime rate in the Abokobi community has changed following the development of gated communities, as attested by another respondent.

"*It was always scary walking through this area during night hours. This is because criminals used to hide in the bushy areas to advance their course. It was not possible to walk even as early as 4 pm and to make matters worse any car will not pick you due to the bad road. Due to this, I do not go out at night and even when I travel outside the community, and I know I will reach here in the night when coming back; I will stay till the next day before returning. After the gated communities, there are no bushes that serve as a haven for criminals around anymore".*

Safety and security are assured in the Abokobi community since there is the presence of security checkpoints and police patrol activities in the neighbourhood after the development of gated communities. This contributes to better subjective QoL. The presence of streetlights and security checkpoints in the Abokobi community enables the resident to move freely in their area at all times of the day (Figure 4.5 and Figure 4.6).

Table 4.8 Statistics for satisfaction level of the attributes of safety and security rate

Attributes	**Safety on the street at night**				**Security rate**			
	Before		After		Before		After	
Level of satisfaction	Percentage (%)	Cum. (%)	Percentage (%)	Cum. (%)	Percentage (%)	Cum. (%)	Percentage (%)	Cum. (%)
Very dissatisfied	8.6	8.6	-	-	0.7	0.7	-	-
Dissatisfied	13.9	22.5	1.3	1.3	4.6	5.3	1.3	1.3
Fairly dissatisfied	29.8	52.3	3.3	4.6	2.6	7.9	-	-
Fairly satisfied	24.5	76.8	6.0	10.6	35.8	43.7	4.6	6.0
Satisfied	16.6	93.4	60.3	70.9	45.0	88.7	51.7	57.6
Very satisfied	6.6	100.0	29.1	100.0	11.3	100.0	42.4	100.0
Mean scores	**3.46**		**5.13**		**4.54**		**5.34**	
Standard deviation	**1.33**		**0.76**		**0.94**		**0.69**	

Figure 4.5: The presences of streetlights within the Abokobi community
Source: Fieldwork

Figure 4.6: A security checkpoint within the Abokobi gated community
Source: Fieldwork

4.5.2.3. Satisfaction levels with Economic conditions of life in the community

Table 4.9 shows the mean scores and standard deviation on local residents perceived overall satisfaction level per indicators of QoL in the Abokobi community before and after gated community developments. It analyses the satisfaction level of the respondents on employment rate, quality of work and cost of living. The means scores in Table 4.9 depict an increase in the economic indicators of life except for the cost of living, which shows a decline. This means that local residents perceived better subjective QoL conditions in terms of employment rate and quality of work in the neighbourhood but worse QoL conditions with the cost of living after developing the gated communities.

Table 4.9*:* Mean scores of economic conditions of life satisfaction per indicators

Indicators of Economic conditions		**Neighbourhood**	
		Before	After
Employment	Mean	3.24	4.50
	Standard deviation	0.87	0.76
Quality of jobs	Mean	3.53	4.35
	Standard deviation	0.83	0.86
Cost of living	Mean	4.28	3.69
	Standard deviation	0.45	0.68

Table 4.10: Mean scores and standard deviation of satisfaction level of the disaggregate attributes for each indicator of economic conditions of life.

Indicators	**Attributes**		**Neighbourhood**	
			Before	After
Employment rate	Job opportunities	Mean	3.09	4.39
		Standard deviation	1.35	1.04
	Level of business	Mean	3.39	4.63
		Standard deviation	0.94	0.94
Quality of jobs	Family income	Mean	3.71	4.40
		Standard deviation	1.06	1.05
	Working conditions	Mean	3.37	4.32
		Standard deviation	1.17	1.20
Cost of living	Daily expenses	Mean	4.78	3.26
		Standard deviation	0.67	1.15
	Accommodation cost	Mean	5.01	3.01
		Standard deviation	0.73	1.16
	Transportation cost	Mean	**3.06**	**4.82**
		Standard deviation	0.91	1.16

Employment rate

This indicator of QoL assesses local residents perceived satisfaction level with getting jobs and daily business activities within the neighbourhood before and after the development of gated communities. Table 4.10 shows the mean scores and standard deviation of the local residents' satisfaction level with job opportunities and daily business activities. The mean scores indicate an improvement in getting a job and daily business activities in the Abokobi community after developing the gated communities. Thus, the mean scores increased from 3.09 and 3.39 to 4.39 and 4.63, respectively. This may suggest that most respondents felt satisfied with access to work opportunities and daily business activities. Figure 4.7 show the percentages of local residents' satisfaction level with job opportunities and daily business activities before and after gated community developments. From Figure 4.7, about 87.3% and 88.1% of local residents felt satisfied with getting work and daily business activities in the neighbourhood after the gated communities.

Figure 4.7: Respondent's satisfaction level with employment attributes before and after developing gated communities

The reasons for the local residents' satisfaction with job opportunities and daily business activities are that more jobs are coming up in the area, and the number of people who patronise their products and services has increased. The development of the gated communities has enabled residents to have access to more jobs and employment opportunities. Most of the residents who have a construction background were employed to work in the gated communities. They were employed to take part in the actual construction from the beginning and the maintenance afterwards. Some of the residents without the construction skills were employed and trained. One of the respondents said,

"*The development of the gated community has helped me because I had the chance to be trained as a professional carpenter and subsequently employed. I work in the construction department of the company. I have been training other young people as well.*"

The development of the gated communities sparking up other developmental projects in the neighbourhood has provided employment opportunities to construction workers who do not work in the gated communities. (See Figure 4.8a). Some women also capitalized on the ongoing development to fetch water for the masonry works and get paid for their services. Others also sell food and drinking water for site workers.

The presence of the gated communities has created a favourable business environment enabling artisans such as welders to establish their own businesses and also employed others due to an increase in patronage of their services. See Figure 4.8b. Other businesses such as fuel station, washing bay also offer employment opportunities to residents. (Figure 4.9)

On the daily business activities, the increased population of the neighbourhood with its corresponding increase in demand for goods and services has provided a ready market for wayside food vendors, restaurants and drinking spots operators, and food commodities sellers who also employ some of the residents for their services (Figure 4.10). One of the respondents expressed that,

"*Before the development of the gated community, getting cooked food or fast food to buy was uncommon and very scarce. But this has changed after the development of the gated community as many people are engaged in the food business; shop owners do open on Sundays, unlike previously. Other people are taking advantage of the gated community to involve in the food business to provide them with income".*

Another respondent also said, *"the population of the area has increased, which has increased my customer base regarding my food business. I have hired one lady to help me out".*

Some occupants of the gated communities do employ young women to serve as house helps.

Figure 4.8: Mason's workers working outside the estate (a) and welders working in their shop in the Abokobi community.
Source: Fieldwork

Figure 4.9: Businesses in the Abokobi community
Source: Fieldwork

Figure 4.10: Food commodity sellers and food vendors in the Abokobi community
Source: Fieldwork.

Quality of work

The majority of the local residents in the Abokobi community perceive higher satisfaction with the quality of work in the neighbourhood after developing gated communities. Table 4.10 shows the mean scores and standard deviation, while Figure 4.11 reveals the percentages of local residents satisfaction level with the quality of work based on family income and job conditions. From the mean scores, it can be said that respondents perceive an improvement in their revenues and job conditions. For instance, the mean scores increased from 3.71 and 3.37 to 4.40 and 4.32, respectively. This means that respondents felt satisfied with family income and job conditions after developing the gated communities. About 83.4% and 79.5% of the respondents perceive higher satisfaction with their family income and job conditions in the Abokobi community (see Figure 4.11).

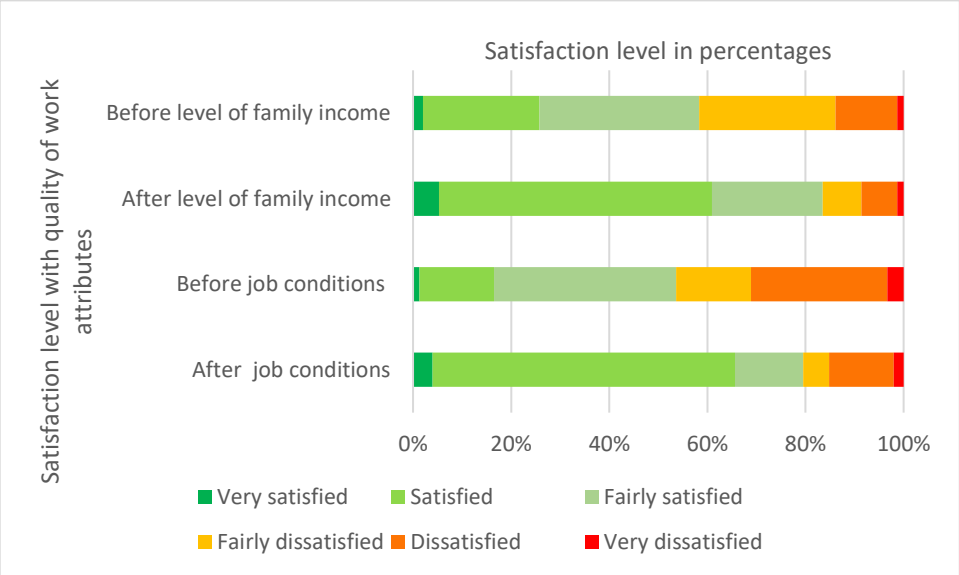

Figure 4.11: Respondent's satisfaction level with Quality of work attributes before and after developing gated communities

The reasons for the local residents' satisfaction with family income and job conditions are that more jobs have come to the area, there is an increase in the market base, and people are well paid for their services. One of the respondents said,

"*I used to work outside the Abokobi community before the gated community developments. It was even a temporary job. But now [after the gated community developments], I am self-employed in the neighbourhood*".

An increase in the market base in the area has contributed to the rise in family income, as attested by one respondent:

"I operate my shop in the neighbourhood, and I can say income has improved because of the increase in customers".

Other respondents also said that people that are employed in the community are well paid for their services because of the high demand. For instance, there has been an increase in the payment for work done in the construction field. This is because the developments of gated communities have attracted other ongoing developmental project; hence the demand for the services of construction workers is high. One of the respondents emphasised that

"*working in the gated community in the construction department has helped improve my finances because they pay us well, and the working conditions are favourable. Besides working in the estate, I get extra contracts that give me money because of the other developments taking place outside the estate*".

It was observed that most of the works coming up in the Abokobi community after gated communities are low skilled jobs such as artisans, hawkers, and traders. However, the local residents are highly satisfied with it. This can be related to the fact that one's skills determine their employability. From the household survey and the 2010 census data, looking at the highest education attained by most people (see Figure 4.3), many local residents in the area have low skills, hence felt satisfied with the types of job sparking up in the area.

Cost of living

Table 4.10 indicates the mean scores and standard deviation of local residents' satisfaction level with the cost-of-living base on daily expenses, accommodation and transportation cost before and after the gated community development. The mean scores show that local residents' satisfaction level with everyday expenses and accommodation cost declined while transportation cost increased after developing gated communities. For instances, the mean scores of daily expenses and accommodation cost declined from 4.78 and 5.01 to 3.26 and 3.01, respectively. On the other hand, the mean scores of transportation cost increased from 3.06 to 4.82. This may imply that many respondents in the Abokobi community felt dissatisfied with everyday expenses and accommodation but felt satisfied with transportation cost. Figure 4.12 show that about 62.2% and 86.1% of the respondents of the Abokobi community felt dissatisfied with daily expenses and the cost of accommodation, respectively, after the gated communities. However, 76.8% felt satisfied with the cost of transportation in the neighbourhood.

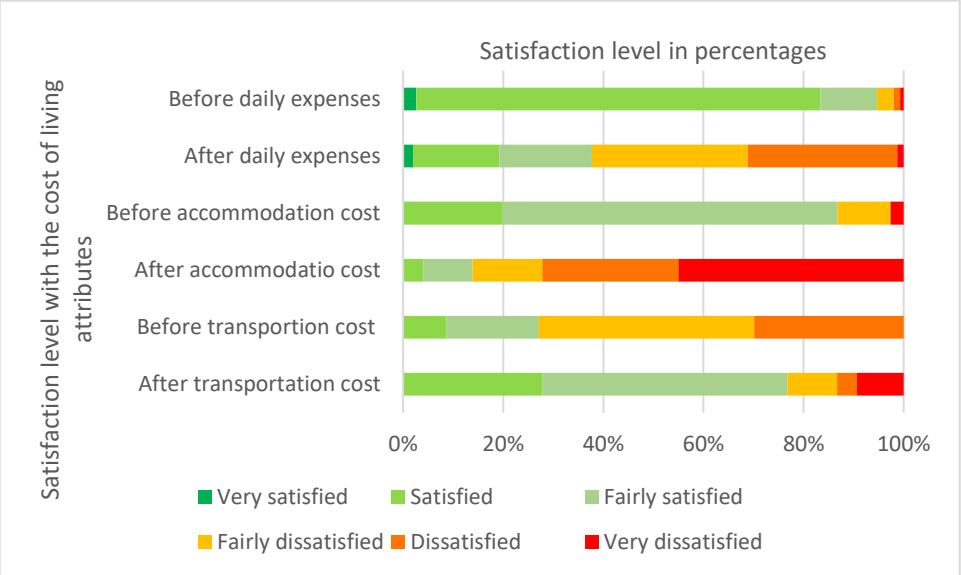

Figure 4.12: Respondent's satisfaction level with cost-of-living attributes before and after developing gated communities

The local residents' dissatisfaction with daily expenses and accommodation cost after the gated community developments is the increase in the prices of goods and services, mainly foodstuffs and property values, contributing to the rise in house rents. Local residents expressed that, unlike before the development of the gated community, they would afford foodstuffs at a relatively lower price, but after the development, it has become more expensive. Most arable lands have been lost, destructing farming activities, thereby reducing food produces on the market, hence heightening prices of goods. One of the respondents emphasised that:

"cost of food was less since foodstuff were readily available, so you spend less to make food, but now things are expensive, you spend more to make the same quantity of food. This is because all the farmlands have been sold out to individuals and private commercial developers who have developed these lands into residential homes with no land to grow foodstuffs as we did previously".

Some respondents expressed that due to the presence of the gated communities, people perceive that all the persons living in the neighbourhood belong to the wealthy class. They capitalized on this notion to increase the prices of their goods and services. One of the respondents stressed that:

"*things are high because the people living in the gated communities are willing to pay any price for the goods and services*".

Concerning the cost of accommodation, local residents felt that the development of the gated communities had led to an increase in land and property values, contributing to a rise in housing rents in the community. Many foreigners (e.g. Nigerians) have moved to settle in the community after the gated communities developed, and landlords perceive them as rich people to charge higher rent causing housing rents to rise. Property owners felt satisfied with the increase in property values as they get more income from it. However, most local residents felt dissatisfied as the rise in housing rents led to the displacement of people from the locality. It was observed that some local residents that would not afford the rents nor leave the community move to settle in sub-structures such as "kiosk" (wooden structures). See Figure 4.13. One respondent said:

"a room that cost 60 ghana cedis per month now [after developing the gated communities] cost 250 ghana cedis, and these rooms are not of very high quality".

The cost of rent has led to the development of sub-structures in the Abokobi community.

Many local residents are satisfied with transportation cost because transportation costs have reduced due to improved road network in the area after developing gated communities. Before developing the gated communities, means of transportation was very difficult in the area. The few taxies and "trotro" [commercial minibuses] drivers that drive to the area charged outrageous prices because of the bad roads. Now [after developing the gated communities], the narrow pathways have been upgraded into feeder roads, and many cars ply the route in the neighbourhood. One of the respondents said that,

"*the deplorable nature of the road served as a disincentive to drivers coming to the neighbourhood. When a driver agrees to bring you to the neighbourhood, you will be charged a higher price and sometimes you will be dropped at a different destination because of the bad roads".*

The good road networks have led to improving public transport services in the Abokobi community and reducing transportation fees.

Figure 4.13: Sub-structures in the Abokobi community
Source: Fieldwork

4.5.2.4. Satisfaction levels with Environmental conditions of life in the community

The means scores and standard deviation indicate local residents perceived overall satisfaction level for each indicator of QoL before and after the development of the gated community (see Table 4.11). It analyses respondent's satisfaction level on access to water, open spaces and waste management efficiency. The means scores reveal an increase in access to water and waste management efficiency but a decline in access to open spaces and drainage in the community. This implies that local residents in the Abokobi community perceived that access to water and waste management efficiency improved in the neighbourhood after developing gated communities, but access to open spaces declined.

Table 4.11 Mean scores of environmental conditions of life satisfaction per domain

Indicators of Environmental conditions		**Neighbourhood**	
		Before	After
Access to water	Mean	2.87	4.19
	Standard deviation	1.37	1.44
Access to open spaces	Mean	**1.91**	**1.81**
	Standard deviation	0.94	0.88
Waste management efficiency	Mean	3.04	3.17
	Standard deviation	1.08	0.91

Table 4.12 shows the mean scores of satisfaction level of the attributes for each indicator of environmental conditions of life.

Indicators	**Attributes**		**Neighbourhood**	
			Before	After
Access to water	Access to potable water	Mean	2.87	4.19
		Standard deviation	1.37	1.44
Access to open spaces and playgrounds	Access to open spaces	Mean	**2.18**	**1.89**
		Standard deviation	1.27	0.95
	Access to playground	Mean	**1.74**	**1.64**
		Standard deviation	1.14	1.00
Waste management efficiency	Garbage collection	Mean	3.03	4.52
		Standard deviation	1.42	1.21
	Drainage system	Mean	**3.06**	**1.83**
		Standard deviation	1.52	1.18

Access to water

Many of the respondents felt satisfied with access to potable water after the development of the gated communities. Table 4.12 shows the mean scores and standard deviation, while Figure 4.14 indicates the respondents' satisfaction level (in percentage) with access to potable water before and after the gated communities. The mean scores show that local residents' access to potable water has improved from 2.87 to 4.19 after the gated communities. About 72.8% of the respondents felt satisfied with access to potable water after developing gated communities compared to 32.4% of the local residents who felt satisfied before the developments.

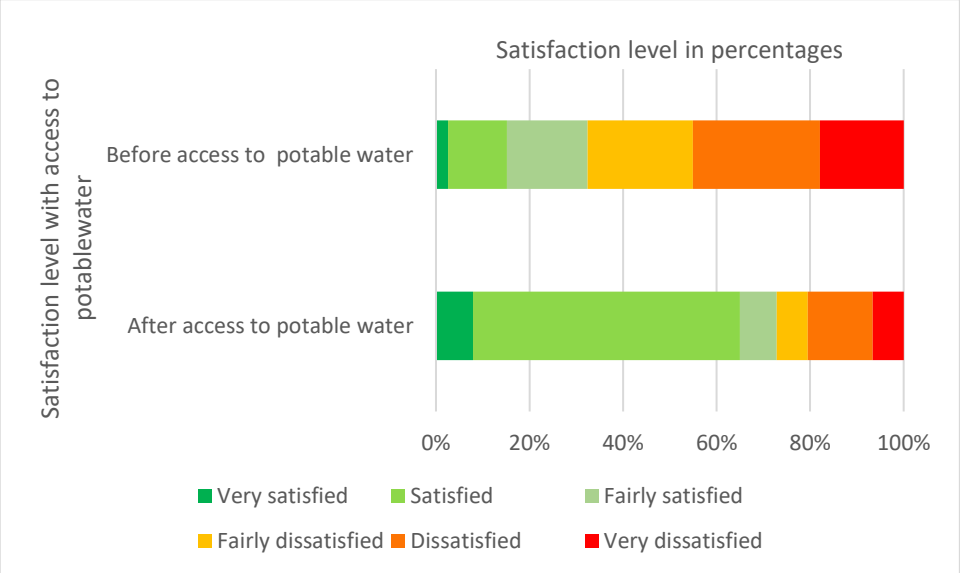

Figure 4.14: Respondent's satisfaction level with access to potable water before and after developing gated communities

The local residents perceived an increase in access to potable water in the community because after developing gated communities, the Ghana water company has extended their services to the area. One of the respondents said,

"We used to fetch water from wells and boreholes, which are salty, making its usage uncomfortably, but since the inception of the Ghana water company supply system, access to potable water has been good".

Many households have been connected to the public water supply system leading to easy access to potable water. Another respondent stressed that "*my house is connected to the main pipelines, and water flows regularly".*

Open spaces

Table 4.12 shows the mean scores and standard deviation, whereas Figure 4.15 indicates in percentages the satisfaction level of local residents with access to open spaces and playgrounds. After the development of gated communities, local residents perceived a decline in access to open spaces and playgrounds in their neighbourhood, as evidenced by the mean scores. For instances, the mean scores reduced from 2.18 and 1.74 to 1.89 and 1.64, respectively. This means many respondents felt dissatisfied with accessing open spaces and playground in the Abokobi community. From Figure 4.15, 92.1% and 90.1% of the respondents said so.

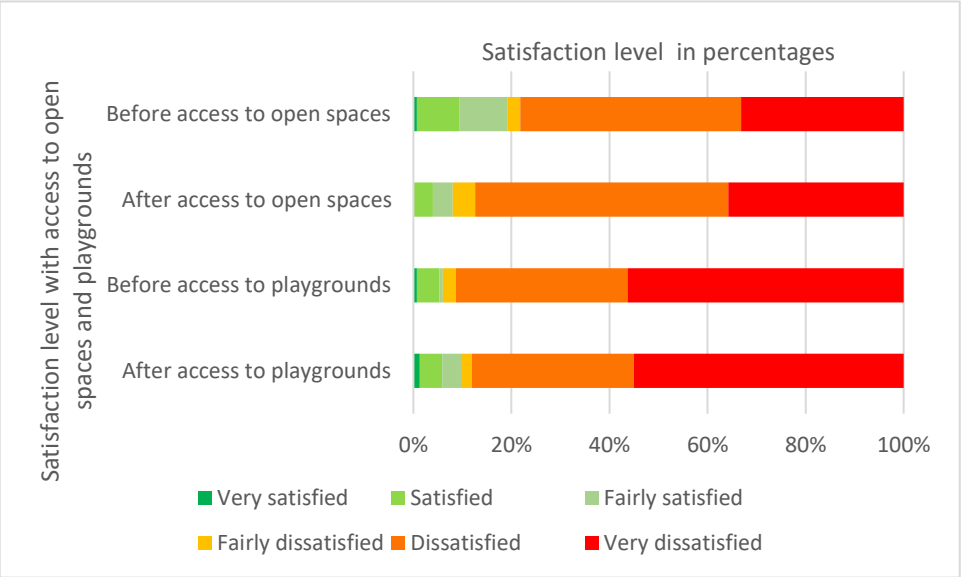

Figure 4.15: Respondent's satisfaction level with access to open spaces and playgrounds before and after developing gated communities

The majority of the local residents felt dissatisfaction with access to open spaces and playgrounds. Their dissatisfaction was that housing development has taken over the whole place, and there are no spaces for developing such amenities. One of the respondents stressed that:

"Although the green areas were not developed into a modern facility, the gated community has facilitated the destruction of the vegetation; there are fewer trees and space for relaxation or children to play football".

Local residents expressed that the forest could have been developed into proper green fields, but now [after developing the gated communities], *we do not have it anymore*. It was observed that the local residents' dissatisfaction with access to open spaces and playgrounds in the community could allude to the fact that the recreational facilities are not affordable to them.

Waste management efficiency

This indicator of QoL assesses local residents' satisfaction level with garbage collection and drainage system in the Abokobi community before and after developing gated communities. The mean scores and standard deviation are shown in Table 4.12, while the percentage of local residents' satisfaction level is shown in Figure 4.16. From the mean scores, it can be noted that local residents of the Abokobi community perceived improvement in collecting the garbage but a decline in the availability of drainage systems in the area. This implies that respondents felt satisfied with how rubbish is managed in the area after the development of gated communities but dissatisfied with their drainage system. This is also evident in Figure 4.16, which shows that 84.8% of the respondents perceived higher satisfaction with garbage collection, but 88.7% perceive dissatisfaction with the drainage systems present in the neighbourhood after the developments of the gated communities.

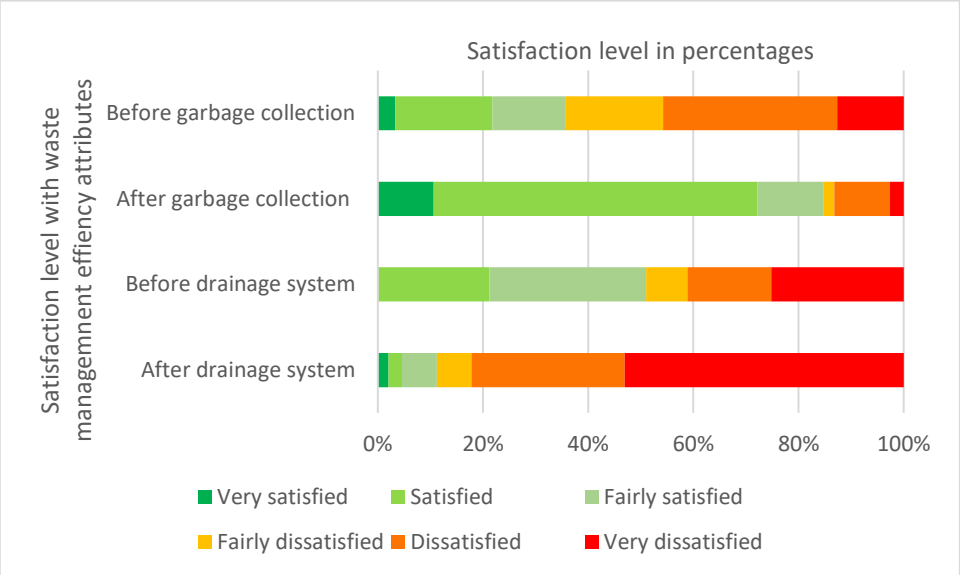

Figure 4.16: Respondent's satisfaction level with waste management efficiency before and after developing gated communities

The reason given by the local residents for the perceived satisfaction with garbage collection in the Abokobi community after the development of the gated communities is the presence of sanitation companies and dustbin containers. One of the respondents expressed that:

"no rubbish collectors were coming around to collect our rubbish, so we used to throw our refuse into the bushes but now [after developing gated communities] "zoomlion"[7] [garbage collector company] do come around to pick our garbage".

The sanitation companies have also provided dustbin containers in the area, which they empty regularly. Other respondents said the rubbish collectors could pick up our garbage regularly due to the improvement in the road networks in the area.

Regarding the drainage system, local residents expressed that no proper drainage systems were in place before developing the gated communities. The situation worsens because the gated communities only develop drainage systems for their community and channel the outlet drainage system into the community stream in the neighbourhood, polluting it. One of the respondents stressed that:

"*the stream that was relied on had been contaminated by the liquid waste from the gated communities*".

Other respondents expressed that the many developmental projects that have been attracted to the neighbourhood due to gated communities have cause destruction to the surface soil living with little or no impervious surfaces, which tend to cause flooding. There are no proper drainage systems like gutters in most part of the community. The few available are small and shallow, and the outlets are channelled into the surrounding environment making it uncomfortable to live there during rainy seasons.

[7]Zoomlion is a private waste management company that has partnership with the Government of Ghana to provide services for people across the country by collecting rubbish from their houses to refuse dump site for treatment.

4.5.3. Local resident's satisfaction levels with Quality of life base on their distances to gated communities (Oak villa estate and Integral homes estate)

Gated communities, according to literature (Doucet et al., 2010), are said to reinforce both spatial and social divisions in localities. The assumption was that according to the spatial location of local residents with regard to gated communities [those living close or further away], there would be differences in local residents' perception of their QoL. This is because it is anticipated that local residents living close to the gated communities would be impacted strongly, either positive or negative. Thus, the local residents close to the gated communities would be more satisfied when there is a positive impact and more dissatisfied when there is a negative impact.

This section of the study aimed to understand local residents' perception of their subjective QoL according to their proximity to the gated communities using QoL indicators. *Refer to section 3.3.1.* The mean scores and standard deviation of the overall satisfaction level for each indicator are presented in Table 4.13. Looking across the indicators of QoL in Table 4.13, it can be noted that local residents (both close and far) have higher QoL satisfaction after gated community developments except the cost of living and access to open spaces and playgrounds in their neighbourhood. Upon examing how the responses of satisfaction level vary between local residents living close by and those further away, some differences can be observed in some QoL attributes. Local residents living close to the gated communities have a higher satisfaction level with some QoL attributes (e.g., Safety, job opportunities, family income, access to water) and higher dissatisfaction with some QoL attributes (cost of accommodation) as were anticipated, while others were unanticipated (level of interaction, and access to open spaces and playgrounds). (See Appendix 5).

In this study, I specifically asked about the Oak villa estate and Integral homes estate in the Abokobi community. However, I cannot be sure that the responses provided by the local residents about their perception of their subjective QoL were exclusively about the Oak villa estate and Integral homes estate satisfaction since there was another gated community called New Oak company estate in the area.

Table 4.13: The mean scores of local residents' satisfaction with QoL depending on their proximity to the gated communities (Before and After).

Indicators		**Close to the gated communities**		**Far from the gated communities**	
		Before	After	Before	After
Social networks and support	Mean	4.12	4.26	3.98	4.23
	Standard deviation	0.94	0.96	0.66	0.59
Sense of belonging	Mean	4.39	4.90	4.13	4.65
	Standard deviation	0.85	0.81	0.81	0.61
Perception of safety and security	Mean	4.02	5.26	3.90	5.08
	Standard deviation	0.95	0.59	0.91	0.54
Employment	Mean	3.15	4.83	3.15	4.83
	Standard deviation	0.78	0.75	0.78	0.75
Quality of job	Mean	3.56	4.32	3.35	4.58
	Standard deviation	0.85	0.87	0.69	0.82
Cost of living	Mean	**4.28**	**3.64**	**4.27**	**4.05**
	Standard deviation	0.47	0.68	0.35	0.61
Access to water	Mean	2.89	4.70	2.75	4.18
	Standard deviation	1.42	0.98	1.02	1.48
Access to open spaces, green areas and parks	Mean	**1.90**	**1.81**	**1.98**	**1.80**
	Standard deviation	0.96	0.87	0.85	1.01
Waste management efficiency	Mean	2.95	3.09	3.65	3.70
	Standard deviation	1.08	0.89	0.93	0.88

As shown in Figure 4.17 and Figure 4.18, the respondents living close to the gated communities were satisfied with safety and security compared to the respondents who lived further away after the development of gated communities. This implies that the satisfaction level of local residents close to the gated communities is higher than the local residents living far away from the gated communities. Their reasons for the higher satisfaction are the frequent patrol of the police in the neighbourhood and the security checkpoint. One of the respondents living near the Integral Homes Estate attested that:

"*aside from the street lighting that has been made present in the neighbourhood after the Integral Homes Estate was developed, the police are constantly patrolling the area, mainly at night. So, I am not scared to walk in the area even as later as 2 am".*

Another respondent also emphasised that:
"*Security is very tight in and around the gated communities, which also transcend into the neighbourhood, and there are also a couple of street lights around.*"

Local residents of the Abokobi community felt satisfied with safety and security after the development of gated communities, but 96.2% of the local residents close to the estates perceive higher satisfaction with safety and security than those living far away (90.0%). {see percentages in Appendix 5 (a)}.

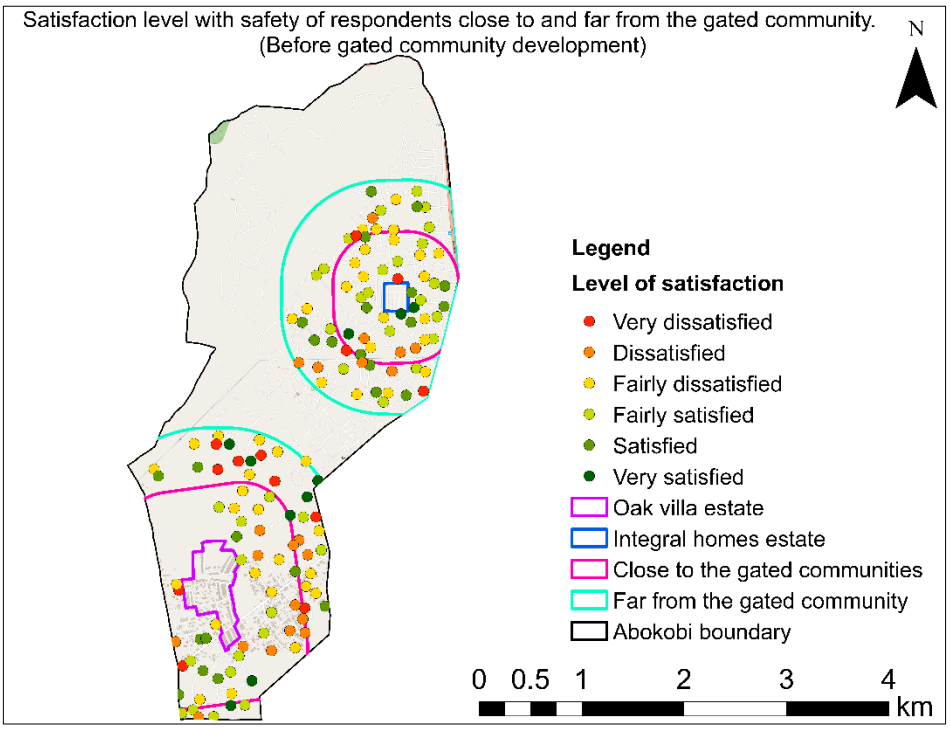

Figure 4.17: Before gated community developments, respondents satisfaction level with safety in the Abokobi community

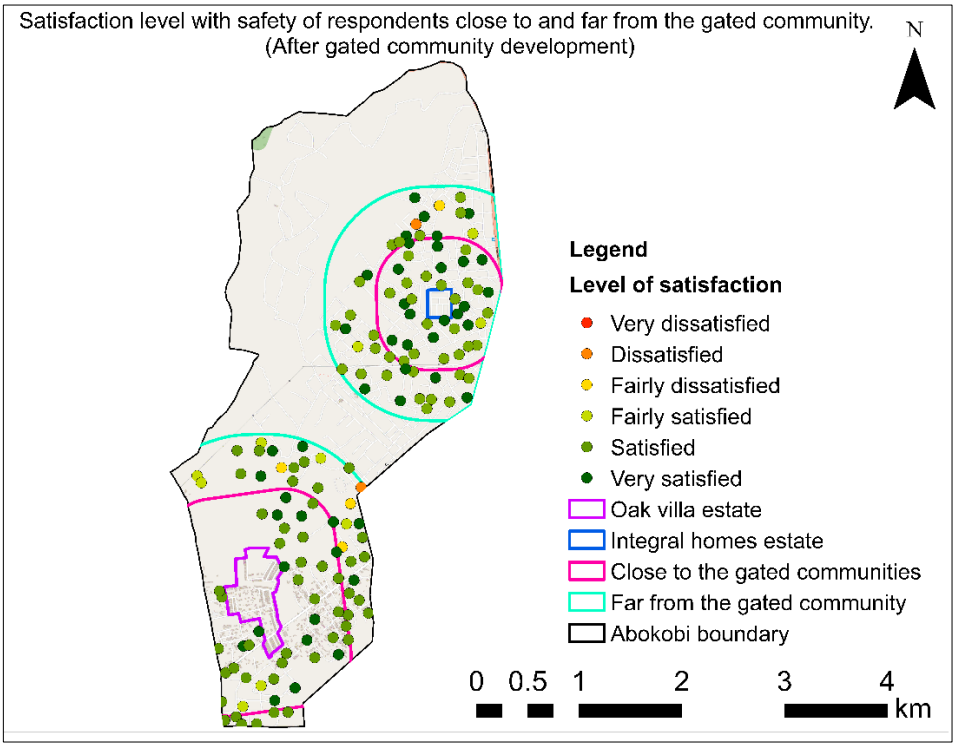

Figure 4.18: After gated community developments, respondents satisfaction level with safety in the Abokobi community.

The majority of the local residents (both close and far) in the Abokobi community perceived an improved chance of getting work in the community after developing the gated community. This perception was higher for the local residents who live close to the gated communities than those who

live far, as shown in Figure 4.19 and Figure 4.20. Ninety (90%) per cent of the local residents that live close to the gated communities felt satisfied with the chance of getting work in the neighbourhood compared to 87.0% that live far from the gated communities {see percentages in Appendix 5(b)}. This means that the satisfaction level of the local residents that live close to the gated communities are higher than those further away. The local residents' satisfaction level with work also reflected in their satisfaction level with family income. Local residents who live close to the gated communities have a higher satisfaction level with their family income than those who live far (see mean scores in Appendix 5).

It can be deduced that the neighbourhood's proximity influences employers' decision as to who they employ. Thus, the differences in the local residents' satisfaction level with getting work could have been driven by the fact that the gated community residents readily employ people who live close to work for them rather than hiring those who live far away.

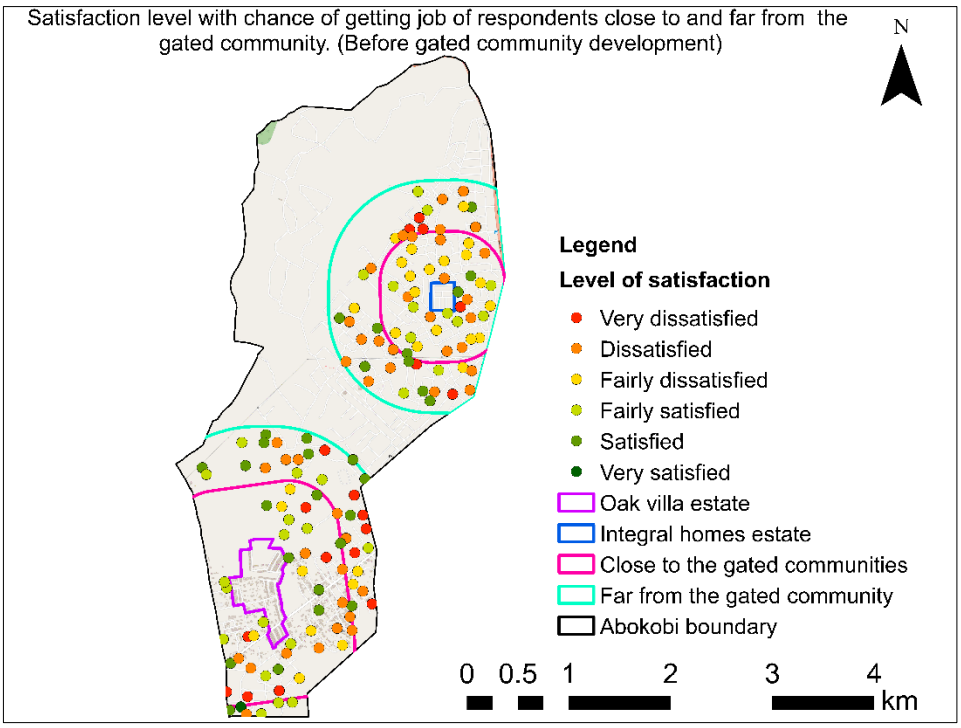

Figure 4.19: Before gated community developments, respondents satisfaction level with a chance of getting a job in the Abokobi community

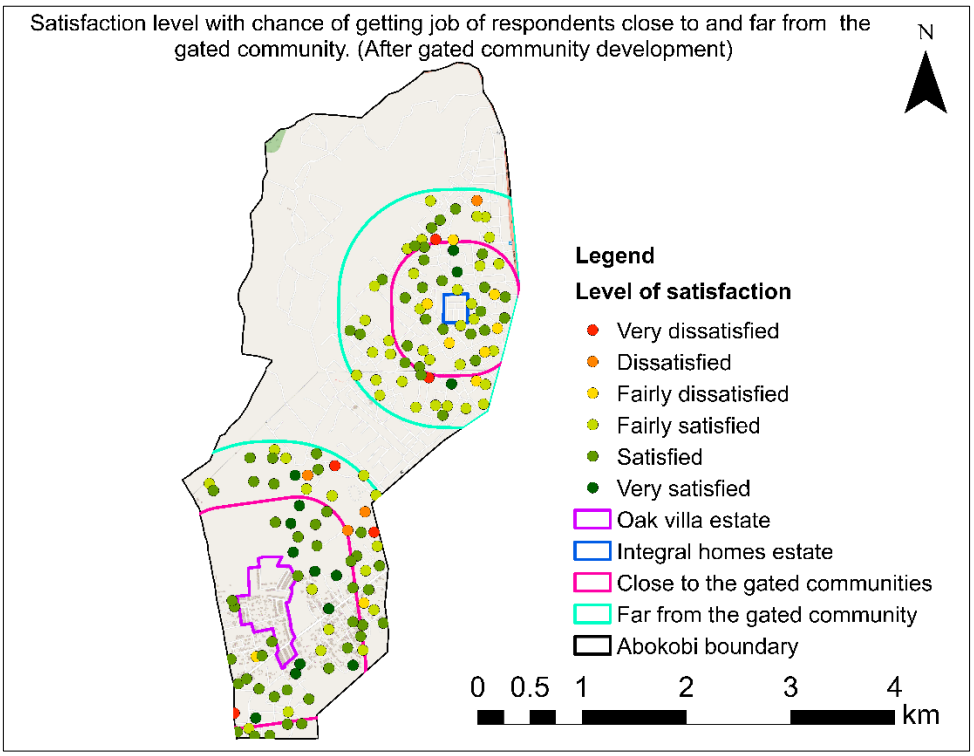

Figure 4.20: After gated community developments, respondents satisfaction level with a chance of getting a job in the Abokobi community

The majority of the local residents living close to the gated communities felt dissatisfied with their accommodation cost, explaining that housing rents have increased outrageously after developing gated communities (see Figure 4.21 and Figure 4.22). More than half of the local residents (both close and far) felt dissatisfied with their house rents after the gated communities, but the local residents living close felt more dissatisfied (65.3%) than 57% of the people that live further away {see percentages in Appendix 5(c)}. One of the respondents said:

"I used to pay 60 ghana cedis for my single room, but now (after the gated community development), the rent has shot up as the landlord charges 400 ghana cedis for the same room. My friend in Teiman pays 250 for his single room, which is almost half my rent. Because of the rent, I am looking for a house around that area. I want to move there".

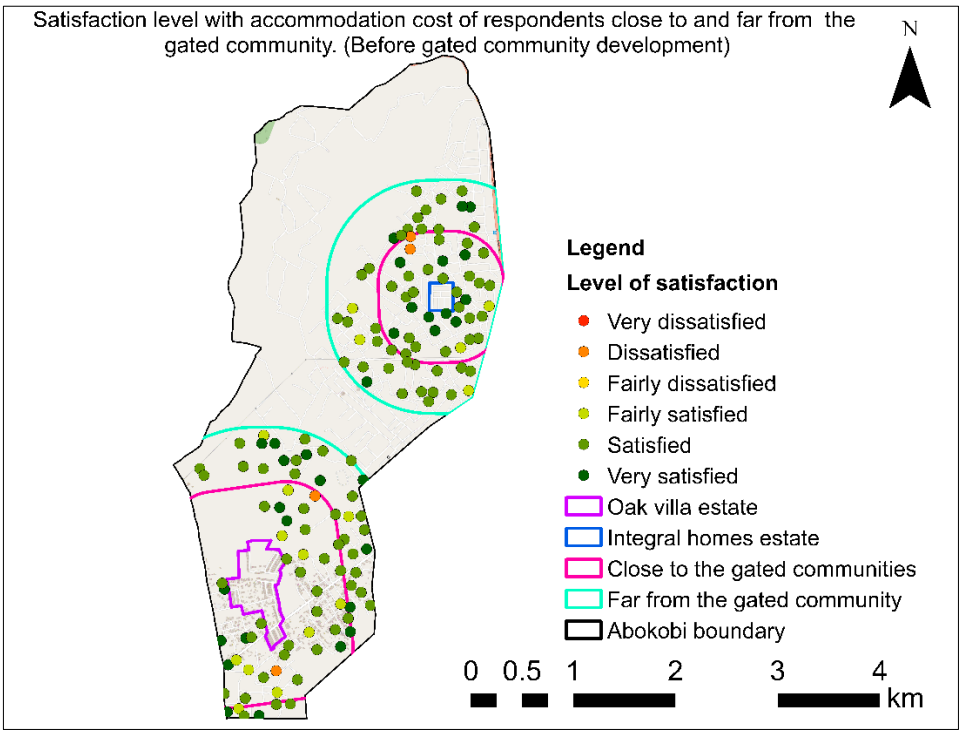

Figure 4.21: Before gated community developments, respondents satisfaction level with accommodation cost in the Abokobi community

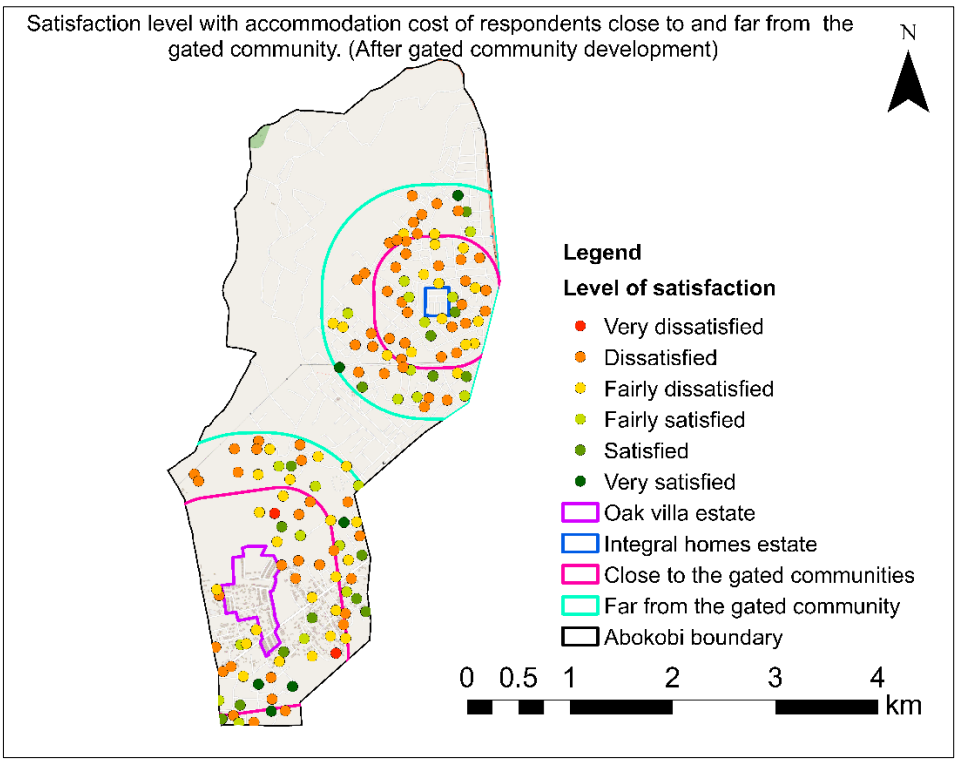

Figure 4.22: After gated community developments, respondents satisfaction level with accommodation cost in the Abokobi community

An unanticipated higher percentage (85%) of the local residents in the far neighbourhood has a higher level of satisfaction with interaction after the gated community development than local residents (84%)

in the close neighbourhood, evidenced by Figure 4.23 and Figure 4.24, and percentages in Appendix 5(d). The same trend was observed in the satisfaction level with friendliness. The local residents further away from the gated communities have higher satisfaction with their level of friendliness in the neighbourhood than those who live close to the gated communities. (see the mean scores in Appendix 5). The reason being that most residents settling in close neighbourhoods are mainly found in gated communities that isolate them from the local residents. Thus, they hardly interact. One of the respondents said:

"a number of our neighbours live in the estate; they get in their cars and move out when they come from their houses without proper communication other than just a sound of their car horn".

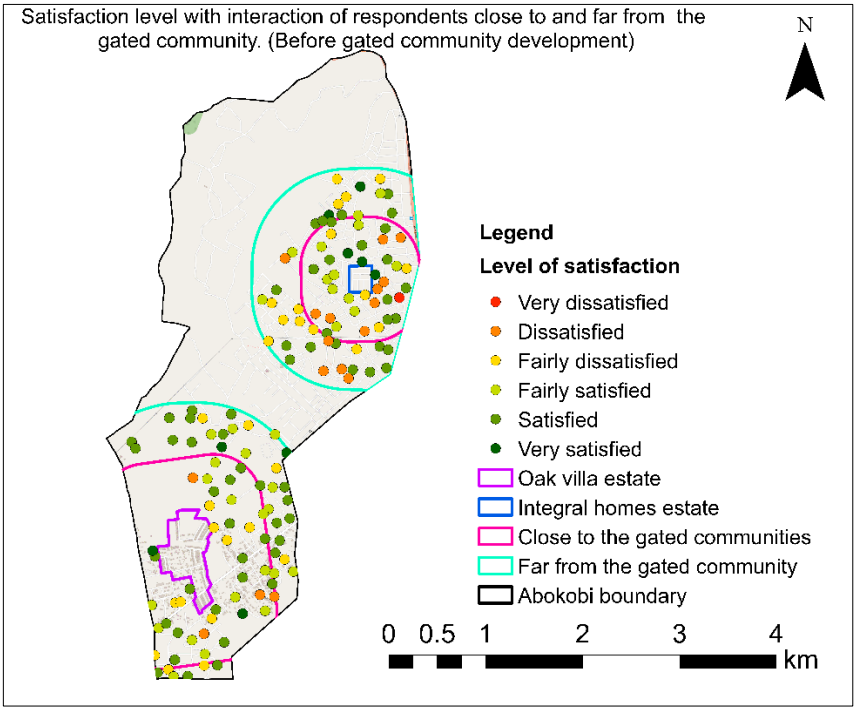

Figure 4.23: Before gated community developments, respondents satisfaction level with interaction among local residents in the Abokobi community.

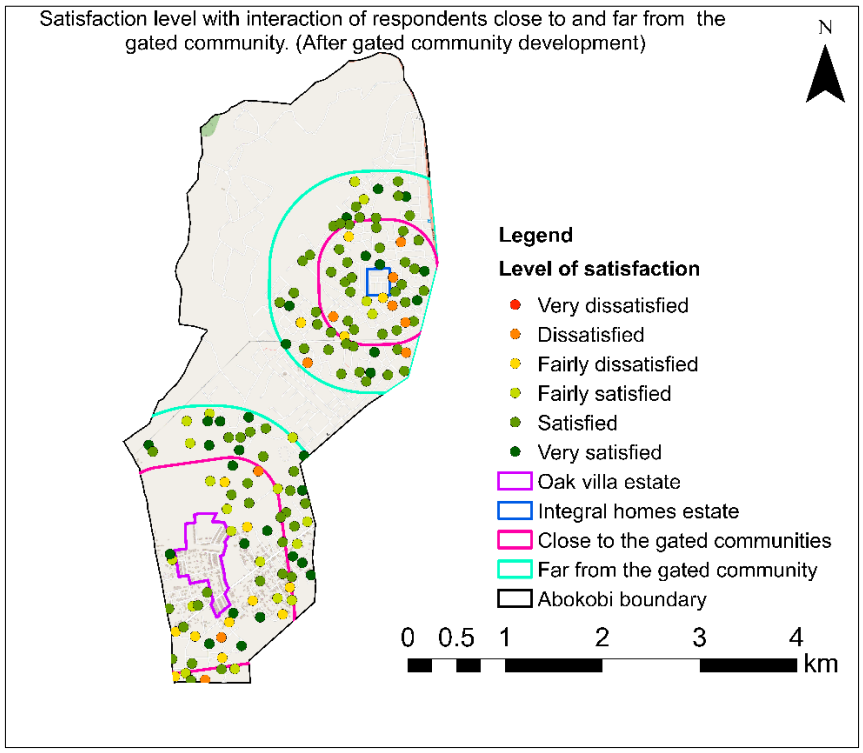

Figure 4.24: After gated community developments, respondents satisfaction level with interaction among local residents in the Abokobi community.

Figure 4.25 and Figure 4.26 reveal a counter-intuitive result as the local residents who live further away from the gated communities have a higher level of dissatisfaction with access to open spaces after gated community developments than those who live close. The local residents (both close and far) of the Abokobi community perceived a decline in their access to open spaces and green areas (see mean scores in Appendix 5) after developing gated communities. Hence, it was expected that those close should have a higher level of dissatisfaction compared to those further away. However, it turns out that the local residents living far away felt more dissatisfied (85%) than the close local residents (78.2%) {refer to percentages in Appendix 5(e)}. The reason for their dissatisfaction is that most of the developments coming up in the community take place in their neighbourhood due to its relatively low land values compared to the land values close to the gated communities leaving no space for these social amenities. Other local residents also associate it with daily expenses and accommodation cost. One of the respondents said:

"I could barely identify any open spaces and green areas in this neighbourhood after the gated community developments. All those spaces have been developed into houses as many people have moved to the area and there is high demand for it".

It can be said that the local residents of the Abokobi community are dissatisfied with their access to open spaces after developing gated communities. But the local residents living further away from the gated communities are more dissatisfied.

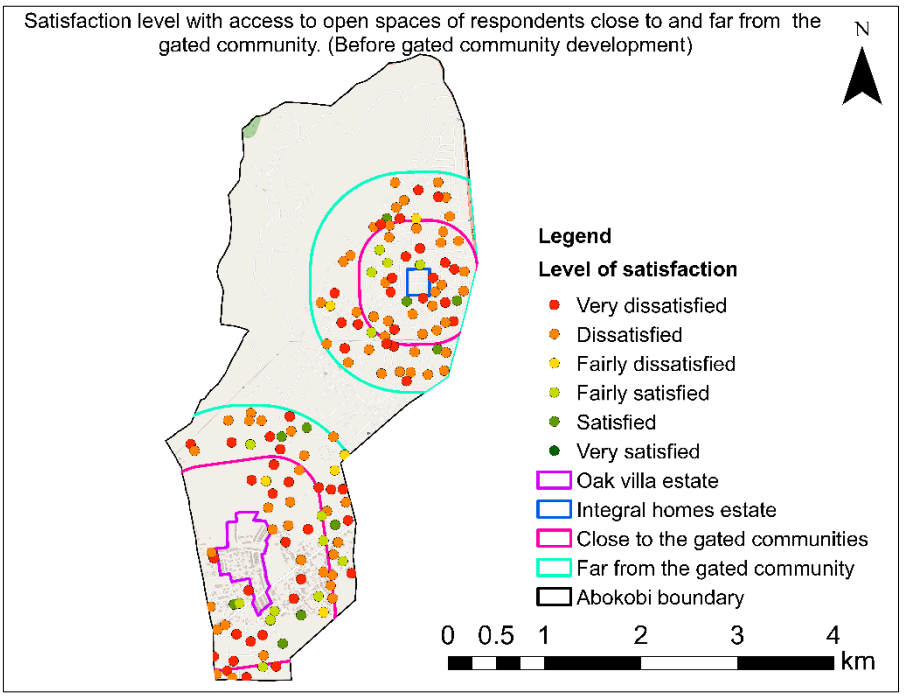

Figure 4.25: Before gated community developments, respondents satisfaction level with access to open spaces in the Abokobi community.

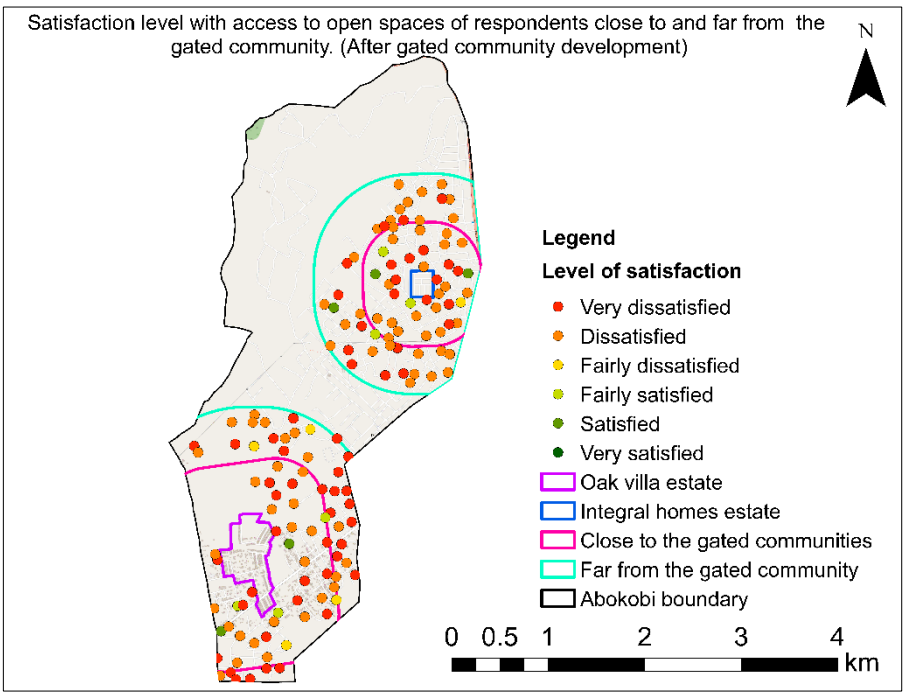

Figure 4.26: After gated community developments, respondents satisfaction level with access to open spaces in the Abokobi community.

4.6. Matches and mismatches between the potentials claimed of gated communities by the developers and planners and local residents' perception

This section of the study aims to find the matches and mismatches between what developers and planners say to be the impacts of gated communities on local residents living outside the gates and what the local residents perceive using QoL's indicators previously discussed in section 3.3.1. This was analysed by integrating findings from the key informant interviews (as discussed in section 4.3) and the responses from the household survey addressed in section 4.5. There is a match when local residents agree with the developers and planners about the assertion made concerning gated communities and a mismatch when they disagree. Table 4.14 shows that local residents of the Abokobi community agreed with some claimed potentials of gated communities made by the developers and planners. For instance, local residents concurred with developers and planners that developing gated communities in the Abokobi community has created more job opportunities and increased daily business activities.

However, there were some mismatches as local residents perceived some negative impacts of gated communities while the developers and planners do not. According to the developers and planners, the local residents of the Abokobi community has easy access to a modern recreational facility that has been developed in the area by private developers. Such a facility was not in existence before gated communities developed. But the local residents disagree with this claim as they said, "*that the modern recreational facility is not accessible to us because we can only use it by paying a fee which is not affordable. The open spaces which we could access freely have now be developed into residential houses. The modern recreational playground does not benefit us".*

Table 4.14 Matches or mismatches among the claimed potentials of gated communities by developers and planners and local residents' perception

	Claimed potentials by developers	**Claimed potentials by planners**	**Local residents perception**
Indicators			
Social networks and support	Despite the expansion of the city, there is an interaction and assistants among different socio-economic groups of people within society due to gated community developments (see section 4.3.1)		Gated community developments have provided many platforms for regular interaction among local residents within the neighbourhood. (see section 4.5.2.2)
Sense of belonging	Gated communities open up the area for other development, consequently attracting more people to the neighbourhood, as discussed in section 4.3.1.		Local residents in the Abokobi community affirmed their attachment to the neighbourhood due to the gated community developments. (see section 4.5.2.2)
Safety and security	Developing gated communities provide a safe environment for their residents and the entire neighbourhood through some security facilities like checkpoints.	Developing the gated communities have enhanced the security within the Abokobi community.	The security provided in the estate has transcended from the gated community to the Abokobi neighbourhood, making the area much safer to live in. (See section 4.5.2.2)
Employment opportunities	Developing gated communities in a neighbourhood brings about a lot of work opportunities in the area. (See section 4.3.2)		Many people within the Abokobi community have work to do.
Daily business activities	Gated communities concentrate people within a locality. This benefits people within that space as business activities increases because there would be more demand for various services.		Developing gated communities in the Abokobi community has expanded the market base, increasing the daily business activities within the area.
Family income	Developing gated community within a locality help enhance the local economy, hence allowing local residents to engage in all sort of economic activities to earn income		Gated communities have brought many business activities in the area from which many local residents make enough money from it.
Access to potable water	Developing gated communities gives low-income people better access to amenities (water) at an affordable price, hence not limiting such services to only the rich.	Developing gated communities have increased the revenue base of the district assembly, which has enabled us to supply residents with adequate water (see section	Due to the gated communities' presence, the government has extended water pipelines to the locality, and there is a regular flow. (see section 4.5.2.4)
Access to open spaces, green areas and playgrounds	Gated communities are designed to include modern recreational facilities and landscaping that beautifies the environment. This makes such social amenities available	The estate (Oak villa estate) in the Abokobi has developed a modern recreational centre that is open to the local residents at a	Open spaces, parks and playgrounds are not accessible in the Abokobi community as all lands have been developed into residential houses after gated communities developed

	in the neighbourhood. Some of these recreational centres may be open to residents living outside the gate.	fee.	in the area. The ones developed by the estate is at a high fee (see section 4.5.2.4)
Garbage collection	Gated community developments trigger improved public services such as the supply of adequate potable water and proper waste management. This is evidence in the Abokobi community.	The presences of the gated communities have influenced the behaviour and attitude of local residents in managing their waste	Sanitation has improved in the Abokobi community because many rubbish collectors have moved to provide services by helping in disposing off our rubbish at the proper place. This has kept the environment clean. (see section 4.5.2.4)
Availability of drainage systems	Developing gated communities draws government attention to the locality to improve the area. Thus, this leads to the improvement of the physical environment by providing amenities such as proper drains and lighting	Gated community developments generate more revenues for the District Assembly, which is injected back into enhancing the physical environment by improving the drainage systems, roads, and hospitals.	There are no proper drains in the Abokobi community. The neighbourhood gets flooded when it rains. (see the discussion in section 4.5.2.4)
Access to improved road networks	Developing gated communities within a locality help enhanced the road networks, making accessibility to and from the area easy. (see section 4.3.3)	The private developers in developing gated communities contribute to improving the road network within the area. (see section 4.3.3).	The local residents of the Abokobi community assert that their road networks have been improved. This has made accessibility easy within the area and also reduce the cost of transportation. (see section 4.5.2.3)

Legend

Match

Mismatch

5. DISCUSSION

This chapter discusses the findings of the study based on the set objectives proposed in this thesis and in relation to previous studies on gated community developments, socio-economic and environmental conditions and the perceived quality of life of local residents in peri-urban communities. Firstly, the chapter discusses how local planning and policies have influenced the growth of gated communities, followed by factors driving its developments in peri-urban areas. Secondly, the socio-economic and environmental impacts of gated community developments are discussed. Finally, local residents' perception about their QoL with regard to the presences of gated communities is reviewed following the matches and mismatches between local residents perceived QoL and claimed impact of gated communities by developers and planners. The general understanding emanating from the study findings are addressed in this section.

5.1. Local planning and policies influence on gated community developments in Accra's peri-urban area

This study sought to understand the growth of gated communities in peri-urban areas of Accra. The proliferation of gated communities is influenced by institutional arrangements, namely statutory enactments and policies, the dynamics of the land tenure system and their interplay. The degree of influence varies across different contexts, depending more or less on the State's capacity. The State capacity refers to the ability of the government to provide citizens with housing and other infrastructures. For instance, in strong states like Texas, California, San Diego and Portland, all in the US (Damstra, 2001) and some provinces of China (Liao, Wehrhahn, & Breitung, 2019), public policies tend to restrict the development of gated communities on the grounds of ensuring inclusiveness in the city. However, the case of Accra, Ghana is more closely related to studies in Argentina (Libertun de Duren, 2007; Thuillier, 2005), Trinidad (Mycoo, 2006), Brazil (Coy & Pöhler, 2002), Malaysia (Obeng-Odoom, 2014), Indonesia (Leisch, 2002) and Turkey (Güzey, 2014), where the state's capacity to provide citizens with housing and other infrastructure is relatively less strong, hence institutional arrangements have given impetus for gated communities to proliferate.

In many Sub-Saharan Africa countries where dual land tenure system (customary and statutory land tenure system) is practice studies by Baffour Awuah, Hammond, Lamond, & Booth (2014) and Siiba, Adams, & Cobbinah (2018) explain the complex relationships between land tenure and the development of gated communities. This study highlights how the customary land tenure system made it possible for traditional leaders (chiefs or family heads) to have power and control of lands and their physical developments, determining when and what type of building project takes place on it. This has led to the growth of gated communities. For instance, section 71(6) of the Land Use and Spatial Planning Act 925 gives private individuals the use right over lands in addition to the ownership right they have over their lands according to the customary land tenure system. Thus, the institutional arrangement in Ghana's built-up environment, namely the Land use and Spatial Planning Act 925 and the National Housing Policy 2015, amplified by the customary land tenure system resulting in the widespread development of gated communities in the city of Accra, especially the peri-urban areas. The peri-urban areas as the new destination for gated community developments align with the study's of Goix (2005) and Asiedu & Arku (2009).

The findings of this study thus show that both factors (State capacity and dual land tenure system) are at play in the context of Ghana, resulting in the rapid development of gated communities, which has largely transformed the landscape of Accra city.

5.2. Factors driving gated communities in peri-urban Accra

The growth of gated communities in the peri-urban areas of many cities is becoming a global phenomenon, but the drivers differ from place to place. This study found out that three factors, namely land availability, land affordability and mass-market and presence of slum, drive gated community developments to the peri-urban areas of Accra city.

There are large vacant lands in the peri-urban zones of Accra, which are put on sale by either chiefs or family heads for property development, while in the core city, vacant lands are limited and preserved for commercial purposes. This situation is in tandem with the study by Oosterbaan, Arku, & Asiedu (2012) that the land market in Ghana with formalises customary land tenure arrangements where chiefs or family heads are the leading actors characterises the rapid growth of gated communities in Accra's peri-urban areas.

In terms of land affordability and mass-market, undeveloped lands large enough for developing gated communities are available at an affordable price in the peri-urban areas like Abokobi compared to the high cost of land in Accra central (e.g. Adabraka, Osu and Roman Ridge). The low prices of peri-urban lands have accelerated private demand for land in the Abokobi community; hence, many gated communities have emerged in the area over recent years. This concurs with Aksoylu (2015) study, which emphasises that the growth of gated communities in the peri-urban communities results from the available unoccupied lands at low price. The work of Caldeira (2000) supported the assertion when she said that in Brazilian cities, gated communities are usually located in the peri-urban areas due to the accessibility of affordable lands compared to the land prices in the core city of São Paulo. As expected, peri-urban gated communities are relatively cheaper than gated communities at the core city due to the low cost of peri-urban lands. This tends to create a high demand for peri-urban gated communities where private developers can meet the desires of target groups who aspire to live a quiet life in "rural harmony," far away from the cities stress and have access to large size amenities and facilities at an affordable price. This concurs with Thuillier (2005) study, which expressed that the people of Buenos Aires rush for peri-urban gated communities. This is because they could enjoy a house at a relatively low price in a secure environment with a yard for children to play in, instead of a small flat in a residential tower in Belgranoor, Palermo, or Recoleta neighbourhoods in the core city of Buenos Aires.

Regarding the presence of slum, this conforms with a study by Asiedu & Arku (2009) that the presence of shantytowns in cities deters private developers from developing gated communities in the core city and instead is driving them to the peri-urban areas. Similarly, Costa, Forlin, Carmo, & Silva (2014) study explains the link between slum developments and the location of gated communities in Brazil. The study highlights that developers locate gated communities in peri-urban zones, areas with a strong environmental appeal because, in addition to providing security, developers sell a pleasurable landscape surrounded by green belts and far from the city's chaos. This is emphasised in the interviews with key informants who said that over recent years, gated communities are increasing in the peri-urban areas of Accra due to the increasing development of slums in the core city of Accra.

5.3. Socio-economic and environmental impact of gated communities on local residents in peri-urban areas

In the existing literature, gated communities cause different socio-economic and environmental impacts in the urban landscape (Goix & Callen, 2010; Roitman, 2010). These are either positive or negative impacts (Atkinson & Flint, 2004; Cáceres & Sabatini, 2004). This study found that developers and planners claimed gated community developments socially, economically, and environmentally benefit local residents in the peri-urban areas of Accra.

In the context of social impacts, developing gated communities within peri-urban areas of Accra gives local residents ease of access to improved urban services and facilities, as corroborated by Sabatini & Salcedo (2007). This help integrates the poor local residents in the city. The study by Dayo-Babatunde, Martinez, Kuffer, & Kyessi (2019) in Tanzania found streets as the most accessible public spaces that provide rich and poor social interaction opportunities. The findings of this study reaffirm this as both developers and planners argued that gated residents interact with the local residents who sell on the roadside when buying foodstuffs. In addition, an increase in the social mix was noticed to be one of the social benefits of developing gated communities in peri-urban areas. According to the developers and planners, developing gated communities in peri-urban areas brings the rich people close to the low-income residents and creates a growing prestige and image for the vicinity. This tends to decrease the feeling of stigmatisation of the local residents, increasing their sense of belonging (Sabatini & Salcedo, 2007; Tanulku, 2012). It also brings ample social mobility through observation, thus challenging the poor local residents' to aspire to be like the high-income people living within their space, as corroborated by Tanulku (2012).

From the economic point of view, the findings of this study showcase that developing gated communities in peri-urban areas increase economic activities within the locality, giving local residents easy access to job opportunities. This conforms with the assertion by Salcedo & Torres (2004) and Sabatini & Salcedo (2007) that gated communities benefit poor local residents in peri-urban areas by providing them with employment opportunities. Libertun (2012) noted that gated communities are used as a development strategy by local governments struggling to provide their locality with the needed public services and amenities in Global South cities. This present study confirms this assertion as developers and planners support the development of gated communities since it attracts infrastructures, amenities and services to the peri-urban areas of Accra. Svampa (2001), in her study, argues just as by Libertun de Duren (2007) that developing gated communities contributes to the local economy by producing revenues for the local government, enhancing their ability to provide local residents with public services and infrastructure. The findings of this study reaffirm this situation, as developers and planners assert that developing gated communities in peri-urban areas of Accra expand the local government's tax base, increasing its revenues and consequently making them financially capable of providing local residents with the needed services and amenities.

Regarding the environmental impact, both developers and planners argue that developing gated communities in the peri-urban areas of Accra promote orderly development in the urban environment, good sanitation and ensure a serene natural setting. This fits with the findings of Salcedo & Torres (2004) in their study of gated communities in Santiago de Chile that developing gated communities create a space of high environmental quality. Secondly, according to the key informants, the development of gated communities made it possible for peri-urban areas of Accra to be equipped with improved amenities and infrastructures. This result coincides with Ganguly & Lutringer (2017) findings, which indicate that the poor local residents of the peri-urban areas of Bangalore could get connected to water and electricity due to gated community developments.

5.4. Local residents perception of their subjective QoL due to the presences of gated communities in peri-urban areas

Existing literature (Grant & Mittelsteadt, 2004) states that gated communities of different characteristics may influence the QoL of local residents differently. For instances, for self-contained gated communities like prestigious gated community (see Table 2.1), residents hardly have contact outside the gates. However, our two cases (Oak villa estate and Integral home estates) are proximate to the typology of lifestyle and prestigious gated communities (see Table 3.1), respectively, with some

variation, such as a low fence wall at the community perimeter. The findings of this study contrast this situation as the perceived QoL of the local residents is similar, independent of the types of the gated communities. This might be because though Oak villa estate is designed to provide middle-class families with leisure activities, and Integral home estate is designed to provide the affluent with exclusivity over their area, both gated communities are less self-contained, hence residents need to participate in activities outside the gates. Also, the context within which the gated communities were developed played a role. These gated communities were developed in a rural area that is now urbanizing and lacked many basic infrastructures; therefore, the gated communities brought these amenities to the vicinity. Hence no significant differences between the local residents perceived impact of the gated communities on their QoL.

Today cities have the task of improving the QoL of residents at the neighbourhood level, most especially in the Global South. This study measured the subjective QoL condition using local residents satisfaction level with their social, economic and environmental conditions of life as discussed below. Sirgy et al. (2008) argue that measuring QoL differ from place to place and depends on an individual perception of his/her neighbourhood. Due to this, the local residents were asked about their satisfaction level with their overall QoL as proposed by Hoogerbrugge & Burger (2018). Findings show that the overall QoL of local residents in the Abokobi community has become slightly better after developing gated communities.

5.4.1. Local residents' perception of their social conditions of life

Many local resident's satisfaction levels with their social conditions of life increased in the Abokobi community after developing gated communities. The findings in the present study reveal that gated community developments have created a positive image and a growing prestige among many local residents of the Abokobi community, hence a high sense of belonging to the area. This aligns with the study by Sabatini & Salcedo (2007) that developing gated communities foster a sense of belonging among low-class residents. This report on a high sense of belonging among the local residents after developing the gated communities has contributed to developing the high interaction among them within the community. This affirms the study by Hoogerbrugge & Burger (2018), who argue that residents who feel attached to their community are likely to develop interactions and social networks within their neighbourhood.

Many local residents living far away from the gated communities in the Abokobi community feel more integrated (interaction and social networks) compared to those living close to the gated communities (Figure 4.23 and Figure 4.24). This agrees with the literature on gated communities (Blakely & Snyder, 1997; Sabatini & Salcedo, 2007; Salcedo & Torres, 2004) that gating and walls undermine the development of interactions and social networks among different social groups and residents in neighbourhoods as it serves as physical barriers.

Concerning safety and security, the satisfaction level of local residents in the Abokobi community increased after developing gated communities aligning with the study by Landman (2000), where gated communities lead to the displacement of some level of crime in the neighbourhood. Security-wise all local residents of the Abokobi community benefited from the gated community; however, those close to the gated communities benefited more because of the improved security from the police patrol and the presences of the security checkpoint. This situation can be compared with the study by Doucet et al. (2010), where the local resident of Kop van Zuid in Rotterdam who were close to the flagship waterfront benefited more with regard to closeness to other facilities and services.

5.4.2. Local residents' perception of their economic conditions of life

The majority of the local residents in the Abokobi community were satisfied with their economic conditions (job opportunities and quality of work) except for the cost of living. The study shows that local residents perceive that prices of goods and services have increased, especially foodstuffs, after developing gated communities; hence, local residents spend more on food. For instance, in the FGDs, members of the Abokobi community stated that prices of foodstuffs have increased because people have less land to cultivate, so they do not grow a lot of their own food. They used to be more farmers, and now they are less dedicated to farming. When they were farmers, they bought less food since many people were farming some of their food, but after the development of gated communities, they got other jobs, and there are less farming lands, so they buy more food. As a result, less food is grown locally, and some of these foodstuffs have to be transported into the community, increasing food prices. This agrees with Ginting & Sakinah (2018) study that developing gated communities on agricultural lands within peri-urban areas limits farming activities, contributing to the rise in the prices of farm produce.

The study also found that there is displacement occurring in the Abokobi community after developing gated communities. Property values have increased, and this has led to the rise in accommodation cost within the area. Low-income groups who cannot afford it have been displaced from the neighbourhood, and others moved to live in sub-structures. This fits the findings of Lean & Smyth (2014) that developing gated communities in an area leads to the poor's displacement.

Sabatini & Salcedo (2007) argues that developing gated communities create job opportunities for poor local residents in neighbourhoods, contributing to a significant improvement in their living conditions. The findings of this study affirm this situation as developing gated communities has opened up the Abokobi community to many job opportunities. For instance, some local residents are employed as artisans, and others sell on the roadside within the community (self-employment). Local residents expressed an increase in satisfaction with getting jobs within the community, which was mirrored in their satisfaction with their family income after developing gated communities (see Figure 4.7 and Figure 4.11), suggesting a better QoL of local residents. This agrees with Sirgy et al. (2008), suggesting satisfaction with job availability and family income as determinants of people's QoL.

From the study's findings, it came up clearly that some local residents of the Abokobi community acquired skills in construction work during the development of the gated communities. This has helped them in improving their houses. This situation is noticeably absent in existing literature, making it challenging to compare.

5.4.3. Local residents' perception of their environmental conditions of life

The findings of this study show that respondents are satisfied with some environmental conditions of life in the Abokobi community. Sabatini & Salcedo (2007) stated that developing gated communities provide low-income residents with ease of access to improved services and amenities. The present study confirms this assertion to a certain point as local residents in the Abokobi community have access to potable water, improved sanitation services and road network but do not have access to open spaces and playgrounds. The absence of open spaces and playground are likely to affect the community life of the local resident in Abokobi, as corroborated by Sirgy et al. (2006).

In the existing literature, the availability of proper drainage systems and good sanitation services positively impact communities waste management efficiency, consequently creating an environment of high quality (Ülengin et al. 2001). It was notably in this present study that no proper drainage systems were present in the Abokobi community after developing gated communities. The local residents were

dissatisfied as the drains available were within the gated communities, and their outlet had been channelled into their surrounding area. This scenario sharply contrasts Salcedo & Torres (2004) argument that developing a gated community within a locality creates a space with high environmental quality.

5.5. Why local residents perceive differently from developers and planners with regard to the impact of gated communities (Matches and mismatches)

The perspective of existing literature about the impact of gated community diverts from that of the key informants as they claim only positive impacts but concur with local residents' perception as they perceive both positive and negative effects. Both matches and mismatches were obtained in the responses due to the different interests of the parties involved. Developers aim to provide good houses, but they targeted only the growing middle-income and affluent population and chose to develop houses with a close perimeter. Hence, they present the gated community development market as the ideal way to develop our cities to keep the market thriving. Thus, developers only see gated community developments as positively impacting people within the locality in which it is developed without any adverse effects.

On the other hand, planners' decisions to support the development of gated communities in their jurisdiction are informed by the local situation of the area. The findings of this study show that the Abokobi community lacked infrastructures and amenities because the District Assembly face enormous fiscal constraints, which make it unable to provide all the amenities and infrastructures needed within their district, adversely impacting the QoL of the local residents. This aligns with the study by (Baffour Awuah et al., 2014), where they said that infrastructure financing in Ghana cities, especially Accra, is biased favouring the core city relative to the peri-urban areas. This local situation informed the local planning authorities to support gated community developments in the Abokobi community. They looked at the benefit of the gated community developments in terms of physical infrastructure provision. The study of Baffour Awuah et al. (2014) in Ghana found that private developers invest about 30% of their total projects cost in developing physical infrastructures and amenities in the peri-urban areas that lack them. This relief the gated community brings to the District Assembly and the local people points to the fact that the local planning authorities of the Abokobi community recognise no negative impact of such developments. This scenario chimes with what exists in Buenos in Argentina (Thuillier, 2005), and Canadian provinces of Ontario, British Columbia and Alberta (Grant, 2005), where the local planning authorities assert that developing gated communities have only positive impacts on local residents; hence they support it proliferation, owing to the fact that the private developers fund both the provision and upgrading of infrastructures and public services in the metropolis.

Though the developers and planners' focus were different, the mutually beneficial relationship characterised the developers and planners positive claim of gated communities. The local residents experience the impact at the end hence their perception with both positive and negative effects. Not all the benefits that both developers and planners claimed materialised. On this ground, matches and mismatches were observed as the findings of this study show that the developers of the gated communities provide physical infrastructures, amenities and services like access road, water and rubbish collection services were improved after developing the gated communities, but drainage systems and playgrounds were not provided.

6. CONCLUSION AND RECOMMENDATIONS

The main focus of this study was to assess the impact of gated communities on the QoL of local residents in peri-urban areas.

6.1. Reflection on study findings

This study analysed the impacts of two gated communities (lifestyle and prestigious gated communities) in relation to the subjective QoL of local residents in Abokobi, a peri-urban area of Accra, Ghana. The study found that despite the differing characteristics of the gated communities (*Oak villa estate and Integral homes estate*), they both have similar impacts on the subjective QoL of the local residents in the neighbourhood. Two moments in time were considered (2010-2020): before and after the development of gated communities in the Abokobi community.

The main finding of this study shows that the subjective QoL of local residents in the Abokobi community improved after the development of the gated communities, although some QoL domains (access to open spaces and playgrounds and drainage systems) were negatively impacted. This research does not bring out concern about social segregation in the area as had initially been expected based on existing studies on gated communities and social segregation. For instance, in peri-urban areas of Southern California cities, social segregation was seen as consequences of gated community developments (Goix, 2005). However, issues of poor environmental conditions were raised in the area as the privatisation of the public spaces has led to the uneven spatial distribution of playgrounds and drainage systems (Keeton & Nijhuis, 2019). These issues turn to decrease public life in the community.

This study had three specific objectives, and the discussion of each is presented under the sub-headings below.

Specific objective 1: To understand the growth of gated communities in the peri-urban areas in Accra

The study examined the local planning and policies that regulate the physical developments within Accra city, Ghana. This provided a firm base to understand the growth of gated communities in the peri-urban areas in Accra. The study found that the policies and statutory enactments in Ghana's built environment, namely the Ghana National Housing Policy (2015) and the Land Use and Spatial Planning Act (Act 925), coupled with the land tenure system (see section 4.1), encourages the growth of gated community developments in Accra city and its peri-urban areas.

Most of the gated communities proliferating in Accra city are occurring in the peri-urban areas. The study revealed that land availability, land affordability and mass market, and the presence of slums were identified as the factors driving the growth of gated communities in the peri-urban areas. Large tracts of lands are available in the peri-urban areas and are within reach by private developers at an affordable price relative to the core city of Accra. Private developers are able to purchase and develop many gated houses, which are affordable by most of the growing target population (see section 4.2).

Specific objective 2: To find out the socio-economic and environmental impact of gated communities' developments on local residents in peri-urban areas

This study showed that the different socio, economic, and environmental impacts of gated communities could be positive or negative. However, both developers and planners argued that developing gated communities brings about only positive effects.

This study found that socially, developing gated communities in the Abokobi community increases the interaction among local residents. It gives residents easy access to amenities and services, integrating them into the city. Considering the economic impact, developing gated communities provides local residents with many job opportunities. It has transferred the cost of supplying and maintaining infrastructures to the private developers as they provide the locality with public services. Developing gated communities in the Abokobi community has increased the property values in the area and tax base of the Ga-East Municipality, enhancing their capacity to provide the local resident with some amenities and services. Environmentally, it has ensured orderly development within the area. Nevertheless, the development of the Abokobi community could not equip the area with improved recreational facility nor better drainage systems.

Specific objective 3: To understand how local residents perceive their QoL in peri-urban areas with regard to the impact of gated community development

On the subjective QoL, the findings of this study show an improved perceived QoL in the Abokobi community across the social dimensions of QoL after the development of gated communities. The analysis of the social dimensions of QoL revealed appreciable levels of interaction among the local resident of the Abokobi community, varying from greetings, talking over matters of common interest and exchanging pleasantries on the street. However, for local residents living close to the gated community developments, much of such interactions exist on the economic level. Also, the study shows an increase in local residents' sense of belonging, as they feel at home and attached to the neighbourhood.

The analyses of the economic dimensions of QoL show an increase in employment opportunities as many people gain jobs as artisans and others become self-employed by selling on the roadside. Some local residents also acquired skills in construction as they were trained and employed during the development of the gated communities. Now, after the development of the gated communities, they are using the skills to provide for themselves and their families. Also, the skills have equipped them in improving the conditions of their houses. Additionally, the study found that the cost of living was perceived to have been adversely impacted as daily expenses and accommodation cost increased when property values improved owing to gated community developments, leading to the displacement of the poor from the locality. However, the transportation cost of the area was positively impacted as the road networks were improved, increasing accessibility in the area. (see section 4. 5.2.4).

The analysis on the environmental dimensions of QoL shows that local residents have easy access to potable water and improved rubbish collection services in the Abokobi community after the development of gated communities, reducing local residents' deprivation within the area. However, the local residents have no access to open spaces and playgrounds and good drainage systems. Thus, developing gated communities in the Abokobi community could not give local residents access to a space with high environmental quality. It can be said that the local residents in the area barely engage in outdoor activities as they have no access to open spaces and playgrounds.

6.2. Study limitations

The current study sought to understand local residents' perception of their QoL in peri-urban areas before and after the development of gated communities, considering only subjective QoL conditions based on household survey responses and focus group discussions. Though the findings from this study align with other existing research findings, it had some limitations.

Subjective QoL is unstable and has a lower measure of reliability (Santos, Martins, & Brito, 2007) as it is based on an individual's perception, which is often affected by one's expectations; hence in some instances, subjective OoL may not represent the actual neighbourhood conditions in which people live, work, and recreate. However, objective QoL conditions, which are stable and have a higher measure of reliability (Santos et al., 2007) was not considered in this study. Combining both the objective and subjective QoL measures would have provided a better understanding of the QoL conditions of the local residents within the Abokobi community. This could be studied in another research.

Also, this study considered two moments in time before and after the development of gated communities and respondents were asked to give responses about both moments. But assessing memories may at times lead to a partiality. This is because respondents might remember recent memories and not the past, leading to biases in the given answers, as Khanani (2019) stated. Due to this, some of the answers from the household survey might have been affected. But this study tried to limit this effect by organising focus group discussions where google satellite images of the area were shown to participants enabling them to remember by seeing and bringing out the change in real-time.

This study is a case study, hence findings from it are case-specific. Therefore, it cannot be generalised for all peri-urban areas because such neighbourhoods commonly have varying characteristics that distinguish them. The conclusions of this study could be aligned with other similar research in different regions to make reasonable inferences.

6.3. Recommendations

The study presents likely areas for future research on gated community developments and QoL of local residents in peri-urban areas and offers policy recommendations on some issues related to gated community developments and planning rules in urban areas.

Further research

There is limited research on gated communities and QoL studies in the city of Accra. This study contributes to the scientific knowledge and augments academic literature on urban QoL from the angle of the impact of gated communities on the QoL of local residents in peri-urban areas and seeks to serve as a baseline for more such studies in this academic discipline. Further studies in this regard in other peri-urban areas are recommended to inform planners and policymakers about local residents' perception regarding gated community developments in their locality and contribute to the formulation of area-based policies to reduce deprivation and inequality in urbanising cities.

Also, the study employed two case studies (lifestyle and prestigious gated communities) with varying characteristics to understand how they could impact the QoL of local residents differently. It is essential to carry out this research by pairing different types of gated communities to assess whether the results are unique or can be generalised.

The findings of this study point out that many respondents who experienced an increase in their interaction within the community also experienced better subjective QoL after the development of the gated communities. This change could be a cause-effect of other contributing factors other than the developments of gated communities. Therefore, further studies are needed for a better understanding of this direction of the relationship.

Policy recommendations

The development of gated communities has brought about both positive and negative impacts to most Global South cities and their peri-urban areas, raising significant policy issues for physical planners. The

many potential problems arising from the development of the gated communities could be avoided by carrying out thorough Environmental Social Impact Assessments (ESIA) before its developments within localities. For instance, in Postmasburg Northern Cape Province, previous studies (Barbour, 2013) show that the municipality involved community participation in the ESIA processes in developing gated communities. This enabled them to identify and mitigate the social impact on the community. Therefore, the community involvements in the ESIA process by the Ga-East Municipality could ensure that area-based policies are framed to protect the neighbourhood and their local residents affected by the gated developments.

From the findings on the environmental conditions of life in the Abokobi community, this study recommends that in the planning guidelines regulating residential developments, environmental requirements such as providing active recreational open space that could be shared by both residents of the gated community and those outsides could be included as a condition to be met by private developers. This will give local residents easy access to open areas and playgrounds, encouraging their engagement in outdoor activities. This may reduce social exclusion and improve integration and the community life of local residents. Thus, the outcome of this study will help the physical planners to understand the negative impacts that the development of gated communities have on the environmental conditions of life of local residents within their locality and review the conditions for approving a building permit by making the environmental requirement a standard measure of assessment in all gated community developments.

The development of gated communities in the study area is important because it increased property values. The increase in property values means different things to different people in the area, including increased average income and accommodation costs. To local residents owing properties, it increases their income, hence improving their standard of living. However, to those renting, it means an increase in housing cost. The increase in accommodation cost implies the displacement of existing low-income residents who cannot afford it. Previous studies (Price, 2014) show that in Boston, property taxes levied on properties owned by local residents living outside the gated community were reduced to protect low-income people from being displaced from the neighbourhood as the reduction leads to a decrease in rents. This policy is implemented in a context that is comparatively different from the study area. Therefore, the study recommends further research to explore which mechanisms could be suitable to implement in the study area to prevent the displacement of the low-income population affected by gated community developments.

The study contributes to identifying prospective areas for future research on gated community developments and QoL of local residents in urban areas and their peri-urban zones to achieve sustainable urbanisation.

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APPENDICES

Appendix 1: Guide for key informant interviews

Part 1: Guide for Key Informant Interviews

Introduction

Hello, my name is **Leticia Amoakoa Owusu,** I am an MSc student from the University of Twente in the Netherlands. I am currently undertaking an MSc research titled "***The impact of gated community developments on the Quality of life of local residents in peri-urban areas: A case of Accra city."*** This interview aims to gather in-depth knowledge about how gated communities (like Oak villa estate and Integral homes estate) in peri-urban areas (Abokobi) influence the quality of the socio-economic and environmental conditions of life of local residents. The interview is solely for academic purposes, and all information collected will be treated as confidential and anonymous.

The entire interview session will last for about **45 minutes**. I would like to request your consent to record the session using a voice recorder device.

Gated community developments (like Oak villa estate and Integral homes estate) refer to areas equipped with gates, walls, and security guards to restrict public access and exclusively offered residents a variety of services and amenities (Atkinson & Blandy, 2005).

Quality of life refers to the feelings of people, their experience and satisfaction with their living environment

General guided questions

Note: To be assessed by the interviewer

The gender of the key informants

- Man
- Woman

1.1 Date of Interview: ……..
Venue: ……
Interview Start Time: ……
Interview End Time: ……

1.2 Can you explain to me briefly about the job you do?

1.3 For how long have you been working in this position?

1.4 Specific questions for the Head of Department; Geography and Resources at the University of Ghana-Legon

- What are your opinions on the development of gated communities in the city of Accra?
- Which types of gated communities are prevalent in the city? Why?
- Which of these categories is prevailing in the peri-urban communities?
- What are the characteristics of the prevailing types of the gated community in the peri-urban areas?
- What are the drivers of gated community development in peri-urban areas?
- To what extent do you think local planning and housing policies for Accra city may have contributed towards the growing number of gated communities emerging in peri-urban areas?
- In what way?

- In your opinion, as a researcher, can you explain any possible changes which emerge in the peri-urban areas due to gated community development?
- Do you have any material in the form of a map, photographs, or reports to share on the changes that occur in the peri-urban areas due to gated communities?
- What are the socio-economic effects of gated community development on local residents in peri-urban areas?
- What are the environmental effects of gated community development on local residents in peri-urban areas?
- How do gated communities affect the Quality of Life of local residents in peri-urban areas?
- Do you have anything you would like to add to what we have discussed?

Thank you very much for your time and cooperation.

1.5 Specific questions for City planners in the Ga-East Municipal Assembly

- What are your views on gated community development in the city of Accra?
- What is the vision of the municipal in terms of its overall spatial planning?
- Do you have any material in the form of a map, photographs, regulations or reports to share on the changes that occur in the peri-urban areas due to gated communities? (*Request for if available*)
- Would you explain to me what Ghana's vision is in terms of housing policies in the city?
- In your opinion, do you think that these housing policies have affected gated community development in peri-urban areas? If so, how?
- Are you aware of any effects of the gated community developments on the local residents in the peri-urban area, Abokobi?
- What are the socio-economic impacts associated with gated community developments in peri-urban areas?
- What are the environmental impacts associated with the development of gated communities in peri-urban areas?
- In your opinion, as a planner, how do local residents benefit from the development of the gated community in the peri-urban area?
- Are there any complaints from the local residents about the developments of the gated community in the peri-urban area? If yes, what are the complaints?
- How well did you know this area (in terms of jobs, water provision, garbage collection, access to open spaces, and green parks, social support, safety) before the development of gated communities?
- What do you think has improved in this neighbourhood after the development of gated communities?
- *Would you explain why this is the case, in which way?*
- What do you think has become less good in this neighbourhood after the development of gated communities?
- Do you have anything you would like to add to what we have discussed?

Thank you very much for your time and cooperation.

1.6 Specific questions for the President of the Ghana Real Estate Developers Association (GREDA)

- What are your opinions as developers on the development of gated communities in the city?
- Do you have any material in the form of maps, photographs, or reports to share on the changes that occur in the peri-urban areas due to gated communities?
- What are the prevailing types of gated communities in the city?
- What are the characteristics of the types of gated communities in the city?
- What are the driving forces of gated communities in the peri-urban areas?

- Can you share your views on the gated community developments in Abokobi, [Oak villa estates and Integral homes estate], the peri-urban area of Accra?
- In your opinion, how do gated communities affect the socio-economic conditions of the local residents in the peri-urban area?
- In your opinion, how do gated communities affect the environmental conditions of the local residents in the peri-urban area?
- Do you share the view that gated community developments are beneficial to non-gated residents in the peri-urban area? Why?
- Can you share with me what you think has improved in this neighbourhood after the development of gated communities in the peri-urban area?
- What do you think has become less good in this neighbourhood after the development of gated communities?
- Do you have anything you would like to add to what we have discussed?

Thank you very much for your time and cooperation.

1.7 Specific questions for an officer at the Ministry of Works and Housing

- What are your views on gated community developments in the city?
- In what ways do you think the Ministry of Works and Housing contribute towards the development of gated communities in the city?
- Do you think the nature of spatial planning for the city has influences on the growth of gated communities in the peri-urban areas? How?
- Can you share your view on how gated community developments are beneficial to the local residents of peri-urban areas?
- What are the socio-economic impacts of gated communities on the local residents in the peri-urban area?
- What are the environmental impacts of gated communities on the local residents in the peri-urban area?
- Do you think developing gated communities in peri-urban areas have effects on local residents Quality of Life?
- Do you have anything you would like to add to what we have discussed?

Thank you very much for your time and cooperation.

Part 2: Interview guide for focus group discussions

Introduction

Hello, my name is **……..** and I am here on behalf of **Leticia Amoakoa Owusu,** an MSc student from the University of Twente in the Netherlands who is undertaking an MSc research titled "***The impact of gated community developments on the Quality of life of local residents in peri-urban areas: A case of Accra city."*** I will be moderating the discussion on her behalf. This is ……, who will be assisting me with the discussion, especially by helping me stay on track. (make notes and making observations)

Thank you very much for taking the time to come. All of you here are residents of Abokobi community who have lived in the area for more than ten (10) years and were selected with the assembly members' help. We are to learn from you because you are the people who can tell us how things looked in the community from a local person viewpoint.

The purpose of this focus group discussion (FGDs) is to gather views on how the developments of gated communities (like **Oak Villa estate and Integral homes estate**) in the peri-urban areas (Abokobi)

influences the quality of the socio-economic and environmental conditions of life of local residents. And also to find residents satisfaction, their experiences and their feelings with their living environment that are important to you as a community.

We will be using just first names when speaking with one another. Please introduce yourself and tell us one unique thing about your community. Would anyone like to start? Thank you (person's name). After you have introduced yourself, we can go round.
The entire discussion will last for **40 minutes**. Given our time constraint, I will ask everyone to stay on the topic so we can address the task at hand. And I will like to request your consent to record the session using a voice recorder device and take photos with a mobile phone.

Again, we want to hear from all of you. No matter how trivial your comment may be to you, it may be important for us. All participants of this discussion have an equal right to speak and are all entitled to express their opinions. Please respect others opinion without judgements. Also, take turns while talking. This is because if two or more talk at once, the rest of us may not be able to hear everything that is said.

This FGDs is solely for academic purposes, and all information collected will be treated as confidential and anonymous.
Please feel free to ask questions to each other. I do not need to be the only one asking questions!

Gated community developments (like **Oak villa estate and Integral homes estate)** refer to areas equipped with gates, walls, and security guards to restrict public access and exclusively offered residents a variety of services and amenities (Atkinson & Blandy, 2005).

Quality of life refers to the feelings of people, their experience and satisfaction with their living environment

Questions for FGDs

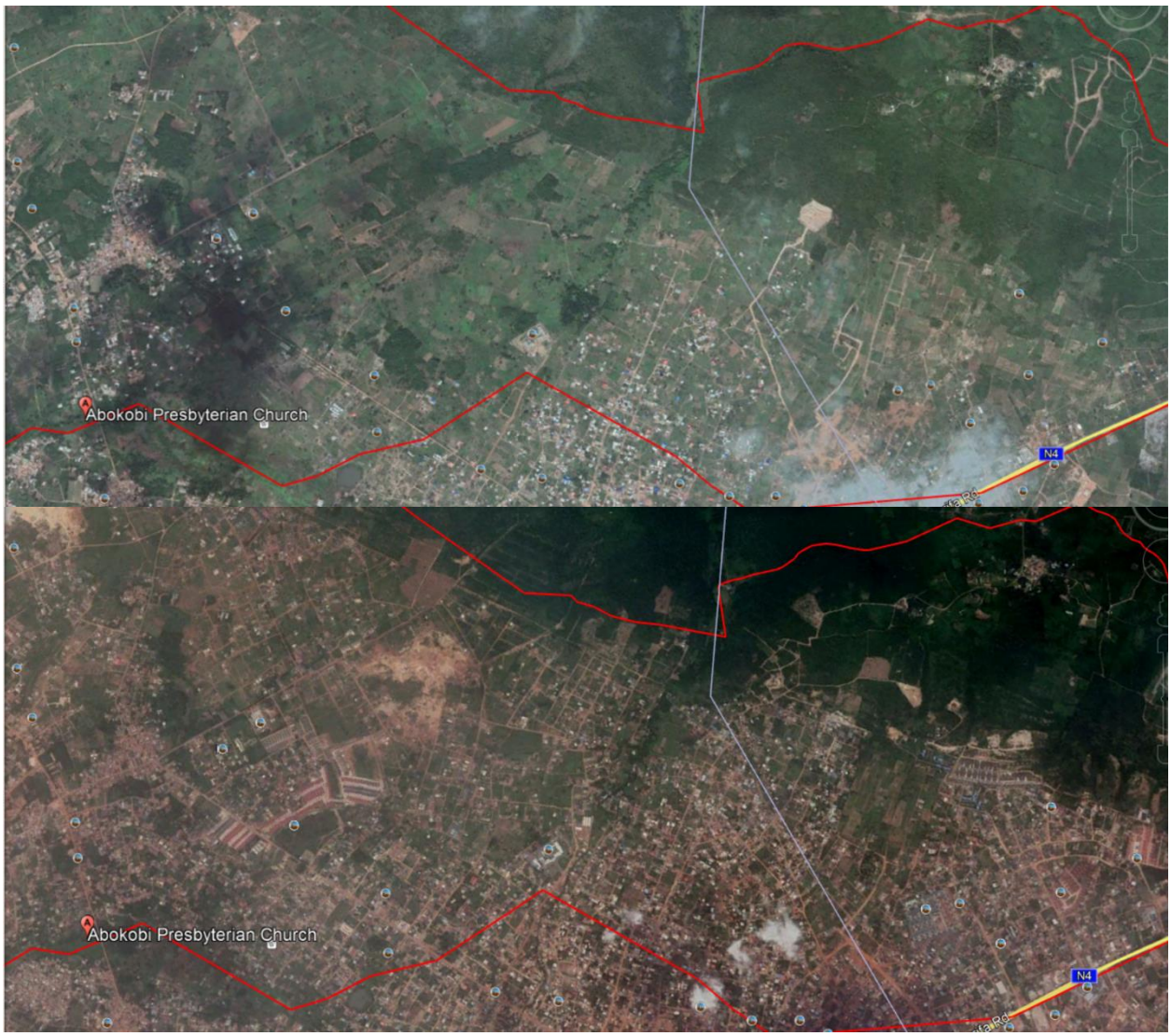
- Can you tell me what aspects of your general condition of life that are relevant to you? Why?
  *Interviewer: Please write on a big piece of paper the words below with the same colour. And ask the participant one after the other to give their opinion and put a cross next (**x**) to three (3)of the words that are relevant to their*

general condition of life) It ranges from 1-6 on a likert scale, where 1 means not relevant to my general condition of life and 6 means very relevant to my general condition of life

Areas	1	2	3	4	5	6
Level of friendliness in the neighbourhood						
Interaction among residents						
Safety in the neighbourhood						
Access to job						
Access to potable water						
Access to green areas						
Access to public spaces						
Efficiency in rubbish collection						
Access to affordable housing						
Others specify						

- Can you please tell me about how the general conditions of life have been in the neighbourhood before the development of the gated community?

- What are some of the significant changes you have experienced/observed in the neighbourhood following the development of gated communities?



- In your opinion, do you find the gated community developments as beneficial to your general conditions of life in the neighbourhood? Why?
- Do you find the gated community developments as physical barriers to your general conditions of life in the neighbourhood? Why?
- What are the changes experience regarding relationships between you and your neighbours in the community?
- What are the changes experience/observed concerning how safe residents feel in the neighbourhood in the community?
- What are the changes observed/ experience in the cost of living in the neighbourhood after the development of gated communities?
- How satisfied are you with access to amenities like water, open public spaces and green areas within the neighbourhood following the development of gated communities
- How dissatisfied are you with access to amenities like water, open public spaces and green areas within the neighbourhood following the development of gated communities
- Do you have anything you would like to add to what we have discussed?

Interviewer: *Summarise the findings to the participants*

Thank you very much for your time and cooperation.

Part 3: Household questionnaire

Introduction

Hello, my name is **……..** and I am here on behalf of **Leticia Amoakoa Owusu,** an MSc student from the University of Twente, in the Netherlands who is undertaking an MSc research titled " ***The impact of gated community developments on the Quality of life of local residents in peri-urban areas: A case of Accra city."*** Can you please spare us some of your time to participate and answer some questions for us. The interview will take about 45 minutes.

About the interview

Before we start this interview, I would like to tell you briefly about what we want to talk to you about today. We would like to know about your life in Abokobi community, considering the social, economic and environmental conditions before the development of gated communities in the area and how it is now after the development. Expectations and experiences of people differ, hence residents within the neighbourhood may have different feelings and perception about the development of gated communities within the neighbourhood in which they live.

There is no right or wrong answer when answering the questions; we are interested in your feeling and experiences. Everything we will talk about will be treated as confidential and anonymous. Please draw our attention if you have any question during the interview or if the questions asked are not clear. Do you have any question before we begin?

Interviewer: *Please include questions here:*

……
……
……
……

NEIGHBOURHOOD AND RESIDENTIAL HISTORY

Read: The first part of the questions will be about the neighbourhood and the residential history

Interviewer: Please fill/tick the appropriate responses

Selection question

1. May I asked for how long you have lived in the neighbourhood
    - …… years

Interviewer: *The interview is meant for household heads that have lived in the neighbourhood for ten (10) years or longer. Therefore, if the respondents have lived in the community for less than ten years, explain the selection criteria, thank him/her for his/her willingness to participate and then terminate the interview.*

2. Select the three most important reason why you move to this neighbourhood?
    - Close to family and friends
    - Close to job
    - Access to public spaces or green areas
    - Availability of better public services
    - Feel attached to the neighbourhood
    - Cheap housing
    - Others, please specify

3. Did you know anyone in the neighbourhood before you moved here?
    - Yes
    - No

3b. If yes, who are they? (*Interviewer: More than an answer is possible*)

- Parents/ siblings/ children (first degree family)
- Uncles/aunts/cousins (second degree family)
- Friends/acquaintance
- Others, please specify

SOCIAL CONDITIONS

Read: We would like to know the social conditions of your life in your neighbourhood

Interviewer: *Please tick/fill the appropriate responses*

Assessment attribute	**6**	**5**	**4**	**3**	**2**	**1**
Social network and support						
4. How often do you talk to your neighbours in the street?	Every day	About once or twice per week	About once or twice per month	About once or twice per every six months	About once per year	Never
5. How often do you ask your neighbours for **help**?	Every day	About once or twice per week	About once or twice per month	About once or twice per every six months	About once per year	Never
6. How often do your neighbours ask you for **help**?	Every day	About once or twice per week	About once or twice per month	About once or twice per every six months	About once a year	Never
7. How many of your neighbours do you	All of them	Most of them	More than half	Less than half of	Hardly anybody	Nobody

chat/discuss matters with in your neighbourhood?			of them	them		
Trust and sense of belonging						
8. How much do you **feel** at home in the neighbourhood?	Completely at home	Relatively at home	Slightly at home	Slight not at home	Relatively not at home	Absolutely not at home
9. Can you **rely** on your neighbours for help when you have a problem?	Completely rely on them	Relatively rely on them	Slightly rely on them	Slightly not rely on them	Relatively not rely on them	Absolutely not rely on them.
Can your neighbours **depend on** you for assistance when they have a problem?	Completely depend on me	Relatively depend on me	Slightly depend on me	Slightly not depend on me	Relatively not depend on me	Absolutely not depend on me
Safety and crime						
11. How **safe** do you feel being alone at home during the day?	Completely safe	Relatively safe	Slightly safe	Slightly not safe	Relatively not safe	Absolutely not safe
How **safe** do you feel being alone at home at night?	Completely safe	Relatively safe	Slightly safe	Slightly not safe	Relatively not safe	Absolutely not safe
13. Do you feel **safe** walking alone on the streets in your neighbourhood at night?	Completely safe	Relatively safe	Slightly safe	Slightly not safe	Relatively not safe	Absolutely not safe

ECONOMIC CONDITIONS

Read: We would like to know the economic conditions of your life in your neighbourhood
Interviewer: *Please tick/fill the appropriate responses*

How do residents **get jobs** in the neighbourhood?	Through family/friends (informal)	Formal job application	Social services	Job agency	Social media (TV, radio, internet)	Others
14b. If others, please specify						
Assessment attribute	**6**	**5**	**4**	**3**	**2**	**1**
Employment chance						
15. What is your chance of getting a **job** in the neighbourhood?	Very high	High	Quite high	Quite low	Low	Very low
Cost of living						
How much is your household expenses on a weekly average?	₵901.00-1050.00 Very high	₵751.00-900.00 High	₵601.00-750.00 Quite high	₵451.00-600.00 Quite low	₵301.00-450.00 Low	₵150.00-300.00 Very low
17. What is the level of **business activities** in the neighbourhood?	Very high	High	Quite high	Quite low	Low	Very low
18. How high is your transportation cost on a weekly average?	Very high	High	Quite high	Quite low	Low	Very low
Types and quality of jobs						
19. What are the commonly found jobs in the neighbourhood?	Artisans	Farmers	Traders	Construction workers	Teachers	Others specify
20. How well paid are the **jobs** that are available within your neighbourhood?	Very high paid jobs	High paid jobs	Quite high paid jobs	Quite low paid jobs	Low paid jobs	Very low paid jobs

ENVIRONMENTAL CONDITIONS

Read: We would like to know the environmental conditions of your life in your neighbourhood
Interviewer: *Please tick/fill the appropriate responses*

Assessment attribute	**6**	**5**	**4**	**3**	**2**	**1**
21. How adequate is the provision of potable water in the neighbourhood?	Very good	Good	Quite good	Quite not good	Not good	Bad
How often do you go to the public parks in your neighbourhood?	Every day	About once or twice per week	About once or twice per month	About once or twice per every six months	About once a year	Never
23. How often do you visit open spaces for entertainment and recreation in the neighbourhood?	Every day	About once or twice per week	About once or twice per month	About once or twice per every six months	About once or twice a year	Never
24. How adequate is garbage collection in the neighbourhood?.	Very good	Good	Quite good	Quite not good	Not good	Bad
25. How are the conditions of drainage systems in the neighbourhood?.	Very good	Good	Quite good	Quite not good	Not good	Bad

PERCEPTION OF QUALITY OF LIFE

Read: The following questions are about the satisfaction level of your life in your neighbourhood. We would like to know how you feel about the impact of gated community developments on your Quality of Life. We would ask about your feelings and experiences in your neighbourhood **before** the development of gated communities and **after** the gated community developments.

Assessment attribute	**Level of Assessment**					
	6	**5**	**4**	**3**	**2**	**1**
26. Thinking about your own life and personal circumstances, (relationships, standard of living, health, achieving in life, safety, community-connectedness) how satisfied were you with your life as a whole **before** the development of gated communities in the neighbourhood?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
26b. Thinking about your own life and personal circumstances, (	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied

relationships, standard of living, health, achieving in life, safety, community-connectedness) how satisfied are you with your life as a whole **after** the development of gated communities in the neighbourhood?						
26c. Please explain your response to the previous question.						
Social conditions (social networks and support, trust and sense of belonging, perception of safety and crime)						
27. How satisfied were you with the level of **friendliness** in the neighbourhood **before** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
27b. How satisfied are you now with the level of **friendliness** in the neighbourhood **after** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
27c. Please explain your response to the previous question.						
28. How satisfied were you with the rate at which residents **interact** in the neighbourhood **before** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
28b. How satisfied are you with the rate of **interaction** among residents in the neighbourhood **after** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
28c. Please explain your response to the previous question.						
How satisfied were you with residents asking for **help** from one another in the neighbourhood **before**	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied

the development of gated communities?						
29b. How satisfied are you now with residents asking for **help** from one another in the neighbourhood **after** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
29c. Please explain your response to the previous question.						
30. How satisfied were you with **feeling at home** in the neighbourhood **before** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
30b. How satisfied are you now with **feeling at home** in the neighbourhood **after** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
30c. Please explain your response to the previous question.						
31. How satisfied were you with your **safety** on the street at night in the neighbourhood **before** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
31b. How satisfied are you with your **safety** on the street at night in the neighbourhood **after** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
31c. Please explain your response to the previous question.						
How satisfied were you with the **security rate** in the neighbourhood **before** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
32b. How satisfied are you now with the **security rate** in the neighbourhood **after**	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied

the development of gated communities?						
32c. Please explain your response to the previous question.						
Economic conditions (Employment rate, types and quality of jobs and cost of living)						
33. How satisfied were you with getting **job opportunities** in the neighbourhood **before** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
33b. How satisfied are you now with getting **job opportunities** in the neighbourhood **after** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
33c. Please explain your response to the previous question.						
How satisfied were you with **your family's income** in the neighbourhood **before** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
34b. How satisfied are you now with **your family's income** in the neighbourhood **after** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
34c. Please explain your response to the previous question.						
How satisfied were you with the **job conditions** in the neighbourhood **before** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
35b. How satisfied are you with the **job conditions** in the neighbourhood **after** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
35c. Please explain your response to the previous question.						

36. How satisfied were you with the **level of daily expenses** in the neighbourhood **before** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
36b. How satisfied are you now with the **level of daily expenses** in the neighbourhood **after** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
36c. Please explain your response to the previous question.						
How satisfied were you with the **accommodation cost** in the neighbourhood **before** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
37b. How satisfied are you now with the **accommodation cost** in the neighbourhood **after** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
37c. Please explain your response to the previous question.						
How satisfied were you with the **transportation cost** in the neighbourhood **before** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
38b. How satisfied are you now with the **transportation cost** in the neighbourhood **after** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
38c. Please explain your response to the previous question.						
Environmental conditions (water quality, access to public spaces and green areas and waste management efficiency)						
How satisfied were you with access to **potable water** in the neighbourhood **before** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied

39b. How satisfied are you now with access to **potable water** in the neighbourhood **after** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
39c. Please explain your response to the previous question.						
40. How satisfied were you with access to **open spaces/green areas** in the neighbourhood **before** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
40b. How satisfied are you now with access to **open spaces/green areas** in the neighbourhood **after** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
40c. Please explain your response to the previous question.						
41. How satisfied were you with the distances kids **travel to access playgrounds** in the neighbourhood **before** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
41b. How satisfied are you now with the distances kids **travel to access playgrounds** in the neighbourhood **after** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
41c. Please explain your response to the previous question.						
How satisfied were you with garbage collection in the neighbourhood **before** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
42b. How satisfied are you	Very	Satisfied	Fairly	Fairly	Dissatisfied	Very

now with garbage collection in the neighbourhood **after** the development of gated communities?	satisfied		satisfied	dissatisfied		dissatisfied
42c. Please explain your response in the previous question.						
43. How satisfied were you with drainage systems in the neighbourhood **before** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
43b. How satisfied are you now with drainage systems in the neighbourhood **after** the development of gated communities?	Very satisfied	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied	Very dissatisfied
43c. Please explain your response to the previous question.						

RESPONDENT'S PROFILE

Read: This is the final section of the questionnaire. This part is to enquire about your background.
Interviewer*: Please* ***tick/ fill*** *the appropriate response by the respondent.*

44. Gender: Man ( ) Woman ( )
45. May I ask your age? ……. Years
46. What is your highest level of education?
- No formal education
- Primary school
- Secondary school
- Post-secondary
- First degree
- Postgraduate degree

47. What is your employment status?
- Employed
- Self-employed
- Not employed
- Volunteer

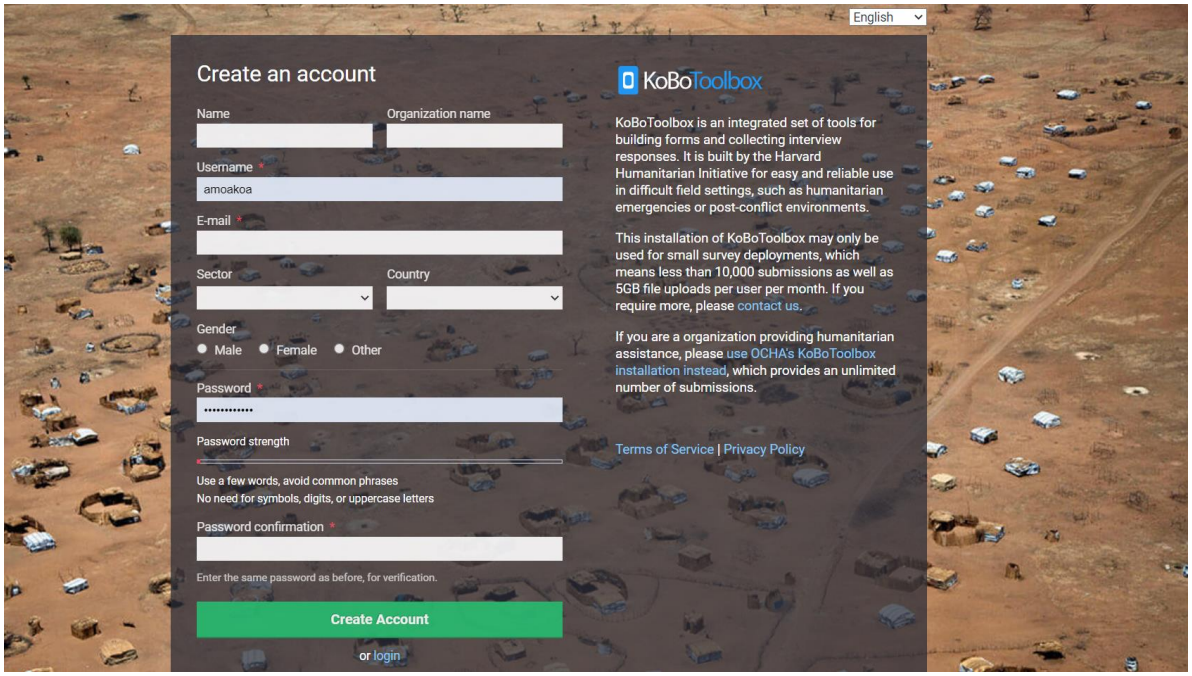
This is the end of the questionnaire. **Thank you very much for your time and corporation**. Do you have any question or additional comments about what we have discussed?

Interviewer: *Please report any questions/ additional comment below.*

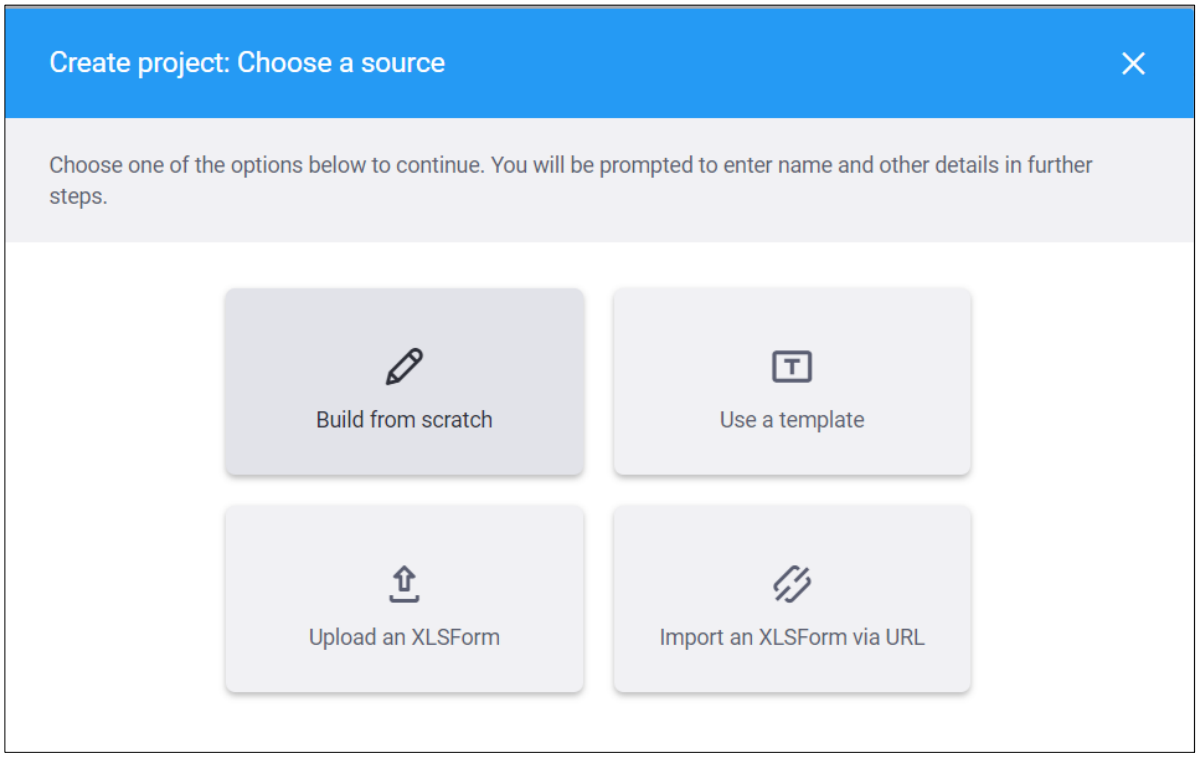
THE END

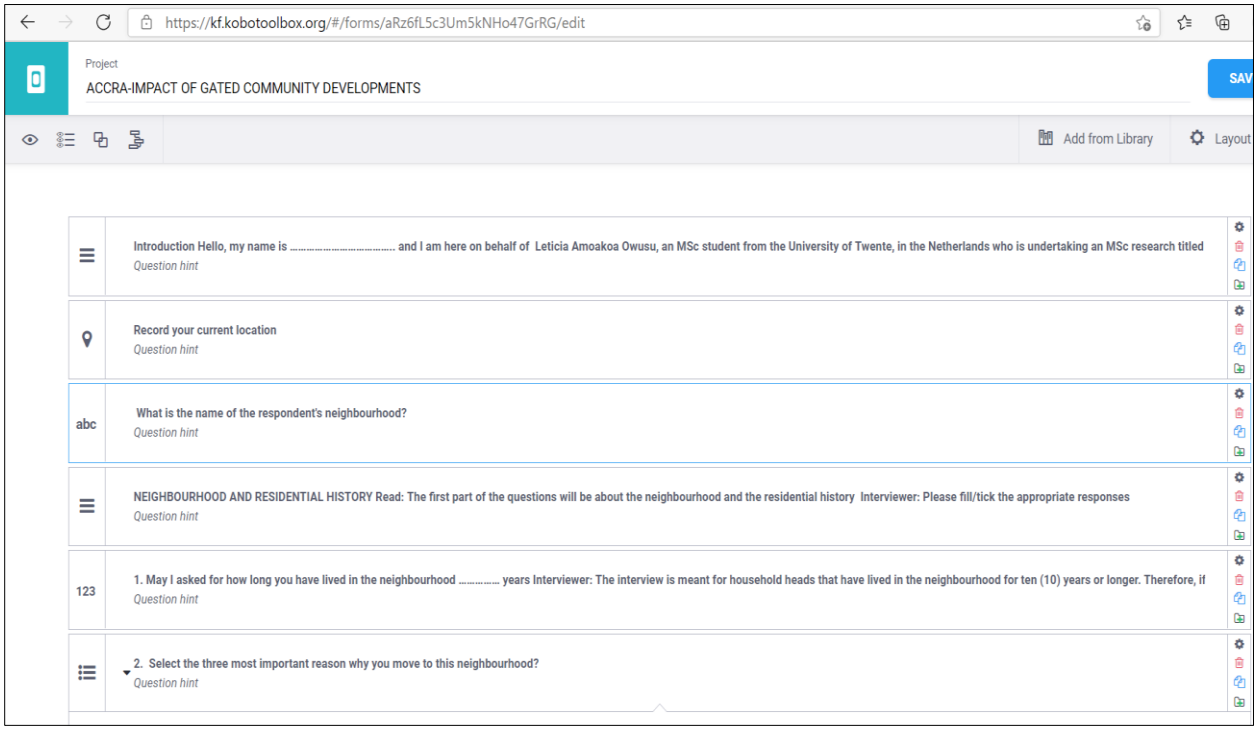
Appendix 2: Preparing, creating and executing Kobo Tool software for data collection in the Abokobi community.

Creating an account for Kobo Toolbox

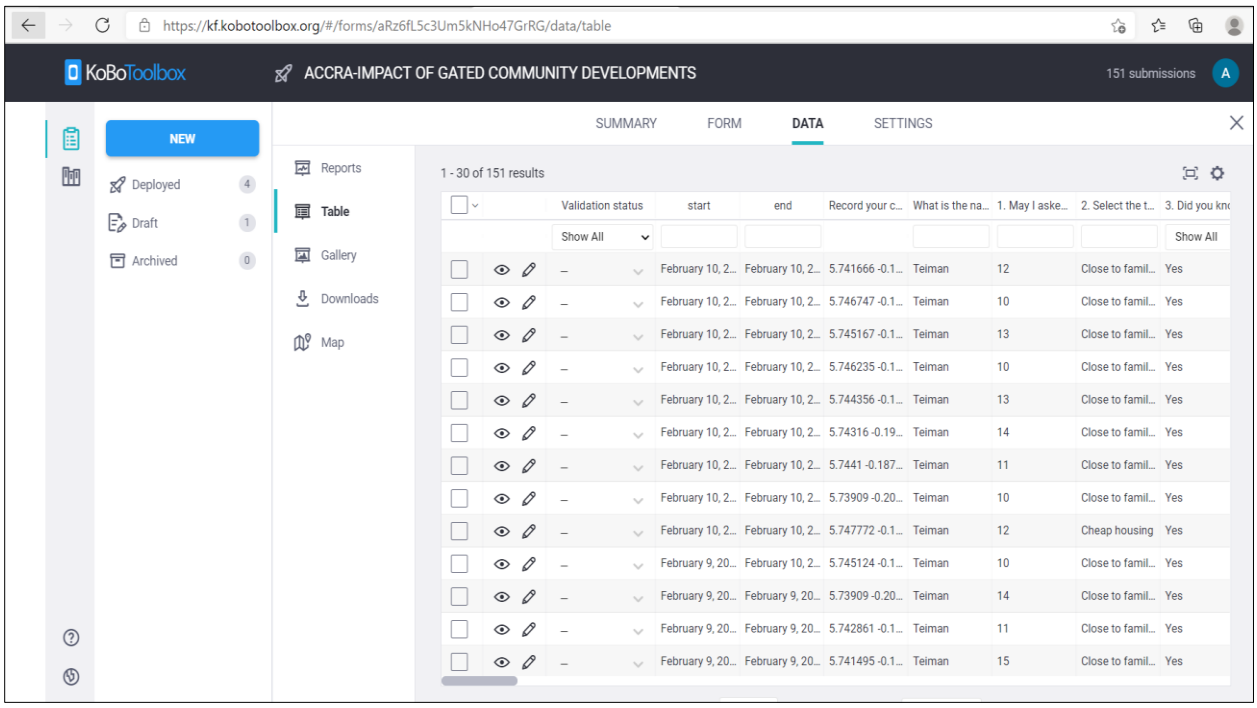


Creating my project in Kobo Toolbox Software

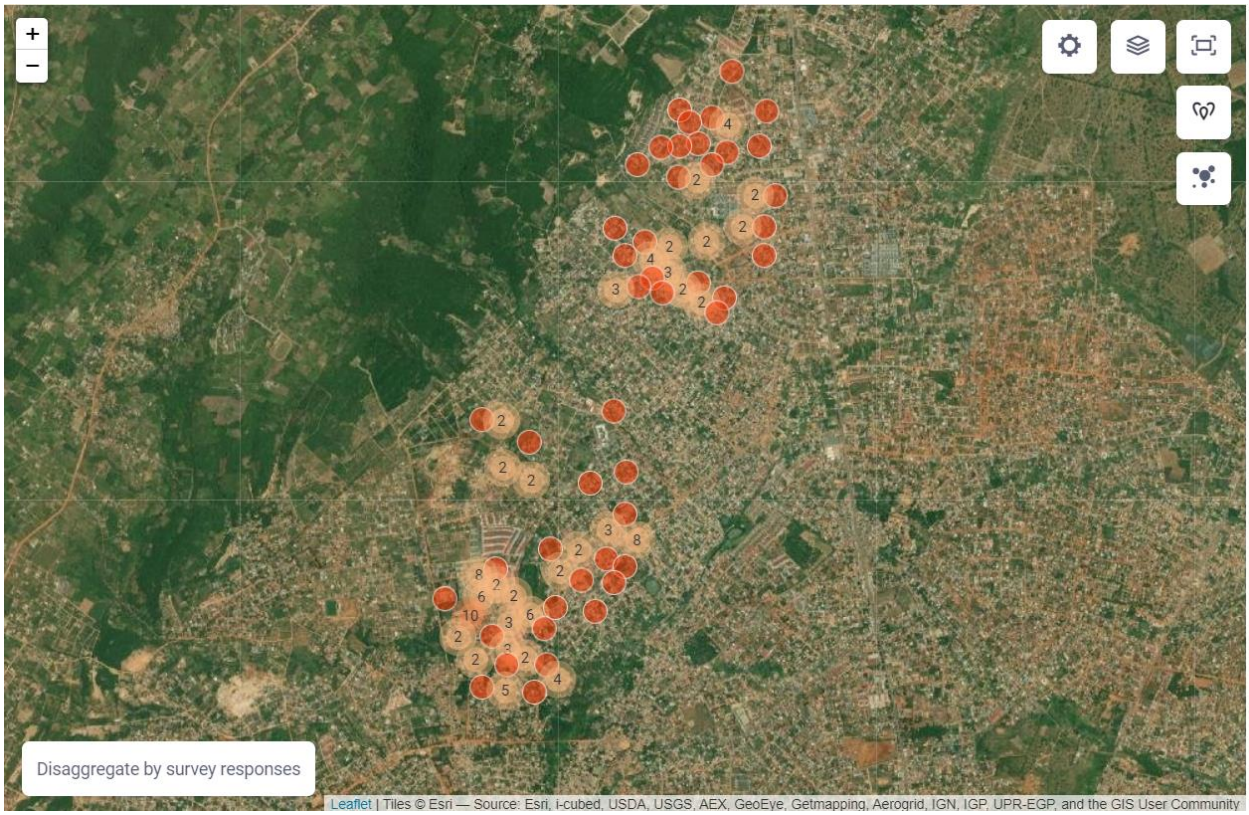




Interface showing the builder form in Kobo Toolbox software after inputting my household questionnaires

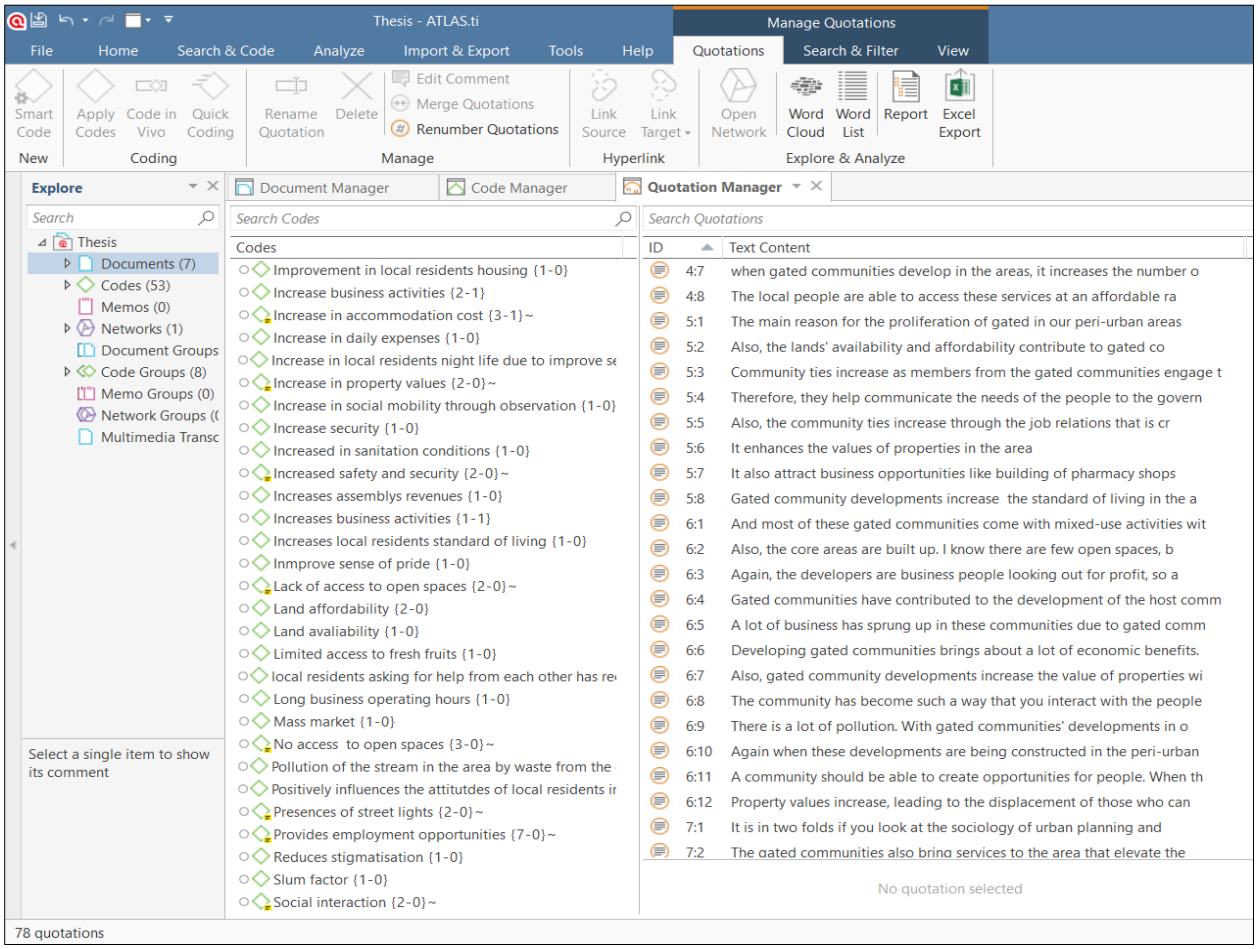


Collected household data submitted to the central project website

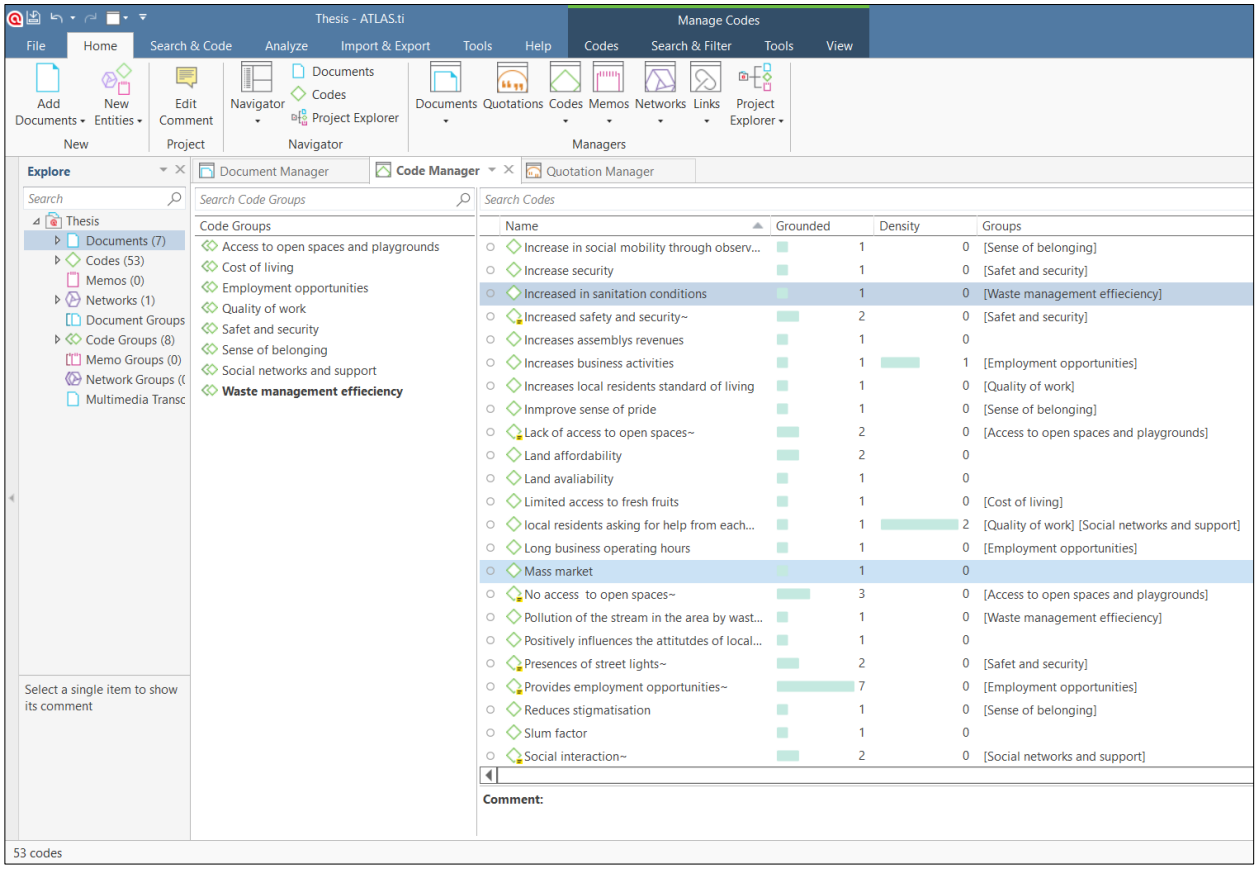


Visualising the location of the household respondents on google earth

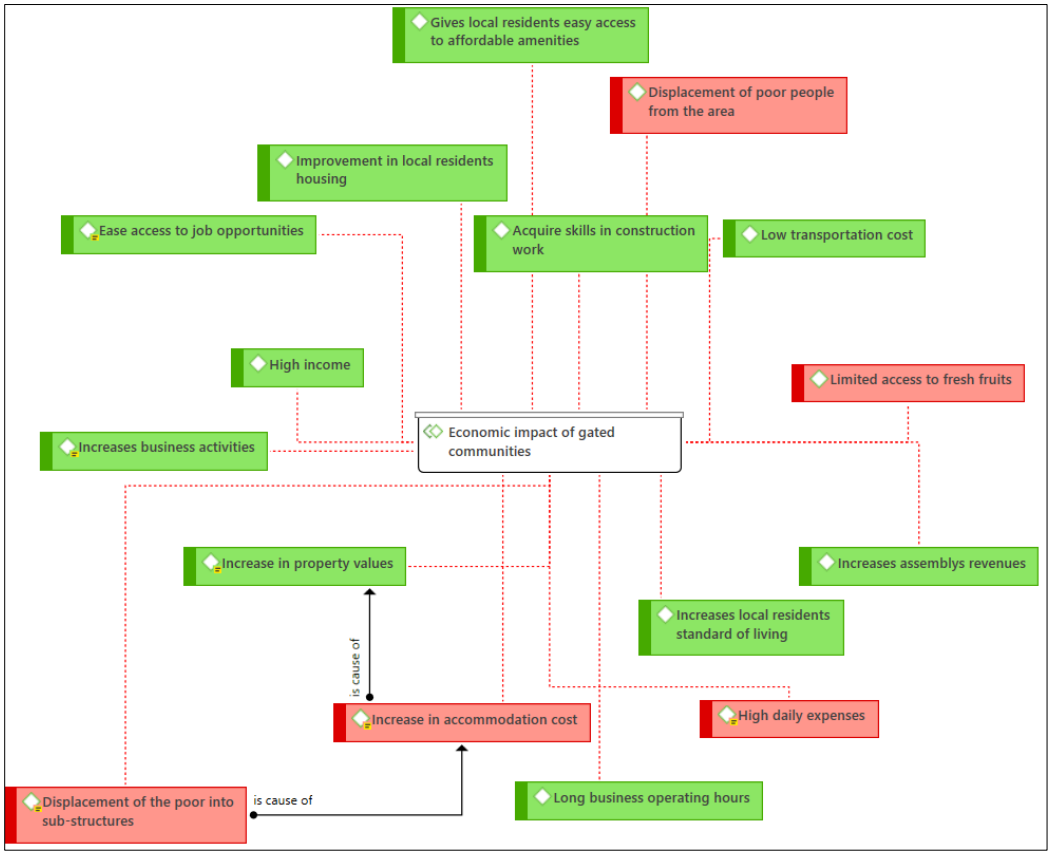
Appendix 3: Analysing the transcription from the key informant interviews and focus group discussions using Atlas.ti9.



Quotations and codes generated from the transcription



Code groups generated out of the codes from the transcription



Codes generate on the economic impacts of gated community developments.

Appendix 4: Socio-demographic characteristics of the residents in the Abokobi community

	Abokobi community		**2010 census data- Abokobi community**	
Variable	Frequency (N=146)	Percentage (%)	Frequency (N=1654)	Percentage (%)
Gender				
Male	74	50.68	847	51.21
Female	72	49.32	807	48.79
Total	**146**	**100**	**1654**	**100**
Age				
20-24	11	7.33	138	14.75
25-29	14	9.33	145	15.51
30-34	17	11.33	120	12.83
35-39	19	12.67	112	11.98
40-44	23	15.33	93	9.95
45-49	19	12.67	82	8.77
50-54	16	10.67	69	7.38
55-59	11	7.33	44	4.71
60-64	8	5.33	31	3.31
65-69	2	1.33	33	3.53
70+	10	6.67	68	7.27
Total	**146**	**100**		
Highest level of education				
No formal education	1	0.68	200	12.15
Basic (Primary, Middle and JSS/JHS)	79	54.11	971	58.99
Vocational/Technical	6	4.11	73	4.43
Secondary (SSS/SHS)	39	26.71	208	17.07
Post-secondary (Post middle/Sec. cert. /Diploma (Teacher training/college of education, Nursing, Agric, University Diploma, HND etc.)	9	6.16	103	6.26
First degree	4	2.74	74	4.50
Postgraduate degree (Cert., Diploma, Masters, PHD etc.)	8	5.40	17	1.03
Total	**146**	**100**	**1654**	**100**

Appendix 5: Means scores and percentages (stacked bars) of QoL satisfaction

Part 1: Means scores of QoL satisfaction of local residents in the Abokobi community before and after developing gated communities.

Domains	**Indicators**	**Attributes**		Neighbourhood	
				Before	After
Social conditions of life	**Social networks and support**	Interaction with neighbours in the community	Mean	4.10	4.66
			Standard deviation	1.16	1.13
		Asking Help from each other	Mean	4.07	3.80
			Standard deviation	1.37	1.35
	Trust and Sense of belonging	Level of friendliness	Mean	4.23	4.70
			Standard deviation	1.17	1.14
		Feeling at attached to the community	Mean	4.44	5.01
			Standard deviation	1.16	0.94
	Perception of safety and security	Safety on the street at night	Mean	3.46	5.13
			Standard deviation	1.33	.769
		Crime rate	Mean	4.54	5.34
			Standard deviation	0.94	0.69
Economic conditions of life	**Employment rate**	Job opportunities	Mean	3.09	4.39
			Standard deviation	1.35	1.04
		Level of business	Mean	3.39	4.63
			Standard deviation	0.94	0.94
	Quality of jobs	Family income	Mean	3.71	4.40
			Standard deviation	1.06	1.05
		Working conditions	Mean	3.37	4.32
			Standard deviation	1.17	1.20
	Cost of living	Daily expenses	Mean	4.78	3.26
			Standard deviation	0.67	1.15
		Accommodation cost	Mean	5.01	3.01
			Standard deviation	0.73	1.16
		Transportation cost	Mean	3.06	4.82
			Standard deviation	0.91	1.16
	Access to	Access to potable water	Mean	2.87	4.19

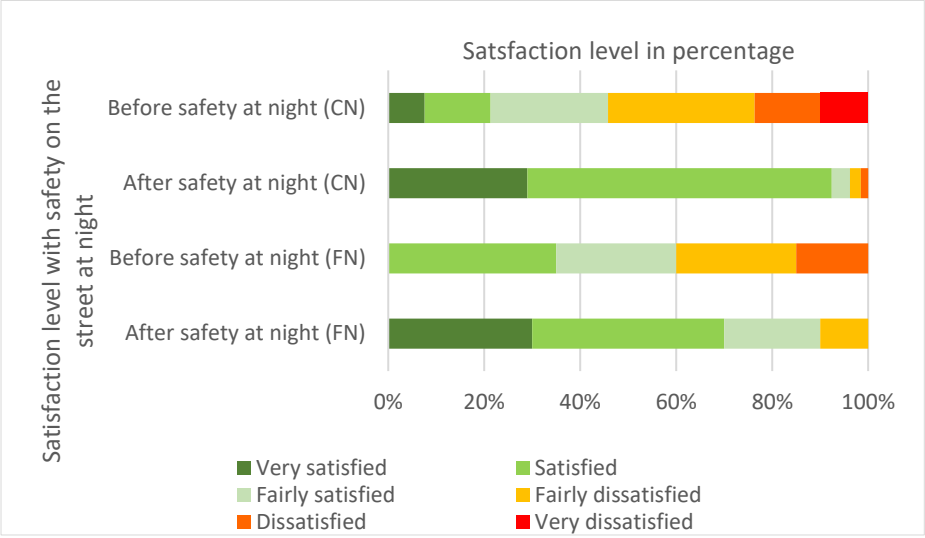
	water				
			Standard deviation	1.37	1.44
Environmental conditions of life	**Access to open spaces and playgrounds**	Access to open spaces	Mean	2.18	1.89
			Standard deviation	1.27	0.95
		Access to playground	Mean	1.64	1.74
			Standard deviation	1.00	1.14
	Waste management efficiency	Garbage collection	Mean	3.03	4.52
			Standard deviation	1.42	1.21
		Drainage system	Mean	3.06	1.83
			Standard deviation	1.52	1.18
	Overall QoL		Mean	4.36	4.93
			Standard deviation	0.94	0.67

Part 2: Mean scores of QoL satisfaction per domains base on proximity.

Indicators	**Attributes**		Close neighbourhood		Far neighbourhood	
			Before	After	Before	After
Social support and networks	Interaction within neighbourhood	Mean	4.11	**4.66**	4.05	**4.70**
		Standard deviation	1.19	1.14	0.95	1.03
	Asking Help from each other	Mean	4.15	3.87	3.60	3.35
		Standard deviation	1.37	1.34	1.35	1.31
Trust and Sense of belonging	Level of friendliness	Mean	4.26	**4.69**	4.35	**5.05**
		Standard deviation	1.20	1.16	0.93	0.51
	Feeling at attached to the community	Mean	4.53	5.13	3.90	4.25
		Standard deviation	1.14	0.88	1.17	0.97
Perception of safety and security	Safety on the street at night	Mean	3.41	5.16	3.80	4.90
		Standard deviation	1.36	0.73	1.11	0.97
	Crime rate	Mean	4.62	5.35	4.00	5.25
		Standard deviation	0.89	0.71	1.12	0.55
Employment rate	Job opportunities	Mean	3.00	4.90	3.11	4.31
		Standard deviation	1.52	0.91	1.33	1.04
	Level of business	Mean	3.30	4.75	3.40	4.61
		Standard deviation	1.08	1.12	0.93	0.93
Quality of jobs	Family income	Mean	3.73	4.40	3.60	4.35
		Standard deviation	1.08	1.05	0.94	1.04
	Working conditions	Mean	3.41	4.24	3.10	4.80
		Standard deviation	1.19	1.24	1.02	0.70
Cost of living	Daily expenses	Mean	4.78	3.21	4.80	3.60

		Standard deviation	0.694	1.19	0.52	0.82
	Accommodation cost	Mean	5.05	2.94	4.80	3.45
		Standard deviation	0.75	1.12	0.62	1.32
	Transportation cost	Mean	3.04	4.78	3.20	5.10
		Standard deviation	0.92	1.21	0.83	0.72
Access to potable water	Access to potable water	Mean	2.89	4.70	2.75	4.18
		Standard deviation	1.42	0.98	1.02	1.48
Access to open spaces and playgrounds	Access to open spaces	Mean	2.16	**1.89**	2.30	**1.85**
		Standard deviation	1.26	0.93	1.34	1.09
	Access to playground	Mean	1.64	1.74	1.65	1.75
		Standard deviation	1.05	1.15	0.67	1.07
Waste management efficiency	Garbage collection	Mean	2.99	4.47	3.25	4.85
		Standard deviation	1.45	1.21	1.21	1.14
	Drainage system	Mean	2.91	1.72	4.05	2.55
		Standard deviation	1.486	1.178	1.43	0.95

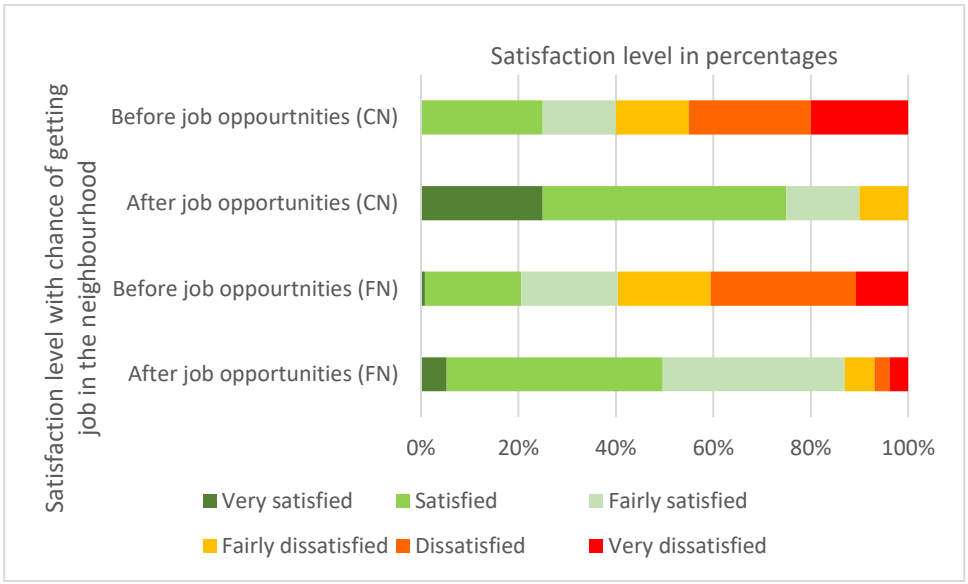
Part 3: Percentages (stacked bars) of local residents satisfaction with their QoL



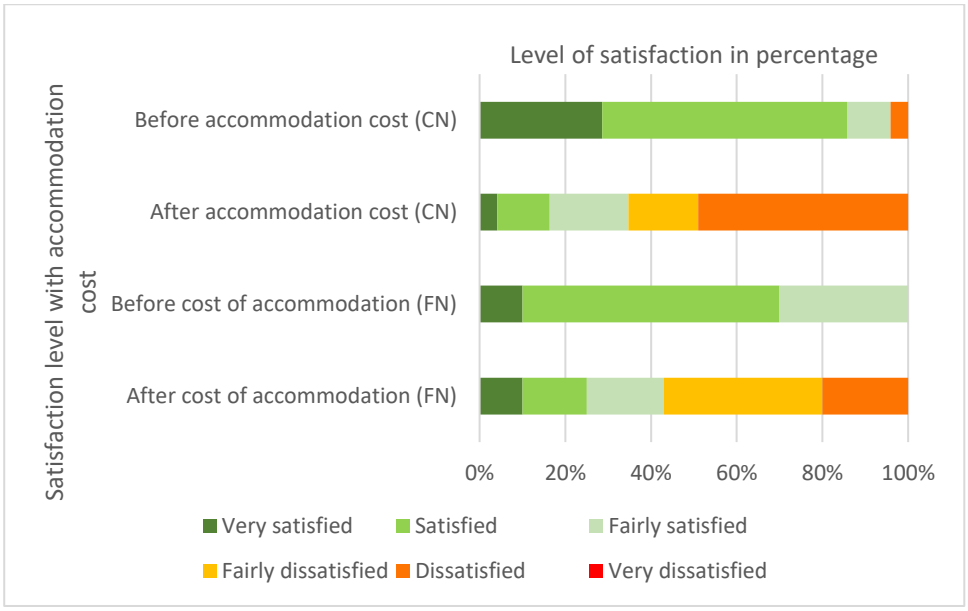
[8]

A: Satisfaction level with the safety of respondents close to and far from the gated community.

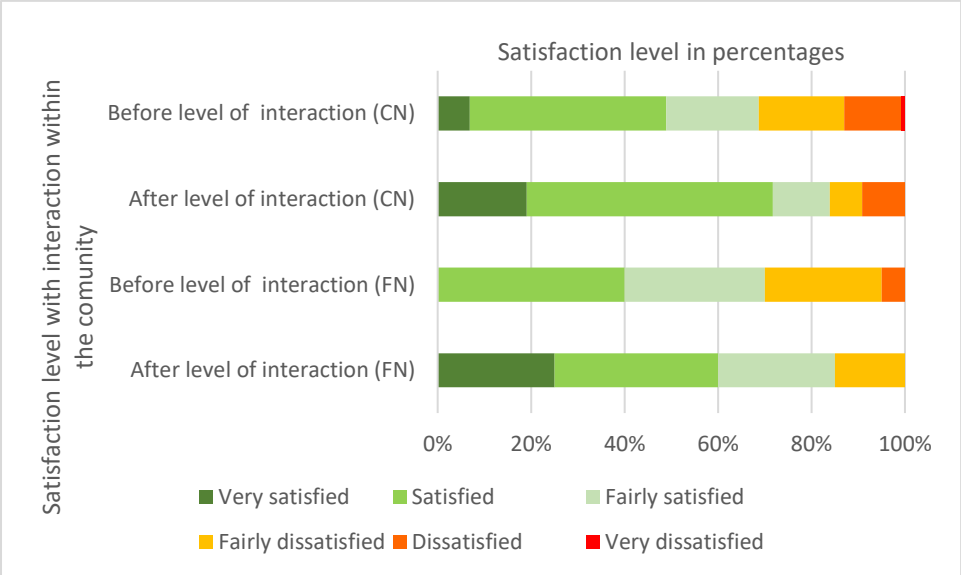
[8] CN = Close neighbourhood and FN = Far neighbourhood



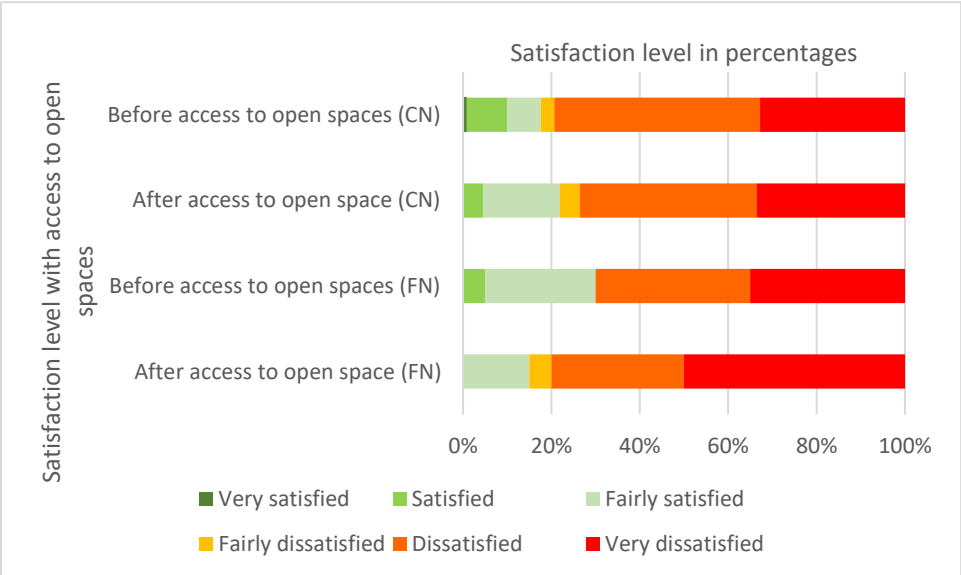
B: Satisfaction level with the chance of getting a job of respondents close to and far from the gated community.



C: Satisfaction level with the accommodation cost of respondents close to and far from the gated community.



D: Satisfaction level with the interaction of respondents close to and far from the gated community.



E: Satisfaction level with the interaction of respondents close to and far from the gated community.

Appendix 6: Research design matrix

Research questions	Collection method	Software and tools	Analysis methods	Anticipated results
Sub-objective 1: To understand the growth of gated communities in peri-urban areas in Accra				
How have local planning and policy influenced the development of gated communities in peri-urban areas over time? What factors are driving the development of gated communities in peri-urban areas?	Literature review Key informants' interviews Key informants' interview	Voice recorder Atlas.ti 9	Discussion Qualitative analysis (Content analysis) Content analysis	Discussion of how the planning of gated communities have been in Accra
Sub-objective 2: To find out the socio-economic and environmental impact of gated community developments on local residents in peri-urban areas				
What are the socio-economic and environmental impacts of gated communities in peri-urban areas, according to literature? What are the socio-economic and environmental impacts of gated communities in peri-urban areas as claimed by planners and developers?	Literature review Key informants' interviews	Voice recorder Atlas.ti 9	Content analysis	Discussions of gated communities' effect on non-gated residents Institutional claims of gated communities' effect on local residents
Sub-objective 3: To understand how local residents perceive their QoL in peri-urban areas with regard to the impact of gated community development.				

What are the relevant indicators of quality of life in peri-urban areas as defined by local residents?	Focus group discussions	Voice recorder Atlas.ti 9 SPSS 26 Excel ArcGIS 10.7.1	Qualitative analysis	List of validated indicators for assessing QoL Narrative about the influence of the gated communities in the last ten (10) years
What is the perception of local residents about their quality of life due to the presence of gated community in peri-urban areas?	Household questionnaires GIS spatial analysis		Statistical analysis (Descriptive and Inferential statistics)	Perception of QoL by the local residents (subjective QoL) Maps of local residents satisfaction level with their QoL due to the presences of gated communities'
What are the matches or mismatches between the claimed potentials of gated communities by developers and planners and what the local residents perceive?			Integration of the qualitative and quantitative results	Convergence and divergence between institutional claims of gated communities' effect and local residents' perception