

**UNIVERSITY OF HUDDERSFIELD**



**ADOPTION OF COMPACT CITY PLANNING TO PROMOTE SUSTAINABLE  
URBAN DEVELOPMENT IN GHANA: THE CASE OF GREATER ACCRA.**

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## ABSTRACT

Following the discussions made on the concept compact city planning and its impact on sustainable urban development, a lot of contemporary literature has been developed as a result of its prominence. United Nations equally advocates for the adoption of compact cities to make cities inclusive, safe, resilient and sustainable. In line with the efforts aimed at promoting sustainable development, the study aimed at exploring the adoption of compact city planning to promote sustainable urban development in Ghana using Ashiaman Municipality and La Nkwantanang Madina Municipality as a case study. The specific objectives of the study were to explore the adoption of compact city towards curtailing the incidence of urban sprawl in Accra, to examine government effort towards developing Accra in line with achieving the central tenets of UN Sustainable Development Goal (SDG) 11 and to examine the various impediments to compact city adoption within Greater Accra. The main target population for this study comprises the various Districts, Municipalities and metropolitan areas within the Greater Accra Region. However, the study employed convenient sampling to select two municipalities in the Greater Accra Region for the study. These Municipalities were the Ashaiman Municipality and the La Nkwantanang Madina Municipal.

Purposive sampling was also employed to select eight senior personnel at the various Municipal Directorates of the two municipalities for the study (four from each municipality). Four senior lecturers at the Department of Geography and Resource Development were also interviewed to corroborate the information provided by the technocrats at the various Municipal Assemblies. Similarly, eight senior professionals at the Ministry of Works and Housing and the Ministry of Local Government were interviewed for their inputs. This data was collected through semi-structured interviews.

Responses from the participants identified increasing high-rise buildings and having a holistic assessment of existing urban areas as key components of adopting a compact city plan to control urban sprawl. The government's efforts through construction of inner-city roads, and the provision of amenities such as schools, water and sanitation in these areas were noted to be in a positive direction to achieve the SDG 11. Controlled demolition of unauthorized buildings and

construction of high-rise settlements such as the Saglemi Housing project were also identified as good developmental efforts by the government. The major impediments to compact city planning were poor planning, lack of funding, lack of political intent, increasing urbanization, high poverty and inapplicability of sustainable city development practices in already established settlements.

The study recommends exploring the possibility of providing a dedicated source of funding for housing projects and settlement issues, as well as adopting a holistic settlement development plan with defined timelines for its implementation in Accra, and possibly other cities with increasing urbanisation.

# CHAPTER ONE

## INTRODUCTION

### 1.0 Background of the study

Compact cities were initially coined by George Dantzig and Thomas I. Saaty in 1973. This ideology has been adjudged by several authors as the best way to develop and plan cities (Al-Shouk & Al-Khfaji, 2018; Biri et al., 2020; Bhagwat & Devadas; 2020; Lee & Lim, 2018; Metre et al.,2021; Shum & Watanabe, 2018). However, available literature does not point to a common definition for the term compact city even though it has gained so much popularity in contemporary urban development literature (Bibri, Krogstie & Kärrholm 2020). The idea has implications for city planning since it is predicted to possess a major positive impact on the utilization of urban space, resulting in considerable environmental, social, and economic benefit. According to Bibri et al. (2020), the definition of a compact city can be derived from a strategy emphasized by Burgess (2000): to increase built-up areas and the density of inhabitants in the residential areas, to increase economic value of the urban area, social, and cultural life of the area. This further helps in restructuring the urban dimensions, its morphology, and structure as well as the different types of settlement in order to promote sustainability in the social, environmental and global benefits that are acquired through the cluster of functions within the urban area (Bibri et al.2000). Additionally, a report issued by the Organization for Economic Co-operation and Development (OECD) in 2012 on compact city strategies provide another description of the concept of compact cities. The report indicate that compact cities have characteristics such as (i) dense and proximate development structures (ii) cities connected by public transport systems; and (iii) access to indigenous services and job (OECD 2012, p. 26).

Consequently, as evident in the OECD report, the concept of compact city as deployed in sustainability development does not solely encapsulate enhancing urban density, but it also has to do with combining density with other requirements to achieve a feasible increase in the environment's quality as well as the economic state and social equity of the urban context (Bibri, et al.,2020). Scholars like Sweensen (2020) have



equally argued that compact city connotes a wide notion that encompasses a variety of objectives rather than a single result that promotes sustainability. According to Ahfeldt and Pietrostefani (2017, p. 2), The phrase "compact city" refers to “an idealized version of a city that exemplifies what it means to be notably urban in both very broad terms of density and in more precise aspects, such as continuous building structure, interconnecting streets, mixed land uses, and people's patterns of transit within the city.” As indicated by Gleeson (2013) there has been a persistent crusade to inculcate compact city in the development and planning process of an urban area owing to its potential of impacting positively on productivity.

The benefits related to adopting the idea of compact city for city advancement is very well documented. Polasky et al. (2019) for instance points to the correlation between the economical benefit, the ecological growth as well the social impacts resulting from the concept. Ahfeldt and Pietrostefani (2017, p. 4) equally points to accessibility of jobs for the occupants of the urban area, access to services by the occupants and the efficiency of public services. They further point out that the inclusion of open spaces and social equity amongst the occupants as well as their safety directly contributes to positive outcomes. The compact city concept equally leads to reduction in pollution within the urban area, energy efficiency and control traffic flow as well as sustainable choices, health, and wellbeing of occupants of the urban area also contributes positively. (Ahfeldt and Pietrostefani, 2017, p. 4). It also allows for more open spaces through forest, land protected areas among others to allow for the ecosystem to recover.

It is for the above-mentioned benefits, that this study seeks to explore the adoption of compact city planning towards curtailing the incidence of urban sprawl in the Greater Accra Region.

### **1.1 Research Gap and Problem Statement**

A scan through available literature depicts that over the past decade, there has been significant increase in the number of people living in the urban areas (Hölscher & Frantzeskaki, 2021). For instance, in 2008, the population of the people that lived in the cities is about fifty percent of the population or close to 3.3 billion people. As Musah & Xu (2020) put it, the population of the urban area is anticipated to hit 4.9 billion by the year 2030. Also, it has been predicted that by 2030, the urban populations of both

Africa and Asia would have increased twofolds (United, 2011). With direct reference to Africa, it has been indicated that urban growth in developing countries has been very rapid as compared to the level of infrastructure development (Essien, 2021). The United Nations (2014) for instance indicates that by 2044 the urban population in Africa will be almost two billion.

The issue of urban sprawl remains a critical challenge that undermines development effort in respect of city governance and natural resource management. Ghana has not been exempted from the issue of urban sprawl. The population of Ghana is about 30,832,019 according to the Population and Housing Census (2021). This increase is quintuple of the population of the 1960 (6,726,815). The huge urban expansion levels in Ghana have been predominate in five major metropolises in Ghana. These include the following cities Accra, Tema, Kumasi Tamale as well as Sekondi-Takoradi). However, it has been argued by Agyeman (2018) that the issue of huge urban expansion and urban sprawl is more pronounced in Greater Accra. The Greater Accra metropolitan connects Accra to several peri-urban cities. The population of Accra as at the 2021 population and housing census stood at 5,446, 237. Additionally, Greater Accra recorded the highest number of increases in urban population. The population of the urban area increased with about 17,472,530 (56.7) in 2021 as against the previous population of 12,545,229 (50.9%) in 2010. The Greater Accra and Ashanti region almost makes up a bisection of the population that is 56.7% (Population and Housing Census, 2021). Additionally, 91.7% of the Greater Accra population is urban, making it the region with the highest proportion of urban population (PHC, 2021). In terms of demography of the urban area (the number of persons occupying a square kilometre), Greater Accra region recorded 445 persons as the highest increase, this is 1,681 advancing from 1236. Further compounding the issue of urban sprawl in the Greater Accra region is the fact that an additional 2.5 million of the population business suburbanites migrate into the city for educational and commercialized activities. Additionally, these business commuters may also apply themselves to professional, industrial and administrative activities (Essel, Spadaro & World Health Organization, 2020).

In Accra, the continuous massive invasion of migrants have resulted in problems of escalating congestion, housing shortage in the inner cities, pollution and human and vehicular traffics and congestion in rooms (Musah, B. I., Peng, L., & Xu, Y. (2020). The

lack of urban planning coupled with the concentration of population in Accra calls for the adoption of compact city planning by governments and other local agencies to deal with the incidence of urban sprawl.

Even though there have been various attempts at grappling with the issue of urban sprawl through the adoption of compact city planning, most of these studies are often focused on developed countries (See: Bosch, Chenal & Joost, 2019; Artmann, Inostroza & Fan, 2019; Rand et al., 2002; Coq-Huelva & Asián-Chaves, 2019; Alsharif & Pradhan, 2014; Brueckner & Helsley, 2011; Pirotte and Madre, 2011) regardless of the contextual differences. Additionally, scholars have written extensively on compact city planning but enough knowledge has not been documented on how the adoption of compact city planning can combat urban sprawl in Greater Accra (Addo, 2002; Essandoh, 2019; Gleeson, 2019; GSS, 2002; Stevenson & Adanu, 2004). Essandoh (2019) for instance discussed urban transportation which is a sub-set under the compact city by limiting the discussion to Accra without focusing on the adoption of the compact city as a whole and the different ways of delivering sustainable development in Kumasi and Accra. Similarly, Adanu (2004) also contended on the changes needed in planning the urban areas limiting the investigations to the capital city of Ghana without discussing how this change provides sustainable development in Ghana. From the aforementioned studies carried out, this study intends to assess and investigate the adoption of compact city planning towards curtailing the issue of urban sprawl in Greater Accra.

## **1.2 Purpose of the Study**

The primary intent the study seek to achieve is to examine the adoption of the concept of compact city towards curtailing the issue of urban sprawl amongst some selected municipalities within the Greater Accra Region. In doing so, the research will seek to inquire into the different types of governments roadmap towards achieving the UN Sustainable Development Goal (SDG) 11 and the inherent impediments to compact city adoption within Greater Accra.

## **1.3 Research Objectives**

The specific research objectives include:

1. To explore the adoption of compact city towards curtailing the incidence of urban sprawl in Accra.

2. To examine government effort towards developing Accra in line with achieving the central tenets of UN Sustainable Development Goal (SDG) 11
3. To examine the various impediments to compact city adoption within Greater Accra

#### **1.4 Research Questions**

The relevant research questions include:

1. How can the concept of compact city be deployed towards curtailing the incidence of urban sprawl in Accra?
2. What are the various mechanism instituted by the Ghanaian government to attain the UN Sustainable Development Goal (SDG) 11?
3. What are the impediments to the adopting compact city as a concept in the development agenda of Greater Accra?

#### **1.5 Significance/ Justification of the Study**

The main aim of the study is to probe how compact city design might be used to reduce urban sprawl in the Greater Accra Region. In the end, the study seeks to examine governments roadmap towards accomplishing the UN Sustainable Development Goal (SDG) 11. Consequently, the study will directly impact the operations of Government/Policy makers, the academia and City Development Experts.

##### **The Academic community**

The outcome of the study will significantly provide the necessary impetus for future researcher to delve into other aspects of planning and developing the city. Furthermore, the different facets of city planning and growth would be explored through this study. It may act as a framework and a point of reference for scholars who want to explore into city planning and development in other Sub-Saharan African nations. From the findings, the knowledge obtained would serve as an addition to the existing knowledge in the field of study, as well as act as a guide and starting point for future researchers that may include scholars—students, teachers, and consultants who are interested in the topic and wish to conduct comparable investigations in other fields that are closely related. In some cases, it may serve as the reference point in their research.

### **Government/ Policy makers**

The study will provide a framework that will enable policy makers/Government to be abreast with the requisite technical issues pertaining to the mechanisms that could be practiced to combat urban sprawl in Greater Accra by adopting the concept compact city. Also, the results of this study will help disclose the challenges associated with implementing compact city principles in Greater Accra

### **City Development Professionals/Experts**

The outcome of this study will equally be relevant to city development professionals. It will provide them with deeper insight on issues pertaining to the adoption of compact city as a mechanism for curtailing the issue of urban sprawl within Greater Accra.

### **1.6 Organisation of the Study**

In the study, the structure is made of five major chapters. The first chapter which is chapter one includes the background of the study, the identified problem, the established aims and research questions preceding them. It further provides the significance of the study, the rationale behind the study. The organization of the research is also covered in this chapter. The relevant literature on the topic of the study is covered in second chapter of the study, that is Chapter 2 of the study. It discusses the theoretical, conceptual, and empirical literature regarding the adoption of complex cities. The third and fourth chapters, respectively, detail the methodology adopted as well as its findings of the research and its analysis. The summary, conclusion, and recommendations are covered in the last chapter, that is the last chapter.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.0 Introduction

In this aspect of the research, the tremendous benefits associated with concept of compact city is justified hence it is ideal for developing cities. This chapter however reviews the conceptual, theoretical and empirical literature relevant to the study. The chapter commences with varying conceptual reviews, followed by theoretical as well as empirical reviews. Information for this section is obtained from diver's sources including accredited journals, articles, newspapers, reports, peer reviews amongst other relevant sources.

#### 2.1 The origin and history of compact city planning

According to Conticelli (2020) the concept of compact cities came about corresponding to the evolution of cities. The characteristics of complex cities include compact and small areas with barriers around them. In these areas there were road, public square and road demarcations (Conticelli, 2020). Medieval city may be considered as the veritable size of the concept compact city. The walls of the city which served as barriers were of high level in the urban areas. These walls were compact and used differently in the middle age because the inhabitants resided and worked in a confined area. The essence of this dense structure was not to encourage expansion but concentration of both new inhabitants and activities (Conticelli 2020).

In the majority of European cities, the type of development emanated within the seventeenth and eighteenth centuries. Furthermore, the concept gained roots in other parts. These included the central part of several ancient cities found in the North America, Australia and the New Zealand. All of these aimed at making sure that the destinations were not far apart from each other (Newman 1992). However, in the revolution period of industrialisation in the eighteenth and nineteenth centuries, the walls surrounding the cities were pulled down to establish the areas for industrial, transport, and port activities. Consequently, the era of past compact city structure ended.

As indicated by Conticelli (2020) these economies caught the eye of indigenous in various rural areas which led to the development of new and rapid urban settlements.

There was also expansion in urban settlements which resulted in various health issues owing to the impact of poor sewage, waste disposal, polluting firms, and general overcrowding. As Newman (1992) puts it, the extensive urbanisation in Europe and North America came at a time when there was massive advancement in passenger trains and trams. The concept of compact city became a very important approach towards dealing with the problems of urbanisation in the early nineteenth and twentieth centuries.

Greenbelt policies were put in place in the various cities in Europe, following the destruction of the walls of the city. This was done to reduce expansion in the urban areas through the introduction of new green borderlines (Kühn 2003). In Europe, the encouragement of the idea of the concept helped in eliminating the ancient cities and spreading the inhabitants to other cities of which Russia was no exemption (Hirt 2007).

## **2.1 The concept of Compact City**

The concept compact city is adopted by a lot of countries to tackle sustainability. This concept has been recognised internationally as a newer concept to approach sustainable urban development in an area. This concept has been promoted by organisations such as the UNEP, World Bank, UN-Habitat and OECD (Holman et al, 2015, pp 1-38). The paradigm of compact city has been widely used especially in the European countries as well as America. The concept of compact city has projected to Africa as well. In the southern part of Africa, the use of the concept in its planning process has been enforced following the continuous increase in population which has led to high urban sprawl. The implementation of this concept provides the 'most appropriate' ways of executing how effective the urban areas can be planned and the efficient way of providing solutions which are deemed as sustainable in the social, economically and environmental aspects. It further establishes the repercussions of the patterns involved in the urbanization that are not sustainable as according to the UN-Habitat (2009a) and the World Bank (2010). From the concept, new ideas are created to actively regulate the developing and planning of the area. In order to achieve, a greater extent of development sustainably, compact city planning as a concept serves as a key strategy. Compact city planning seeks to address the combination of issues in the urban areas which has made these areas less economically efficient and created less liveable cities for humans. The inclusion of the compact city concept also tends to address sustainability within the area and the

reduction in social equity as well as the conditions of the area in the environment. Compact city planning thus encompasses what it entails and how it tackles sustainability.

**Figure 2.1: Table showing the dimensions of compact city**

1. Set explicit compact city goals	<ul style="list-style-type: none"> <li>• Establish a national urban policy framework that includes compact city policies</li> <li>• Encourage metropolitan-wide strategic planning</li> </ul>
2. Encourage dense and proximate development	<ul style="list-style-type: none"> <li>• Increase effectiveness of regulatory tools</li> <li>• Target compact urban development in greenfield areas</li> <li>• Set minimum density requirements for new development</li> <li>• Establish mechanisms to reconcile conflicts of interests</li> <li>• Strengthen urban-rural linkage</li> </ul>
3. Retrofit existing built-up areas	<ul style="list-style-type: none"> <li>• Promote brownfield development</li> <li>• Harmonise industrial policies with compact city policies</li> <li>• Regenerate existing residential areas</li> <li>• Promote transit-oriented development in built-up areas</li> <li>• Encourage “intensification” of existing urban assets</li> </ul>
4. Enhance diversity and quality of life	<ul style="list-style-type: none"> <li>• Promote mixed-land use</li> <li>• Improve the match between residents and local services and jobs</li> <li>• Encourage focused investment in public space and foster a “sense of place”</li> <li>• Promote a walking and cycling environment</li> </ul>
5. Minimise adverse negative effects	<ul style="list-style-type: none"> <li>• Counteract traffic congestion</li> <li>• Encourage the provision of affordable housing</li> <li>• Promote high-quality urban design to lower “perceived” density</li> <li>• Encourage the greening of built-up areas</li> </ul>

**Source: OECD, 2012**

This concept can be supported by what was stated by the founders of the concept. The founders greatly considered for the concept compact city are Dantzing and Saaty. According to them, the concept is characterised by three factors which include

- i) With regards to urban morphology, high-density residential areas characterise the compact city. This is said to be a type of development where the different range of housing types are mixed with limited neighbourhood and commercial spaces. Examples of these housing types may include rise apartments, row housing, town houses, duplex among others. The morphology also seeks to reduce reliance on motor vehicles. This is done by the provision of sustainable transport infrastructure, the inclusion of open spaces, squares and the introduction of cycling and



walking routes. It further set clear boundaries with neighbouring regions. This helps create a limitation on city expansion thus positively affecting the sustainability of the area.

- ii) Mixed land use and high-diversity of lifestyle spatially defines the compact city. Mixed land use can be explained as the process of planning and zoning where the residential, commercial, and cultural aspect of urban development are put together in one space. This encourages social cohesion and enhances urban vitality.
- iii) Lastly, the compact city concept is characterised by equality in the social aspect of the urban area, self-sufficiency of daily life and independent regional and district management serves as the social functions (Dantzig & Saaty, 1973, p. 113). Employing this, regions are made independent, that is to say, an urban area is able to manage its affairs and resources without any external influence and allows the occupants of that area to enjoy the benefits associated with it. These buttress the practices that are adopted by the concept.

## **2.2 The concept of Sustainable development**

Sustainability has always taken the centre stage in the world when it comes to satisfying the current needs of humans without compromising the ability of future generations to meet their own needs (Jones & McDonald, 2021). This means that in a bid to meet our current needs, there is the need to take cognizance of the needs of the future generations and it is on this line of reasoning that sustainability has always been employed. Several policies have been instituted to enable the future generation to provide and meet their needs sustainably (ibid). This is evident in the development of cities as sustainability has been the main object for the development of cities around the world. Sustainability could be integrated into policies by policymakers to create cities that are sustainable, that is improve and maintain the conditions surrounding the cities without affecting the future of the cities. This was justified by Russo and Cirella (2021). It is with this that, there has been continuous insistence on including sustainability in the planning process of the city development.

According to Di Fabio (2017), sustainability offers a holistic approach as it considers the ecological, social, and economic dimensions. Although sustainability has been recognized by many scholars as critical towards maintaining the earth's ecosystem

(ibid), Marcuse (1998) justified that sustainability alone is insufficient following the discovery by professionals and scholars.

To ensure sustainability, there is a need to balance the social, environmental and economical aspects of planning of urban systems of the selected city. This was emphasised by Sacirovic et al. (2019) with Munasinghe et al. (2017) affirming it. From the study of these authors, there is a need to place sustainability in the midst of its planning and development processes in all aspects of the selected city to ensure balance and promote productivity. It is in reference to this that Bhagwat and Devadas (2020a) established that “the integration of sustainability and compact city concepts could act as a functional one-point solution to solve the challenges faced by the cities around the world.” Despite the advocacy by Bhagwat and Devadas (2020) on the need to integrate sustainability into the concept of compact city to address the challenges that cities face across the globe, there have been issues that have been raised as to whether compact cities in themselves guarantees sustainability (Neuman 2005; Williams et al. 2000; Roo & Miller 2000; Churchman 1999; Ahfeldt & Pietrostefani, 2017).

Sustainable development can therefore be explained as a concept which entails the process of developing a social and economic structure. This concept assures that the set goals for the city are sustained. These may include the educational standards of the population as the city increases, the health of the city and nation as a whole improves and the overall quality of life is advanced with the real income of the population continuously increasing (Pearce et al. 1989, p. 114). This, therefore, confirms the need to integrate sustainability with regards to aspects that include the economic areas as well as the social and environmental aspects.

According to Pearce and Atkinson (1993, p. 114), sustainable development is "the development of a society in which development costs are not transferred to future generations, or at least an effort is made to pay for such costs." The most popular and widely acknowledged definition of sustainable development is provided by the Brundtland Commission, and it is as follows: According to WCED (1987, p. 217), “sustainable development is defined as development that satisfies present demands without endangering the capacity of future generations to meet their own requirements.” The social, environmental, and social factors are the three key facets

of sustainability that are addressed in cities and urban regions. These have an immediate impact on the form of development in the city.

### **2.3 National Urban Policy (Ghana)**

Ghana as a country has its urban population forming fifty percentage of the total population of the country. With this, there is a need to provide ways of controlling the continuous development from these urban areas (Ghana Statistical Service, 2021). In order to control the continuous growth, there was to formulate policies that would control and manage the urban areas. This led to the creation of the Ghana National Urban Policy. The creation of this policy had the major aim and goal to spatially promote a sustainable, orderly and connected growth of settlements in the urban areas. This would involve the provision of appropriate infrastructure and housing, improved services and efficient institutions as well as a healthy living and working environment for the population.

With all these considerations, the nation launched its first National Urban Policy which was coupled with a five-year comprehensive Action Plan. This policy came about after a four-year process of deliberations, technical research on the matter and assessments of the policies. There was also a broad involvement of the domestic and international offices alongside organised workshops. From these policies, it set the urban infrastructure investment on a large-scale which is funded by the government and in turn managed by the municipal assemblies. These policies are intended to create a healthy living and working environment whiles dealing with severe traffic congestion by providing relief such as introduction of alternate means. These alternate means may include the provision of public transports such as trains and others. These policies were created to support the rapid development in the country socio-economically

Urbanization in Ghana accelerated according to the UN-Habitat having more than half of its demography migrating to cities and making a living there (UN-Habitat, 2017). Primarily, the continuous expansion is due to improved infrastructure in the urban areas and major cities as well as the rapid socio-economic development within the urban context and major cities.

A study carried out by the Ghana Urbanisation Think Tank (GUUT, 2014), produced the positives and deficiencies associated with the National Urban Policy after the six years of study. From this, twelve positive policy objectives to guide the urban development were laid down. They are as follow:

1. To develop a spatially linked hierarchy of urban centres
2. To permit balanced redistribution of the urban population
3. To encourage economic development in cities
4. Improving the quality of urban life's environment
5. Ensure efficient infrastructure in the urban context and the delivery of service by better planning and managing urban expansion and sprawl.
7. Promote safety in the urban areas and security as well through increasing access to sufficient and affordable housing.
9. Improve city government
10. Encourage adaptation and mitigation of climate change.
11. Strengthen applied urban and regional development research
12. Increase the source of fundings involved in developing urban area and improvement and management of finances in cities.

The implementation of the policies is carried out by municipal assemblies and the Urban Development unit of the Department of Local Government and Rural Development.

#### **2.4 Compact City as a Model for Sustainable Urban Development**

There is no literature, according to Bhagwat and Devadas (2020a), that provides definite definition for a sustainable compact city. Biri et al. (2020) also acknowledged the inadequate specific definitions for the compact city, but noted that there are some commonalities in concept of the compact city that have to do with sustainability. Compact cities, according to Burton (2002, p. 71), are characterized by a relatively high residential density, a diversity of land uses, a reliable public transit system, and

physical attributes that encourage walking and bicycling. Once more, Williams et al. (1996, p. 5) described “the compact city as an urban planning and urban design concept that supports a reasonably high residential density with a variety of land uses. It is built on an effective public transportation system and features an urban design that promotes cycling and walking, as well as consuming less energy and producing less pollution.” Jenks et al. (1996, p. 5), further explained “the compact city as a network of neighbourhoods, each with its parks and public spaces and accommodating a diversity of overlapping private and public activities. These definitions have elements of sustainability in them which proves compact city adopts aspects of sustainability in its execution.”

The Organization for Economic Cooperation and Development (OECD, 2012, p. 15) also defined “the compact city as a spatial urban form characterized by compactness.” Additionally, a more recent definition by the same organization listed the characteristics of the compact city as dense and nearby development patterns, urban areas connected by public transportation systems, and accessibility to local services and employment opportunities (OECD, 2012, P.15).

The study of cities may be referred to as sustainable urbanism. This involves the practices and strategies used in designing and developing cities by providing them with long-term goal of resilience and viability. This is achieved by the reduction of material use, mitigation of pollution, minimisation of waste and the lowering of level of energy consumed. This is based on research into the planning of the urban areas in relation to the long-term development in these areas that is quickly urbanizing. Sustainable urbanization may be characterised by the concept compact city planning.

It is understood that sustainable cities directly affect urban development thus different perspectives on what it entails and what it produces are established. Additionally, the different ways to tackle sustainable compact city is also established. These ways may include the inclusion of green and open spaces, the effective use of sustainable transport infrastructure such as trains and trams, the introduction of squares, pedestrian sidewalks amongst others. In general, a sustainable city can be defined as the planning and designing of current and new cities, where the process of planning implores and applies sustainability knowledge. This contributes to urban development which directly affects the long-term urban sustainability goals.

This has led to diverse viewpoints on what a sustainable city involves and what it must be. Following the different approaches used, it has brought about the creation of sustainable compact city which looks at the details of the concept while considering the level of sustainability involved. Sustainable cities along with other concepts have been the most used methods in the managing urbanism paradigm and preserving cities for future posterity. These concepts serve as the main ways of promoting sustainability within cities and urban areas. Concepts deemed to promote sustainability in the urban environment according to Roggema (2016) may include compact cities, eco-cities, green cities, new urbanism, landscape urbanism, and urban containment.

## **2. 5 Dimensions of Compact City**

Biri et al. (2020) notes that there are commonalities in the different studies undertaken in the area of compact city as well as the analyses that have been carried out with regards to this area of study. These studies state the dimensions of the compact city which may serve as the references point for planning of compact city in the cities selected. These dimensions would however consider the context of the selected cities that is Accra and Kumasi.

The different features of enough street space, street network of high efficiency high density, diversity in land uses, social mix, and specialization of the land uses and its limitations were noticed in research by UN D.E.S.A (2015) on strategy of sustainable neighbourhood development. Another study by Kotharkar et al. (2014) on "Measuring compact urban form," found and stated other dimensions of the compact city. This includes density of the urban area, density distribution within the area, mixed land uses, the transportation network in the area, accessibility within the area as well as the shape of the area. The dimensions were similar to what was discovered by Jabareen (2006). The study undertaken by him asserted the dimensions which included compactness, the density of the area, mixed land uses, diversity in the area, and sustainable transport. These also serve as dimensions of the compact city. Jones and Macdonald (2004) determined the dimensions which includes land use mix of the area, that is the land used for residential, commercial and cultural development. It further stated the density of the area as a dimension as well as the transportation infrastructure found within the urban area. The built environment features, that is the physical makeup of the urban area which includes the streets, the sidewalks, open

spaces amongst others and the layout of the urban area may serve as dimensions of the compact city concept (Jones and Macdonald, 2004). Demsey and Jenks (2010), attests to similar dimensions of the compact city concept which includes the demography of the area, the different ways the land is put to use, transportation infrastructure, how access the area is, the features associated with the built environment and layout of the urban space. These parameters, as established by several academics, point in the direction that these variables are related to city sustainability and share some commonalities.

## **2.6 Barriers to Compact City Implementation in Ghana**

Several limitations have been observed prevented the implementation of compact city planning in Ghana. Debrah et al., (2020) mention that one basic challenge to urban growth policies is the ability to restore environmental quality. Many cities in developing nations experienced a rapid economic and demographic growth that resulted in problems associated with air pollution, water, land degradation and noise pollution. Currently, about 50% of Ghana's population dwell in urban areas. This form of rapid urbanisation has led to a great decline in green spaces in such areas (Diko and Palazzo, 2018). According to the UN Habitat (2013) there are enormous amount of solid wastes that are generated in low and middle-income countries that are not collected and less than 35% of wastewater is treated. This coupled with social problems such as inability for some households to afford their rents are challenges that hinder compact city planning implementation. Also, rapid urbanisation tends to result in encroachment of lands that are designated for purposes such as green spaces and uncontrolled expansion of the physical boundaries that is not favourable economically, socially and environmentally (Amponsah et al., 2022).

Institutional barriers are also major hindrances to compact city planning and implementation. Diko and Palazzo (2018) pointed out that institutional barriers such as political interferences, inadequate funding, lack of vision or innovation concerning compact city planning, mismanagement of lands, misconception concerning land use and the inability of residents and landowners to appreciate a compact city undermine compact city planning and implementation in Ghana. Diko and Palazzo (2018) also mention that urban authorities over-rely on traditional planning practices and hence there is a lack of strategic plan on how to tackle or manage pressures on urban area lands due to rapidity of urbanisation.

Furthermore, physical barriers that hinder compact city planning are conflicting rights of ownership, encroachment and poor maintenance of land. For instance, according to Mensah et al., (2017) in Kumasi power over ownership of land is given to the Lands commission, Kumasi Metropolitan Assembly (KMA) and the traditional authorities i.e., Chiefs. This brings about a lot of confusion and conflicts over lands that hinders any form of development from occurring on the land. The conflicts prevent such bodies from acting as a unifying body in planning and of managing lands. Also, it observed that there is poor collaboration between government bodies, private bodies and other bodies in charge of implementing compact city planning serves as a barrier.

Another major obstacle to compact city implementation is lack of financial commitment towards compact city implementation mostly as a result of financial constraints. The bodies responsible for compact city projects do not have funds allocated for driving implementation of compact city development. There are also little to no funds in maintaining already existing green spaces in the nation. This have led to their deterioration, unattractiveness and lack of patronisation. This also tends to influence the lack of innovation and interest of both individuals in the nation and bodies in charge of implementing development that promote compactness in urban cities (Mensah et al., 2017).

## **2.7 Emerging Practices for Sustainability**

According to research conducted by Biri et al. (2020), new sustainable compact city strategies include "compactness, density, mixed land use, sustainable mobility, green structure, and intensification." These practices include compactness where human activities are maximised in a selected area, the density of the selected area, mixed land use of the area where the residential, commercial, cultural, institutional, and social functions are integrated into the different scales and function conjointly together within the urban area. Others include sustainable transportation, green structure and intensification which is a network of forming the natural and semi-natural areas. Also, the green areas found within the rural and urban areas and other features as well as the terrestrial, coastal, freshwater and marine areas (Naumann et al., 2011a) These new activities are considered to be a component of the dimensions that have been identified. Furthermore, the development of techniques for long-term compact city sustainability was highlighted by density in compact cities. The practise of centrally developing and building around and on strategic nodes along with public transport are



practices that contribute to the density of the urban area. Also, the reservation of the outer city for future development would also add on to the density of the urban area. Another practice that contributes to the density, is the construction of built objects of high density which are designed in an emergent compact urban form.

With relation to mixed land use, the identified emerging practices for sustainable compact cities highlights different practices. The spread and expansion of facilities horizontally is a way through which the physical land could be put to different uses. Also, the vertical mix of uses, the introduction of amenities, the inclusion of public space within the urban area serves as practices of compact city. The quality of life of the occupants would be improved through inception of sustainable transportation along with the economic mix that is business activity, production, consumption amongst others would contribute to sustainable compact city planning in the urban area. Again, social mix such as type and components of housing within the urban area, the demography of the population or occupant within the area as well as their lifestyles affect the concept of compact city. There is a need to mix facilities including housing and business in strategic nodes.

Additionally, sustainable transportation identified emerging practices for sustainable compact cities as the provision of infrastructure to improve cycling and walking. Introduction and improvement of infrastructure that promotes public transport such as the metro, buses, tram among others. There is a need to ensure mobility management and increase accessibility through public transport infrastructure whiles improving them.

Furthermore, sustainable transportation must combine multidimensional mixed land use of high-density development, as well as designated lanes for public transportation. These practices create a dependable and punctual system which promotes the safety within the urban area. The growing practices and initiatives in relation to sustainable compact cities include green areas and parks, open spaces in the urban area provides integration of the natural, cultural and other regions. These practices enhance green intensification.

Lastly, practices such as increment in the redevelopment of previously developed sites, introduction of urban regeneration as well as increment in the development of previously undeveloped urban land and buildings.

The above stated practices would greatly contribute to long-term sustainability in the urban area.

## **2.8 Empirical literature Review**

This section is devoted to an appraisal of available literature related to this current study. The essence of this exercise aimed at identifying a gap in the literature.

Relating to the study, a study carried out by Bibri, Krogstie & Kärrholm (2020). The study delved into how the concept of compact city is practised in the planning and development of urban areas considering the three dimensions of sustainability, and to identify if there has been any improvement in this regard. In this study, the research methodology adopted was descriptive case study. This was done to establish the qualitative aspects of the research. Gothenburg and Helsingborg served as the cities for the study. Their official plans and documents were outlined to indicate the uses of the land, the types of transportation employed to promote sustainability, the identified green spaces and the core master plan of compact city planning and development in the area was the empirical basis for the study. The study found that compactness, density, diversity, mixed land use, sustainable transportation and green space are the core design strategies of compact city planning and development (Bibri, 2020). The latter however, is connected with the concept of green structure which was found to be a setup based on which the two cities function. From the study, it was proven that the concept of compact city planning contributes greatly to the social, economic and environmental goals associated with sustainability.

Another study with similar relation to the current study was carried out by Cobbinah & Amoako (2012). The study was carried out in Kumasi, where the nature of area was determined. It further delved into the extent of urban sprawl in the area and its impacts on the environment and inhabitants. Considerably, the study the urban sector has employed in addressing the phenomenon. The empirical data of the study was gathered from the Kumasi Metropolitan Assembly and inhabitants of some sprawling communities. The study found that sprawl in the metropolis has resulted problems such as congestion stemming from weak and ineffective management. Additional peri-urban land has been converted into residential use without providing sufficient ancillary infrastructure and services socially.

A similar study was carried out by Abass et al., (2020). In this study, the researcher emphatically focused on the exhaustion of green spaces and areas due to urban sprawl and its impact on the environment which includes high incidence of flooding within the area. The study was also executed in Kumasi and the study made use of geospatial techniques as one of its methodology. Other methodologies that were used included interviews and direct observations. This was done to explain and state the effects of urban sprawl and its relation with flood occurrence. The findings of the study revealed that there had been an increase in impermeable land by 54% from 1986 to 2016. In much the same way, permeable space had reduced by the same margin as a result of lack of planning and unregulated urban expansion. The increase in the rate of impermeable surface, is the primary cause of aggravating the situation of floods in Kumasi. However, the incidence of inefficient spatial planning, refusal of authorities to enforce laws, poor practices in managing garbage and inadequate storm drain infrastructure contributes to that the intensity and rise of flood occurrences.

A similar study was undertaken by Usman & Abdullah (2018). The study was aimed at ascertaining the suitability of the Compact City model as an urban development policy towards enhancing sustainability in cities within Sub-Saharan Africa. The study employed the mixed research method as the main method of data collection and analysis. The method ensured the integration of both qualitative and quantitative forms of data. The study area was Nigeria owing to its huge population and growth potentials. The study found that even though the concept of 'Compact City' yields huge sustainable dividends, it however does not inculcate the problems of sub-Saharan cities in both its discourse and practice. The study therefore concluded that the compact city model was not suitable for Sub-Saharan African cities. The study indicates that tactics for creating sustainable cities must be outlined within the context of each locality.

A much-related study was carried out by Rahman et al., (2017). This study was aimed at ascertaining the extent to which compact cities are deemed livable by its inhabitants. Essentially the study sought to measure the relationship between compactness and liveability. The study employed Mercer and The Economist variables that is how easily transportation can be accessed, the reliability of electricity, the level of crimes in the area, how drinkable the water is, the health statistics, the expenditure incurred and standards of sanitation and to group cities into developing and developed. Different

tests were employed for the study, these included Visual test, Roeck test, Schwartzberg test, Length-Width test, and Perimeter to determine the compact level of the cities. The study also used correlation to measure the relationship between liveability and compactness. The findings revealed a weak negative relationship. This indicates that compact cities are not necessarily highly liveable cities for its inhabitants.

Another related study was carried out by Brown (2017). The study was aimed at critiquing the 'imperialist' approach to compact city theorisation. It challenges the preposition in literature that views city development in the 'first world' as an ideal model and sees that within third world cities as a menace that requires interventions externally. The research employs deconstruction aimed at establishing a Southern viewpoint through the displacement of the concept compact city planning of the EuroAmerica. This method was recommended strongly in the sub-Saharan Africa as it may be considered as the antidote to continuous sprawl in the urban areas. It further differentiates the outcomes associated with the EuroAmerican compact city models against the sub-Saharan cities in Africa.

Ayo-Odifiri also conducted another investigation (2021). In order to control urban sprawl and provide a sustainable environment in Benin Metropolis, the study examined sociodemographic traits, spatial-physical patterns, and the compact city idea. With the aid of a standardized questionnaire, data was gathered. Two hundred families received the questionnaire. A building on the outskirts of Benin City was found and inspected through the use of purposive random sampling. The Statistical Package for Social Sciences (SPSS 25) was used to prepare the data which was further assessed using the Spearman Rho and point-biserial correlation tests, as well as regression analysis which was tabulated. Secondary data was also implored to add on to the available primary data in the study. The socio-demographic characteristics of the people was established from the findings of the study as well as the access to the central business district not been sufficient. Also, the study revealed deficiency in the transport infrastructure. These factors served as the main causes of urban sprawl in Benin metropolis.

Ekpenyong conducted a study that is related to the topic (2015). The goal of the research was to investigate the characteristics of the urban development and expansion in Akwa Ibom State. Land cover maps of the area for the years 1986 and

2007 were developed for the study using Remote Sensing and Geographical Information Systems (GIS) technology. These maps were used to model how metropolitan centres' sizes, forms, and patterns that has changed throughout time. The conclusions drawn from the study showed that urban centres have expanded and become more compact. According to the findings of the study, expansion in the urban area of the Akwa Ibom State still requires a lot to be done in terms of the ideas of a how sustainable the city can be, green city, smart growth, and compact city.

Additionally, Abdul Raheem (2022) conducted a study that used the World Health Organization (WHO) standard indicators to evaluate the accessibility and availability of green space in Ilorin City. The Geographic Information System, Google Earth, and the administrative shapefiles of the Ilorin West and South Local Government Areas are the main tools employed. According to the analyses, just one of the fourteen wards of the city has enough urban green space to meet the WHO criteria of 9 square meters of green space and to provide 64.2% of public access within a 300-meter radius. The findings suggested that Ilorin is not growing sustainably since the lack of green space exposes the population to risk.

## CHAPTER THREE

### METHODOLOGY

#### 3.0 Introduction

This chapter explains the type of methodology employed in the study. An examination of the research methodology used for the study is the first section of the chapter. A suitable design for the study is then selected after discussing the sample design. Data gathering process of the study and the tools to be utilised to obtain the data are also highlighted in this chapter. The chapter concludes with a discussion of the dependability of the study.

#### 3.1 Research Paradigm

Available literature points to many research paradigms (Creswell, 2014; Boateng & Boateng, 2014; Hanson & Grimmer, 2007). However, Easterby-Smith, Thorpe and Lowe (1991) suggest two paradigms: positivist and phenomenological which this study devotes much attention to. This study adopts the ‘Phenomenology’ research paradigm. Phenomenology emphasizes an experience by giving details of the ‘what and how’ of the experience (Teherani et al, 2015). This study employed phenomenological research because it is effective at ensuring elaborate descriptions (Irarrázaval, 2020). It is in line with the researcher’s objective of examining the adoption of the compact city concept towards curtailing the issue of urban sprawl in Greater Accra.

#### 3.2.1 Research Design

The overarching approach taken by a researcher encapsulate the research design. This addresses the primary issue of the study. Literature on the kind of design used points out three different research designs. The three include quantitative, qualitative and mixed methods. The three designs are discussed below:

##### ***Quantitative Research***

The use of statistics and often presented data is the primary emphasis of quantitative research designs. According to Saunders (2009), quantitative research mostly consists of numeric data that is gathered through the use of statistics. This method of

inquiry allows for the assessment of the strength of the correlation or link between variables (Creswell & Creswell 2017).

### ***Qualitative Research***

According to Saunders et al. (2009), this method is used to obtain and analyze, non-numeric data. To analyze the data gathered, qualitative research employs techniques such as conversational interviewing and in-depth interviews (Bryman and Bell, 2011). Farzanfar (2005) asserts that qualitative research is interpretative and has its goal the comprehension of a certain phenomenon.

### ***Mixed Method Research***

The mixed method, as implied by its name, combines quantitative and qualitative data collecting methods. According to Truscott et al. (2010), a mixed method strategy concentrates on the "strengths of both the quantitative and qualitative" methodologies while minimizing the drawbacks of each.

This study therefore adopts the qualitative method following the set-out objectives. This method examined the adoption of compact city planning towards curtailing the incidence of urban sprawl and promoting sustainable urban development. The qualitative research design is adopted for this study because the researcher seeks to completely understand, determine and explain the adoption of compact city planning towards curtailing the issue of urban sprawl and ensuring sustainable urban development.

### **3.3 Purpose of the Study**

According to Green (2008), the purpose of undertaking sociological research might be anything from really simple to very complex. Saunders et al. (2011) outline three different categories of study goals which includes investigation, explication, and description. These various study methodologies frequently have an impact on how research questions are formulated and data is acquired (Green, 2008). A detailed explanation of the three categories is provided below.

### ***Descriptive Studies***

In a specific social setting, there is a need to conduct research to establish the attributes of the area within a certain timeframe. Descriptive research could be carried out to provide in-depth details on unusual occurrences, specific groups of people and set of relationship within the area (Bulmer, 1986).

Descriptive research investigations may involve the development of a coordinated group of categories in addition to verbal or logical thinking (Blaikie, 2010). Usually, descriptive research is used to paint a clear picture of the individuals, objects, events, and environment that were seen.

### ***Explanatory Studies***

Marshall and Rossman expounds explanatory research as the type of research that mainly identifies cause-and-effect relationships and targets generating accurate theory that can be utilised categorically to explain events (2006). These clarifications simplify and provide people intellectual gratification (Corbin and Strauss, 2008).

### ***Exploratory Studies***

In carrying out a research, exploratory research is often utilised when little knowledge is known about the phenomena being examined, according to Blaikie (2010). This type of research is typically used when there is a new discovery in the field of study or insufficient knowledge is known under the topic under investigation. Providing clear and sufficient information on the type of study, the researcher must be informed of the problem and the scope of idea and enquiry associated with it (Saunders, Saunders, Lewis, and Thornhill (2011).

Based on the aforementioned review, this study is carried out in accordance with the principles of exploratory research. Exploratory research fits into the aim of the research. This provided a full understanding on the subject and allowed the aims of the study to be examined and answered. It also determined and described how the adoption of compact city would help curtail the issue of urban sprawl and ensure sustainable urban development.

### **3.4 Sampling procedures**



### **3.4.1 Study Population**

The various districts, municipalities, and urban regions found within the Greater Accra region make up the target population of the study.

### **3.4.2 Sample Procedure and Sampling Size**

“In general, sampling is the act of choosing a small number of people (a sample) from a larger pool (the sampling population) to serve as the foundation for predicting a scenario in the larger group” (Kumar, 2005 p. 117). The two municipalities that were selected based on sampling are found in the greater Accra region. These municipalities were the Ashaiman Municipality and the La Nkwantanang Madina Municipal. The researcher has personal experience with considerable knowledge about the geographical situation of the area.

Purposive sampling was also employed to select eight senior personnel at the various Municipal Directorates of the two municipalities for the study (four from each municipality). Four senior lecturers at the Department of Geography and Resource Development were also interviewed to corroborate the information provided by the technocrats at the various Municipal Assemblies. In much the same way, eight senior professionals at the Ministry of Works and Housing and the Ministry of Local Government were interviewed for their inputs as well. In the end twenty respondents were selected for the interview. Saturation of the data served as the basis for choosing a sample size of twenty. According to Vasileiou et al. (2018), in qualitative research, the most effective method of ascertaining the size of the sample is saturation. Hagaman and Wutich (2017) also suggested that 20 to 40 interviews would be sufficient to offer information on the data obtained from a qualitative study.

Purposive sampling specifically entails selecting or designating individuals with pertinent and important knowledge on specific subject (Creswell & Plano Clark, 2011). The sampling type that was selected for the research was purposive sampling. This sampling was the most suitable method as the researcher sought the most knowledgeable employees who could provide in-depth expertise on the issue; hence the purposive sampling technique was most appropriate.

### 3.5 Sources of Data

With the study, the data collected was mainly primary data. This data was gathered through semi-structured interviews.

### 3.6 Data Collection Instrument

The tool adopted for the collection of data for the study was semi-structured interviews. The characteristics of the tool provides the researcher the flexibility to ask questions that may arise following responses from respondents (DiCicco-Bloom & Crabtree, 2006; Adhabi & Anozie, 2017).

### 3.7 Data Analysis

As noted by Saunders, Thornhill, and Lewis (2007) numerous data analysis methods are available for qualitative studies. These may include discourse analysis, narrative analysis, thematic analysis, template analysis and grounded theory. This study employed the thematic analysis approach. According to Creswell (2007), the different cases were described and explained using themes, this is termed as thematic analysis approach.

In order to protect their anonymity and give them the confidence to offer their opinions, the respondents were represented with codes.

**Table 3.1: Code of respondents**

<b>Respondent</b>	<b>Code</b>
Ashaiman municipal assembly	AMA1 to AMA4
La Nkwantanang Madina Municipal	LNM1 to LNM4
Ministry of Works and Housing	MWH1 to MWH4
Ministry of Local Government	MLG1 to MLG4
Lecturers	L1 to L4

Source: Field data, 2022

### 3.4 Study Area

#### 3.4.1 Ashaiman Municipality

The location of Ashiaman, a settlement about 30 kilometers northeast of Ghana's capital Accra, is 5.6931° N and 0.0327° W. According to GPS coordinates, Ashaiman

is situated at latitude 5.692858 and longitude -0.029869, or 5° 41' 34.2888" N and 0° 1' 47.5284" W. (ASHMA, 2022). The overall area of Ashiaman is 45 sq km. Tema Metropolis and Kpone-Katamanso District are its southern and western and northern and eastern neighbors, respectively.

### **Agriculture**

On IDA lands near the Ashaiman Dam, the main agricultural pursuits in Ashiaman are found on the IDA lands. These include the cultivation of rice, vegetables, and maize. Irrigation farming is quite common in the area because to the Dam. Sheep, goats, grasscutters, chickens, and pigs are all grown as livestock in the Municipality.

### **Road Network**

The municipality's road network is made up of roughly 47.1% motorable miles, 52.9% non-motorable miles, 5.9% asphalt miles, 23.5% bituminous/tarred miles, and 70.6% gravel miles.

### **Education**

Around 87.5% of people can read and write, whereas 12.5% cannot (can neither read nor write). There are seventy-eight private primary schools and eleven public preschools, respectively. There are seventeen public junior high schools and thirty-nine private elementary schools. In the Municipality, there are two public and seven private senior high schools.

### **Health facilities**

One hospital (polyclinic), two public clinics, fifteen private clinics, four health posts/centres, and four CHPS make up the health facilities in the municipality.

### **Environments**

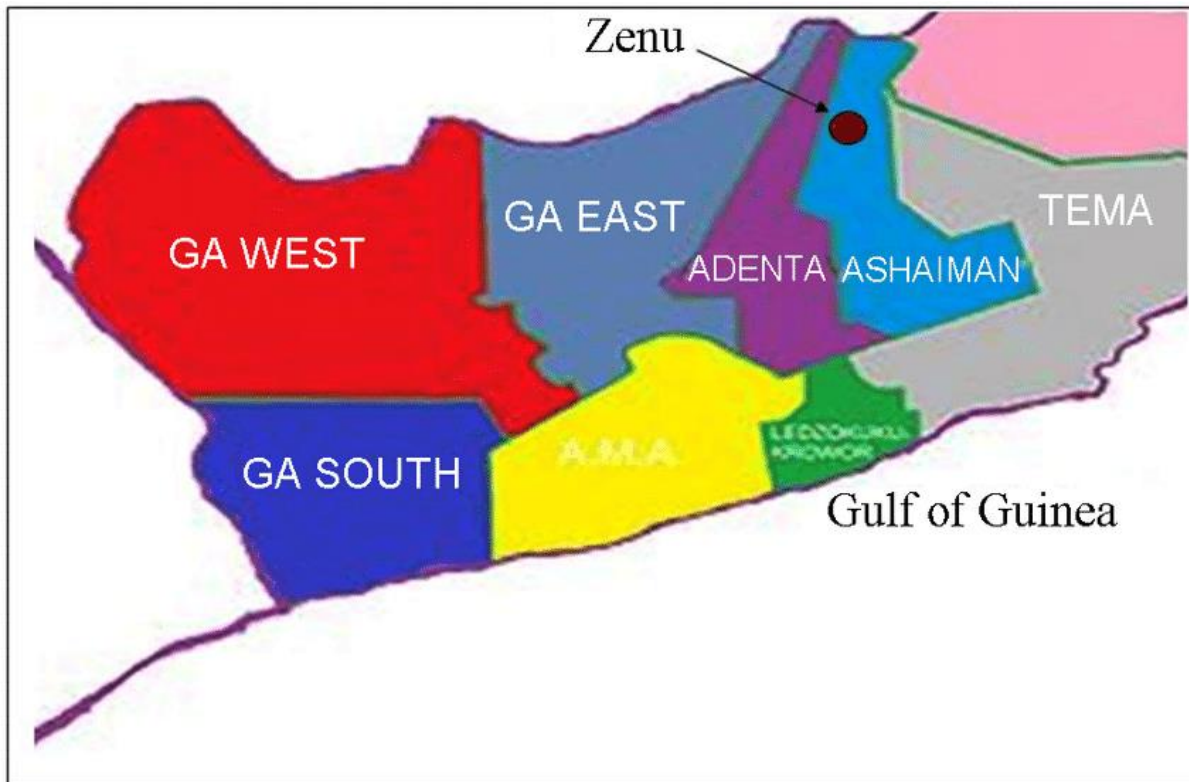
The environment includes, among other things, the road system, water and sewage systems, towns, and housing.

### **Sanitation**

Regardless of the number of interventions, the area is receiving from Development Partners to address environmental sanitation issues, good environmental sanitation is

still a big challenge in the municipality. There are contracted service providers that sweep and collect waste from stations and markets centres. Unfortunately, the inefficiency of these contractual service providers allowed truck pushers to step in and fill the void, which resulted in several annoyances.

**Figure 3.1: Map depicting Ashiaman municipality and its boundaries**

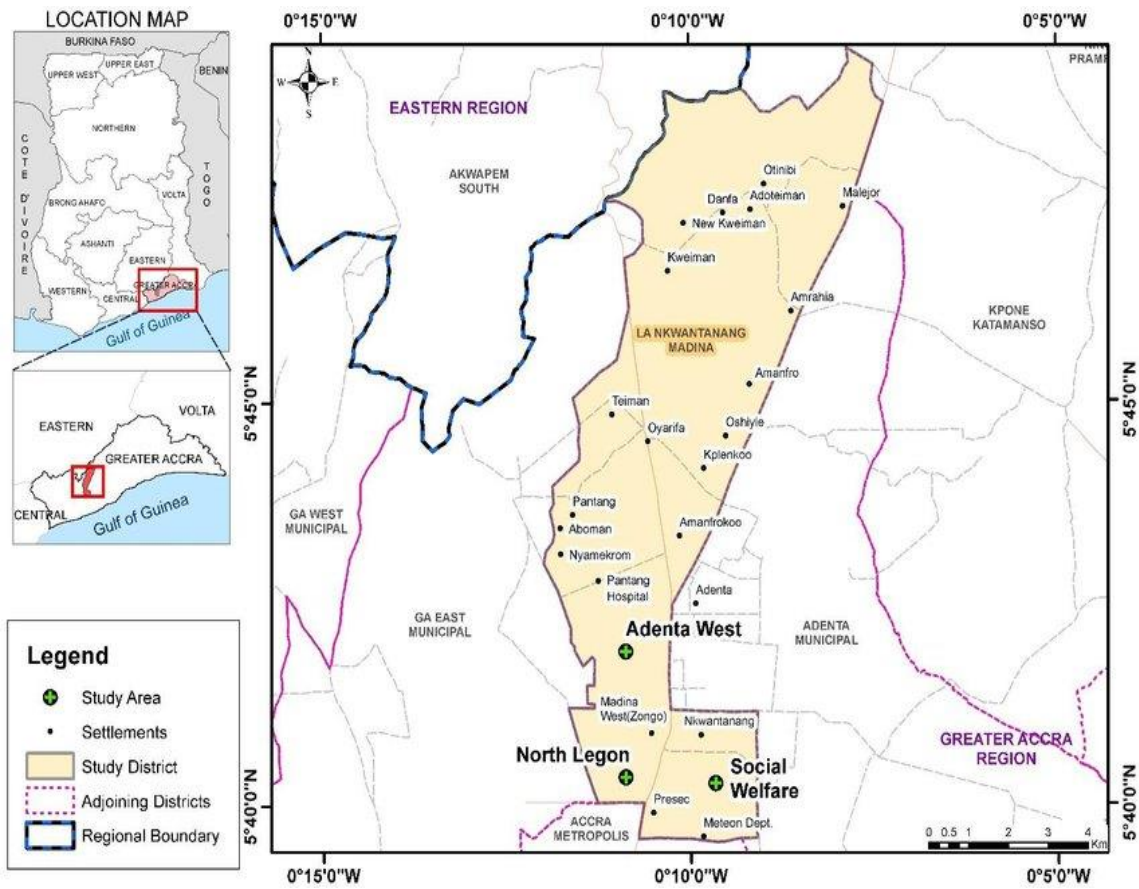


Source: ASHMA, 2022

La-Nkwantanang Madina Municipality (LaNMMA) lies in the Northern part of Accra. The municipality is situated between latitudes 5o 81'3" and 50 67'7" north and longitudes 0o 24'0" and 0o 13'1" west. It has a land size of 74.4 square kilometers and makes up one of the Greater Accra Region's sixteen (16) districts. It shares borders with the municipalities of Ga East on the west, Adentan on the east, Accra Metropolitan on the south, and Akwapim South District on the north.

The municipality is primarily urban (more than 80% of the municipality is urban), with some pockets of rural villages that are gradually becoming peri-urban settlements. Nonetheless, the construction of homes and businesses is rapidly altering these communities (La Nkwantanang Madina Municipal Assemby, 2022).

**Figure 3.2: La Nkwantanang Madina Municipal**



Source: La Nkwantanang Madina Municipal, 2022

## CHAPTER FOUR

### PRESENTATION OF DATA AND DISCUSSION OF FINDINGS

#### 4.0 Introduction

In order to answer the research questions, the chapter discusses the analysis of the data acquired using semi-structured interviews. Eight senior employees of the Ashaiman and La Nkwantanang Madina Municipal Directorate, eight senior officials from the Ministries of Works and Housing and Local Government, and four lecturers from the Department of Geography and Resource Development at the University of Ghana made up the respondents, as specified in the methodology. The sixteen senior managers of the Ashaiman and La Nkwantanang Madina Municipality are referred to as "technocrats" in this report.

#### 4.1 Data presentation and discussion of findings

This part of the study discusses the responses of the respondents. The discussions are in themes reflecting the objectives of the study.

##### 4.1.1 Adoption of compact city planning towards curtailing the incidence of urban sprawl in Accra.

This section focuses on addressing how the compact city planning concept can be adopted to solve the issue of urban sprawl in Accra using Ashaiman and La Nkwantanang Madina Municipality in Greater Accra as a case study. The study first set out to ascertain the understating of the technocrats as far as compact city planning is concerned. The study found that everyone who participated in the study had a reasonable understanding of the meaning of compact city development. The views below summarises the comprehension of the respondents in respect of compact city planning.

*'Well compact city you mean! Working at the municipal for 6 years, I have attended several workshops internationally on this subject. Compact city is about ensuring a more densified occupation, good road layout and ensuring an efficient means of transport. There should also be availability of shops and other services within the area as well' (LNM2 – 28<sup>th</sup> September, 2022).*

*'I know compact city planning to be discouraging the incidence of single apartments spread all over a wide geographical area. It's intended to ensure that land and by extension resources are put to good use. It's simply the avoidance of low-density settlements that usually becomes a nuisance in our urban cities' (AMA3 – 26<sup>th</sup> September, 2022).*

These responses basically summarises the level of knowledge of the respondents on the subject. These views are very much corroborated by available literature on compact city. Even though there is no broad acceptability on the exact definition of the concept on the academic front Neuman (2005), there is consensus amongst major policy makers about the definition of the concept along the path of the respondents. The European Environment Agency (EEA) for example point to some key benefits of compact city planning. The EEA list benefits such as reducing land consumption, prevent the unwarranted conversion of vegetation cover into cities and limiting the incidence of urban sprawl (EEA 2016). In much the same way, the UNEP also indicate that 'densely populated cities, with mixed urban form' ensures the efficient utilization of natural resources (UNEP 2013).

After delving into the respondents understanding of the concept, the study sought to ascertain if they felt it was important to adopt the concept in their municipalities (Ashaiman and La Nkwantanang Madina Municipal of Greater Accra). All the 16 technocrats unanimously submitted that the concept of compact city should be adopted towards dealing with the issue of urban sprawl within their municipalities. However, the lecturers were of the view that even though it's a desirable initiative, the state of the Ghanaian economy will not permit that to be carried out. The responses below capture the sentiments of the respondents as far as the need for the adoption of compact city planning is concerned.

*'As I indicated previously, we have been to several workshops as far as this subject is concerned. Take a look at the current population and the numerous slums within Ashaiman. We have a lot of single houses scattered all over the place with very poor drainage, sanitation and transportation systems. So, it is really a cause for concern. Compact city planning can be a very effective approach towards curbing this menace (AMA 3– 26<sup>th</sup> September, 2022) 'Compact city planning would have been a very good alternative to the numerous settlement issues within the municipality.*

*The issues are numerous. There are limited roads connecting majority of the settlements, even though government has embarked on several measures to tackle the issue of waste, the sanitation in most of the communities is also not the best. So compact city can be adopted to help deal with the numerous challenges and to eradicate the issue of slums. It is really a big deal.’ (LNM3 -28<sup>th</sup> September, 2022).*

*‘Compact city is a nice initiative, but you take a critical look at Accra. There has never been a government policy to deliberately plan and develop our cities to reflect the complex city concept even though it is an integral part of the United Nations Sustainable development goals. So, if you ask me, it is a good initiative but where is that big idea to back the initiative. There are no funds. There is always a budget deficit. But once we commit to it, we can do it. The question is, will there ever be that bold commitment from any government. Do we see that as a priority? That is the question’ (L1 3 – 23<sup>rd</sup> September, 2022).*

The responses above amply capture the views of the respondents regarding the need for compact city towards the development of the municipalities under consideration and for the extension of Accra. It can be seen from the responses that even though the lecturers were skeptical about governments commitment to city planning initiatives, all the respondents agree with principle to the adoption of compact city planning towards the planning of their municipalities.

The views expressed by professionals about the poor nature of settlements in their municipalities is supported by empirical literature. In the case of Ashaiman, the 2021 population and housing census put the population of Ashaiman at 208,060 (Ghana Statistical Service, 2021). This makes Ashaiman one of the most populated Municipalities in Greater Accra. Additionally, Ashaiman has long been adjudged one of the largest squatter settlements in urban West Africa (Owusu, 1999). Overall, most urban centers within Accra battle with the issue of poor sanitation and poor housing owing to the high incidence of urbanization and insufficient infrastructural development.

The study then delved into how compact city can be adopted to curtail the issue of urban sprawl within the municipalities under study. In this regard, the respondents were of the view that to curtail the issue of urban sprawl within the Ashaiman and La Nkwantanang Madina Municipal Directorate, there is the need to curb the issue of



dispersed population through vertical developments that is focusing on high rise buildings. These views were expressed by 12 out of the 20 respondents. The response below captures the views of the 12 respondents in this regard:

*‘What is really needed is the establishment of high-rise buildings. That is the dictate of compact city planning. It makes sense anyway and this has been explained in most of the workshops that we have attended. It helps to put land into efficient use and to ensure that the vegetation is not cleared unnecessarily for small settlements dispersed all over the place’ (L2 – 23<sup>rd</sup> September, 2022).*

*The concept is all about ensuring high density accommodation where you have people living in high rise buildings with good roads and facilities all over. It will even impact energy consumption and by extension you make good use of resources. You do not travel for a long distance in order to access basic facilities’ (L4 – 23<sup>rd</sup> September, 2022).*

The development of vertical structure as indicated by the respondents is very much in conformity with available literature. Unlike, urban sprawls that are characterized by single family dwellings that tend to breed horizontal settlements (Brody, 2013), compact cities are characterized by high rise buildings resulting in vertical development and efficient use of land (Steven Holl Architects, 2011). Ahfeldt & Pietrostefani (2017) also corroborate this view by indicating that compact cities help to curb the issue of urban sprawl by preventing the mass disintegration of the population and preservation of natural resources.

The most recurring issue worthy of note was the issue of planning that was subscribed to by all the respondents. The responses below sum up the inputs of the respondents as far as planning is concerned:

*‘There should be a holistic 30-year housing development plan that sets out the road map for the project and identifies the key urban areas that would be affected with its associated timelines. This is very important because it will serve as a road map and a reference point for successive governments to adopt’ (L2 – 23<sup>rd</sup> September, 2022).*

*‘I believe planning is important. It becomes more important especially in the context of a developing country like ours. What we have failed to do over the years is that we have not taken the issue of housing very seriously. So compact city*

*development is crucial but there should be a policy document well thought through. A bi-partisan committee must be established to take up this responsibility. I am sure you know what will happen when this is not done' (L3 – 24<sup>th</sup> September, 2022).*

The aforementioned views amply capture the views of the various respondents. The views of the respondents corroborate available literature. Serrador (2013) for instance note that planning is a major contributor for the success of projects. Other scholars have also indicated that planning helps to minimize risk and increases project success (Wang and Gibson, 2008). More money is lost when projects commence without a plan (Sessions, 2009). However, Appiah (2016) also indicates that planning alone is not enough. There is the need for plans to be implemented effectively and efficiently. He argues that without proper implementation, plans will remain on the shelves because as he puts it, implementation ensures the achievement of the objectives of the plan. Consequently, there is an important need for the compact city project to be preceded by a housing development plan and an effective implementation plan as well.

Apart from the issue of planning, other respondents were of the view that government should enter into state private partnership to undertake these projects in new areas springing up within the municipality. These views are contained in the responses below:

*'I would say there is the need to start with the new areas springing up within the municipality. Government can enter into partnership with other estate development agencies to ensure vertical development at the expense of single apartments scattered all over the place. The municipality is developing at a very fast pace. So, people migrating to the municipality will be compelled to move to these new areas. It can be more costly to pull down existing structures within the congested areas and put up new once, so I think we must take the first steps starting with the new areas' (LNM2 – 29<sup>th</sup> October, 2022).*

*'Well, nothing has been successful in this country when it is entirely owned by the state. At best let us give the opportunity to private developers to partner the government in the execution of this plan. That is surely the way to go. It will not yield the needed results if the project is fully a government of Ghana one. At least there is history to guide us' (AMA 2 – 26<sup>th</sup> September, 2022).*

The above responses were to the effect that government should partner private estate developers to undertake vertical development in new areas springing up within the various municipalities. In Ghana, private sector involvement in the housing sector has been a massive success (Amoatey & Anson, 2017). The developments of Trasacco Group, Devtraco Housing Group, Appolonia Housing and Regimanuel Gray Limited among others in the housing sector is ample testimony that private sector involvement in housing will yield some good success.

Other respondents pointed to the issue of government commitment as the most important ingredient towards the establishment of compact city. The views of the respondents below amply summarise this fact.

*'The most important issue in all of this is the issue of funding. As you are well aware this is a developing economy and there are a lot of things our budget cannot cater for. But I tell you, once we deem this exercise important, we should have the good will from the government to embark on this important initiative. Once there is commitment from the top, this initiative will see the light of day' (L2 – 23<sup>rd</sup> September, 2022).*

*'The implementation of compact city in this municipality is really important. Once you go round you will see the evidence for yourself. There are houses scattered all over and you absolutely need a solution to this because it has consequence for land use. However, it will involve a lot of financial commitment by the government. Government must set aside a dedicated fund for this purpose just like it did for free Senior High School Policy' (LNM1)*

The above responses have to do with government prioritizing the compact city initiative. Available literature supports the fact that even though the issue of funding remains a critical challenge for government, there have always been a way out when government deems the initiative to be a priority. For example, the Ghanaian government have embarked on several cost intensive programmes like the introduction of Free Senior High School education for all college students in Ghana.

#### **4.1.2 Government effort towards developing Accra in line with achieving the central tenets of UN Sustainable Development Goal (SDG) 11**

This section of the study examined the various efforts that the Ghanaian government has made towards the attainment of the UN Sustainable Development Goal (SDG) 11.

One significant telnet of SDG goal 11 is the development of sustainable cities and communities particularly for cities with growing population. These measures are directly in line with the concept of compact city planning.

The major respondents for this section were the Ministry of works and housing as well as senior personnel from the Ministry of Local government. To start with, the respondents gave insights of their understanding of sustainable communities and cities as captured in SDG goal 11.

*'I believe sustainable cities and communities as captured in SDG goal 11 enjoins government to see to the provision of housing, particularly high-rise buildings basically to make sure that more people are accommodated within a geographical area and have access to facilities such as good road, education, employment, shorter transportation distances which eventually leads to less energy consumption and promotes resource conservation. So, I understand the concept, I believe it's called compact cities (MWH 2 – 21<sup>st</sup> September 2022).*

*'I have read the concept on providing sustainable communities and cities particularly for urban areas. The concept basically encourages compactness. That is high density settlement principally through high buildings and providing services like schools, jobs, good roads. It is a community with mixed land use and ensuring resource conservation' (MLG 2 -20<sup>th</sup> September, 2022).*

The above mentioned were the preliminary responses of at least 6 key respondents. However, even though they had a perfect understanding of the concept, they were quick to add that that the development of Accra preceded the idea of the concept. This makes it difficult for government to holistically implement the concept of sustainable cities and communities in its totality. The responses below amply capture these sentiments.

*'If you look at the Ghanaian communities and cities, I can tell you that implementing the concept to the latter will be problematic. It will be extremely costly for the government. I understand the problems that have been created by single family settlements scattered all around with residents travelling to very far distances before they can access some facilities. This has made Accra very congested (MWH 2 – 21 September, 2022)*

*I can say it bluntly that our cities were not planned with sustainability in mind. It is very problematic. We are 100 years late. It will cost government so much to pull down structures and commence such an initiative. We intended starting one at Nima. I must say you do not want to know the resistance from the people because it was going to come with moving people from places, they have stayed for so many years and have established some kind of economic activity (MLG 3 – 20<sup>th</sup> September, 2022).*

The above responses are only a reflection of the poor planning of major municipalities in Accra like that of Ashaiman and La Nkwantanang Madina Municipality. It is not surprising that the most noticeable feature on the roads of Accra is critical congestion (Appiah, 2016). Aside the issue of lack of planning, the respondents explained what the approach of the government has been amidst the challenges of urban settlement in Accra.

The major takes away from the responses of the respondents was that government is fast improving basic infrastructure within the various cities. Some of these infrastructures include construction of inner-city roads, provision of toilet facilities, improving intra city transportation, expanding public services like schools, jobs, water and sanitation to various cities and massive demolition of unauthorized buildings to decongest the cities. The responses below captures some of these details:

*‘Basically, government over the years have tried to improve intra city roads that connects various settlements. As I speak to you a lot of road infrastructure is underway in Ashaiman and La Nkwantanang Madina Municipality. It is an attempt by government to improve on the existing road infrastructure within the city. In Madina for example I know several inner- city roads have been completed including that from University of Professional Studies (UPSA) to the American House roundabout. So, we are constructing a lot of inner-city roads’ (MLG 1 – 20<sup>th</sup> September, 2022).*

*‘I can assure you that our resources may not permit us to demolish existing structures and put-up high-rise buildings all over the place. However, government is doing all it can to achieve the UN Sustainable development goal 11. We have constructed more inner roads in Madina and Ashiaman. I will not say everything has been taken care of but I can tell you that we have done a lot. The previous government even introduced the ‘ayalolo’ that is a bus system for an inner-city transport system and created separate roads for their operation, there are challenges anyway, but all of*

*these were done towards the attainment of SDG goal 11. I am sure you have also seen various trees being planted? Government is working you just have to visit the communities (MLG 3 – 20<sup>th</sup> September, 2022).*

*The Greater Accra Minister has a programme dubbed operation clean your frontage. It is in line with ensuring that there are good sanitary conditions. There has also been massive demolition of unauthorized structures aimed at decongesting the city. We have also embarked on industrialisation to ensure that jobs are created within each district. It is dubbed one district, one factory. The essence is to bring jobs closer to the people. Then you talk of schools, hospitals and other public facilities. A lot more of them are being constructed to ensure that public facilities are brought closer to the people (MWH 4 - 21<sup>st</sup> September, 2022).*

Aside the above-mentioned interventions, other respondents also pointed to the fact that government is also pursuing the agenda of ensuring vertical development (High rise buildings) aimed at accommodating larger populations in smaller areas which is integral to sustainable city project by the United Nations (Ahfeldt et al.,2017). This has principally been done in new areas. An example is the Saglemi Housing Project which is located in the Ningo Prampram District in the Greater Accra Region.

**Figure 4.1 Pictorial view of the Saglemi Housing project**



Source: Daily Graphic, 2015

This indicates that governments approach towards sustainable city development has been mixed. There has been the improvement of infrastructure within existing communities and the development of entirely new communities such as the Saglemi Housing project.

The issues identified in this section perhaps brings to the fore the need for some retrospection and the need for 'EuroAmerican theorists' to consider the geographical boundaries of their concepts. As Brown (2017) explains, the concept of compact city does not take into consideration the high levels of 'poverty, informality and vulnerability' of most sub-Saharan African cities.

It is also worth mentioning that even though respondents pointed to the Saglemi Housing Project as a compact city initiative by the government, available literature on the project suggest that the project does not fit into the compact city concept in its totality. Providing details of the project in the State of the Nations Address on February 26, 2015, the then President, President John Dramani Mahama, noted that a project to build 5,000 affordable homes was under way at Saglemi in the Greater Accra Region's Ningo District. He added that the first 200 homes were going to be completed in 2015 (State of the Nations Address, 2015).

The above is indicative of the fact that governments priority for the project was solely the provision of affordable housing. Even though the design (high rise buildings) fits the description of compact city, the project lacks green field planning, transportation designs and job proximity planning.

#### **4.1.3 Impediments to the adoption of compact city concept in the development agenda of Greater Accra**

This section of the study delved into the major impediments to the adoption of the compact city concept in the development of Greater Accra. The various respondents enumerated several challenges to the adoption of the concept. Some of these responses are captured below:

*'I think the immediate challenge is funding as I indicated previously. As you know this is a developing country and there is a huge financing challenge. Our budget is always in deficit. We mostly rely on other doners for support. So, this is the first and foremost challenge. The concept is capital intensive. Structures must be pulled down; new ones must be put up. This is no joke; being honest.'* (L 2 – 23<sup>rd</sup> September 2022).

*The challenges are numerous. I see the issue of poor planning and lack of political will to do what is right. Look at the resistance the regional minister is facing from the community. Even from his own party members. So, this is a real challenge. We just do not plan. Look at the new areas springing up in these*

*communities. Where is the planning? Who is implementing them. We have a problem on our hands (L 4 – 24<sup>th</sup> September, 2022).*

The above responses relate to the issue of planning and the perennial issue of funding. This is very much supported by empirical literature. For example, a study carried out by Yankson & Bertrand (2012) found lack of planning to be an integral part of the issues bedeviling sustainable development in Accra. The study noted that the peri-urban Accra is taking place before any planning scheme by the city authorities. Additionally, the issue of funding has been an old-aged problem for most developing countries.

Other challenges found in the study included lack of political will by the government, the share inapplicability of sustainable city development in its entirety, the high rural urban migration drift and the high levels of poverty. These issues found expression in the responses of some of the respondents as follows:

*'I tell you what, a chunk of the issue has to do with political will by the government. Just take a look at the level of impunity. Look at the encroachment. People selling on pavements and unapproved areas. Once the government takes a decision to move them, they tell you they will not vote for you which stops the government because they need their votes. So that is the problem. The government does not have the political will to sack and punish encroachers. Again, even if the demolition is done and houses are put up there at affordable prices, majority of the people will not be able to afford it. They just cannot (L3 – 23<sup>rd</sup> September, 2022)*

*There are various issues as well. As I have indicated earlier it is difficult if not impossible to apply the idea of sustainable city development in its totality. This will involve mass demolishing of structures and putting up new ones. This is very difficult. It will not just happen. Then there is also the issue of the high rural-urban migration, especially movement to the Greater Accra region (MLG 2- 20<sup>TH</sup> September, 2022).*

The issue of high migration to Accra is corroborated by available literature. It is estimated that an additional 2.5 million business commuters travel into the city to undertake educational, professional, commercial, industrial and administrative activities (Essel, Spadaro & World Health Organization, 2020). The above mentioned are the issues that militate against the adoption of compact city in Greater Accra.



## CHAPTER FIVE

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Introduction

The analysis and discussions from the findings for the study were presented in this chapter. This chapter offers recommendations for policymakers, stakeholders, and the government along with a summarised finding of the study. From the findings, several significant conclusions are made and stated in this chapter.

#### 5.2 Summary of findings

All-inclusive, the study sought to examine adoption of compact city planning to promote sustainable urban development in Ghana using Ashaiman and La Nkwantanang Madina Municipal Directorate as a case study. The study aimed to respond to three important issues in this way: How the concept of compact city can be deployed towards curtailing the incidence of urban sprawl in Accra? What are the various mechanisms instituted by the Ghanaian government towards achieving the UN Sustainable Development Goal (SDG) 11 and What are the impediments to the adoption of compact city concept in the development agenda of Greater Accra? The summary of the findings related to the study is stated below following the answers provided from the research question.

The first question the study sought to answer was: How can the concept of compact city be deployed towards curtailing the incidence of urban sprawl in Accra? In this regard the study found the different aspects of the concept the government can embark on. On the whole the study found that in order to curtail the incidence of urban sprawl within the communities under study, government should embark on vertical development through the provision of high-rise buildings at the expense of promoting single family settlements scattered over wide geographical areas. Additionally, there is the need to resort to a holistic plan and implementation strategy that sets out the road map for the compact city development and identifies key urban areas that should be affected with its associated timelines. Similarly, the study also found that to curb the issue of urban sprawl government should enter into state private partnership to undertake vertical development in new areas springing up within the municipalities.

The government commitment towards carrying out compact city initiative was seen as the greatest ingredient towards curbing the issue of urban sprawl in Ghana.

Additionally, the introduction of the vertical development would contribute greatly to the preservation of lands thus increase in open and green space development in the urban area. Also, the introduction of vertical development would allow mixed land use where commercial facilities can be amalgamated with the housing. Analyzing the information collected from the professionals, there is a need to set a plan for sustainable transportation following the development of inner-city roads and the bus system. There is a need for the government to adopt sustainable transport system such as cycling and the increase use of buses. The creation of inner city roads should inculcate a greater portion of the of the roads being constructed for cycle roads, bus lanes and pedestrian walkways to minimize the number of automobiles on the road. This would further reduce traffic and pollution thus enhancing sustainability within the area. It would equally reduce the loner hours people take to commute and move to their destinations.

The second research question was: What are the various mechanism instituted by the Ghanaian government towards achieving the UN Sustainable Development Goal (SDG) 11? The study found that in attainment of the UN Sustainable Development Goal (SDG) 11 government was fast improving basic infrastructure within the various cities. Some of these infrastructures include construction of inner-city roads, provision of toilet facilities, improving intra city transportation, expanding school public services like schools, jobs, water and sanitation to various cities. In much the same way, government had embarked on massive demolition of unauthorized buildings to decongest the cities. Additionally, government is also constructing high rise buildings in various areas within the city. An example is the Saglemi Housing project.

The third question of the study was: What are the impediments to the adoption of compact city concept in the development agenda of Greater Accra? The impediments identified were poor planning, lack of funding, lack of political will by the government, the inapplicability of sustainable city development in its entirety especially in the context of Ghana, the high incidence of rural urban migration and the high levels of poverty amongst Ghanaians.

### **5.3 Conclusion of the study**

The study examined the adoption of compact city planning to promote sustainable urban development in Greater Accra using Ashaiman and La Nkwantanang Madina Municipal Directorate as a case study.

Summarily, it is evident that even though the government of Ghana is doing a lot towards curbing the issue of urban sprawl and ensuring sustainable urban development, initiatives by the government have often been met with huge challenges. Worthy of note is the fact that the government is not fixated about pulling down houses and putting up high rise buildings even though the compact city concept is all for the development of high-rise buildings aimed at ensuring efficient utilization of resources. Government actors indicate that this approach will be very costly and is not commensurate with the prevailing circumstances of the country. However, the government is embarking on vertical development at new locations whiles expanding infrastructure in cities. Additionally, government is embarking on major demolition of unauthorized structures. These efforts are all aimed at ensuring sustainable development in the cities.

It is worth mentioning that challenges such as poor planning, lack of funding, lack of political will by the government, the inapplicability of sustainable city development in its entirety, the high incidence of rural urban migration and the high levels of poverty amongst Ghanaians has been delt with as part of the recommendations. The recommendations discussed will ultimately ensure that urban city planning is employed to curb the issue of urban sprawl in Accra.

### **5.4 Recommendations**

Based on the findings of the study, the researcher offers the underlisted recommendations

- Government should explore the possibility of providing a dedicated source of funding for housing projects and settlement issues in Accra. This can be done by either exploring domestic or foreign sources. In terms of foreign sources, Government can liaise with other international donors to ensure that there is adequate provision of resources for the various.

- The issue of poor planning which has become a major feature of development in Accra must be halted. Government must put ensure that a settlement development plan and implementation is put together for the compact planning of the cities in Accra.
- A bi-partisan committee should be established to oversee the planning and implementation of complex city development in Accra. These committee should be made up of technocrats from both sides of the political divide. The committee should be given a legal backing and the chairman should be given a fixed tenure of office. This would ensure that the chairman discharges his obligations devoid of political interference.
- Additionally, the concept of complex city should be tailored to reflect prevailing economic and social conditions of Ghana. It must not be implemented in its entirety owing to varying economic conditions between Ghana and EuroAmerican countries.
- Government must put in place measures aimed at dealing with the perennial issue of rural urban migration. As found in the study, rural migration to Accra is very rampant. This is largely due to the centralization of major administrative activities in Accra. To curb this, government should give decentralization. With this, the various district and municipal assemblies would be empowered to provide services like security recruitment, passport applications etc. Additionally, infrastructure expansion, industrialization and jobs should not only be centered in Accra.

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## **Appendix 1**

### **INTERVIEW GUIDE**

The researcher is an **MA Research** student at the University of Huddersfield. This interview guide seeks to elicit a response on the topic 'Adoption of compact city planning to promote sustainable urban development in Ghana: The case of Greater Accra'. The data you provide for this study will be kept private and used solely for academic purposes.

#### **PART 1: General information**

1. What is your role in this firm?
2. How long have you been with this organization?
3. What is your understanding of Compact City Planning?

#### **PART II: The adoption of complex city planning towards curtailing the incidence of urban sprawl in Accra.**

4. Do you think there is the need for the adoption of complex city planning in your Municipality?
5. How can this concept be used to deal with the issue of urban sprawl in your municipality?
6. What are the major activities that must be carried out towards the adoption of the concept to deal with urban sprawl in your municipality?

#### **PART III: Government effort towards developing Accra in line with achieving the central tenets of UN Sustainable Development Goal (SDG) 11**

7. What are the measures being adopted by government to ensure the achievement of SDG 11 in your municipality?
8. What in your view must be done to speed up the attainment of SDG 11
9. What in your view are the strengths and weakness of the approach being adopted by government?

#### **PART IV: The impediments to complex city adoption within Greater Accra**

10. What in your view are the key impediments to governments adoption of complex city planning
11. What can be done to resolve these impediments if any?

