

UNIVERSITY OF CAPE COAST

**CAUSES AND CONSEQUENCES OF INFORMAL SETTLEMENT
PLANNING IN GHANA: A CASE STUDY OF ABOABO, A SUBURB OF
KUMASI METROPOLIS**

COLLINS ADJEI MENSAH

2010

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PLANNING IN GHANA: A CASE STUDY OF ABOABO, A SUBURB OF
KUMASI METROPOLIS

BY

COLLINS ADJEI MENSAH

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REQUIREMENTS FOR AWARD OF MASTER OF PHILOSOPHY
DEGREE IN GEOGRAPHY

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DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original work and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature: Date:

Name: Collins Adjei Mensah

Supervisors' Declaration

We hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Principal Supervisor's Signature: Date:

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ABSTRACT

Inadequate attention to urban land-use planning and practices could result in the proliferation of unauthorised structures which could destroy the health, beauty and convenience of cities. This thesis sought to investigate the causes and consequences of unauthorised structures at Aboabo, a suburb of Kumasi Metropolis.

A total of 244 respondents comprising 119 house-owners, 119 household heads, and 6 key informants (the chief of Aboabo and five heads of Land Planning and Management Institutions in Kumasi) were selected for the study. Mixed method technique involving the use of interview schedule, in-depth interview, and observation were used to collect data from the field. Factor analysis technique was used to establish the causes that have led to the growth of unauthorised structures at Aboabo.

The main findings of the study are that, the presence of many unauthorised structures at Aboabo is the result of socio-economic, cultural, institutional, physical, political and historical factors. House-owners at Aboabo have low level knowledge on building regulations of Ghana, and the perception of house-owners and household heads on land-use planning at Aboabo is negative. Flooding, poor sanitation conditions and over-crowding are the main problems that confront the dwellers of Aboabo due to the construction of unauthorised structures. It is recommended that there should be regular public education on building regulations of Ghana and the enforcement of land planning regulations by the Land Planning and Management Institutions in the Kumasi Metropolis.

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DEDICATION

To my son Clifford Adjei Mensah

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LIST OF ACRONYMS

AMA	Accra Metropolitan Assembly
CWS	Cities Without Slum
DPCU	District Planning Coordinating Unit
DMTDP	Districts Medium Term Development Plans
DPA	District Planning Authority
FAO	Food and Agricultural Organization
GDP	Gross Domestic Product
GDRC	Global Development Research Centre
IDI	In-depth Interview
KMA	Kumasi Metropolitan Assembly
KVIP	Kumasi Ventilated Improved Pit
LAP	Land Administration Project
MMDAs	Metropolitan, Municipal and District Assemblies
PCA	Principal Component Analysis
TCPD	Town and Country Planning Department
UNECE	United Nations Economic Commission for Europe
UN-Habitat	United Nations Human Settlements Programme

CHAPTER ONE

INTRODUCTION

Background to the study

Land is a basic natural resource on which man depends for survival. However, according to Verheye (1997), land-man ratio in the world has reduced due to factors such as unplanned settlements and high population pressure on the previously reserved lands. In developing countries, much of the land in urban areas is occupied by the poor or the disadvantaged. Aluko and Amidu (2006) have estimated that between 20 and 80 percent of urban dwellings in developing countries is occupied by the poor or low income earners. The poor, unable to cope with the high standard of living and high cost of building in urban areas have resulted in putting up sub-standard structures. The end result is the proliferation of unauthorised structures in many urban centres.

In the context of this study, unauthorised structures refer to “permanent structures such as houses and temporal structures such as kiosks, metal containers and any other structures that do not conform to the building regulations or land-use regulations in towns and cities”. Informal settlement on the other hand “refers to the community or the settlement whose buildings or structures are

unauthorised”. In many sub-Saharan African cities, informal settlement population accounts for over 70 percent of urban population (UN-Habitat, 2006).

To avoid the growth of unauthorised structures in urban areas, Meng (2002) recommended the application of urban land-use planning. He observed that urban land-use planning plays important role in shaping a city; without appropriate planning, a city may grow in an uncontrollable way due to population, socio-economic and environmental changes. According to the Food and Agricultural Organization [FAO] (1993 p.6), “urban land-use planning is the systematic assessment of land and water potential, alternatives for land use, and economic and social conditions in order to select and adopt the best land-use options”. The purpose of land-use planning is therefore to select and put into use those land-use practices that will best meet the needs of the people while safeguarding resources for the future. The driving force in planning therefore is the need for change, the need for improved management, and the need for a different pattern of land use dictated by changing circumstances (FAO, 1993).

Similarly, the Canadian Institute of Planning (2010) defines urban land-use planning as scientific, aesthetic, and orderly disposition of land, its resources, facilities and services with the view to securing the physical, economic and social efficiency, health and well-being of urban communities. Agenda 21 of the World Earth Summit held in Rio de Janeiro in 1992 stressed on the significance of land-use planning in natural resource management (Amler et al., 1999). According to Mcmanus (2005), a better urban land-use planning enhances local and national goals such as sanitation, better health conditions, wealth creation, better

transportation network, avoidance of congestion, and sustainability of natural resources such as rivers. To Mcmanus (2005), the beautiful nature of many cities in many parts of the world can be attributed in part to their comprehensive land use plan. For example in Australia, development control which is the most mundane aspect of urban planning is the most effective tool that has contributed to shaping many Australian cities. The need for urban land-use planning has grown steadily in the last century or more. Today, there is the need to control and restrict the use of land. It is in view of such need that the United Nations chose the theme “Planning our urban future” for the celebration of World Habitat Day which was held on 5th October, 2009.

Ghana, over the years has come up with measures to control and regulate the use of land resources to achieve harmonious physical development. Starting from 1892, various ordinances have been enacted to provide for the machinery and procedure for physical development. For example, the Town Ordinance of 1892 (cap 86) was passed to “regulate the development of towns and promote public health”. Its provision was directed at regulating the siting and building of individual structures, and at promoting public health, especially sanitation within settlements in Gold Coast Colony. Similarly, the Mining Health Areas Ordinance of 1925 provided for the regulation of public health, layouts, and control of private buildings in mining settlements. This was followed by the Town and Country Planning Ordinance of 1945 (cap 84); this Ordinance gave the Town and Country Planning Department (TCPD) official and statutory recognition as a major institution of government. But while the Town Ordinance and Mining

Health Areas Ordinance regulated town development on piece meal basis after buildings or structures have been put up, the Cap 84 of the Town and Country Planning Ordinance introduced a system of planning in advance to guide the growth and development of settlements (Republic of Ghana, 1967).

In line with the decentralization policy of Ghana Government, and as part of measures taken to improve the planning and management of human settlements, the Local Government Act of 1993 (Act 462) was promulgated. This law came to classify and reinforce the planning and development function given to District Assemblies (Republic of Ghana, 1993). According to Kassanga and Kotey (2001), Metropolitan, Municipal and District Assemblies (MMDAs) were given legislative powers to make by-laws with respect to building construction, sanitation, and the environment. They were also given the mandate to prepare and approve planning schemes, grant building permits, enforce regulations, and to prescribe sanctions for non-compliance with laid down regulations.

In spite of the powers of MMDAs to enforce the right or prescribed use of land, orderly physical development of settlement continues to elude Ghana and this has resulted in the growth of many unauthorised structures in the country.

Ghana, like other sub-Saharan African countries, is rapidly urbanizing. Recent statistics by Otoo, Whyatt and Ite (2006) indicated that 43.8 percent of the country's population consisted of urban dwellers in 2000, as compared to 9 percent urban dwellers in 1931. At the current growth rate of 2.6 percent per annum, Otoo et al. (2006) stressed that urban population in Ghana is expected to double in the next 17 years. The Accra Metropolitan Area (AMA) alone,

according to the 2000 Population and Housing census, for example, represented 25 percent of all urban dwellers in Ghana; the increase was 4.2 percent per annum (Otoo et al., 2006). Similarly, Kumasi's population in 2006 increased at the rate of 5.47 percent per annum (Kumasi Metropolitan Assembly, 2006).

Accra and Kumasi consequently have the highest number of unauthorised structures in Ghana since the largest of the country's population dwell in these two cities. In the peri-urban areas of Ghana, the story is even worse. Yankson and Gough (1999) have observed that peri-urban growth in sub-Saharan African countries such as Ghana is mainly taking place in an unplanned manner, hence creating sprawling high-density development and uneconomic use of environmental resources. Most peri-urban areas in Ghana are faced with deteriorating environmental conditions and a weak public sector unable to provide adequate services (Peil as cited in Yankson & Gough, 1999). In Kumasi, unauthorised structures, especially houses constructed on access roads, waterways, and unapproved places have remained some of the major problems confronting the city's authorities over the years (Owusu-Mensah, 2003).

Statement of the problem

Urban land-use planning is an integral part of the process of national growth and development. This process seeks to identify and satisfy the basic socio-cultural needs. Unauthorised structures are a major problem in Accra, Kumasi, Takoradi, Tamale and in other large settlements in Ghana (Acquah-Harrison, 2004). According to the Ghanaian Chronicle (2007, August 20), a 1954

document on spatial planning prepared by the then Department for Planning had this to say on spatial planning in the Gold Coast:

The need for planning has never been greater than it is today, and if the present rapid rate of development continues, that need will increase. Towns and villages are developing and redeveloping all over the country. Where this development or redevelopment goes on unplanned, succeeding generations will continue to be the heirs to the muddle built by their predecessors and the liability that goes with it.

Currently, physical planning situation in Ghana is not far from this statement. Indeed some of the liabilities of unauthorised structures including filthy environment, congested town centres, flooding, and traffic congestion with its resultant loss of productive time in traffic jams, are clear manifestation of the 1954 document on spatial planning in Ghana. The question then is what legacy will this generation bequeath to those yet to come?

Ghana has a number of planning regulations which were put up to guide the development of structures in both urban and rural areas. For example, the Local Government Law of 1993 (Act 462) had in sections 51 and 52 that unauthorised structures on any of public properties (lands) such as schools, market and sanitation sites, open spaces, nature reserves, parks and roads, could be stopped and even demolished without notice, and developers surcharged with the cost of demolition. Additionally, the developer who strayed into public user areas (such as zoned and approved areas for markets, schools, parks, etc) would

be given 28 days to make the necessary correction before the demolition (Freiku, 2003). Other planning acts that have been formulated to regulate urban growth are the National Building Regulation of 1996 (LI 1630), the National Development Planning (Systems) Act of 1994 (Act 480); and the National Development Planning Commission Act of 1994 (Act 479).

In addition to the above regulations, Ghana has established formal Land Planning and Management Institutions that are backed by law to plan, control and ensure harmonious, sustainable and cost effective development of human settlements in accordance with sound environmental and planning principles (Town and Country Planning Department, 2007). These institutions include the District Assemblies, Town and Country Planning Department (TCPD), Land Title Registry, Survey Department, Lands Commission, and the Administrator of Stool Lands Department.

Notwithstanding all these legislative and institutional arrangements, the development of unauthorised structures is on the ascendancy in Kumasi. According to Ghana News Agency (2009), Otumfuo Osei Tutu II, the Asantehene (traditional leader of the Ashanti Kingdom) in one of his routine inspections of Kumasi Metropolis expressed worry at the rapid rate at which unauthorised structures were springing up in some parts of the city. This worry was echoed in the observation of Freiku (2003) that between 1990 and 2000 only 7.2 percent of buildings in the Kumasi Metropolis had permits. In 2003, it was estimated that over 80 percent of the new buildings sprouting up in the Kumasi Metropolis were unauthorised. The result is that developments are going on even on public lands

and places such as school properties, market and sanitation sites, open spaces, nature reserves, and on parks and roads (Freiku, 2003).

A report on the importance of proper town and city planning made by the German Technical Cooperation (Amoah, 2006) indicated that flooding in many cities and towns in the country including Kumasi was due to unauthorised development of structures. According to Adomako (2009), the fire outbreak that engulfed the Kumasi Central Market in June, 2009 was partly attributed to unauthorised structures. The author emphasised that those unauthorised structures made it difficult for the Fire Service personnel to get direct access to the affected place. Some unauthorised dwellings even had to be pulled down before access could be gained.

The planning authorities in Kumasi over the years have embarked upon a series of decongestion exercises to get rid of unauthorised structures to restore and improve the true image of the “Garden City of West Africa”. In 2009, another decongestion exercise was undertaken to relieve Adum, Kumasi Central Market, waterways, principal streets and other over-crowded areas in the metropolis of the numerous unauthorised structures (Yeboah, 2009). However, in spite of the efforts and the level of the commitments that have been shown by the city authorities, people still put up unauthorised structures. Some of the questions that come to mind are:

- to what extent are the existing regulations and institutions responsible for urban land-use planning functioning in Kumasi?

- are developers (house-owners) aware of the building regulations that have been put in place in Ghana?
- what are the perceptions of residents in the Kumasi Metropolis on land-use planning?
- what influences people to live in unauthorised structures?
- what problems do residents of the city face as a result of unauthorised structures?

It was to find answers to these and other mind boggling questions that this study was undertaken using Aboabo, a suburb of Kumasi Metropolis as a case study.

Objectives of the study

The main objective of the study was to investigate the causes and consequences of unauthorised structures at Aboabo, a suburb of Kumasi Metropolis.

The specific objectives were to:

- assess the institutional arrangements for land-use planning in Kumasi;
- analyse house-owners awareness of the building regulations in Ghana;
- assess the perceptions of the residents of Aboabo on land-use planning;
- explore the factors that have influenced residents to live in unauthorised structures at Aboabo; and
- examine the problems facing the people of Aboabo as result of the unauthorised structures.

Rationale for the study

The study is informed by the development of unauthorised structures which has become a problem in sub-urban Kumasi, and in Ghana as a whole. The study, it is hoped, will make people aware of the existence of institutional arrangements for land-use planning, and of the various challenges that have hindered land planning and management institutions from performing satisfactorily in Kumasi and elsewhere in the country.

It is also hoped that the study will help to unravel the factors that have influenced peoples' mind to frown upon planning regulations, and which have urged them to put up unauthorised structures in urban areas of Ghana. Problems facing residents as a result of unauthorised structures, the level of awareness, and perceptions of the inhabitants at Aboabo of land-use planning will also be known. These will help planning authorities and policy makers to make informed decisions to curtail the springing up of unauthorised structures at Aboabo and elsewhere in Ghana. In addition, the findings from the study, it is hoped, will add to the existing knowledge on urban land-use planning and also serve as a basis for further research into issues concerning unauthorised structures especially in urban areas in Ghana.

Organisation of the study

This thesis has five chapters. Chapter One contains the background to the study, statement of the problem, research questions, objectives of the study and the rationale for the study. Chapter Two reviews the relevant literature on

unauthorised structures in towns and cities. The conceptual framework for the study is also found in this chapter.

Chapter Three focuses on the methodology of the study. It describes the study design, the target population, the sampling procedure, sample size, the research instruments used, data and sources, data processing and analysis, the ethical issues arising from the research, and the challenges from the fieldwork. Chapter Four concerns itself with the data analysis, the presentation and discussion of results while Chapter Five provides the summary, conclusions and recommendations of the study.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter reviews the various works that are relevant to the study. The topics reviewed include the concept of unauthorised structures, the characteristics of unauthorised structures, types of informal settlements, the history of unauthorised structures, and the factors that influence the growth of unauthorised structures.

Other important topics reviewed are the theoretical perspectives which concentrate on approaches for addressing informal settlement, theories of informal settlements, the Sietchiping framework on informal settlements, limitation of Sietchiping's framework, and the conceptual framework for the study. Institutional arrangement for planning and management of land in Ghana, and settlement planning in Ghana (such as the types of settlement planning in Ghana, the Building Regulations of Ghana, and building permits) are also discussed in this chapter.

The concept of unauthorised structures

Two main words “slum” and “squatter” settlements come to light when unauthorised structures are discussed. According to The Global Development Research Centre (2003), slums are the highly congested urban areas marked by deteriorated unauthorised and insanitary buildings, poverty and social disorganisation. Indeed, the word slum defines the environment of an area occupied by inhabitants who are mostly disadvantaged (UN-Habitat, 1982; 1987). Devadas and Desai (1990) have noted that the buildings of slums have the following characteristics:

- they are dilapidated, deteriorated and aged in condition; and
- they are inadequately provided in terms of ventilation, lighting and sanitation.

Regarding the location of the settlements, Devadas and Desai (1990) have noted that slums are:

- poorly provided with open spaces and recreational facilities;
- densely populated, and overcrowded;
- badly designed for sanitation, safety and other physical infrastructure; and finally they are characterized by
- defective or inadequate street and lot layouts.

These characteristics convey ill-health and avenue for social vices.

Squatting is an illegal occupation on private or public land without legal claims or permission. Squatters are individuals or small groups - sometimes as a result of

collective action – who invade an unoccupied area. A squatter area is a particular place inhabited by squatters (Devadas & Desai, 1990).

According to UN-Habitat (1987), different names are given to squatter settlements based on their nature of development. For example, if squatter settlements developed due to lack of central or local government finances, and formal planning or development control, such squatter settlements are often referred to as “spontaneous settlements”. The term “uncontrolled settlements” is used when such settlements lack formal registration and conformance to regulation. Squatter settlements are sometimes called “shantytowns” because of their poor quality of construction. Since squatter settlements are mainly inhabited by low-income earners, they are sometimes referred to as “popular settlements”. Again, since squatter settlements contribute less to urban society, they are sometimes called “marginal settlements”. Because squatters tend to consolidate their positions and become permanent settlers in the city, the term “transitional settlement” is sometimes used to describe the location (UN-Habitat, 1987).

In recent years, the term informal settlement has been used to refer to all slums and squatter settlements (Devadas & Desai, 1990); they are made up of many unauthorised structures and depict a situation where large number of people (especially the urban disadvantaged) earn or seek to earn their living. These places very often, consist of dense settlements with communities housed in self-constructed shelters which are designed according to traditional plans. In this study, all squatter settlements and slums are classified as “unauthorised”.

Characteristics of unauthorised structures

Unauthorised structures may be classified into different types. According to Nawagamuwa and Viking (2003) an unauthorised structure in an informal settlement could be a makeshift structure made of tin sheets, mud, adobe, thatch, wood parts (sticks, barks and leaves, etc), cardboard, plastic sheets and rags. Caves – dug out of hillsides – and empty carts are in this category of settlement. In some South-East Asian countries such as Vietnam, people live in floating squatter colonies – in junks or other boats (Nawagamuwa & Viking, 2003).

Other categories of unauthorised structures, especially houses, are the single storey types. However, as observed by Desai and Devadas (1990), six storey structures may be found. Many buildings here have no windows so even during daytime, dwellers cannot see each other without the help of a light or fire. Ventilation is poor, and very often, circulation of fresh air is completely lacking. In most cases, the same room serves as a living room, bedroom, sick-bay, kitchen and a dining room. The average number of people living in such single room can vary from 4 to 10.

To Nawagamuwa and Viking (2003), some of the most important features of unauthorised structures in informal settlement are:

- poorly constructed and maintained buildings, yards, and streets;
- poor-income earners; households usually belong to the low income group, either engaged as wage labour or in various informal sector enterprises.

The household income level can sometimes be high;

- overcrowding; either the area is overcrowded with buildings, or the buildings are overcrowded with dwellers, or both;
- population is heterogeneous in nature; many of the inhabitants are persons who cannot afford to live in high class residential areas, or they cannot afford to live in high class quarters, hence the houses are inhabited by the aged, chronically sick and socially maladjusted people;
- unemployment rate among the dwellers is high, on the other hand, Melese (2006) has noticed that dwellers in unauthorised structures are not unemployed but rather self employed because of their low educational level;
- the area has comparatively low level of sanitation, this situation contributes to outbreak of diseases and to high death rates; and
- social vices are predominant, all locations may not house “successful” criminals, but may serve as their hide-outs.

Types of informal settlements

The United Nations Economic Commission for Europe [UNECE] (2009) has classified informal settlements into five (5) main types; these are:

- *Upgraded squatter settlement*: This type of settlement usually starts as a squatter settlement and evolves into established neighborhood. They often earn *de facto* legality. In some cases, governments provide some facilities

and the residences could evolve into viable rental and homeownership markets;

- *Illegal subdivision:* This kind of informal settlement is usually built on unauthorized land, without planning and or building permit. Residents sometimes have titles to the land and the quality of settlement is not necessarily poor. Such settlements are illegal because they violate land-use planning, may have low-facility standards that do not meet building-safety standards. However, they are often tolerated and may become incorporated into master plans in the long run;
- *Settlement for vulnerable groups of refugees and internally-displaced persons:* This is a form of settlement is usually established with government's permission as a temporary response to a crisis. Such settlement is usually found in urban peripheries, pockets of marginal land, or close to refugee centres. The living conditions are poor, while displaced groups face significant obstacles which prevent their return home or from achieving local integration;
- *Substandard inner-city housing:* This includes overcrowded, dilapidated housing without adequate facilities in city centres or densely urbanized areas. The sites were originally developed and planned, but have gradually lost their attractiveness and quality over time because of systematic underinvestment. Security of tenure may not be a problem, but the safety and quality of housing warrant concern; and

- *Squatter settlements*: These are settlements in urban areas that are established by people who have illegally occupied an area of land and have built their homes in slums using self-help methods. They often result from rapid influxes of people to cities and urban areas. The quality of housing is the lowest among all the other types; slums often lack running water and good sanitation. In some cases, residents face serious risks when the terrain is insecure. In addition residents often face segregation and social exclusion.

History of unauthorised structures

Great Britain was a big slum before it became a colonial power in the 19th Century. Until the 1800s, Great Britain was an agrarian society, where the lord lived happily in his manor and castles, and the masses lived in great squalor. Slums were everywhere and London had the biggest slums (Sud, 2006). In the United States of America (USA), New York and Boston had large number of slums at the turn of the twentieth century as a result of the presence of many immigrants from other parts of the world. It was from the many slums in the USA that the word “ghetto” was coined (Sud, 2006).

In developing countries, the emergence of unauthorised structures dates back to the 1940s. In Istanbul in Turkey, the term “*gecerkodus*” (landed by night) was used to refer to housing units with roofs completed overnight and inhabited before government forces could arrive in order to prevent demolition (Yonder, 1998). In Turkey, government investments and formal housing construction

largely served the middle and high income groups, but left the lower-income populations to address their housing needs through informal means. As a result, the urban poor in most cities of Turkey occupied land illegally acquired and built their houses with their own resources, without following building codes and other governmental regulations. This has led to the proliferation of unauthorised structures (Cheema, 1993).

Historically, two main views have been expressed regarding the growth of unauthorised structures in urban areas; these are the pessimist and optimist views. The pessimist perspective is based on UN-Habitat Economic Model (1987) on migration and urbanization. The model describes the traditional informal sector as a sea of rural poverty and backwardness. According to the pessimists, people living in slums increase unemployment rate in urban areas since most of them have little education and training or skills to secure jobs in urban areas. Unfortunately, high illiteracy rates, low educational levels, non-existence of skills and rural based culture prevent these people from associating with urban people (Nawagamuwa & Viking, 2003). Consequently slum dwellers offer very little to the city; they serve as fertile breeding grounds for organised and petty crimes, juvenile delinquency, prostitution, family breakdown and illegitimacy. The slums also act as breeding grounds for social disruption and hot beds for political unrest. Based on these grounds the pessimists believe that slums act as barriers to development and impede economic growth; hence shanty towns need to be eradicated completely (Nawagamuwa & Viking, 2003).

On the other hand, the optimists hold the view that since higher proportions of people residing in slum areas are young adults, they have a higher capacity of adaptation. Unemployment which is a key problem confronting slum residents is only severe at the beginning but tends to disappear over time (UN-Habitat, 1987); residents can easily get used to urban life. But this process does not make them detached from their previous rural life. Slum inhabitants neither abandon nor lose their ability to be part of social life in rural areas. As a result these young adults are advantageously able to live in both urban and rural communities. Indeed, to the optimists, the inhabitants of slums offer certain beneficial contributions of which one is the remittance of money back home. This helps to improve the income distribution between urban and rural areas. Based on this, the optimists believe that informal settlements should not be destroyed but they should be upgraded (Nawagamuwa & Viking, 2003).

Factors that influence the growth of unauthorised structures

The United Nations (UN) (2007) attribute the main reasons for the emergence of unauthorised structures to political and sociol-economic conditions that lead to urbanization, to population fluxes that result into armed conflicts, and to deadly disasters. Institutional, physical, and cultural factors to the UN (2007) also influence the growth of unauthorised structures in cities.

Political factors

According to the United Nations (2007), political instability and inadequate housing policy of governments to provide affordable housing schemes for the poor and the middle income earners lead to the growth of unauthorised structures. Kombe and Kreibich (2000) have noted that in Tanzania, the failure of government to respond to the housing needs of the poor, have encouraged the poor to find their own way of putting up houses, and this has given rise to many unauthorised structures in Tanzanian cities. Lack of political will by government to prevent the growth of unauthorised structures also play significant role in the growth of unauthorised structures. The UN-Habitat (2003) report shows that lack of political will by governments to implement policies aimed at stopping the growth of unauthorised structures is a contributory factor to the growth of such structures (Warah, 2003).

Socio-economic factors

Sietchiping (2000) intimated that many unauthorised structures in developing countries result from high rent charges and high cost of land in the cities, high immigration rate, problems of landlessness, poverty and unemployment. Kings-Amadi (2004) has observed in Port Harcourt, Nigeria, that unauthorised structures are the result of lack of education or enlightenment of the public on planning regulations, land users ignorance, unwillingness to accept laid down regulations, and high cost (of money) involved in getting the right land papers. Augustijn, Flacke and Iqbal (2009) have observed that social contacts or

connections is one of the socio-economic factors that influence the growth of unauthorised structures.

Institutional factors

Unrealistic zoning regulations, complex legislation, excessive bureaucracy in issuing land development and building permits, and corruption of officials are some of the factors that influence the growth of unauthorised structures (United Nations, 2007). Magigi and Majani (2006) have observed that poor policy enforcement, outdated laws, and inadequate capacity of local authorities to provide adequate land plans are among the factors that lead to the growth of unauthorised structures. Ali and Sulaiman (2006) have linked the high growth of unauthorised structures in Zanzibar to lack of qualified urban planners and to the lack of logistics by the planning authorities.

Physical factors

Location and physical characteristics (nature of the land) of cities and urban areas may influence the growth of shanty towns. Most people prefer living in central or advantageous areas accessible to place of work, infrastructure, and urban services, especially health and education (Magalhaes & Eduardo, 2007). Millions of disadvantaged people in developing countries perceive urban centres as places for improving their quality of living. Better access to paid jobs, more varied diets, better education and better health care make the city centre a “destination of choice”. This situation, in contrast to the perceived backwardness

and poverty in rural areas, has generated a considerable flow of migrants to cities (Nawagamuwa & Viking, 2003). Others prefer living on marginal lands which are neglected by city authorities. According to Sietchiping (2000), this explains why many unauthorised structures occur on cheap, vulnerable and unbuilt urban areas such as found in the deep valleys in Kenya, river banks in Bombay, abandoned waste dumps in Manila, and dangerous slopes in Yaoundé.

Cultural factors

Culture plays significant role in influencing the growth of unauthorised structures (Ali & Sulaiman, 2006). In Zanzibar, many urban dwellers, due mainly to their culture, feel very comfortable living in slum areas and perceive there as the only places where they can enjoy “swahili life” (that is sharing, and togetherness among relatives). They consider the well planned and serviced settlements such as Mombasa, Mbweni and Mazizini (where residents build high fencing walls around houses) to be places of people of high income brackets or the *uzunguni* (the rich). Some of these areas have been referred to as “*masikini hajengi*” (that is the poor cannot afford to build). In the minds of the residents, there is no doubt about the “legality” of their houses (Ali & Sulaiman, 2006). Surveys by Ali and Sulaiman (2006) on unauthorised structures indicated that security of tenure was generally not considered an issue, once a house was built, one could claim ownership of the land, and there was almost no possibility of being forcefully removed from the area.

Augustijn et al. (2009) emphasise that traditional systems, especially, marriage, security reasons, and family ties encourage the growth of slums in many areas. Other works (Berg-Schlosser & Kersting, 2003; and Davis, 2004) suggest that slums are created at least in part, through spiritual or religious activities. Such correlation is well documented for new urban migrants who prefer to settle in neighborhoods that have similar religious (cultural) background (Malpezzi & Sada, 1996).

Approaches for addressing informal settlements

Over the years a number of policies have been put forward to address the socio-economic, physical and health well-being of informal settlements and their residents in developing countries. These policies are:

(a) The laissez-faire attitude: 1950s-1960s

During the 1950s and 1960s, urban authorities in certain developing countries turned blind eye to slums and focused on public housing (Farvacque & McAuslan, 1992; Rakodi, 2001). The public housing schemes were implemented in a discriminatory fashion, largely because the indigenous political rulers, who replaced colonial administrators, perpetuated the existing social and class divisions of the previous “master” (Fanon, 1963). Hope (1999) reports that public housing schemes across Africa as a whole provided less than 5 percent of housing needs. Slums at that time were considered “relics of traditional villages” which were in the process of being absorbed by the new urban planning scheme inherited from Western societies (Gaskell, 1990; Njoh, 2003). Many urban

dwellers, especially the new migrants in the low-income category, could only afford shelter in marginal and unsuitable open spaces around these new “planned settlements”. In fact, some policy-makers and urban planners regarded the existing slums as temporary situation, and hence a minor threat to long-term urban development. The perceived “low-income” shelter strategy was to develop public housing projects.

In fact, the main beneficiaries of formal public and planned housing schemes were civil servants, and the middle and upper-income earners (Fekade, 2000). Moreover, nepotism, corrupt practices, poor governance and incompetence significantly and rapidly contributed to the expansion of slums, and widened the gap between those who were in positions of power or had some sort of “connections” and the rest of the urban population who had nothing to fall on (Global Urban Observatory, 2003). Thus, it appears that between 1950 and 1960, most urban authorities in developing countries adopted a *laissez-faire* attitude towards growing slums.

(b) Site and Service Scheme: 1970s

In the 1970s, most governments in developing countries, especially in Africa and Asia opted for direct and centralised (State) intervention, executed through the World Bank’s instigated programmes such as the Site and Service Scheme (1970s). This particular scheme advocated the clearance of centrally located slums and the relocation of the dwellers to newly serviced plots often outside the existing urbanised areas. This policy was driven by affordability and cost-recovery strategies (Van der Linden, 1986).

Site and service schemes were credited with enabling shared responsibilities between slum dwellers and government. On the one hand, the programme emphasised the participation and contribution of beneficiaries to resettlement process. On the other hand, local governments were no longer acting as “providers” but as “facilitators”, a move which saved them some resources (Pugh, 2001). The implementation of site and service scheme was heavily criticised especially its demolition and eviction components. In certain cases evicted slum dwellers were relocated to other parts of the city (for example Chirambahuyo in Harare). In many other instances, slum dwellers were left in the limbo without any alternative housing and land arrangements or compensation (Butcher, 1986). Other shortfalls of the scheme included the relatively low number of beneficiaries, the lack of understanding and clarity concerning the role of the private sector, lack of planning for the location of new serviced plots, low or non-existent standards, and the failure to achieve cost recovery (Pugh, 2001).

(c) Upgrading Strategies: 1980s

In the 1980s, the Upgrading Strategies emphasized the improvement of communal infrastructure and services within established slums in several developing countries (Banes, Huque & Zipperer, 2000). Particularly, the upgrading projects targeted the improvement of basic services such as sewage, water, sanitary, garbage collection, electricity and other infrastructure such as road, market, healthcare and education centers that were lacking in slum areas (Pugh, 2000). Upgrading projects were implemented with lesser intervention of government than was the case with the Site and Service policy. Local upgrading

strategy was appealing because it avoided (unnecessary) demolition, was cheaper than the Site and Service approach, and preserved social and economic networks. The upgrading programme aimed to achieve three main goals which were affordability, cost recovery and replicability. In terms of affordability, Abelson (1996) reported that the slum upgradation of Visakhapatnam (India) resulted in beneficiaries' income increasing by 50 percent and their land value and assets by 82 percent.

Despite these specific successes, the Upgrading Programmes had many shortcomings, and eventually failed to meet their expectations. Generally, Upgraded Strategies were criticised at four main levels; these were failed financial commitment, negative socio-economic impacts, insecurity of tenure and the non-replicability of "best practices". For example, the relative importance of the upgrading budget allocations of the World Bank were reduced from 42 percent in the late 1970s to less than 8 percent in the late 1980s (Brennan, 1993). Similarly, local governments could not sustain financial cost of upgrading. In addition, Amis (2001) has indicated that the Upgrading Programmes in India for example, produced negative socio-economic impacts because it had no solution to poverty reduction, or to problems related to unemployment and land security which the programme aimed to achieve.

(d) Security of Tenure and Enabling Approach to Slums: 1990s

One of the major ways in which urban planning strategies in developing countries have been employed to improve slum conditions has been the development of practical mechanisms to consolidate and secure land tenure

(World Bank, 1993). The Security of Tenure Approach which is closely associated with the *Enabling Approach* (World Bank, 1993) advocated for seven major facilitators, which were development of housing financing systems, targeting of subsidies, encouraging property rights (including security of tenure), improving infrastructure, auditing and removing barriers, restructuring building industries, and reforming institutions (Pugh, 2001).

This policy advocated that, legal, administrative, economic, political, urban stakeholders and financial institutions should facilitate and secure shelter and tenure for the most vulnerable sections of urban dwellers. In the 1990s, the Enabling Approach was implemented through security of tenure strategies largely supported by international agencies especially the UN-Habitat and the World Bank as a contingent measure to limit the eviction and demolition threat in slums (Jenkins, 2001). The policy was based on the assumption that although slum dwellers did not necessarily have legal title over the land, they could undertake improvement on their properties without fear of eviction.

The Security of Tenure Approach also emphasised that once residents have the sense of appropriation, they also have the confidence, motivation and will to invest, upgrade or improve their environment. The regularisation of these informal settlements environment helped to address the problem of tenure insecurity in the already established slums. In contemporary Africa for instance, South Africa is leading the land regulation campaign by providing secure tenure with basic services to displaced squatter dwellers (Sietchiping, 2005).

The security of land policy, however, has two major limitations. First, the policy put land grabbers and informal “conquistadors” in advantageous position of owning the land. So when regulation did occur, the *slumlords* (who did not necessarily live in the settlement) sold or rented the land to city dwellers at a higher price because the land value had increased with the security (Payne, 2004). Second, the implementation of security of tenure did not guarantee any long-term solution to the expansion of emerging and future slums. This was an important omission that the security of tenure policy failed to address (Sietchiping, 2005).

(e) Cities Without Slums Action Plan: The post-2000 era

In 1999, the World Bank and the UN-Habitat initiated the *Cities Without Slums* (CWS) Action Plan as an integral part of the United Nations Millennium Development Goals and Targets. Specifically, the action plan aimed at improving the living condition of at least 100 million slum dwellers throughout the world by the year 2020 (UN-Habitat, 2003).

The main innovation in that policy was to move from the physical eradication or upgrading methods adopted by past policies, and to start to address one of the fundamental reasons why slums existed in the first place. The action plan recognised that slums were largely a physical manifestation of urban poverty, and to deal with them effectively, future actions and policies had to involve urban and slum stakeholders in the poverty reduction or eradication campaign.

This extended approach of CWS action plan was encouraging, but raised four important concerns. Firstly, poverty was just one of the components of the incidence of slum (Shatkin, 2004). The CWS was not comprehensive enough to

determine other variables that help to account for slum creation. Secondly, the number targeted is far too modest to significantly help reduce the number of slum dwellers by the year 2020. In 2000, it was estimated that 850 million people lived in slums, hence it was projected that by 2020 the number would reach 1.8 billion (UN-Habitat, 2003). It is clear however that this target will do too little to effectively improve the living conditions of more than the 1.8 billion slum dwellers. Thirdly, there is no clearly defined variable to measure the “improvement of living conditions” of 100 million slum dwellers in the world. Finally, the CWS action plan does not articulate what measures should be taken or formulated to curb the emergence of new slums (Sietchiping, 2005).

Theories of informal settlements

In cities of developed countries three main theories of informal settlements are frequently discussed. The Chicago School in the 1930s regarded informal settlements as the result of residential differentiation, the result of the different income levels of different ethnic groups who competed for “valuable” or “desirable” urban land (Burgess as cited in UN-Habitat, 2003). Similarly, the Alonso’s neo-liberal theory of slums suggests that informal settlements are caused by housing needs of urban dwellers who cannot afford a formal dwelling due to discriminatory urban regulations and public spending (Smith, 1980). On the other hand, the post-modern theory of urban landscape or factorial ecology perceives informal settlements as the product of skills segregation within urban space where urban dwellers settle according to their profession and social status (Flood, 2000).

In developing countries, four major theories on informal settlements are known; these are the land management theory, the colonial legacy theory, the inadequate economy theory, and the demand and supply disequilibrium theory. Concerning the land management theory, one school of thought, according to Fekade (2000), believes that institutional factors such as inefficiency of urban authorities, poor land management practices, and inadequate urban planning schemes; create informal settlements in urban areas.

The colonial legacy theory links expansion of informal settlements to political and historical factors, especially colonialism, postcolonial practices, and civil and political instabilities (Debusmann & Arnold, 1996; Global Urban Observatory, 2003). The inadequate economy theory suggests that economic factors especially the introduction of new economic system plays important role in the development of informal settlements. This theory argues that the introductions of urban trade, income and class differences are spatially translated into residential discrimination and social exclusion (Huchzermeyer, 2002). The demand and supply disequilibrium theory also links the growth of unauthorised structures to economic factors. This theory states that the emergence and growth of informal settlements is caused by the imbalance between demand and supply of urban commodities such as land, services and infrastructures. This explains the sustainability and persistence of informal settlements and while when effort is deployed to improve slums somewhere, new informal settlements spring up in other parts of the city (Jacopsen, Hasan Khan & Alba, 2002).

In conclusion, the plethora of explanations suggests that there is no one single theory that can fully explain the emergence and expansion of informal settlements. However, within growing cities, it is often accepted that informal settlements are the result of a combination of factors, for example, poor management (especially failed urban policies), poor governance, corruption, inappropriate regulations, dysfunctional land markets, social insecurity, poor economic performance, and lack of political will (Sietchiping, 2004).

The Sietchiping framework

Sietchiping's (2004) framework on informal settlements attributes the growth of informal settlements in urban areas to four main factors which are physical, socio-economic, socio-cultural and institutional (rigidity of urban planning regulations). According to Sietchiping (2004), research shows that informal settlements flourish on marginal or less valuable urban lands such as river-banks, steep slopes, dumping grounds, abandoned and unexploited plots, open spaces along transportation networks or near industrial areas and market places, and in low lying areas or wetlands (Blight & Mbande, 1998). Berg-Schlosser and Kersting (2003), similarly have observed that informal settlements appears to be driven, at least in part, by spiritual or religious factors. A research by Malpezzi and Sa-Adu (1996) indicates that informal settlement dwellers entertain such belief. Unfortunately, there is now sufficient evidence to suggest that informal settlement dwellers who previously lived in informal settlements (on nearby) are planning to move into future informal settlements (UN-Habitat, 2003). This suggests that

established informal settlement dwellers duplicate themselves and serve as stepping-stones for the emergence of future slums on any available empty land.

Another important point raised by Sietchiping (2004) is socio-economic factors such as the level of education and income which explain why there is a close correlation between informal sectors and informal settlements (Kengne, 2000). This is because knowledge, skills and experience of informal settlement dwellers do not meet the demands for accessing the job market, especially within the formal or public sectors (Happe & Sperberg, 2003). Migrants to urban areas have long fuelled the informal economic sector (often represented by popular market places), which employs more than 70 percent of the labour force, and contributes an average of 40 percent of the Gross Domestic Product (GDP) of developing cities (Kengne, 2000).

A final factor that helps to explain the proliferation of informal settlements is institutional. According to Sietchiping (2004), the rigidity of urban planning regulations associated with poor governance leads many people to squat on empty lands, and infringe on building regulations (Fekade, 2000). The end result of all these factors are the rapid, unstructured and unplanned expansion, conflicting land tenure and property rights, poor-quality dwellings, decay of the physical environment, severe social problems, and the low socio-economic status of informal settlement dwellers.

Limitations of the Sietchiping framework

Although Sietchiping's (2004) framework presents comprehensive causes and effects of informal settlements in urban areas, it has some flaws. Firstly, the framework excluded political and historical factors. But Political instability, lack of political will to prevent informal settlement, and inadequate housing policy of governments, are some of the key political factors that influenced the growth of informal settlements (Global Urban Observatory, 2003). Historically, some informal settlements develop as a result of ancestral lineage. Some people in order to preserve their ancestral lineage prefer living on the land handed over to them by their forefathers. In this case, whether the land lacks legal backing or not, the occupants do not care (Asabere, 1994). Secondly, social factors in the Sietchiping (2004) informal settlement framework are not well defined; social factors can either be socio-cultural or socio-economic in nature.

Nevertheless, all the factors outlined by Sietchiping (2004) have some influence on the perception of dwellers in informal settlements which may or may not compel them to do away with the existing building regulation and to put up unauthorised structures just to make a living. However, the framework is silent on the perception aspect of residents of informal settlements.

Conceptual framework for the study

In spite of the limitations, the Sietchiping framework on informal settlement growth has been employed for this study. The framework, however, has been modified to include all the factors and other important variables that the

original model did not have. The Sietchiping framework has been adapted because it comes nearer to containing all the elements or variables that are needed for the study. It has also been adapted in order to make the study well focused and to make it easy for the objectives of the study to be realised (see Fig. 1).

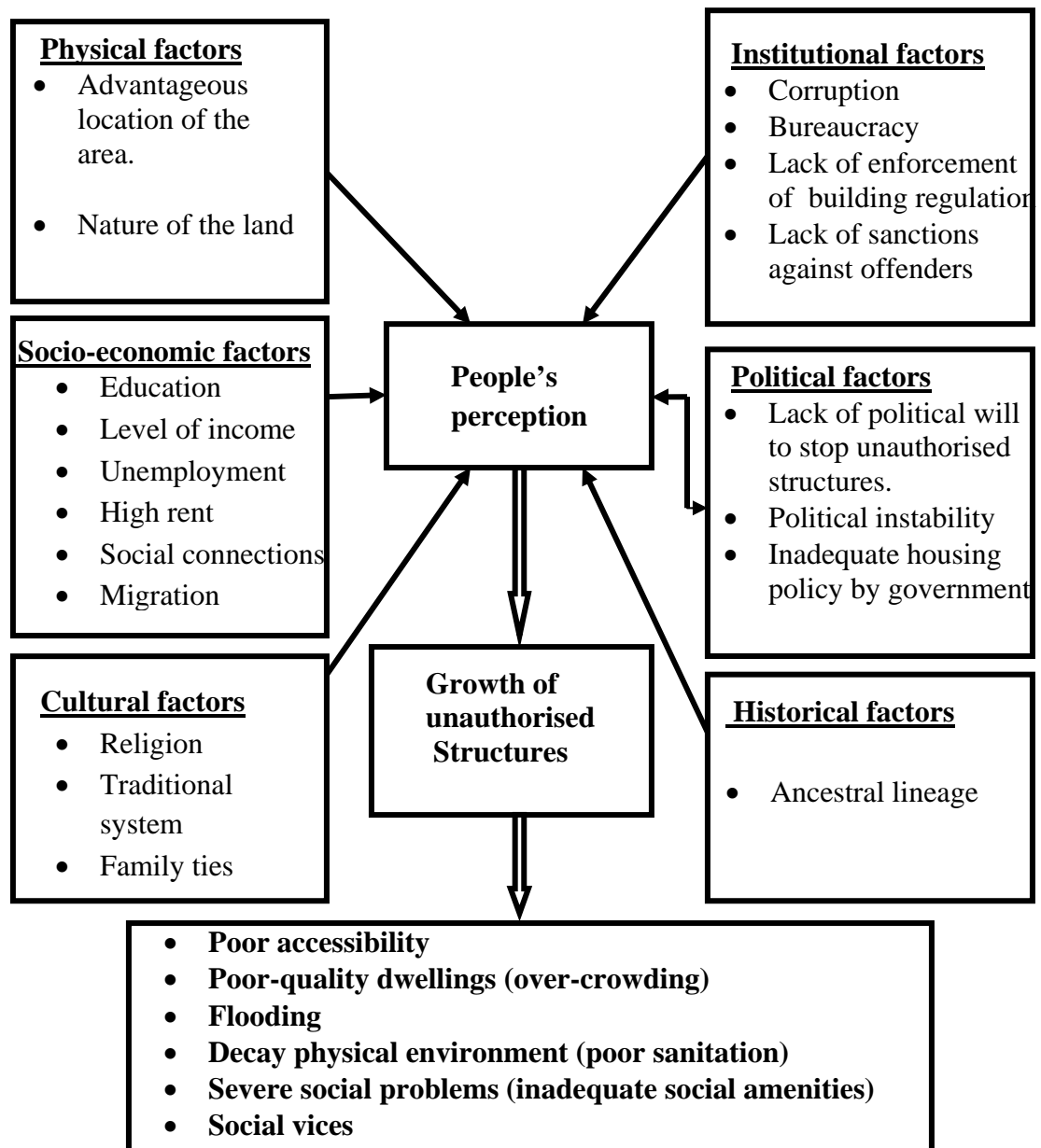


Figure 1: Informal Settlement Growth Framework

Source: Adapted from Sietchiping (2004)

As illustrated in Figure 1, the adapted conceptual framework assumes that there are six (6) main factors that influence the growth of unauthorised structures, and for that matter, the growth of informal settlements in urban areas. These are physical, socio-economic, cultural, institutional, political and historical factors. The physical factors concern the nature of the land on which people build unauthorised structures. Example of such lands include marginal or less valuable urban lands such as along river valleys, steep slopes, dumping grounds, abandoned or unexploited plots and in low lying areas and wetlands. Advantageous locations of lands that attract dwellers of unauthorised structures are also considered under this factor; these include settling along transportation networks, near industrial areas and market places.

Socio-economic factors such as residents' educational background, income level, unemployment, high rent charges in cities, social contacts and rural-urban migration are captured in the framework. The literature shows that people who reside in informal settlements usually have low educational background, are low income earners, and are casual or temporal workers. Some people also continue to stay or settle in unauthorised structures in order to maintain close ties with relatives and friends. Migration, specifically rural-urban migration, drives people to put up unauthorised structures.

Cultural factors influence the growth of informal settlements in urban areas. It is the assumption that traditional and religious beliefs, and family ties influence people to build closely knitted or packed structures without proper

layouts, or carry out extension works on already existing buildings to take care of large family sizes.

Institutional factors are believed to contribute to the growth of informal settlements. Here the framework focuses on bureaucracy, that is, the long procedure and delays involved in the processing of building documents, corruption of officials, lack of enforcement of building regulations, and on lack of adequate sanctions against offenders.

Political factors concern the displacement of people due to political instability such as wars, inadequate housing policy by government to cater for the housing needs of the general public, and lack of political will to stop the growth of unauthorised structures.

The influence of historical factor as one of the causes of informal settlement is recognised by the conceptual framework. The framework lay emphasis on ancestral lineage as one main historical factor that encourages people to live in informal settlements especially in slums; people continue to live or move into slum areas in order to preserve their ancestral heritage.

In effect it is assumed in the adapted conceptual framework that all these factors influence the perception of people to live in unauthorised structures. In the end, poor sanitation conditions, overcrowding, poor accessibility, inadequate social amenities, flooding, and social vices are expected to be some of the problems affecting informal settlement dwellers.

Institutional arrangements for planning and management of land in Ghana

According to Kasanga and Kotey (2001) the state institutions that are concerned with the administration of land in Ghana include the District Assemblies, Town and Country Planning Department, Lands Commission (now the Public and Vested Land Division), Office of the Administrator of Stool Lands, Land Valuation Board (now the Land Valuation Division), Survey Department (now Survey and Mapping Division), and the Land title and Registry Department (now the Land Registration Division). These institutions have their own enabling legislation, and their state institutions' roles are based on the assumption that the state is best placed to oversee the fair and efficient administration of public and vested interests.

(a) Metropolitan, Municipal and District Assemblies (MMDAs)

Metropolitan, Municipal and District Assemblies are the highest political authority in their respective areas. The MMDAs were established in 1986, and were given legal backing through the Local Government Act of 1993 (Act 462). The MMDAs have direct responsibilities in land management, with the power to enforce by-laws, undertake planning schemes, issue planning and development permits, and enforce building regulations (Aryeetey, Kotey, Amponsah & Bentsi-Enchill, 2007).

Under the MMDAs, there is a statutory body known as the Statutory Planning Committee that is mandated to vet and approve building and development plans. Half of the planning committee members are appointed from elected members of the Assembly (who are representatives of the local people) by

the Chief Executive while the heads or directors of the various departments under the Assembly constitute the other half who are permanent members. The planning committee meets monthly to consider development applications. These development applications or plans are submitted by the applicant to the Town and Country Planning Department. The plans are vetted by planners at the department with the help of engineers from the Works Department and thereafter processed for the planning committee meetings for further vetting.

Another body that plays a key planning role under the MMDAs is the District Planning Coordinating Unit (DPCU). The DPCU is purposely established according to Act 462 for planning in the districts. Specifically, it prepares the Districts' Medium Term Development Plans (DMTDP) in consultation with the relevant stakeholders. In the execution of its functions, the DPCU maintains a strong network with all sector departments and agencies to enable it to effectively serve as a secretariat to the District Assembly. It holds monthly and/or quarterly planning, and coordination meetings as may be required. In line with Section 46 sub-section 4 of the Local Government Act of 1993 (Act 462), the DPCU is made up of a minimum of eleven officers.

(b) Town and Country Planning Department (TCPD)

The Town and Country Planning Department, popularly known as Town Planning Office, is now one of the decentralised agencies in the Local Government structure. Its primary responsibility is the preparation of planning schemes (Aryeetey et al., 2007). The mandate of the department is derived from

five main legal instruments, namely the Local Government Act of 1993 (Act 462), the National Development Planning Commission Act of 1994 (Act 479), the National Development Planning (Systems) Act of 1994 (Act 480), the National Building Regulation of 1996 (LI 1630), and the Town and Country Planning Ordinance of 1945 (Cap 84). According to the TCPD (2007), at the district or local level the TCPD is responsible for the:

- preparation of land-use plans (structure plans) to direct and guide the growth and sustainable development of human settlements in the district;
- assessment of zoning status of lands and proposal of re-zoning where necessary;
- co-ordination of the diverse physical developments promoted by departments, agencies of government and private developers;
- administration of land use management procedures in settlements, and channelling of the day to day physical developments into efficient forms, and sound environmental places of residence, work and recreation;
- processing of development/building permit application documents for consideration by the Statutory Planning Committees; and
- creating awareness about the need to obtain planning and developments permits, as well as the right procedure to use.

The services provided by the Town and Country Planning Department are shown in Table 1.

Table 1: Service schedule of Town and Country Planning Department

Service	Timeframe
Process development or building applications for further consideration by the Statutory Planning Committee.	Within two (2) weeks of receipt of application.
Ensure that the Technical Sub-Committee meets and assesses the application, visits the site and make recommendations to the Statutory Planning Committee.	Within one (1) month of receipt of application.
Organise a meeting of the Statutory Planning Committee to consider Development Applications.	Nine (9) working days of Technical Sub-Committee meeting.
Ensure that the secretary of the Statutory Planning Committee submits approved plans to the Works Department of the MMDAs	Five (5) working days for approval for the issue of building permit.
Communicate to applicants.	Five (5) working days for the reasons for all deferred, queried and/or rejected applications.
Discuss the first draft plan.	In one (1) day
Ensure that the second draft plan is discussed by the technical sub-committee.	Within two (2) weeks
Submit the second draft for consideration by the Statutory Planning Committee.	Within two (2) weeks
Publicize the final draft plan for public comments.	Within two (2) weeks
Ensure the final approval and signing of the plan by the District Chief Executive and the Secretary to the Statutory Planning Committee.	Within two (2) weeks.
Ensure that Settlement Development Plans and building permits are ready for clients from the MMDAs	Within three (3) months after submission of the application.

Source: Town and Country Planning Department (2007)

(c) The Land Registration Division

Land registration in Ghana is especially important because of the high incidence of title insecurity and conflict. The Lands Registration Division formerly known as the Land Title and Registry Department has been in existence since colonial times for the purpose of deeds registration – the registration of documents affecting written land titles. In 1986, a Land Title Registration Law (PNDCL 152) was passed to usher in the land title registration schemes (Aryeetey et al., 2007). The functions of the Land Registration Division are the registration of all transactions relating to land under the provision of the Land Title Registration Law of 1986 (PNDCL 152).

The Land Registration Division is mandated by law to develop, keep record of land in the interests of Ghana, and to provide security of tenure to land (Land Title Registry, 2007). Its responsibilities include the registration of titles and interests in declared district, conducting official searches in respect of lands in declared districts, registering mortgages on land for which certificates have been issued, and conducting arbitrations on disputed lands. The official service schedule of the Land Registration Division can be seen in Table 2.

Table 2: Service schedule of Land Registration Division

Service	Time frame
Certificates for first registration after advertisement and receipt of search report	Within four (4) weeks.
Issue certificates on transfer of Ttitles	Within two (2) weeks.
Conduct search reports on Development permit applications.	Within two (2) week from the date of request.
Conduct searches.	Within one (1) week from the date of submission.
Register Mortgages.	Within one (1) week from the date of submission.
Commence adjudications and Caveats and objections.	Within one (1) month of lodgment.
Communicate reasons for rejections and queries.	Within one (1) week from the date of such event.
Issue substituted certificates.	Within two (2) weeks after publication.
Acknowledge receipts of all letters within one week from the date of receipt.	Within two (2) weeks after publication.
Ensure that customers will not interface with more than	Two (2) LTR staff when making telephone enquiries.
Ensure that customers will not have to wait in a line	Longer than thirty (30) minutes for any transaction.

Source: Land Registration Division (2007)

(d) The Survey and Mapping Division

One institution that plays a critical role in the administration of land in Ghana is the Survey and Mapping Division. The Survey and Mapping Division of

the Lands Commission is the new name that has been given to the former Survey Department. The functions of the Survey and Mapping Division include the demarcation of boundaries and surveying of lands as enshrined in the provisions of Chapter 159 of the Laws of the Colony (cap 159 of 1922). The division is mandated to provide large scale maps of cities and towns for land titling and physical planning, support the implementation of the Land Title Registration Law (PNDCL 152) of 1986 by providing maps and plans on timely basis, and to provide composite plans for land dispute resolution in the law courts (Survey Department, 2007).

The Survey and Mapping Division is responsible for the compilation and maintenance of topographic and geodetic data base, demarcation of national, regional, district and stool or skin and family boundaries, the completion and maintenance of the National Atlas of Ghana, and compilation and maintenance of guide maps of cities and towns. The duties of the department also covers the production of registry maps and plans for title registration of parcels of land, and the provision of efficient land delivery system in Ghana by providing property surveys. The Survey and Mapping Division has its own procedure of offering its services to the general public. This is outlined as follows;

- complete the preparation of a parcel plan (where a Sectional Plan exists) within three (3) weeks;
- complete a Cadastral plan (where a Sectional Plan is not available) within eight (8) weeks;

- prepare a composite plan for multiple claims within three (3) weeks upon the receipt of application from the Land Title Registry; and
- communicate reasons for queries within one (1) week from the date of such event.

(e) The Public and Vested Land Division

The Public and Vested Land Division in the past was the main body that effectively administered all public and vested lands. It was formerly called the Lands Commission but in 2009 under the Land Administration Project (LAP) its name was changed to the Public and Vested Land Division. The Lands Commission is now a larger body that is made up of four divisions of which the Public and Vested Land Division is part. The mandate of this division is clearly spelled out in the 1992 Constitution, and in the Lands Commission Act of 1994 (Act.483). Article 258 of the 1992 Constitution spells out the duties of the Lands Commission, which include managing public lands and other lands vested in the President, or in the Commission on behalf of government, making recommendations for national policy on land-use, and maintaining up-to-date records on public lands (Aryeetey et al., 2007).

In spite of the efforts that are being made by the land planning and management institutions to ensure good use of the land, Aryeetey et al. (2007) have observed that the land institutions are not living up to expectation because of shortages of qualified human resources, inadequate funding, poor logistics and wide spread corruption.

Settlement Planning in Ghana

Settlement planning is a process of deciding how land in a particular area will be used. Areas discussed in this study under settlement planning in Ghana are the types of Settlement Planning, building regulations, and building permits and unauthorised structures.

Types of settlement planning in Ghana

The two main types of settlement planning in the country are the indigenous or traditional planning, and the modern or statutory planning. In Ghana, indigenous settlement planning was used by different ethnic groups in pre-colonial times and in the periods immediately after the country's independence. Among the Guans, houses were planned in a circular or enclosed manner only separated from each other by narrow path-ways (Bartle, 1977). In the northern part of the country, though dispersed settlements are common, individual houses are nucleated and are built in circular form. A house has many sub-divisions or apartments and according to Lynn (1937), the plan or layout of housing in northern Ghana resembles a honeycomb developed in accordance to strict observed customs and family preferences. Since polygamy is practical and inheritance is patrilineal among the northern people of Ghana, when a man marries, his wives are given places in the family house; as the family expands new extensions are attached to the old ones. For example, one house can have seven (7) apartments containing the head of the family, the senior wives, junior

wives, married sons and other members of the family in a circular pattern to form a compound - an enclosed area containing a group of buildings.

In southern Ghana, especially among the Akans, settlement is nucleated in nature with many houses closely knitted to each other. The chief's house or palace for example, is normally located at the centre of a community with many houses surrounding it. This arrangement was designed for security reasons to protect the chief. Acheampong (2003) has observed that in a typical African settlement the king's palace is centrally-located, around it are the houses of the elders and beyond are the vassals. This arrangement is to ensure that the ruler is always protected against any danger from outside. Bartle (1977) has observed that the Akans' houses take the form of joined rectangular houses with identifiable central courtyard. According to Hunter (1965), although such indigenous settlement pattern helps to promote family cooperation, it causes overcrowding within individual houses and among houses in the settlement. To Hunter (1965), indigenous settlement patterns have poor accessibility which makes it difficult for the provision of basic facilities; it destroys the beautiful nature of the landscape.

Modern or statutory settlement planning is a form of planning where houses or structures are put up based on the building regulations of a given country. In Ghana, one has to register his or her land and has to receive building permit from the Town and Country Planning Department before any structure can be put up. Once construction begins all the requirements that have been stipulated in the building regulations must be followed. All buildings or structures that do not conform to the building regulations are referred to as unauthorised structures

(GhanaDistricts.com, 2006). Buildings that are put up based on statutory form of planning are expected to follow an orderly pattern which is free from overcrowding and which have good or easy accessibility.

Building Regulations of Ghana

In exercise of the powers conferred on the Minister responsible for Works and Housing by Section 63 of the Local Government Act of 1993 (Act 462), and in consultation with the Minister responsible for Local Government, the National Building Regulations of 1996 (LI 1630) were enacted (GhanaDistricts.com, 2006). The sections of the building regulations reviewed for the study are application of regulations and building plans, plot development, materials for building, and sanitation conveniences.

a) Application of Regulations and Building Plans

The Application of Regulations and Building Plans concerns the erection, alteration or extension of a building as defined (in the building plan), unless otherwise provided in the building regulations of Ghana. According to the Ghana's Building Regulations of 1996 (LI 1630), any person who intends to erect any building or make any structural alteration to any building, or execute any works or install any fittings to any building, should apply for a building or development permit from the District Planning Authority (the highest political authority in a particular area because of decentralisation policy in Ghana). Such application must describe where the building, structure, or work is, and what the

structure is intended to serve; the application must be submitted in duplicate and should be presented with the relevant building documents.

An applicant must satisfy the District Planning Authority that he or she has a good title to the land whose plan is being presented for approval. No approval shall be granted to any applicant who does not have a good title to the land, and for the purposes of this regulation, good title should have a certificate issued by the Chief Registrar of Land Titles or any other authorised agent. Plans submitted with an application under the regulation should indicate sections, elevations, calculations, specifications of materials, drawings and other particulars that the District Planning Authority may consider necessary to show whether the proposed building or structure complies with the regulations.

The applicant must also submit to the District Planning Authority a certificate signed by a Licensed Surveyor to the effect that the corners of the plot on which the building or work is to be carried out have been demarcated on the ground in a permanent manner in accordance with the site plan. All specifications of the plans, sections and elevations required by the District Planning Authority should be prepared by a person qualified to design the type of building in accordance with the provisions relating to such building as provided under the regulations.

The District Planning Authority to which plans are submitted, may, in the exercise of its power under Section 64 (1) of the Local Government Act of 1993 (Act 462), grant a building permit and may attach to it any conditions (with respect to the proposed building or work) that are not consistent with the building

regulations. The applicant in certain circumstances may be asked to submit further information or details as may be required by the District Planning Authority from time to time as the building or work progresses.

The District Planning Authority may specify in a building permit the time within which the work authorised in the permit should be commenced. The period of the validity of the building permit ordinarily, lasts for five years. The District Planning Authority may extend the period on application by the applicant or his agent who must be a person in the building design profession. Any building or work carried on after the date of expiry of a building permit, and before an application to extend the period of validity has been approved, is a contravention of the Building Regulations.

A District Planning Authority may refuse to issue a building permit if the applicant fails to complete any building or work authorised in the building permit, or other approval previously granted to him. Where a person submits an application for a building permit, the District Planning Authority shall notify him within 7 days of the receipt of the application, and shall within a period of 3 months thereafter, notify the applicant whether the application is granted or refused. An applicant who has not been informed of the grant or refusal of the application may after the expiry of 3 months commence development on the assumption that the application is acceptable to the District Planning Authority.

A person referred to in the building regulations as "developer" and to whom a building permit has been issued must give to the District Planning Authority at least forty-eight hours notice in writing indicating the date on which

he is intending to begin work, the dates on which the other stages of construction would be ready for inspection by the District Planning Authority. Other requirements are the demarcation of site or plot, the siting of the building, foundation of building set out, foundation excavated, the level pegs for concreting, foundation concreted, trenches for drainage work excavated to the accepted levels, drains laid, reinforcing steel fixed in position before concreting, the concrete shuttering ready for striking, and the roof framework completed before covering.

In addition to the above, a District Planning Authority may for the purpose of ensuring conformity to the building regulations, appoint a qualified building inspector to oversee and inspect daily work on the building. If the District Planning Authority finds out that any building has fallen into a state of disrepair or neglect, and hence constitutes an eye-sore, a safety, or health hazard to the public, it shall serve notice in writing to the owner of such building requiring him to carry out the repairs specified in the notice within a specific time. Where a person notified to perform such task fails or refuses to carry out the repairs or paintings within the stipulated period, the District Planning Authority may carry out the repairs or painting and shall take legal action to recover the cost involved in the work.

b) Plot development

Under the 1996 National Building Regulation (LI1630), no building shall be erected on a site which has been reclaimed, unless there has elapsed such a period in the opinion of the District Planning Authority that the foundation will be

firm and that the erection of buildings on the site will not be inimical to the health and safety of the community. No site liable to flooding must be built upon without adequate provision for flood control. No building should be erected inside a drain, culvert, or watercourse, under a high tension cable or near a sewer, except that the District Planning Authority has approved the building plans.

In addition to the above, if the land on which a person proposes to build has been filled or covered with any material impregnated with faecal or offensive animal and vegetable matter, the District Planning Authority may reject the plans until after the satisfactory removal or sterilisation of the offensive matter has been done. Any site for the erection of a building for human habitation must be adequately protected against dampness in accordance with Sections 20 and 21 of the Building Regulations, except where the building is intended to be used solely for storage or the accommodation of a plant.

Where a building abuts or adjoins a lane, either at the rear or on the side, the width of the lane shall not be less than 3 metres. Boundary walls shall be erected 2 metres from the building in question; the front wall of the building shall not be more than 5 metres from the edge of a major road or more than 3 metres from the edge of a minor road. Boundary and fence walls should be of wrought or cast iron works, masonry, burnt brick, cement blocks (mass or reinforced), soil blocks or the combination of any of these or of other approved materials, and shall not exceed 2 metres in height. The front wall or the back wall if it abuts on a lane or street, shall have ventilation openings with a gross area of not less than 45 percent of the entire surface area.

Where more than one building is constructed on the same plot, the distance between the buildings should not be less than 5 metres. The entrance gates, doors, windows of the buildings should be made in such a way that they can be opened entirely on to the owner's property. No entrance gates, doors and windows should intrude into another person's plot or property. No house should be erected on a site smaller in area than 450 square meters with a frontage of less than 15 metres. If the plot is entirely surrounded by roads or lanes, the plot size should not be less than 330 square metres, and the frontage not less than 15 metres.

c) Materials for building

Any material used in the erection of a building, of structural alteration, extension of a building, the execution of works, installation of fittings or fittings to which any of these regulations may apply, should be of a suitable nature and quality for the purposes and conditions for which they are to be used. The materials for building must be adequately prepared and applied, so as to adequately perform the functions for which they are intended.

A District Planning Authority may reject plans for the construction of a building whose materials lack special care, and are liable to rapid deterioration and hence are unsuitable for construction purposes. Under the Building Regulation of Ghana, no wall or roof of a building should be constructed of any sheet material, whether flexible or rigidly supported directly or indirectly by air or other gaseous substances. According to the Ghana Building Regulations, the

following materials may be used in the construction of buildings so long as they conform to the provisions of the regulations.

- (a) mud or swish used in plastic state to erect an earthen wall or an Atakpame house – a square house introduced into the country by the Atakpame masons of northern Togo;
- (b) wattle and daub;
- (c) earth rammed between wooden or other formwork to make a wall in situ;
- (d) unburnt earth bricks or blocks (adobe);
- (e) stabilised earth products, bricks or blocks (or landcrete);
- (f) burnt clay products;
- (g) sandcrete, concrete or reinforced concrete;
- (h) thatch or leaves in roofing or otherwise;
- (i) timber or bamboo products;
- (j) metal products;
- (k) glass and synthetic materials;
- (l) stone products;
- (m) lime-based materials; and
- (n) any other approved building materials.

Notwithstanding the provisions of the building regulations concerning the approved building materials, a District Planning Authority may, with regard to the architectural values and application of the general standard of development of any particular area, reject any application for approval of a building if in its view the building would deviate from the general trend of development in the area. A

person aggrieved because of a refusal of building permit may submit a complaint to the National Development Planning Commission within 30 days of becoming aware of the refusal.

d) Sanitation conveniences

According to the 1996 Building Regulation of Ghana (LI 160), a new building or extension of a building must have good water closet where water is available, and an earth closet, or chemical closet where there is no water. A water closet within a building should have at least one of its sides as an external wall of the building. A water closet should have flushing apparatus. An earth closet must be well ventilated to reduce odour. Pour flush system or KVIP shall be permitted in areas of acute water supply storage.

In addition, the plan of a new house or a proposal to convert a building into a separate dwelling must have a bathroom containing either a fixed bath tub or a shower bath with a suitable installation to provide cold and possibly hot water. Every building used as a factory, workshop, or work place should have adequate sanitary convenience for both sexes, and must be able to cater for all the people in the building. Urinals should be provided with a slab, a stall, a trough or other urinal receptacles easily cleansed and which have efficient trapped outlets with gratings. Urinals must have effective flushing apparatus and no part of the receptacle may be directly connected to any pipe except a soil pipe, drain flush pipe or a trap vent pipe. Where there is an acute water shortage, a urinal with a soak-away pit is recommended and it should be kept clean and well-maintained without any bad odour.

A building for residential, commercial, industrial, civic or cultural use should have a facility for refuse disposal. Each dwelling unit should have a standardised dustbin or other receptacle approved by the District Assembly in which all refuse generated should be kept temporarily. The refuse container must be located at an approved position. The capacity of a refuse container must be a size sufficient to store refuse generated for at least two days. The refuse should then be collected at a frequency not less than twice a week by the District Assembly, or by an agent appointed by the District Assembly.

Building permits and unauthorised structures in Ghana

Building permits are building development consents granted to any worthy or prospective developer or person by a statutory authority or organisations to put up buildings or structures in approved locations, within a set time frame and in line with local or national building regulations. It is a legal document covering any building or property for which its plans are found to be suitable for implementation and eventual human habitation or use. Building permits are commonly granted to cover permanent structures, which include residential, industrial and commercial buildings, as well as temporary or makeshift structures such as kiosks, metal containers, local fabricated metal containers otherwise known as container shops and advertising hoardings or bill boards.

These permits provide the necessary guarantees that a proposed building or structure is wealthy enough to be constructed at the chosen site. It also guarantees that the proposed land to host the building is ideal, the material

specifications for the building are satisfactory, the general architectural engineering and planning standards have been met, and that in every way they are conducive for human use.

The Local Government Law of 1993 (Act 462) specifies that any person, before constructing a building or any other structure, should obtain a permit from the District Planning Authority (DPA). The DPA may give notice in writing to the owner, occupier or developer of the premise to relocate or remove the structure if the construction of the building has already begun or completed without a permit, or is in contravention of a by-law passed by the District Assembly. The developer upon receiving the notice is expected to write a statement personally signed by him to the planning authorities to show sufficient cause or reasons why the building, structure or work should not be relocated, altered or pulled down.

Act 462 of the Local Government Law of 1993 states further that if the owner, occupier or developer, fails to show sufficient cause why the structure or work should not be removed, altered or pulled down, the District Planning Authority shall, by notice, order the owner, occupier or developer within a specified time to relocate, alter or pull down the structure. If the owner fails to comply with the order within the specified time, the District Planning Authority shall carry out the relocation, alteration or pulling down, and recover the expenses from the developer. A person, who contravenes the terms of a permit granted, commits an offence and is liable to conviction to a fine not exceeding two hundred penalty units or to a term of imprisonment not exceeding six months or to both.

A District Planning Authority shall without prior notice, effect or carry out instant prohibition, abatement, alteration, removal or demolition of an unauthorised development that encroaches or may encroach on a community's right of space, or interferes with the use of an open space such as market places and school premises. An allocation of land is unauthorised if the purpose or use for which the allocation is made is contrary to a provision of an approved development plan. A landowner should therefore not subdivide or allocate a land for use, development or occupation in a town or city or the suburb of it or in an area where there is an approved planning scheme prepared under an enactment, except with the concurrence of the District Planning Authority or a sub-district body acting on behalf of the district planning authority (Local Government Act 462 of 1993).

Summary

This chapter reviewed issues which are of great interest to the study. Some of the issues reviewed included the concept of unauthorised structures, characteristics of unauthorised structures, factors influencing the growth of informal settlements, Building Regulations of Ghana, and the various institutions responsible for ensuring orderly land development in Ghana. The Conceptual Framework for the study was described. The framework has been described as the foundation on which the study is built. The next chapter discusses the methodological issues of the study.

CHAPTER THREE

RESEARCH METHODOLOGY

Introduction

This chapter describes the approach that the study followed. The various techniques and methods that were used to select respondents to participate in the study have been outlined. The chapter describes the study area, the study design, data and source, the target population, sample size for the study, sampling techniques employed, the research instrument used, data processing and analysis, and the ethical issues arising from the research. The chapter ends with a statement on the challenge from the field.

Study area

Aboabo is one of the satellite towns of Kumasi. It is located about 2km west of the Kumasi Central Market (Fig. 2) and in the transitional forest zone of Ghana. Aboabo has an undulating topography with most of its houses located in a valley. The township is traversed by River Aboabo and its tributaries, and some surfaces are rocky in nature.

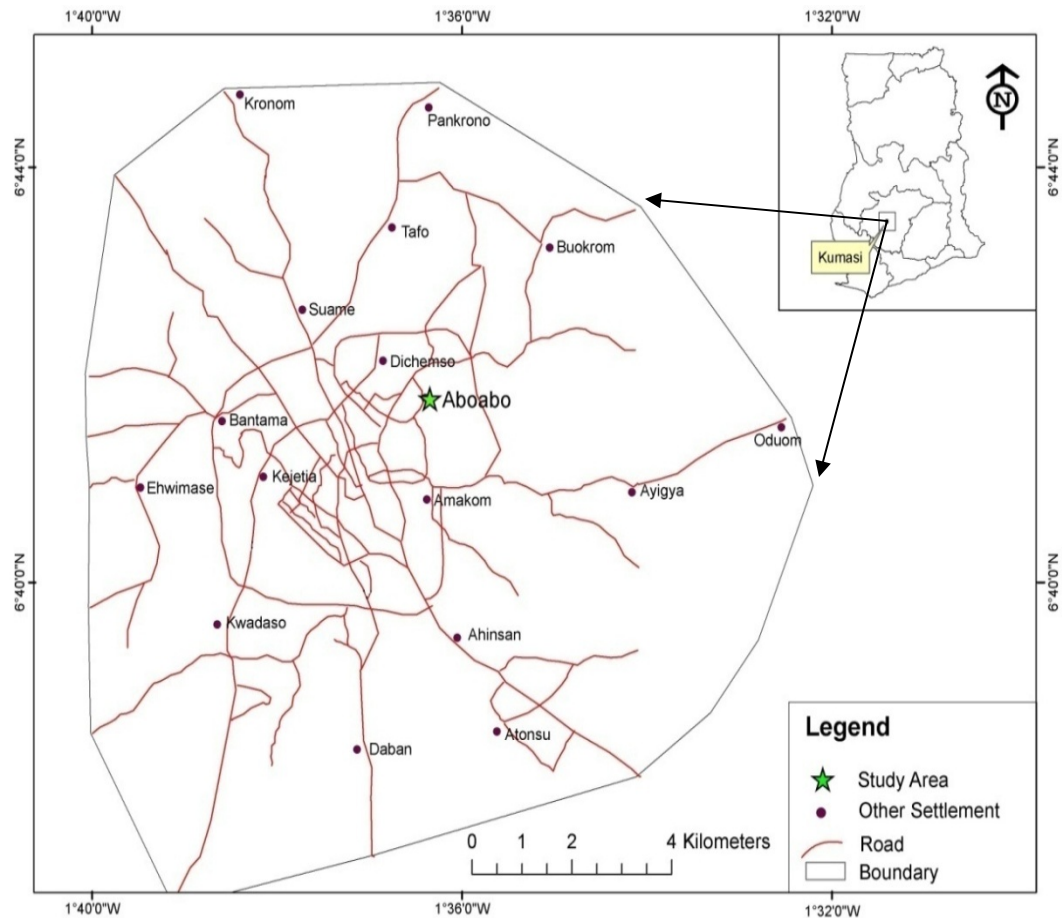


Figure 2: Map of Kumasi showing the study area in regional and national context

Source: Department of Geography and Regional Planning, UCC (2010)

Aboabo is one of the Zongo communities in Kumasi. Zongo in the Hausa language means “camping place of caravans” or “lodging place for travellers” (Abraham as cited in Sarfoh, 1986). In the 1800’s the present area of Aboabo was not conducive for human settlement, the land surface consisted of many rocks, so in Akan dialect the area was described as “Aboo aboo” (N. Kaamil, personal communication, January 28, 2010).

From the early parts of the 19th century, migrants from the northern parts of the Gold Coast (Ghana) and outside who migrated to Kumasi because of job opportunities put up temporal structures at Aboabo to make a living. Later on, when the migrants realised that the area was peaceful and had easy access to good drinking water (River Aboabo), they invited their friends and relatives to join them. Other people, because of cheap access to land and other reasons, also moved in and settled at Aboabo. As time went on, the temporal structures were turned into permanent ones. Currently, Aboabo has grown in area and it accommodates a large number of people (N. Kaamil, personal communication, January 28, 2010).

Aboabo was chosen for the study because it is a slum area and it has all the problems and hardships faced by the people who choose to live in slums. Aboabo is a low-income community with poor housing conditions. The majority of the people (about 10,000 of the people in Aboabo) of this suburb live in sub-standard structures (Kumasi Metropolitan Assembly [KMA], 2006). Quaye-Ballard, Ayer and Laari (2009) have observed that Aboabo has very few infrastructural facilities such as toilets, refuse dumps and pipe-borne water because of inadequate space to put up these facilities.

The paucity of facilities and their deplorable state have encouraged some of the inhabitants defecating in polythene bags and littering the surroundings. These, it is believed lead to outbreak of diseases such as cholera and diarrhoea in the area. Flooding is one of the problems that affect dwellers in the Aboabo suburb. It was one of the few localities that were affected by flooding in 2009.

The flooding occurred because of the haphazard development of structures on waterways especially on river Aboabo (KMA, 2006). The poor state of structures in Aboabo can be seen in Plate 1.



Plate 1: Evidence of unauthorised structures at Aboabo

Source: Fieldwork (Jan- Feb, 2010)

The type of settlement pattern at Aboabo is nucleated (Plate 2). The structures are closely connected to each other with little or no space between them. Most of the houses have additional structures attached to them which were not part of the original plan of the house. A mixture of old and new houses can be

found. The township is dominated by wooden structures, and sandcrete type of structures. Plate 3 shows a mixture of wooden and sandcrete structures at Aboabo.



Plate 2: Aerial photograph of Aboabo, a suburb of Kumasi Metropolis

Source: Google Earth (2010)



Plate 3: A mixture of wooden and sandcrete structures at Aboabo

Source: Fieldwork (Jan-Feb, 2010)

Aboabo is a heterogeneous community consisting of people from different ethnic groups. The population predominantly comprises of people from the three northern regions (Upper East, Upper West and Northern Regions) of Ghana. The township has a total population of 34,206; out of this figure, 16,944 are males while 17,262 are females. Most of the inhabitants are Muslims and the Hausa language is the most widely spoken. The main economic activity in the area is trading (Ghana Statistical Service, 2005).

Research design

The study adopted the cross-sectional design. In this type of study design, either the entire population or a subset of the population is selected, and from

these individuals, data are collected to help answer research questions of interest. In cross-sectional studies, data are collected from the research participants at a defined point in time or relatively brief time period. The data are typically collected from multiple groups (Olsen & George, 2004). According to Mann (2003), cross-sectional design helps to enrich a study because it helps to study a large number of people within a short period and determine the causes and prevalence of a phenomenon which other study design cannot do. Cross-sectional design was used in the study because data were collected from the study population once, within a specific period (from January to February, 2010). It also helped to assess the causes and consequences of unauthorised structures in the study area.

The cross-sectional design supports the use of different methods to collect data from selected respondents in a single study (Mann, 2003). In view of this, the mixed method technique (triangulation) was used in the study. This method involved triangulating both quantitative and qualitative methods to collect data at the same time. Creswell (2003) and Tashakkori and Teddlie (2003) support the use of mixed method approach in social sciences, because the technique has become increasingly popular as a legitimate research technique. Mertens (2003) and Punch (1998) opined that the mixed method helps in having a better understanding of the research problem by converging numeric trends from quantitative data and specific details from qualitative data. Neuman (2003) recommends the use of the mixed method when he said that combining different

approaches in a study is the best method to be adopted, because it is better to look at a situation from several angles than to look at it from one direction.

Mikkelsen (1995) has identified two forms of mixed method which are “within method” triangulation and “between method” triangulation. Within method triangulation involves using the same method on different occasions whilst the between method triangulation is where different methods are used in the same study. The present study used the between method triangulation. In this study, both interview schedule (quantitative method), and in-depth interview and observation (qualitative methods) were used to collect data from the field.

Some criticisms have been levelled against the use of mixed method approach. For example, Creswell (2003), described the use of mixed method as time consuming, while Sarantakos (2005) observed that mixed method is difficult to replicate, and therefore advised that it is not more valuable than the single-method procedure, which can be more suitable, useful and meaningful to answer certain questions.

Despite the criticisms, several authors support the use of the mixed method because it offers many advantages which far outweigh the disadvantages. Decrop (1999) for example, has observed that the mixed method opens the way for richer and potentially more valid interpretations; it helps the researcher to gain better understanding of the phenomenon being studied, and it also helps to complement the strength of the qualitative and quantitative methods (Depoy & Gitlin, 2005). Similarly, Henderson (1991) opined that the mixed method helps to

reduce bias because it helps to “guard against the accusation that a study’s findings are simply the artifact of a single method, and a single data source”.

Data and sources

Both primary and secondary data were used in the study. Primary data were collected using interview schedules, in-depth interviews and observation (see Appendices I, II and III). The primary data was collected from respondents in Aboabo. The data collected from the field included socio-demographic characteristics of respondents, factors responsible for the growth of unauthorised structures, the awareness of developers (house-owners) on building regulations, respondents’ perception of land-use planning, and the problems facing respondents as a result of the unauthorised structures.

Secondary materials were obtained from books, journals, newspapers, articles, reports, the internet, as well as conference and working papers that concern themselves with the topic under investigation.

Study population

The study population consisted of the following:

- Land Planning and Management Institutions’ heads
- The Chief of Aboabo
- Developers (house-owners)
- Household heads

The size of the study population was about 7456 (KMA, 2006). The Land Planning and Management Institutions were approached to collect data relating to the institutional arrangement for land administration in the Kumasi Metropolis. Data concerning their mandates, resource capacities, collaboration, and challenges restraining Land Planning and Management Institutions from ensuring orderly development of structures in the Aboabo area were collected. One important person that emphasis was given to in the study was the Chief of Aboabo. He was involved in the study because he was the custodian of the land, and had to be consulted or his approval had to be sought before any land developments or activities could be undertaken on his land. He was in a better position to give information on all land-use planning and management issues in the Aboabo locality.

Involving the developers (house-owners) in the Aboabo suburb was important because developers were the actual actors who were involved in putting up the unauthorised structures. They were asked about the factors that had influenced them to construct unauthorised structures, the problems they were facing as a result of the unauthorised structures, their perception of land-use planning, and their awareness of the National Building Regulations. Household heads were engaged because decision regarding issues about their household activities in terms of where to live and other land matters to a greater extent rested on them. They were asked questions about the factors that had influenced people to live in unauthorised structures, the problems that they were facing as a result of the unauthorised structures, and their perceptions of land-use planning.

Sample size for the study

In order to get a sample size of the population of Aboabo, the Fisher, Laing, Stoeckel and Townsend (1998) formula for determining sample size was employed. This formula is given as:

$$n_f = \frac{n}{1 + \frac{n}{N}}$$

Where:

n_f = the desired sample size (when population is less than 10,000),

n = the desired sample size (when population is greater than 10,000),

N = the estimate of the target population size.

In other to get n , Fisher et al. (1998) provided another formula, which is

$$n = \frac{z^2 pq}{d^2}$$

Where:

n = the desired sample size (when the population is greater than 10000)

z = the standard normal deviation, usually set at 1.96 which corresponds to 95 percent confidence level;

p = the proportion of the target population have particular characteristics;

q = 1.0- p ; and

d= the degree of accuracy desired, this is usually set at 0.05

With (z) statistic being 1.96, degree of accuracy (d) set at 0.05 percent and the proportion of the target population with similar characteristic (p) at 80 percent which is equivalent to 0.80, then “n” is:

$$n = \frac{(1.96)^2 (0.80) (0.20)}{0.05^2}$$

A calculated n=246 was obtained. Information obtained from the Kumasi Metropolitan Assembly put the total number of house-owners and households of Aboabo at 7456. Putting this and the calculated figure into the formula, the sample size for the study was calculated as follows:

$$\begin{aligned} n_f &= \frac{246}{1 + \frac{246}{7456}} \\ &= 238 \end{aligned}$$

A calculated sample size of 238 respondents was obtained. Since the formula was centred on house-owners and households, the sample size was further divided into two equal parts; thus 119 developers (house-owners) and 119 household heads were selected for the study. In addition to this, six (6) key informants who were the chief of Aboabo and five regional heads of Land Planning and Management Institutions in Kumasi were purposively included in the study, making the total sample size of 244 respondents. The distribution of the total sample size for the study is shown in Table 3.

Table 3: Total sample population for the study

Units	Sample size
Developers (house-owners)	119
Household heads	119
The Public and Vested Land Division	1
The Land Registration Division	1
The Survey and Mapping Division	1
Town and Country Planning Department	1
Kumasi Metropolitan Assembly	1
Chief of Aboabo	1
Total	244

Source: Fieldwork (Jan-Feb, 2010)

Sampling techniques

The non probability sampling techniques were used to select the 244 respondents. Specifically, the convenient, the snow ball and the purposive sampling techniques were employed.

a) House-owners

Getting the developers (house-owners) at Aboabo to participate in the study was difficult. This was because the majority of the house-owners were not staying in the community. Based on this, the study focused solely on house-owners who were then living in Aboabo township at the time of the research. The snow-ball sampling technique was used to select house-owners because there was

no sampling frame to select the house-owners from. With the snow-ball method, one house-owner was selected, and through him other house-owners were reached until the required sample size assigned to house-owners was obtained.

b) Household-heads

The convenient sampling technique was used to select the household heads. The reason for using this sampling technique was that there was no adequate sampling frame for selecting household heads. This made it difficult for any of the probability sampling technique to be applied. The houses in Aboabo did not follow any order and most of them had no house numbers. Therefore giving each house a chance of being selected was not possible; hence conveniently, 119 houses were selected. In each of the houses that were selected, one household head was conveniently selected to conform to the sample size assigned to household heads in the study. Houses were used to select household heads based on Melese's (2006) view that houses are appropriate avenues through which household heads can easily be located.

c) Chief of Aboabo and heads of land institution

The purposive sampling method was used to select six (6) key informants (the chief of Aboabo and five heads of Land Planning and Management Institutions in Kumasi) for the study. They were selected because of the vital role they play in the administration of land in the Kumasi Metropolis. The key informants included the heads from TCPD, the Survey and Mapping Division, the Land Registration Division, the Public and Vested Land Division, Kumasi

Metropolitan Assembly, and the Chief of Aboabo. Personal observations were made on some aspects of the Aboabo community that were essential for the study.

Research instruments

In consonance with the mixed method design, interview schedule, interview guide and observation checklist were developed to collect the primary data from the field (see Appendices I, II and III). These instruments were chosen because they were the most appropriate.

The interview schedule was used because of its known advantages of building good rapport, creating a relax and healthy atmosphere in which respondents easily cooperate, answer questions, and clear misapprehension about any aspect of a study (Kumekpor, 2002). Furthermore, not many residents of Aboabo could read and write in the English language. According to the Ghana Statistical Service (2005), only 14.8 percent of the people in the entire Kumasi Metropolis in 2005 were literate in the English language of which residents of Aboabo were part. The interview schedule enabled the researcher and the field assistants to translate questions into the Hausa and the Twi languages which are widely spoken at Aboabo. The interview schedule was semi-structured and comprised of many close ended questions (see Appendix I). This facilitated easy administration of the interview schedules. It also helped to avoid irrelevant answers from respondents, and it made inputting into the computer fairly easy.

In-depth interviews (IDIs) were used to collect information from the six key informants. The interview guide for the IDIs were in semi-structured format

in line with the view of Hockey, Robinson and Meah's (2008) that semi-structured interviews are flexible, and they allow for the exploration of emerging themes and ideas. In other words, IDIs provide some scope for asking for more relevant information through additional questions often noted when it prompts the interviewer.

Observation checklist was another instrument that was used in the study. The non-participant observation technique was employed. In this kind of observation, the observers on their own, study their respondents or the study area from outside the group without participating in the activities of the respondents (Sarantakos, 1998). In the case of Aboabo, aspects of the environment which were of importance to the study were observed. Scenes that were observed were based on the researcher's own choice. Relevant digital photos were taken during the observation session. Features of the Aboabo community that were observed were the unauthorised structures, settlement pattern, flooding, and sanitation condition. The exhibits helped to provide on the spot information without relying on the reports of others. Table 4 shows the sampling techniques and data collection methods used for the study.

Table 4: Summary of sampling techniques and research instruments

Unit of analysis	Information sought	Sampling technique	Research Instruments
House-owners	-Awareness of building Regulation; -Perceptions of land-use planning; -Factors that influence people to put up unauthorised structures; -Problems they are facing as result of unauthorised structures.	Snow-ball	Semi-structured interview schedule
Household heads	-Factors that influence people to live in unauthorised structures; -Perceptions on land-use planning; -Problems facing them as a result of unauthorised structures.	Convenient	Semi-structured interview schedule
Key informants	Their roles, resource capacities, collaboration and the challenges facing them.	Purposive	Interview guide
Aboabo Community	Unauthorised structures, flooding, sanitation conditions and settlement pattern	Purposive	Observation checklist/guide.

Source: Fieldwork (Jan-Feb,2010)

Training of field assistants and pre-testing of research instruments

Two field assistants were trained to help in the administration of the interview schedule. The objectives of the study were explained to the assistants so that they could have knowledge about the research. The training covered how to

identify respondents, recording and management of data, and the translation of the interview schedule into the Hausa and the Twi languages (the main languages of the community). The assistants were also briefed on how to manage ethical issues in the study

The research instruments were pre-tested to check their reliability and validity. The interview schedule was pre-tested between the 4th and the 9th January, 2010 at the suburb of the Moshie-Zongo in the Kumasi Metropolis. The Moshie-Zongo was selected because it is a slum area like Aboabo in Kumasi. The Moshie-Zongo also has similar characteristics such as proximity to the Kumasi Central Market, religious background of dwellers, and the heterogeneous nature of dwellers. Residents of the Moshie-Zongo speak the Hausa language like residents of Aboabo. Ten (10) house-owners and 10 household heads were purposively selected for the pre-testing. The in-depth interview was also pre-tested using two (2) officials from the land planning and management institutions in Kumasi. The pre-testing results helped to restructure some of the questions in the interview schedule and in the interview guide. It also enabled the researcher to appreciate some of the problems that were most likely to be encountered during the actual data collection. The actual field work took place between the 13th January and 4th February, 2010.

Data processing and analysis

The data collected from the field were first cross-checked and edited to ensure that there were no mistakes in the responses and the information given

were relevant. The data were then coded and fed into the computer. The Statistical Product for Service Solutions (SPSS version 16) was employed to process and analyse the interview schedules. The IDIs were analysed manually. The data from the IDI's were transcribed, categorised under specific themes and used for the analysis. Frequencies, percentages, averages, proportions and diagrams were used to present the results. Inferential statistical technique in the form of factor analysis was used to analyse the factors responsible for the growth of the unauthorised structures at Aboabo.

Ethical issues

Proper permission was obtained from the Kumasi Metropolitan Assembly (KMA) and from the Chief and elders of Aboabo before the field work was embarked on. During the administration of the interview schedule, the researcher had to identify himself to the respondents to avoid impersonation. The purpose of the study and the nature of the interview schedule were made known to the respondents. Participation in the study was not by force but on the willingness of respondents to participate. Anonymity of respondents was respected. During the field work all forms of identification including names, addresses and telephone numbers of respondents were avoided.

Challenges from the fieldwork

Identifying the house-owners at Aboabo to participate in the study was really problematic. Most of the house-owners were not living in their houses at

Aboabo. Some had given their houses to family members or for rental purposes. Some house-owners were also dead. To address this challenge, the study focused solely on the house-owners who were living at Aboabo at the time of the study. To make the selection of the house-owners easier, the snow-ball sampling technique was employed. The snow-balling method as has already been described, facilitated easy selection of house-owners by making house-owners who were already selected to introduce their friends who were also house-owners and were staying at Aboabo.

Summary

This chapter focused on the study area, and the procedures that were followed to collect the field data. The research design, sampling techniques, research instruments, and the data processing and analysis have been described in it. The next chapter presents the results and the discussion of the study.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This chapter covers seven main areas namely the respondents' socio-demographic characteristics, respondents' awareness of building regulations of Ghana, perception of land-use planning, factors that have influenced the growth of unauthorised structures at Aboabo, the problems facing respondents as a result of the unauthorised structures, land-use practices at Aboabo, and institutional arrangements for land planning and management in the Kumasi Metropolis.

Socio-demographic characteristics of respondents

Although, the study was not geared towards the description of the personal characteristics of respondents, it was important to highlight some of the variables that had been found to be commonly associated with dwellers of informal settlement and which have been found to influence the growth of unauthorised structures in urban areas. The socio-demographic variables covered in the study included age, sex, level of education, employment, ethnicity, level of income, the number of people living in a room, and religion of respondents.

Age distribution of respondents

Age is a vital variable that must be taken into consideration when dealing with dwellers of informal settlement. This is especially important because a study by the UN Habitat (1987) found out that the majority of people living in informal settlements are young adults who are in their active working age. The age of respondents (Table 5) ranged from 22 years to 81 years with the modal age being 38 years. The age of the respondents were categorised into five year intervals in order to know the particular age group that contains the majority of respondents. This was in line with the 2008 Ghana Demographic and Health Survey's (GDHS) categorisation of the age-groups of Ghanaians.

Table 5: Age category of respondents

Age (years)	Frequency	Percent
Up to 22 years	1	0.4
23 - 27	8	3.4
28 - 32	14	5.9
33 - 37	42	17.6
38 - 42	78	32.8
43 - 47	26	10.9
48 - 52	27	11.3
53 - 57	24	10.1
58 and above	18	7.6
Total	238	100.0

Source: Fieldwork (Jan-Feb, 2010)

Respondents within the 38 – 42 age bracket constituted 32.8 percent; this was followed by those within the 33 – 37 years (17.6%). On the whole, the age distribution of respondents showed that most of the respondents were young adults with the majority (of the dwellers) falling between the ages of 23-47 (71%). This is in line with the UN Habitat (1987) view on age distribution of informal settlement dwellers.

Sex of respondents

Males have been generally identified as the main actors that are involved in the creation of unauthorised structures. Out of the 238 respondents, males constituted 87.8 percent while 12.2 percent were females (Table 6). This distribution conforms to the 2000 Population and Housing Census of the area where males as household heads outnumbered that of the females. The sex ratio was seven males to one female. Out of every eight respondents, there were seven males and one female.

Table 6: Sex distribution of respondents

Sex	Frequency	Percent
Male	209	87.8
Female	29	12.2
Total	238	100.0

Source: Fieldwork (Jan-Feb, 2010)

The observed high percentage of male respondents at Aboabo was probably due to the cultural systems of ethnic groups in Ghana, where males are

considered as the heads of household. In view of this, males are expected to cater for their respective households in terms of provision of shelter and other necessities.

Level of education

Education is a key factor that influences the growth of unauthorised structures. According to Nawagamuwa and Viking (2003), low level of education and high illiteracy rate are some of the basic characteristics of informal settlement dwellers. Out of the 238 respondents interviewed (Fig. 3), 101 (42.4%) had no formal education; eighty-nine (37.4%) indicated that they had basic education while those who had pursued tertiary education were only 20 (8.4%).

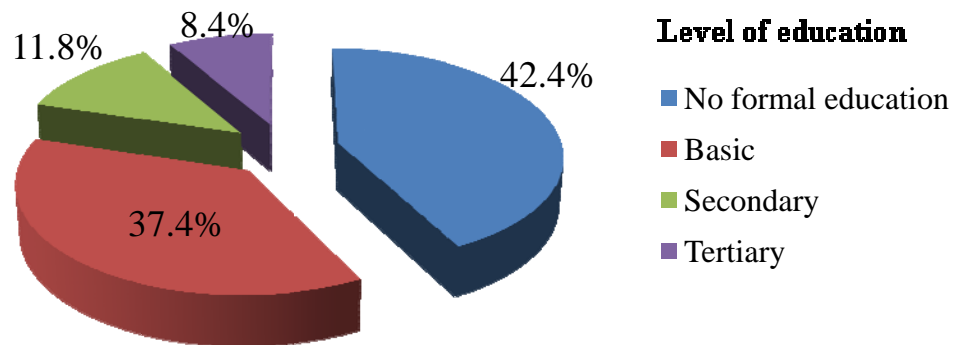


Figure 3: Highest level of education of respondents

Source: Fieldwork (Jan-Feb, 2010)

The high number of residents with no formal educational background as depicted in Figure 3 supports the Nawagamuwa and Viking's (2003) stand on educational status of dwellers in informal settlement. The reason for the large percentage of no formal education of residents in Aboabo was probably due to the fact that most of the residents only had access to Islamic education which dwells more on Islamic doctrine and the teaching of the Arabic language. Islamic education consequently is classified as informal education in Ghana.

Occupation of respondents

The occupational status of dwellers in informal settlement is another factor that has been found to influence the growth of unauthorised structures. A study by the Global Development Research Centre (GDRC) (2003) concluded that informal settlements are occupied by the poor, especially the unemployed. The GDRC (2003) stressed that unemployment status of dwellers influences them to build sub-standard structures which do not meet building regulations of the area. Table 7 presents the occupational distribution of the respondents.

Table 7: Types of occupation of respondents

Occupation	Frequency	Percent
Unemployed	2	0.8
Pensioners	11	4.6
Public sector employees	28	11.8
Private sector employees	35	14.7
Self-employed	162	68.1
Total	238	100.0

Source: Fieldwork (Jan-Feb, 2010)

Contrary to the GDRC (2003) findings, Melese (2006) observed that inhabitants of informal settlements are rather self employed because of their low educational background. To Melese (2006), their low educational level does not permit them to meet the requirements of many job opportunities so it forces them to engage in their own small-scale trading activities to make a living.

From Table 7, it is evident that the majority (162 or 68.1%) of dwellers were self-employed while only two persons (0.8%) were unemployed. The types of occupation observed at Aboabo confirm Melese's (2006) assertion that informal settlements are usually characterised by self-employed workers.

Ethnic background of respondents

Informal settlements are said to be heterogeneous. For example, Nawagamuwa and Viking's (2003) finding revealed that inhabitants of informal

settlements are heterogeneous, made up of people with different ethnic background. At Aboabo, different ethnic groups were observed (Fig. 4).

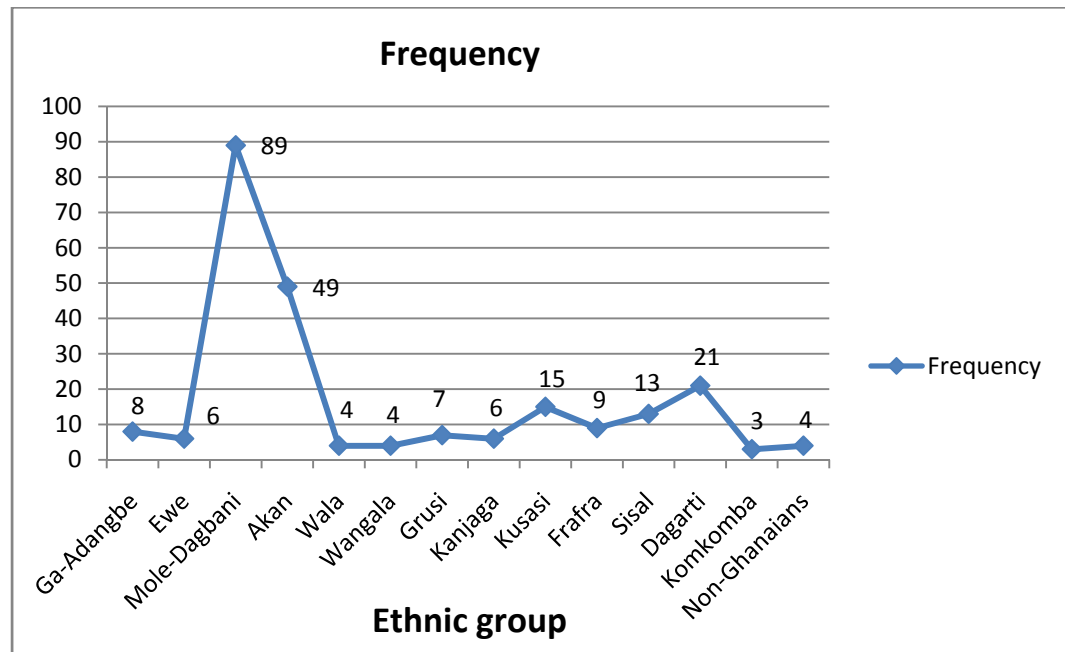


Figure 4: Ethnic distribution of respondents

Source: Fieldwork (Jan-Feb, 2010)

The Mole-Dagbani ethnic group which comprised of Dagomba, Mamprusi, Gonja and Mossi people, had the highest share of people living at Aboabo (Fig 4). Eighty-nine (37.4%) respondents were Mole-Dagbani; 49 (20.6%) were Akans, Dagarti 21(8.8%), Kusasi 15(6.3%) and Sisala 13(5.5%). The remaining ethnic groups had less than 10 respondents. In all, fourteen (14) ethnic groups were identified at Aboabo. This supports Nawagamuwa and Viking’s (2003) findings on the ethnic background of dwellers of informal settlements.

Income levels of respondents

The level of income of dwellers in informal settlements has been described as a contributory factor to the creation of informal settlements in urban areas. It was evident in Cheema's (1993) report that low income earners, unable to cope with the high standard of living in the upper class section of cities, construct houses using their own resources available and follow no building or any other government regulations. As a result, low-income earners form the majority of occupants of informal settlements. On the other hand, Fernandes and Varley (1998) have observed that it is not only low income earners that live in communities that have more unauthorised structures; many privileged (rich) people earn their living in communities dominated by unauthorised structures because of cheap access to land in such areas. Income distribution of the respondents is shown in Table 8.

Table 8: Monthly income distribution of respondents

Amount (GH¢)	Frequency	Percent
Up to 90	28	11.8
100-190	115	48.3
200-290	75	31.5
300-390	17	7.1
400 and above	3	1.3
Total	238	100.0

Source: Fieldwork (Jan-Feb, 2010)

From Table 8, respondents with incomes of between GH¢100-190 a month were in the majority (48.3%). This was followed by respondents with

income level of between GH¢200 and GH¢290 (31.5%). Respondents whose income levels was GH¢90 a month were 11.8 percent while those who earned GH¢400 and above were the lowest (1.3%). This distribution clearly contradicts Fernande and Varley's (1998) claim that more well to-do people live in communities that have many unauthorised structures.

Number of people per room

Overcrowding is a unique characteristic commonly associated with informal settlements in urban areas. To find out the situation at Aboabo, respondents were asked to indicate the number of rooms they have in their houses and the total number of people who share a single room. It was observed that most of the respondents were staying in single rooms. A single room was most often used as both the living room (hall) and a bed room. Table 9 gives a detailed presentation of the number of people who occupied a single room.

Table 9: Number of people per room

Number of people in a room	Frequency	Percent
1 – 2	4	1.7
3 – 4	107	45.0
5 – 6	122	51.2
7 – 8	5	2.1
Total	238	100

Source: Fieldwork (Jan-Feb, 2010)

On the whole, more than half of the sampled respondents (122 or 51.2%) indicated that they were living in a room that was occupied by 5-6 people (Table 9). One hundred and seven respondents (45%) said that they lived in a room that was shared by 3-4 people; five (2.1%) respondents said that their room was occupied by 7-8 people, while 4 (1.7%) respondents lived in a room occupied by 1-2 people. The results show that the number of people living in one room is very high at Aboabo. This creates much over-crowding in most houses. This situation at Aboabo supports Desai and Devadas' (1990) finding that there is a high rate of overcrowding with occupants ranging from 4-10 per room in houses in informal settlements. The large number of occupants in a single room at Aboabo is also in line with the report of the Ghana Living Standard Survey (Round 5) (Ghana Statistical Service, 2008) which says that the number of occupants living in single rooms in Ghana is high.

Religion of respondents

The Islamic religion was the most dominant in the study area. Muslims respondents were 190 (79.8%), Christians 39 (16.4%), Traditionalist 7 (2.9%) while people with no religion were the lowest (0.8%). The dominance of Muslims in the study area might be due to the doctrine of the Islamic religion which encourage living in togetherness so that daily prayers could be performed in a group, and to polygamous marriage encouraged by that religion which gives rise to large family sizes (IslamicReligion.com, 2006). The large number of Muslims at Aboabo confirms the 2000 Population and Housing census which indicated that

the Islamic religion was the most dominant at Aboabo (Ghana Statistical Service, 2005).

Awareness of building regulations of Ghana

According to Kings-Amadi (2004), informal settlements occur as a result of lack of enlightenment and ignorance of people about building regulations. To verify this at Aboabo, the 119 sampled house-owners were asked to answer certain questions which were drawn from the building regulations of Ghana. The questions were categorised under two main headings that were awareness of building permit, and awareness of plot (land) development.

Awareness of building permit

The level of awareness of house-owners on building permit was very low at Aboabo. In all the questions that were asked on building permit, the sampled house-owners expressed views contrary to the Building Regulations of Ghana. This is shown in Table 10.

Table 10: House-owners awareness of building permit

Statement	No	SA (%)	A (%)	U (%)	D (%)	SD (%)
Building permit is valid for 5 years	119	13.4	6.7	11.8	31.1	37.0
7 days after applying for a building permit one should be notified about the receipt of his application.	119	7.6	10.9	13.4	37.8	30.8
One must be notified about the decision of his building permit application within 3 months.	119	7.6	17.6	5.0	29.4	40.3
One may commence building, if he does not hear of the outcome of his building permit application within 3 months.	119	22.7	15.1	2.5	30.3	29.4
Anybody who wants to put up a structure must inform the Planning Authorities on the date he wants to commence.	119	5.0	3.4	2.5	31.1	58.0
Anybody who wants an appeal against the refusal of his building permit application must inform the National Development Commission 30 days after knowing the Decision.	119	5.9	10.9	16.8	36.1	30.3

{SA= strongly agree; A= agree; U= undecided or uncertain; D= disagree; SD= strongly disagree, No= number of respondents}

Source: Fieldwork (Jan-Feb, 2010)

The building regulations of Ghana states clearly that building permit is valid for five years. However, in Table 10, only 6.7 percent house-owners at Aboabo knew of it, whereas 31.1 percent did not know. In addition to this, the building regulations of Ghana says that 7 days after applying for a building permit, one should be notified about the receipt of his application by the Planning

Authorities. Again while 10.9 percent house-owners knew of this statement, 37.8 percent house-owners did not know of it.

About 40.3 percent of the house-owners did not know that one must be notified about the decision of his building permit application within 3 months. Other house-owners (30.3%) did not know that one may commence building if one does not hear of the outcome of his or her building permit application within 3 months. The results from Table 12 indicate that house-owners at Aboabo have low level of knowledge about the usage of building permits. This probably may be due to lack of education on building permit by the planning authorities in Kumasi. This is because many house-owners attested that they did not know that it was mandatory to have a building permit before one could put up a structure.

Awareness of plot (land) development

The level of awareness of house-owners of plot (land) development at Aboabo followed the same pattern as the awareness of building permit. All the answers that house-owners gave on plot development did not conform to what is contained the Building Regulations of Ghana. Table 11 provides a summary of the answers given.

Table 11: House-owners awareness of plot development

Statement	N ₀	SA (%)	A (%)	U (%)	D (%)	SD (%)
No building or structure should be erected over a drain, watercourse, high tension cable or a sewer.	119	10.9	27.7	1.7	24.4	35.3
The front wall of any building should not be less than 5metres from the edge of a main road.	119	1.7	10.1	5.9	42.9	39.5
The boundary wall of any building should not exceed the height of 2 metres.	119	0.8	5.9	5.9	39.5	47.9

{SA= strongly agree; A= agree; U= undecided or uncertain; D= disagree; SD=strongly disagree, N₀ = number of respondents }

Source: Fieldwork (Jan-Feb, 2010)

According to the building regulations of Ghana, it is strongly prohibited for any structure or building to be sited over a drain, watercourse, high tension cable or sewer. When respondents were asked whether they were aware of this regulation governing plot development, 35.3 percent strongly said they did not know; 1.7 percent were undecided while only 10.9 percent strongly said they knew. It is also stated in the building regulations that the front wall of any building should not be less than 5 metres from the edge of a main road. Again, 42.9 percent of the house-owners said they did not know that; only 1.7 percent of house-owners said they were aware of that regulation. The distribution in Table 11 indicates that the level of awareness of house-owners about the development of plot (land) at Aboabo is very low. Based on the results of Tables 10 and 11, it can be concluded that, generally, house-owners at Aboabo have low level of

awareness of the building regulations of Ghana. This finding supports Kings-Amadi's (2004) observation of low level awareness among dwellers of informal settlement on building regulations.

Perception of land-use planning

Focusing on building regulations of Ghana, questions were asked to assess the perception of residents of Aboabo on land-use planning. A five point likert scale questionnaire format was used for the interview schedule (Appendix I). The following values were assigned to the responses: 1 for 'strongly disagree', 2 for 'disagree', 3 for 'undecided or uncertain', 4 for 'agree', and 5 for 'strongly agree'. The questions were based on three broad themes which are residents' perception of land planning laws, of building permit, and of the construction of unauthorised structures. Table 12 gives a detail account of the respondents' perception of land-use planning at Aboabo.

Table 12: Respondents' perception of land-use planning

Statement	N ₀	SA (%)	A (%)	U (%)	D (%)	SD (%)
(a) Perception of land planning laws						
Land planning laws are irrelevant to me	238	57.1	6.7	6.7	9.2	20.2
Land planning laws are too rigid for me to obey.	238	75.6	18.5	3.4	2.5	0.0
(b) Perception of building permit						
The process involved in getting a building permit is too cumbersome.	238	83.2	16.0	0.0	0.8	0.0
The money involved in acquiring a building permit is too costly.	238	71.4	26.9	0.0	1.7	0.0
I can proceed to build without building permit, since the land is my own property.	238	58.8	26.9	0.0	9.2	5.0
(c) Perception of the construction of Unauthorised structures						
I can use my land for anything I want, since it is my own property.	238	72.3	23.5	0.8	1.7	1.7
I can use any material I like for construction purpose.	238	73.9	21.8	0.8	1.7	1.7
Planning Authorities can stop me from building, if I don't have the required land documents.	238	8.4	8.4	0.8	37.8	44.5
Planning Authorities can demolish my building when it is wrongly sited.	238	10.1	2.5	0.0	42.0	45.4
I can be punished for siting my building in a wrong place.	238	4.2	7.6	0.0	38.7	49.6

{SA= strongly agree; A= agree; U= undecided or uncertain; D= disagree; SD=strongly disagree, N₀ = number of respondents }

Source: Fieldwork (Jan-Feb, 2010)

Most of the respondents responded negatively on all the aspects of land-use planning (land planning laws, building permit, and the construction of unauthorised structures) (Table 12). For example, the majority (57.1%) of the respondents said that land planning laws were irrelevant to them while 58.8 percent indicated that they could proceed to build without any building permit, since the land was their own property.

The next item considered was the residents' perception of construction of unauthorised structures. Whereas the building regulations of Ghana stipulates that any land development should follow the development plan of the area, 72.3 percent of the respondents said that they could use their land for anything they wanted, whether it conformed to the development plan of the area or not. Only 1.7 percent of the respondents accepted that they would use their land according to the development plan of the area. In the same way, while the materials that could be used for building are stated clearly in the building regulations of Ghana, the majority (73.9%) of the respondents made it clear that they would use any material that they could find available (whether it was suitable or not under the Ghana's building regulation) for constructional purposes. It was only 1.7 percent of the respondents who said that they would use the materials specified by the Ghana Building Regulations.

According to the Ghana's Building Regulations of 1996 (LI 1630) "an applicant must satisfy the District Planning Authority that he or she has a good title to the land whose plan is being presented for approval ...". Contrary to this statement, 44.5 percent of the respondents did not accept this statement, only 8.4

percent strongly accepted the statement. Planning Authorities have the power to ensure that all buildings within their jurisdiction followed the laid down building regulations. They also have the power to demolish buildings which are wrongly sited, and which cause inconveniences. The planning authorities could punish offenders who disobeyed the building regulations. The majority of respondents thought otherwise. While 45.4 percent strongly disagreed that Planning Authorities have the power to demolish all wrongly sited structures, 49.6 percent strongly did not support the idea that offenders should be sanctioned for siting their buildings at wrong places.

To further assess the perception of respondents on land-use planning at Aboabo, the mean score of all the three aspects of respondents' perception of land-use planning (perception of land planning laws, of building permit and of the construction of unauthorised structures) were compared. In calculating the mean scores, all the responses under each category of land-use planning were summed up. The result (in each case) was then divided by the total number of items under each category of the perception of land-use planning. It was found out that the respondents had negative perception (of less than 3 which was the overall average). This can be seen in Table 13.

Table 13: Mean scores of respondents' perception of land-use planning

Perception	N ₀	Mean	Standard Deviation
Perception of land planning laws	238	2.5210	0.77677
Perception of building permit	238	1.4174	0.49521
Perception of construction of informal structures	238	1.8459	1.03452

{N₀ = number of respondents}

Source: Fieldwork (Jan-Feb, 2010)

From Table 13, it could be seen that respondents' perception on all aspect of land-use planning was low (negative). Respondents' perception of building permit (1.4174) was the lowest. It was followed by respondents' perception of construction of unauthorised structures (1.8459). These results support the idea expressed in the conceptual framework and also affirm Kings-Amadi's (2004) finding that unauthorised structures spring up because of the wrong perceptions of informal settlement dwellers have and which result in their unwillingness to accept building regulations.

Factors influencing the growth of unauthorised structures at Aboabo

A number of factors were identified in the literature as contributing to the growth of unauthorised structures (United Nations, 2007). These factors are physical, political, socio-economic, cultural, historical and institutional. To empirically ascertain the factors responsible for the growth of unauthorised structures at Aboabo, the conceptual framework for the current study was evaluated using the Factor Analysis (Principal Component Analysis). In relation

to this study, nineteen (19) key variables (factors) which were found in the literature to influence the growth of unauthorised structures were presented to the respondents to express their views on. On each of the 19 variables (Table 14) respondents were asked to indicate the extent to which that variable influences people to live in unauthorised structures at Aboabo.

Table 14: Nineteen variables for the growth of unauthorised structures

Socio-economic

1. Low level of income
2. Low level of education
3. Rural urban migration
4. High rent charges elsewhere
5. Employment
6. Social contacts

Cultural

7. Marriage
8. Religious reasons
9. Family ties

Physical

10. Advantage location of the area
11. The nature of the land

Political

12. Inadequate housing policy by government
13. Political instability (conflict)
14. Lack of political will to prevent unauthorised structures

Historical

15. Ancestral lineage

Institutional

16. Delays in getting building documents
 17. Lack of enforcement of the building regulations
 18. Lack of sanctions against offenders
 19. Corruption involved in getting building documents
-

Source: Data Analysis (2010)

Principal Component Analysis (PCA) was employed to analyse the results because it is very useful for reducing a mass of information to an economical description. It does these by selecting and grouping related variables into their common factor patterns; for example, several factors may influence the existence of a phenomenon, factor analysis helps to reduce these factors to only the key ones for easy explanation and analysis (Rummel, 1970).

The 19 variables were subjected to the PCA using the Statistical Product for Service Solutions (SPSS) version 16. Prior to performing the PCA, the suitability of the data for factor analysis was assessed. Evaluation of the correlation matrix revealed the presence of many coefficients of 0.3 and above. The Kaiser-Meyer-Okline value was 0.636; this exceeded the recommended value of 0.60 (Kaiser as cited in Pallant, 2005) while the Bartlett's test of sphericity was statistically significant, supporting the factorability of the correlation matrix. The PCA performed revealed the presence of seven (7) components with eigenvalues exceeding one (1). The seven components together explained 67.8 percent of the total variance (Appendix IV). The scree plot shown in Figure 5 reveals a clear break after components four and six. That is the scree plot begins to level off after components four and six. This suggested that either four or six components had to be retained instead of seven components.

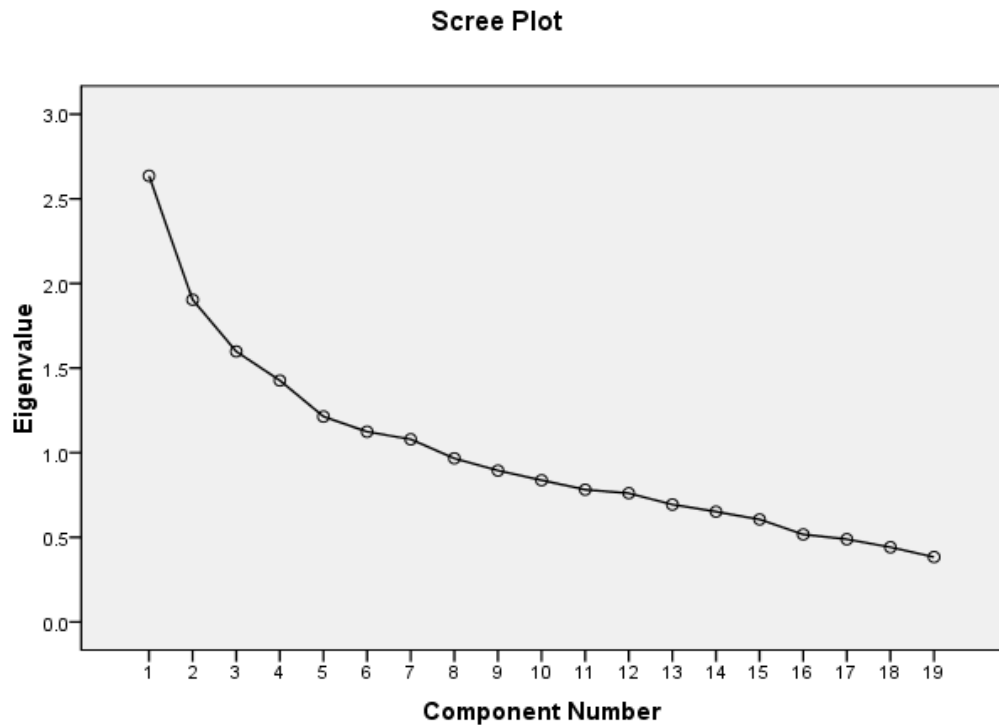


Figure 5: Scree plot showing the number of components to be retained

Source: Data Analysis (2010)

To be clear on the number of components that were to be retained for further investigation, parallel analysis was done. The Monte Carlo PCA for parallel analysis was performed (Watkins, 2000). The results from the parallel analysis supported the observation from the scree plot to retain six components for further investigation. From the parallel analysis, the six components had eigenvalues exceeding the corresponding criteria values for a randomly generated data matrix of the same size (19 variables \times 238). This is shown in Table 15.

Table 15: Comparison of eigenvalues from PCA and corresponding criterion values obtained from parallel analysis

Component Number	Actual eigenvalue from PCA	Criterion value from parallel analysis	Decision
1	2.636	1.5292	accept
2	1.904	1.4314	accept
3	1.598	1.3572	accept
4	1.426	1.2812	accept
5	1.214	1.2111	accept
6	1.124	1.1203	accept
7	1.079	1.1206	reject
8	0.967	1.0703	reject
9	0.894	1.0247	reject
10	0.837	0.9787	reject
11	0.781	0.9340	reject
12	0.760	0.8883	reject
13	0.694	0.8455	reject
14	0.651	0.8058	reject
15	0.606	0.7658	reject
16	0.517	0.7771	reject
17	0.488	0.6700	reject
18	0.441	0.6206	reject
19	0.383	0.5618	reject

Source: Data Analysis (2010)

To facilitate easy interpretation of the six components, a varimax rotation was performed (Table 16). Three variables were deleted from the original 19 variables. The reasons were that these variables either did not load well or did load significantly on more than one scale. Each of the remaining 16 variables had

a factor loading of 0.3 and above, which according to Fraser, McRobbie and Giddings (1998) is acceptable.

Table 16: Rotated component matrix showing factor loadings and amount of variance explained for the growth of unauthorised structures at Aboabo

variable	Factors					
	1	2	3	4	5	6
Low level of income	0.774					
High rent charges elsewhere	0.754					
Social contacts	0.731					
Rural urban migration	0.714					
Low level of education	0.570					
Religious reasons		0.612				
Family ties		0.525				
Marriage		0.495				
Delays in getting building documents.			0.522			
Corruption involved in getting building documents.			0.509			
Lack of sanction against offenders of unauthorised structures			0.338			
Advantageous location of the area.				0.559		
The nature of the land.				0.305		
Inadequate housing policy by government					0.358	
Political instability (conflict)					0.301	
Ancestral lineage						0.458
% of variance explained	23.9	10.0	8.4	7.5	6.4	5.9
Total variance explained: 62.1%						

{Factor loadings less than 0.3 have been omitted}

Source: Data Analysis (2010)

The three variables that were deleted were employment, lack of enforcement of building regulations and lack of political will to prevent unauthorised structures.

The varimax rotation shown in Table 15 suggests the following factors: socio-economic factors (component 1), cultural factors (component 2), institutional factors (component 3), physical factors (component 4), political factors (component 5) and historical factors (component 6) as the main factors that statistically influence the growth of unauthorised structures at Aboabo. The six factors explained 62.1 percent of the total variation of growth of unauthorised structures at Aboabo.

Among the six factors, socio-economic factors contributed the highest (23.9%) to the total variation explained. This supports the findings of Sietchiping (2000) that unauthorised structures in developing countries occur substantially because of socio-economic factors. The factor that contributed less to the total variation explained was historical (5.9%). From the results of the factor analysis, it was found out that the combined strength of socio-economic, cultural, institutional, physical, political and historical factors are the main items that combine to influence people to live in unauthorised structures at Aboabo. The six factors that emerged in the study and their interpretations are given in Table 17.

Table 17: Description of factors and their relation to unauthorised structures

Factor	Description
Socio-economic	Social and economic experiences and realities that helps to mold one's personality and lifestyle.
Cultural	Shared, learned, symbolic system of values, beliefs and attitudes that shapes and influence the perception of a person.
Institutional	Administrative issues in planning and management of land by land planning institutions.
Physical	Natural features or characteristics of land.
Political	Government intervention in housing issues and riots in communities.
Historical	Strong attachment to a place because of past experience or family relations.

Source: Data Analysis (2010)

Land use practices at Aboabo

The various uses to which the land at Aboabo has been put were observed. The dominant land use practice in Aboabo is the construction of dwelling places (houses). Different types of houses are found. Most of the houses are sited in walkways making accessibility difficult. In some cases walking along a normal walkway could end up entering one's living room; passing through one's kitchen could lead you to another person's bedroom. Apart from houses, large track of the land at Aboabo has been used for the construction of kiosks. The kiosks are used

by the dwellers for petty trading. One feature that is very common at Aboabo is the construction of separate bathroom structures attached to individual houses.

Out of the 119 house-owners who were interviewed, only 26 (21.8%) indicated that they had bathroom in their house. The majority (78.2%) of the house-owners said that they did not have bathroom in their house. The Ghana building regulations of 1996 (LI160) specifically states under sanitation conveniences that the plan of every house must contain a bathroom. At Aboabo, the situation is different; most of the houses lack bathroom facilities. As a result, separate bathroom structures have to be constructed outside many houses. When certain house-owners were asked why they did not have bathroom facilities in their house, they said:

We don't even have enough places to lay our heads in our houses and you are talking about a place for a bathroom! Construction of a bathroom is not our priority when putting up a house; what concerns us is where people can lay their heads.

The above comment shows that at Aboabo, most of the house-owners do what suits them rather than respecting the laid down building regulations. Land and building regulations are relegated to the background. That probably is the reason for the poor land-use plan in the area. Plate 4 shows an example of bathroom structure constructed at Aboabo.



Plate 4: Bathroom structures at Aboabo

Source: Fieldwork (Jan-Feb, 2010)

Consequences of unauthorised structures at Aboabo

Studies (on informal settlements) have shown that residents of informal settlements are confronted with a combination of problems such as overcrowding, lack of social amenities, poor sanitation conditions and high rate of social vices (Sietchiping, 2004). At Aboabo, the sampled respondents were allowed to point out the problems that they were facing as a result of the unauthorised structures in the vicinity. The responses are shown in Table 18.

Table 18: Consequences of unauthorised structures at Aboabo

Statement	N ₀	VH (%)	H (%)	N (%)	L (%)	VL (%)
Flooding	238	91.2	7.6	1.3	0.0	0.0
Over-crowding	238	73.1	17.6	7.6	1.7	0.0
Poor sanitation	238	84.5	15.1	0.4	0.0	0.0
Inadequate basic infrastructure	238	60.1	32.4	7.1	0.4	0.0
Poor or difficult accessibility	238	58.6	15.3	23.1	2.1	0.8
Social vices	238	52.5	23.9	18.5	4.2	0.8

{VH= Very high; H= High; N= Normal; L= Low; VL= Very low, N₀ = number of respondents}

Source: Fieldwork (Jan-Feb, 2010)

The results indicate that flooding, over-crowding, poor sanitation, inadequate basic infrastructure, poor accessibility and social vices are all prevalent at Aboabo. This supports the conceptual framework for the study. Notwithstanding the high incidence of the many problems, the respondents admitted that the problem that worried them most was flooding. In Table 18, 91.2 percent of the respondents said that flooding was the most serious problem in the area; this was followed by poor sanitation (84.5%) and over-crowding (73.1%). Flooding was a serious problem at Aboabo because it was observed that some of the houses had been built on waterways and in many cases in the valley of River Aboabo. The personal observation revealed that there were few drains at Aboabo. The sizes of the drains were even small to contain large volume of water when

there is a heavy down-pour. Most of the drains were also choked with waste materials. Such conditions certainly prevent easy flow of water thus causing persistent flooding at Aboabo as shown in Plate 5.



Plate 5: Evidence of flooding at Aboabo

Source: Fieldwork (Jan-Feb, 2010)

Personal observation of the environment showed that sanitation at Aboabo was an eye-sore (Plate 6). Rubbish was littered almost everywhere in the township. There were few refuse containers (because of inadequate space to place them) to cater for that. In certain parts of the township, poor disposal of waste had generated very strong odour. One respondent remarked:

The poor sanitation condition at Aboabo creates much health hazards for us. It makes it easy for diseases such as malaria, diarrhoea and sometimes cholera to attack us.

The comments from the respondent said it all; in-fact, the poor sanitation conditions at Aboabo really makes the residents feel uncomfortable.



Plate 6: The state of sanitation at Aboabo

Source: Fieldwork (Jan-Feb, 2010)

Institutional arrangements for land planning and management in Kumasi

Planning and managing the land is not an easy task. It involves a whole lot of issues such as zoning of land, preparing structural plans, surveying the land, giving out building permits, avoiding encroachment of land, issuing land title certificates to individuals, and keeping records on all land transactions. In order to

address land issues efficiently, the government of Ghana has established a number of institutions. The land institutions in Kumasi were especially consulted to know their stand concerning the poor land-use planning and practices at Aboabo. Six respondents from five Land Planning and Management Institutions in Kumasi, and the chief of Aboabo were consulted. These institutions were the Public and Vested Land Division, Land Registration Division, Survey and Mapping Division, Town and Country Planning, and the Kumasi Metropolitan Assembly. The head in each of the institutions was purposively chosen. In-depth interview (IDI) was used to gather the relevant data from these respondents.

When the six respondents were asked to comment on the roles of their institutions, all of them disclosed that they had specific roles to play and that they did not have any problems with the part they had been playing. With respect to human resources, only one head said that his institution was sufficiently satisfied; the rest conceded that their institutions were seriously under-staffed. For example, one head said:

The total staff strength of my institution is not satisfactory. My institution needs more than 15 workers and this is causing much problem for us.

Four out of the six sampled respondents indicated that apart from their low salaries, their institutions did not have any incentive package to motivate workers to work seriously. Logistical problem was the main factor affecting most of the institutions; all the heads expressed deep worries about the poor state of logistics.

Inadequate vehicles, offices, computers and technical instruments were the pressing problems that were pointed out. One head remarked:

My institution used to have only one vehicle for its activities. The vehicle broke down in 2000; so currently there is no vehicle to perform our duties. As a result, we rely solely on the services of hired taxis for our operations, and this is costing us dearly.

Another head had this to say:

My institution doesn't have any instrument which is vital. As a result, my institution shares those owned by another institution in the Brong Ahafo Region. Such instruments are used on rotational basis. My institution will use one instrument for two weeks then it will be sent to the Brong Ahafo Region for the other institution to use for two weeks.

A visit to the sampled institutions by the researcher revealed that there was much congestion in many of the offices. It was observed that 4-6 people shared an office in most of the institutions. It was also found out that some of the institutions were still keeping records manually because of the paucity of computers. All the six key informants admitted that inadequate logistics made it difficult for their institutions to work efficiently and to deliver their responsibilities as expected. These findings support Aryeetey et al.'s (2007) observation, that land institutions do not live up to expectation because of poor logistics, and inadequate human and financial resources.

Another important issue that was looked at was the level of collaboration among the Land Planning and Management Institutions. Collaboration is one important element that helps institutions to work together as a single unit to provide fast and quality services. All the six interviewees through the IDIs indicated that they were in good terms with the other sister land institutions in Kumasi. Thus cordial relationship existed among the land institutions in Kumasi. One issue that cropped up with regard to the collaboration was the delay in getting land documents from other land institutions. Virtually, all the six respondents admitted that getting land documents from sister land institutions took much longer time. One head said:

At times it takes about two months for my institution to get a single document from other associated land institutions; such document could be provided within a day. On some occasions, monies have to be paid before vital documents needed by my institution could be released (early) from an allied land institutions in Kumasi.

In fact, the delays in getting land documents from other institutions prolonged the processing of approved land documents for the general public. In effect, the general public, out of frustration due to delays in getting land documents, resort to the construction of unauthorised structures.

Summary

This chapter has provided information on the socio-demographic characteristics of respondents. Other sections treated were house-owners awareness of the building regulations of Ghana, respondents' perception of land-use planning, and the factors that have influenced the growth of unauthorised structures at Aboabo. Most of the time, respondents were ignorant of the rules and regulations governing the construction of structures in towns and cities in Ghana. The closing section was on institutional arrangement for land-use planning in Kumasi. The land institutions had insufficient logistics, human and financial resources. The next chapter focuses on the summary, conclusions and recommendations of the study.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter reflects on the entire findings of urban land-use planning and practices at Aboabo, a suburb of the Kumasi Metropolis. A summary of the objectives of the study, and the major findings have been made. Conclusions from the findings, as well as recommendations to improve land-use planning and practices at Aboabo and elsewhere are presented. The chapter ends first with areas suggested for further research, and then the contribution of the study to knowledge.

Summary

The study set out to investigate the causes and consequences of unauthorised structures at Aboabo, a suburb of the Kumasi Metropolis. Specifically, the study was undertaken to:

- assess the institutional arrangements for land-use planning in Kumasi;
- analyse house-owners awareness of Building Regulations of Ghana;
- assess the perception of residents of Aboabo on land-use planning;

- explore the factors that have influenced residents to live in unauthorised structures at Aboabo; and
- examine the problems facing the people of Aboabo as a result of the unauthorised structures.

The research instruments used for the study were interview schedule, in-depth interview (IDI) and observation. In order to achieve the objectives of the study, data on the factors that have been responsible to the growth of unauthorised structures, awareness of building regulations, perception of land-use planning and the consequences of living in unauthorised structures were collected from house-owners and household heads at Aboabo. Data was also collected from the Land Planning and Management Institutions in Kumasi. Data from the Land Planning and Management Institutions were about their schedules, human and financial resources, logistics, collaboration and challenges facing them. The whole data for the study was collected from the 13th January to 4th February, 2010.

In all, 244 respondents were covered. This number comprised of 119 house-owners, 119 household heads, and six key informants (the chief of Aboabo and five heads of Land Planning and Management Institutions in Kumasi). The snow ball sampling technique was used to select house-owners; and the convenient sampling method was used to select household heads. The chief of Aboabo and five heads of land institutions in Kumasi were purposively chosen for interview. Data collected was analysed and presented using frequencies, percentages, averages, proportions and diagrams. Factor analysis was used to

analyse the reasons responsible for the growth of unauthorised structures at Aboabo.

The main findings are as follows:

- The majority of respondents at Aboabo were between the ages of 38 – 42. About 42.4% of the respondents had no formal education.
- The majority (68.1%) of the respondents at Aboabo are self-employed (68.1%). Many of the respondents were low income earners, several of them earned monthly income between GH¢100 and GH¢190 whilst a few earned GH¢400 and above.
- The majority (51.3%) of the respondents lived in single rooms with an occupancy rate of between 5-6 people, thereby leading to overcrowding.
- About 59.7 percent of the sampled house-owners were not aware that no building should be erected in drains, watercourse and under a high tension cable or in a sewer. The majority of the respondents were not aware that building permits were valid for five years.
- The respondents had negative perception of land-use planning. The majority believed that they would not be punished for siting buildings in prohibited places, and that they could use any material for building purposes.
- Flooding was a major problem that faced the people of Aboabo. About 91 percent of the respondents indicated that flooding occurred almost every year. Other problems included poor sanitation, over-crowding, inadequate basic infrastructure, poor accessibility and social vices.

- All the heads of Land Planning and Management Institutions in the Kumasi Metropolis that were consulted were worried about the paucity of equipment and logistics (e.g. vehicles, computers and office accommodations). The majority of the institutions were under-staffed and had insufficient financial resources to work with.
- Socio-economic, cultural, institutional, physical, political and historical factors were the key issues that influenced people to live in unauthorised structures at Aboabo. Socio-economic factors contributed the most to the total variations explained.
- The two topmost socio-economic factors that contributed to the growth of unauthorised structures at Aboabo were low income and high rent charges in the middle and upper-class sections of the metropolis.
- The commonest form of poor land-use practices at Aboabo was the construction of separate bathroom structures attached to houses.

Conclusions

Based on the findings of the study, three broad conclusions could be drawn:

- (a) Institutional arrangement for land-use planning and management in Kumasi is not the best. Institutions responsible for orderly development of land in Kumasi are faced with many challenges. Inadequate logistics, financial constraints and insufficient working staff are among the challenges that

prevent the institutions from going about their expected duties, thereby leading to the proliferation of unauthorised structures at Aboabo.

- (b) House-owner's awareness of the building regulations of Ghana is very low at Aboabo. Inadequate knowledge of house-owners on building regulations is largely responsible for the construction of unauthorised structures. The perceptions of house-owners and household heads on land-use planning at Aboabo are negative.
- (c) Multiple factors (socio-economic, cultural, institutional, physical, political and historical) account for the growth of unauthorised structures at Aboabo. Flooding, poor sanitation, over-crowding, inadequate infrastructure, and poor accessibility are the main problems that confront the residents of Aboabo.

Recommendations

Based on the findings and conclusions of the study the following recommendations are made:

- The Government of Ghana should expand its affordable housing scheme to include informal settlement areas such as Aboabo, given that, most of the residents at Aboabo are low income earners who find it difficult to build standard houses as required by the building regulations of Ghana. Affordable housing scheme will give the opportunity to many of the residents to own decent houses, the cost of the house should be paid in instalments over a long period of time. This will prevent the residents

from using unauthorised materials to build honey-comb structures, and hence reduce the rate of congestion at Aboabo.

- The Kumasi Metropolitan Assembly and the Town and Country Planning Department should organise educational campaigns to sensitise residents of Aboabo about Ghana's building regulations. The educational campaigns could take the form of workshops, radio and television shows or any other appropriate channel. When this is accomplished, it is hoped that residents will become conversant with the provisions in the building regulations and hence adhere to them. This will also help to change the perceptions of most urban dwellers on land-use planning.
- The Member of Parliament (MP) of the area in collaboration with the Kumasi Metropolitan Assembly should see to it that basic structures such as bridges and drains are constructed at Aboabo. Existing drains should be widened to accommodate increased volume of water during the wet season. Adequate refuse containers and dustbins should be positioned at vantage points for residents to easily dispose off their garbage. The refuse containers should be emptied frequently to prevent residents from dumping their waste into drains and elsewhere in the township.
- The Kumasi Metropolitan Assembly and the Town and Country Planning Department should strictly enforce the land planning regulations at Aboabo. All residents who go contrary to the land planning regulations should be given a specific time-frame to make the necessary corrections

within the confines of the law and those who fail to comply should have their structures demolished and be sanctioned as prescribed by law.

- Government must give the necessary attention to the Land Planning and Management Institutions. Government subventions available to the institutions should be increased substantially to enable them to provide the necessary logistics. The institutions should also take appropriate care and maintenance of the logistics. The Land Planning and Management Institutions should be adequately staffed and remunerated. Refresher courses must periodically be organised for the staff to keep them abreast with current issues on land-use planning and management.
- Measures should be taken by the government to address low level income, rural-urban migration and poor education at Aboabo. Traditional authorities should give attention to cultural factors which contribute to the growth of unauthorised structures at Aboabo. Although it is difficult to do away with traditions, archaic traditions that impede development should be discarded; the security of a chief, and large family sizes for example should not be given as excuses to erect beehives structures that have one or two common entrances or outlets.

Areas for further research

This study focused on the causes and consequences of poor land-use planning and practices at Aboabo, a suburb of Kumasi. Further research can look at a comparative study of Aboabo and other slum dwellings in the country. Such study will bring out to the fore the similarities and differences in the causes and consequences of poor land-use planning and practices.

Contribution to knowledge

This study makes relevant and important contribution to Knowledge in two main respects;

- First, it helps broaden our knowledge base on urban land-use planning at Aboabo, a fast growing urban slum in Kumasi by documenting the causes and consequences of the unauthorised structures found there.
- Second, it has contributed to the operationalisation of Sietchiping (2004) framework on the growth of informal settlements with a Ghanaian urban environment. It contributed to our existing knowledge on this framework by incorporating the perception of informal settlement dwellers, political and historical factors into the original framework.

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APPENDICES

APPENDIX I

INTERVIEW SCHEDULE FOR THE DWELLERS AT ABOABO SUBURB

The main objective of this research is to assess the causes and consequences of poor land-use planning and practices at Aboabo, a suburb of Kumasi. This interview schedule is designed to elicit information regarding this research work. There are no “correct” or “wrong” answers. Information given will solely be used for this research. You are also assured of full confidentiality, privacy and anonymity of all the information that will be given by you. You should therefore feel free to give me the right information to ensure the success of this work.

Please make a tick [] in the box against your response. Thanks for your cooperation.

Section A: Socio- demographic characteristics of dwellers at Aboabo

1. Sex: Male [] Female []

2. Age

3. Level of education:
 - (a) No formal education []
 - (b) Basic education []
 - (c) Secondary education []
 - (d) Tertiary education []
 - (e) Other [], Specify.....

4. Occupation;

5. Religion:
 - (a) Christian []
 - (b) Muslim []
 - (c) Traditional []
 - (d) Buddhist []
 - (e) Other [] Specify.....

6. Ethnicity:.....
7. Marital status:
 (a) Single [] (b) Married [] (c) Divorced [] (d) Separated []
 (e) Widowed []
8. If a man, Number of wives.....
9. Number of children.....
10. Monthly income:
11. Number of bedrooms in your house.....
12. Number of people living in a single room in your house?.....
13. Which basic facility or facilities do you lack in your house?
- | | | | |
|----------------------|-----|-----------------------|-----|
| (a) Bathroom | [] | (f) All the above | [] |
| (b) Toilet | [] | (g) None of the above | [] |
| (c) Electricity | [] | | |
| (d) Pipe-borne water | [] | | |
| (e) Kitchen | [] | | |
14. Which facility or facilities are not sufficient in this community?
- | | | | | | | | | |
|-----------------------|-----|--------------|-----|----------------|-----|------------------|-----|-----|
| (a) Educational | [] | (b) Health | [] | (c) Sanitation | [] | (d) Recreational | [] | (e) |
| | | Road | [] | | | | | |
| (f) None of the above | [] | (g) Other | [] | | | | | |
| | | Specify..... | | | | | | |
15. How long have you stayed here?.....
16. Are you the house owner? Yes [] No [] If No, don't answer q17.

17. Section B: Respondent awareness of building regulations (house owners)

Please indicate the extent of your agreement on the scale where 1 = Strongly Disagree (SD), 2 = Disagree (D), 3 = Undecided (U), 4 = Agree (A), 5 = Strongly Agree (SA).

Statements		SA	A	U	D	SD
Awareness of building permit						
1	Building permit is valid for 5years					
2	7 days after applying for building permit, District planning authority should notify the applicant for the receipt of the application.					
3	One has to be notified about the decision of his/her building permit application within 3months.					
4	One may commence building project, if one does not hear of the outcome of building permit application within 3months.					
5	Anybody who wants to put up a structure must notify the planning authorities on the date he wants to commence.					
6	A person refused building permit can inform the National Development Planning Commission 30days after knowing the decision.					
Awareness of plot development						
7	No building or structure should be erected over a drain, watercourse, high tension cable or a sewer					
8	The front wall of any building should not exceed 5metres from the edge of a main road.					
9	The boundary wall of all building should not exceed the height of 2 metres.					

18. Section C: Respondents perception of land-use planning

Please indicate the extent of your agreement on the scale where 1 = Strongly Disagree (SD), 2 = Disagree (D), 3 = Undecided (U), 4 = Agree (A), 5 = Strongly Agree (SA).

Statements		SA	A	U	D	SD
Perception of land planning laws						
1	Land planning laws are irrelevant to me					
2	Land planning laws are too rigid for me to obey.					
Perception of building permit						
3	The process involved in acquiring building permit is too cumbersome.					
4	The money involved in getting a building permit is too high to bear.					
5	One can proceed to build without building permit, since the land is his own property.					
Perception of the construction of unauthorised structures						
6	I can use my land for anything I want, since it's my own property.					
7	I can use any material I like for construction purpose.					
8	Planning authorities can stop me from building, if I don't have the required land documents.					
9	Planning authorities can demolish my building or structure when it is wrongly sited.					
10	One can be punished for siting his building in a wrong place.					
11	Building on public user area (zoned and approve areas for mkt., sch., sanitation site etc) is not against any law.					

**19. Section D: Factors that influence the growth of unauthorised structures
(House owners and households)**

Please indicate the extent to which the following factors influence people to live in unauthorised structures at Aboabo.

1=Very low (VL), 2=Low (L), 3=Uncertain (U), 4=High (H), 5=Very High (VH)

Factors		VH	H	U	L	VL
	Socio-economic factors					
1	Low level of income					
2	Low level of education					
3	Rural urban migration					
4	High rent charges elsewhere					
5	Employment					
6	Social contacts					
	Cultural factors					
7	Marriage					
8	Religious reasons					
9	Family ties					
	Physical factors					
10	Advantageous location of the area					
11	The nature of the land					
	Political factors					
12	Inadequate housing policy by the government					
13	Political instability (conflict)					
14	Lack of political will to prevent unauthorised structures					
	Historical factor					
15	Ancestral lineage					
	Institutional factors					
16	Delays in getting building documents					
17	Lack of enforcement of the building regulations					
18	Lack of sanctions against offenders					
19	Corruption involved in getting building document					

20. Why nucleated type of settlement is dominant in this area?

.....

.....

.....

.....

.....

.....

Section E: Problems caused by unauthorised structures (House owners and Households)

21. To what extent do these problems exist in this area?

1 = Very low, 2 = Low, 3 = Normal, 4 = High, 5 = Very high.

Problems		Very high	High	Normal	Low	Very low
1	Flooding					
2	Over-crowding					
3	Inadequate basic infrastructure					
4	Poor sanitation conditions					
5	Poor or difficult accessibility					
6	Social vices (rape, prostitution, child labour, armed robbery etc					

22. Considering all these problems, are you satisfied living in this community?

Yes [] No []

23. Give reason to your answer in question 22.

.....
.....
.....
.....
.....
.....

24. In your view what can be done to improve the living conditions in this community?

.....
.....
.....
.....
.....

25. Any additional information:

.....
.....
.....
.....

APPENDIX II

INTERVIEW GUIDE FOR HEADS OF LAND PLANNING AND MANAGEMENT INSTITUTIONS

Date of interview:

Place of interview:

Interviewer name:

Interviewee Gender:

Organisation/Institution:

Position/title:

Introduction

The main objective of this study is to investigate the causes and consequences of poor land-use planning and practices at Aboabo, a suburb of Kumasi. This interview guide is designed to elicit information regarding the institutional arrangement for land-use planning and management which is one of the specific objectives of the study. Information given will solely be used for this research. You are also assured of full confidentiality and privacy of all the information that you will give. You should therefore feel free to give the right information to ensure the success of this work. Thanks for your co-operation.

(a) Roles of your institution

- What is the name of your institution?
- What are the roles or responsibilities of your institution in the planning and management of the land in Kumasi?
- What process or procedure does your institution use to execute its roles?
- Are the roles or responsibilities too much for your institution to bear?
- Do you have any problem about the roles played by your institution on land planning and management in Kumasi metropolis?

(b) Human Resources

- What is the structure of your institution?
- What is the total staff strength of your institution?

- Are you satisfied with the staff strength? Give reasons
- Does your staff complain about insufficient salary? How do you see the salary condition of your staff?
- Apart from the salary, does your institution have any incentives (packages) to motivate the staff to perform their duties properly? If yes, what are the incentives?
- Rating from very high through high, normal, low and to very low; how do you see the performance of your staff? Give reasons.

(c) Logistics

- What are some of the logistics that your institution uses in its operation?
- What is the condition of these logistics, especially vehicles and offices?
- How does the condition of the logistics affect the performance of your institution?

(d) Finance

- How does your institution finance its activities?
- Is the money available for such finances enough? Provide reasons for your answer

(e) Collaboration

- Which institutions do your outfit collaborate with to ensure orderly development of land and settlements in Kumasi?
- What services does your institution offer in such collaboration?
- What problems confront such collaboration?

(f) Services

- What services does your institution offer to the general public?
- To what extent do people patronise your services? Provide reasons for your answer.
- It is rumoured that bureaucracy and corruption are among the major problems that are associated with the services of land administration institutions; what is the situation in your institution?

(g) Challenges facing your institution

- Does your institution face any challenges in relation to land planning and management in Kumasi?
- If yes, what challenges affects your institution with respect to land planning and management in Kumasi?
- Among these challenges which one(s) affects your institution greatly?
- In which way(s) do these challenges obstruct the activities of your institution?
- What do you think can be done to solve these challenges?

APPENDIX III

OBSERVATION CHECKLIST

Observation checklist for Aboabo community, Jan.-Feb., 2010.			
Date	Time	Area	Name of the item observed

APPENDIX IV

UNROTATED FACTOR LOADINGS AND TOTAL VARIANCE EXPLAINED

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.636	23.872	23.872	2.636	23.872	23.872
2	1.904	10.019	33.891	1.904	10.019	33.891
3	1.598	8.411	42.302	1.598	8.411	42.302
4	1.426	7.507	49.809	1.426	7.507	49.809
5	1.214	6.388	56.197	1.214	6.388	56.197
6	1.124	5.914	62.111	1.124	5.914	62.111
7	1.079	5.679	67.791	1.079	5.679	67.791
8	.967	5.087	72.878			
9	.894	4.707	77.585			
10	.837	3.405	80.990			
11	.781	3.113	84.103			
12	.760	3.002	87.105			
13	.694	2.650	89.755			
14	.651	2.428	92.183			
15	.606	2.188	94.371			
16	.517	1.719	96.090			
17	.488	1.571	97.661			
18	.441	1.321	98.983			
19	.383	1.017	100.000			

Extraction Method: PCA