KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY – KUMASI

DEPARTMENT OF MATERIALS ENGINEERING

SCHOOL OF ENGINEERING – KNUST

TOPIC

ENVIRONMENTAL IMPLICATION OF PHYSICAL DEVELOPMENTS IN UNPLANNED URBAN FRINGES: A CASE STUDY OF ADWESO NEIGHBOURHOOD OF KOFORIDUA

A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE MASTER OF SCIENCE DEGREE IN ENVIRONMENTAL RESOURCES MANAGEMENT.

BY

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DECEMBER, 2009.

DECLARATION

I hereby declare that except for references made to the works of other people, which have been duly acknowledged, this thesis submitted to the Board of Postgraduate Studies, Kwame Nkrumah University of Science and Technology- Kumasi, is entirely the result of my own research work and has not been presented for any other degree.

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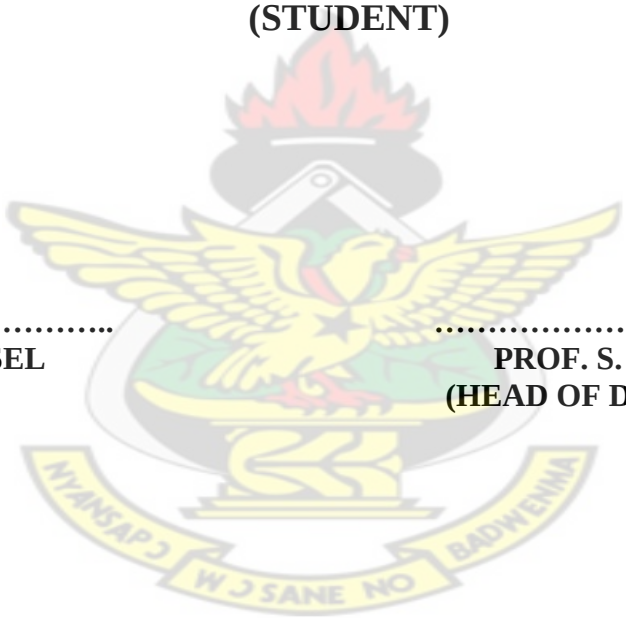
(STUDENT)



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MR. CHARLES ESSEL	**PROF. S. KWOFIE**
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DEDICATION

This work is dedicated to my sweet wife Annie Ama Tsra (Mrs.) and lovely children Evans, Sharon and Lily.

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The notion of dependency is a concept which is aptly descriptive of the relationship between any writer and people, who through their skillful scrutiny, patient direction, generosity and humour, make a work like this possible. I am, therefore, highly indebted to a countless number of people whose contribution has helped to make this work a success.

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GERSHON QUAMIE TSRA

ABOUT THE AUTHOR

The author, Gershon Quamie Tsra was born on 6th August, 1960 at Akome-Gbota near Kpedze in the Ho-West District in the Volta Region of the Republic of Ghana. He began his elementary education at Mafi-Kumase Local Authority Primary School in 1965 and latter continued at Akome-Gbota E. P. Primary School, and then, to the Akome-Gbogame Middle School. He gained admission into Kpedze Secondary School in 1974 where he obtained his G, C. E. Ordinary Level Certificate in June, 1979. He had his Sixth-Form education at T. I. Ahmadiyya Secondary School, Kumasi and successfully obtained his G. C. E. Advanced Level Certificate in June 1982.

Gershon was among the first batch of Sixth-Formers enlisted for National Service when the then Government decided to extend the Service to cover Sixth-Formers. He was, therefore, posted back to his former school, Kpedze Secondary School where he served from 1983-1984. After the death of his father in 1983, he had to temporarily break his education to work and support himself. He, therefore, took up a teaching appointment with the Ghana Education Service and was posted to the then Akome Experimental Junior Secondary School where he taught between 1984 and 1986. From 1987-1988, he worked as a Library Assistant at the Main University Library, **KNUST-KUMASI**.

The author's ambition and desire for higher education materialized in 1989 when he gained admission into the then University of Science and Technology, Kumasi to pursue a degree programme in Land Economy. By dint of hard work, he successfully graduated in August, 1993 with a B. Sc. (Hon) Degree in Land Economy. He did his second year National Service at the Lands Commission Secretariat, Koforidua after his graduation from the University and, in January 1996, was appointed as an Assistant Lands officer at the Lands Commission and stationed at Koforidua.

After passing the relevant professional examinations, the Author was elected as a Professional Associate of the Ghana Institution of Surveyors **(Gh.I.S)** in the year 2000. He was subsequently promoted to the grade of a Lands Officer at the lands Commission in January 2001.

In September 2001, he gained admission for the second time to pursue a two-year Master of Science Degree Programme in Environmental Resources Management at the Institute of Mining and Metallurgical Engineering, KNUST-Kumasi. Whilst on his way to School on 1st October 2001, however, he was involved in a lorry accident and this resulted in the deferment of the course for one academic year. He, therefore, enrolled for the said programme in September, 2002 and completed in September, 2004.

The Author is an avid reader, a keen football fan and a good gardener.

ABSTRACT

This study was aimed at the examination of the possible effects physical developments have on the environment of unplanned urban fringes. The research was conducted in Koforidua, an urban centre and focused on the Adweso neighbourhood, which is a suburb of the Koforidua Municipal area. Adweso was chosen due to its unique position as a growing fringe community of the municipality.

With descriptive research design, the study achieved the following specific objectives. These were to study the pattern of physical development, investigate the planning and development control measures available in the study area and finally to determine the implication of physical development on the environment in the Adweso neighbourhood. To facilitate the study and to achieve its set objectives, the study employed the use of personal observation of physical developments, the use of questionnaires and structured interview guides on stakeholders in the development planning and control as well as property owners in the area. Land use planning agencies together with sixty-five (65) property owners were interviewed for the study.

The study revealed that developments within the area were done in a haphazard and disorderly manner as buildings were indiscriminately constructed anywhere. It was discovered that this phenomenon resulted from the fact that the area was not planned prior to the commencement of the springing up of physical structures. This pattern of development, through observation, has serious environmental consequences for the residents of the area.

Conclusions were drawn to show how the current pattern of development has affected the environment of the neighbourhood. Specific environmental problems identified in the study includes lack of drainage facilities resulting in flooding during heavy rains, disruption of ecological areas such as river/stream courses and wetlands, destruction of the original forest cover of the area, poor sanitation and waste management practices as well as land degradation through the activities of sand winners. Apart from the environmental problems, other factors were found to be responsible for the nature and pattern of development of the area. Some of these include laxity in the implementation of planning laws and building

regulations, inability of physical planning to outpace the rate of development, delays in the permit approval process, lack of effective supervision of building works and the general failure of developers to adhere to approved plans during the course of construction.

From the conclusions drawn, recommendations were made which were aimed at finding solutions to the problems identified in the study.

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CHAPTER ONE

1.0 INTRODUCTION AND METHODOLOGY

The ancient man lived in sporadic but keen competition with other forms of life on earth and subsisted mainly by food gathering and hunting. With the passage of time, he managed to adapt his environment to suit his needs and succeeded in creating artificial habitats for his habitation. Over the last few centuries, he has gained complete mastery over all forms of life on earth and greatly expanded the sources of his food and energy and his ability to modify the effects of nature on him. In recent years, increasing population pressure, urban development and the ever-expanding frontiers of technology has tended to create newer demands on every facet of the environment. Inarguably, the greatest challenge facing humanity today is the attainment of sustainable and equitable development. Rapid development has been a universally recognized attraction but its achievement has often been weighed against environmental constraints and the propensity of unrestrained development to engender serious environmental consequences which will, in turn, impair the quality of life for both the present and future generations (World Bank, 1992).

Humanity's stake in environmental protection is, thus, enormous as guarding the environment against the destructive influence of man's activities is seen as an essential part of development. Inadequate environmental protection potentially undermines development whilst the lack of development locks up resources for needed investment and consequently stifles efforts at environmental protection. According to the World Development Report, 1992 (World Bank, 1992), the coming generation presents unprecedented challenges and opportunities. It predicted that between 1990 and 2030 as the world's population will grow by 3.7 billion, food production will need to double, and industrial output and energy use will probably triple worldwide and increase fivefold in developing countries. This growth, it was reported, brings with it the risk of appalling environmental damage. Mankind, in reality, faces a daunting task in trying to secure a safe balance between his developmental goals and how to safeguard the degradation of the environment.

Obeng (1980) observed that the term "environment" refers to the sum total of the complex range of natural resources and the wide variety of supporting social systems, mostly man-made, which are available to satisfy human needs and well-being through the process of development. She pointed out that the environment together with the process of development reinforces each other for the ultimate goal of enhancing the quality of life on earth. Edjekumhene (2002) adopted the broad definition put forward by the Longman English Dictionary which considered the term as

"circumstances, objects or conditions by which one is surrounded or the aggregation of physical, biological, economic, social and cultural conditions that influence the life of an individual or community". The New Webster's Dictionary and Thesaurus of the English Language further reinforce this meaning of the term "environment". Here, the term is used to mean the surroundings, especially the material and spiritual influences that affect the growth, development and existence of a living being.

The environment, in fact, concerns all of us because it relates to every aspect of the world we share and depend on for our survival. It influences everything we do: how we live, work and play, our health, our safety and the quality of our lives (European Commission, 2002). In explaining the all inclusiveness of the term, Otiende et al (1997) identified the total or universal environment in our homes, localities and man-made surroundings as well as the natural and social ambiences. The total environment of man, thus, includes the biosphere and also the relationship of man to nature and to his own created surroundings.

A critical examination of the foregoing which attempts to explain the term environment lends credence to the deduction that it is an embodiment of several components, some of which include:

- The Physical/Natural environment- earth, air, water, soil, vegetation and climate;
- Biological environment- biotic or living components; and
- Socio-cultural environment- ways of life, norms, values etc. of people living in an area.

Across the broad spectrum of the variety of the environmental components, there is an overlapping and constant interaction. The very survival of the universal environment depends on the keeping and maintenance of the balance of the ecosystems. The guarantee of the preservation of life on earth rests on the preservation of this balance (Obeng, 1980). In fact the ultimate source of all the benefits of life is the earth itself and man's relationship to all its life and resources (Mcloughlin, 1969). The inter-relationship of all the various components as observed above is a vital feature of the environment as damage to any aspect and, for that matter, any part of the biosphere will inevitably affect the others and, ultimately, the balance of the entire ecosystem.

In all these schemes of things, man plays a pivotal role in the order and regulation of the balance within the environment whether for good or bad. The privileged position of man as master over the environment seemed to find expression from the time of creation. The Biblical account in Genesis

1:26 established the fundamental principle of man's relationship with his environment. In that portion of scripture, the Bible has this to say: "then God said let us make man in our image, in our likeness and let them rule over the fish of the sea and the birds of the air, over the livestock, over all the earth and over all creatures that move along the ground" (NIV, 1992). Right from the genesis of time, therefore, man was made to have dominion over everything that surrounded him. Consequently, it will not be far-fetched to argue that Adam and Eve were, inarguably, the first ecologists. They were, for instance, the first to name animals, the first to tend a garden and the first to be placed in charge of all the creatures. Furthermore, they took on the huge task of caring for the earth and seeing to its proper use.

Newson (1992) argued that the Christian faith played an important role in forming Western environmental behaviour patterns which were later exported throughout the world by exploration, conquest and colonialism. Basing his argument on an earlier work done by Passmore (1980) and Thomas (1984), he confirmed the Christian doctrine of the dominion of mankind "over all the earth and over every creeping thing that creeps upon the earth". Man is to be fruitful and multiply and replenish the earth and subdue it (Genesis 1:28). It comes as little surprise, therefore, that over the years, man has relentlessly played this domineering role in the exploitation of the resources of the earth.

In relation to man, the environment, in turn, performs three fundamental functions. For example:

- It provides a living space and other amenities that make life qualitatively rich for man;
- It serves as the source of man's food and capital requirements as well as other resources that are directly or indirectly consumed by man; and
- It serves as sink where the waste generated by man is assimilated.

Obeng (1980) argued that the overall objective of man's interaction with the natural environment should be the improvement of the quality of life on earth. Any action of man, therefore, which is at variance with this goal, wields potential detrimental consequences for himself, the environment as well as future generations.

Unfortunately, population growth and the evolution of industrial society over the years have resulted in the acceleration of the rate of exploitation of natural resources. This has led to the fast depletion of natural resources and its attendant adverse impact on the environment. The

phenomenon of unbridled resource exploitation as a result of modernization and rapid economic development has accounted for the generation of wastes far beyond the assimilative capacity of the environment. Moreover, the nature of some of the materials used these days is such that part of the waste generated is non-biodegradable. An example is the plastic waste menace that has plagued the Ghanaian society in recent times. In most developing countries, urban waste management is a major problem. This often culminates in very serious environmental hazards. The overall effect is increasing global environmental problems such as the accumulation of domestic and industrial waste, land degradation, pollution of water bodies and the air, depletion of the ozone layer and global warming.

Since man relies on the resources of the earth for his survival, it is imperative that the conservation of the resources of the earth and the environment, which tends to make life worth living on the planet, becomes his primary concern. Obeng (1980) argued that he must necessarily recognize and respect the order, which characterized the biospheric systems. To ensure that a proper balance is kept within the systems Beale (1980) advocated the management of man's activities within environmentally tolerable limits. He observed that in spite of the preponderance of environmental philosophy and dogma, laws and regulations, descriptions and prescriptions in the world today, environmental degradation remains a visual relic or outcome of human activities. Naes and Rothenburge (1989) have condemned the exploitative nature of the activities of man on earth resulting in the devastating effects on the environment. They affirmed that the most commonly occurring Biblical terms for mankind's relationship with nature are "guardian", "administrator" and "steward". They, however, attacked the notion in the following words, "the arrogance of stewardship consists of the idea of superiority which underlies the thought that we expect to watch over nature like a highly respected middleman between Creator and creation. We know too little about what happens in nature to take up the task".

Although the destructive influence of man's developmental activities on earth dates back into history, global concern and concerted action by national leaders all over the world to stem the tide is a relatively recent development. Significantly, the pronounced worldwide environmental perceptions in the late 1960s culminated in the establishment of environmental issues as permanent features of national policies in the early 1970s. The United Nations Conference on the Human Environment, held in Stockholm in June, 1972 became the most important event in the growth of global environmental awareness (Trivedi, 2001). Almost two decades after this conference another one, the United Nations Conference on the Environment and Development (UNCED) was held in

Rio de Janeiro, Brazil in June 1992. At this later conference, otherwise, called the Earth Summit (Earth Charter) a critical look was taken at the inter-relationship between the environment and development. The Rio Earth Summit testified to the importance of the issues at stake, drawing world leaders together to seek international agreements on positive steps which could be taken and measured to reduce resource consumption, depletion and environmental pollution (Chapman, 1996). Discussions at this conference culminated in the declaration of the principle referred to as Agenda 21 (World Bank, 1992) which was an agenda of reform that nations of the world committed themselves to. One of the outputs of this Summit was the agreement under Agenda 21 that the integration of land use and planning, energy conservation, waste management and a variety of other issues would be examined at the local level in consultation with local people. This agreement emphasized that achieving sustainability depends on the contribution of local people and traditional knowledge, values, life experiences or place in a broader society or culture.

The first official attempt to put environmental issues on the national agenda in Ghana resulted in the establishment of the Environmental Protection Council in 1982. This council was established by the Environmental Protection Council Decree, 1974 (NRCD 239) which was later amended by the E.P.C. (Amendment) Decree, 1976 (SMCD 58). The E.P.C. was mainly established at the time as an advisory body to the government on matters relating to the environment (Acquah, 1996). Subsequent to the establishment of this council were the unprecedented drought and wild bush fires that swept the entire country in 1983/84. This event appeared to be the singular act of nature, which further aroused public environmental awareness in Ghana (E.P.C., 1991). After the Earth Summit in 1992, Ghana consolidated her efforts at laying a solid foundation to confront the challenges posed by environmental issues by the establishment of the Ministry of Environment, Science and Technology. The role of the E.P.C. was thus redefined since their functions and policies were transferred to the new ministry. This was done to ensure that, at the highest level of government, attention would be given to issues concerning the environment.

Land ranks among one of the most vital natural resources and forms the basis for every conceivable developmental activity. Basic economic thought and theory regards it as one of the prime factors of production. It remains of fundamental importance to the economies and societies of the world including the West African sub-region. In developing countries including Ghana, land contributes a major share of the G. D. P., incomes and employment as well as a predominant share of exports and tax revenue (Gueye et. al, 2002). According to Fafchamps et al (2001), such heavy dependence is likely to continue for the foreseeable future in the absence of other major sources of economic

growth. Despite the important role land plays in the socio-economic growth and development of man, the evolution of human society and the craze for modernity and technological advancement over the years has led to the over-exploitation of the earth's resources including land. This phenomenon has led to a considerable transformation of the land resource and the environment in general. The wanton exploitation of natural resources has resulted in the progressive deterioration of the environment (Trivedi, 2001). In fact, rapid technological change since the industrial revolution, combined with the emergence of new approaches to planning and architecture, have often resulted in very poor quality urban landscapes and the environment.

Chapman (1996) observed that towns and cities are the setting for the lives of a growing majority of the world's citizens. He argued that they provide cultural and emotional as well as physical fulfillment and often possess great qualities of place and identity. More than half the world's population today lives in areas that are classified as urban (Brook et al, 2000). To ensure that the cities serve their purpose and objective, the environment in these areas must be organized in a manner that is conducive for healthy human habitation and geared towards the promotion of good environmental quality and integrity.

Over the years, however, increased population growth and urbanization has brought in its wake myriad of problems to the urban communities including environmental consequences. Among the most common problems encountered in these areas are domestic and urban human congestion, traffic congestion, environmental pollution and the generation of domestic, urban and industrial waste. Other issues of concern in the cities include shortage of the urban housing stock, over-stretched facilities such as schools, hospitals and clinics, urban decay, choked drains etc. One could also talk about water supply and sanitation problems, which often lead to the outbreak of many communicable diseases. Chapman (1996) pointed out that changing transportation systems and development patterns, both in growth and decline, have created diverse and often "disorganized" townscapes. His words aptly describe the environmental tragedy facing most of the cities and urban centres of the world, particularly the developing countries, in recent times.

As a general feature of urbanization, there is usually a spillover of the growing urban population onto areas bordering these urban communities. Brook et al (2000) observed that in developing countries, a substantial and growing proportion of the populace lives in or around metropolitan areas and large cities including the zone termed the urban fringe or peri- urban interface. In these areas, the livelihood of the people depends, to some extent, on natural resources such as food, water and space for living. An inevitable problem associated with the phenomenon of rapid urbanization,

therefore, is the development of urban sprawl and the expansion in land use for all types of socio-economic activities, usually, at the cost of healthy environmental quality.

It is noteworthy that the expansion of urban land use into the rural areas has not only reduced the amount of land available for agriculture in the geographic spaces around the cities but has also threatened the habitats of both land-based fauna and aquatic resources (E.P.C., 1991). Since it will be impossible to prevent the growth of urban population and its effect on the environment, it is essential that concerted effort be put in place by policy-makers and administrators to ensure that the neighbourhoods are ready to receive the excess population. This calls for proper physical planning and administration, which has served as a motivation in generating research interest in this subject area.

1.1 **PROBLEM STATEMENT AND RESEARCH QUESTIONS**

Koforidua, which is the capital city of the Eastern Region of the Republic of Ghana (fig.1), depicts the features of a growing urban centre as described above. Akin to similar peri-urban areas elsewhere, the Adweso community located about two kilometres from the Koforidua town has grown into a sprawling neighbourhood. There has not been any order in the manner in which structures are put up. Most of the buildings are poorly designed and hurriedly constructed, sometimes, with inferior quality materials. The following are some of the many problems that confront any newcomer into the neighbourhood.

- Lack of social and economic infrastructural facilities such as schools, clinics, hospitals, markets, hotels and restaurants;
- Absence of properly designed communication networks (roads, post and telecommunication facilities etc.);
- Loss of ecological areas and nature reserves (wetlands, river courses, burial grounds and sacred groves);
- Absence of water and sanitation facilities; and
- Lack of clearly demarcated public open spaces and playgrounds.

The above problems pose serious challenges to both the inhabitants and the municipal authorities. As people who live in the area constantly face the odds occasioned by the factors enumerated above in addition to regular flooding of the area during rainy seasons, solution to the problem have repeatedly eluded the municipal authorities for sometime now. Unfortunately, no comprehensive and up-to-date studies have so far been conducted aimed at arresting the situation.

By virtue of its location at the outskirts of the city, quite removed from the robust activities of the inner city life, the physical environment of the urban fringe is healthier and more human friendly. In these areas, the natural components of the environment such as the landscape, atmosphere, climate and biodiversity are less disturbed by human activity. Similarly, the ecological elements comprising animal and human habitats found in both the terrestrial and aquatic ecosystems as well as the built environment are found less polluted than the inner city.

Urban edge or fringe settlements are geographic spaces bordering major urban centres. Carter (1985) saw it as the space into which the town extends as the process of dispersion operates. He pointed out that it is an area with distinctive characteristics which is only partly assimilated into the growing urban complex, which is still partly rural and where many of the residents live in the country but are not socially and economically part of it. Due to their proximity to the more glamorous metropolitan centres there is usually no clear break between the rural and urban conditions in terms of land use and social organization (Johnson, 1972). Johnson argued that diverse kinds of rural and urban features get mixed up in these rural-urban fringe zones. Essentially, identifiable social groupings in these settlements depict diverse urban and rural classes of people with varied vocations and attitudes. The term, according to Nunan et al (2000), also refers to the interface between urban and rural areas, which can be understood in both spatial terms (e.g. areas of intense urban pressure on the outskirts of a city) and in terms of intense exchange and flow of goods, people and pollution, for example, between urban and rural areas.

The rapid growth and development of these areas over the years reflect an important feature of population growth and urbanization. Influx of people into the city naturally exerts pressure on housing and other social and economic infrastructural facilities. Shahrestani (1987) identified Mexico City and Cairo as examples of two Third World cities where sudden increase in population had created an imbalance between demand and supply of housing facilities. A natural consequence of this phenomenon is the spillover of the excess urban population into the peri-urban areas.

Johnson (1972) partly attributed the expansion of the cities to the rise in the population of those urban centres whose dynamic economies serve as attractive forces to migrants while at the same time retaining the natural increase of their populations. Carter (1985) opined that once a city is created, then the attraction it offers in terms of supplies of labour, capital as well as infrastructural developments will themselves promote growth resulting into the setting in motion of a rising spiral of development.

In the developed economies like Britain and America, suburban growth and development has been the feature of the growth of many cities and urban communities over the past several decades. According to Johnson (1972) the United States provides a classic example of a nation in which the extent of suburbs exploded during the twentieth century. He maintained that between 1945 and 1955, 9 million people in the USA moved into suburban homes. The difference between the developed and developing countries, however, lies in the readiness of these new neighbourhoods to receive the increasing number of people in terms of planning controls and availability of essential services.

Thus, while in the developed world the outward growth of cities occur in a well regulated and properly structured manner spearheaded by city and municipal planning authorities, urban expansion in the developing world including Ghana, most often, lack proper planning and development control. The effect, therefore, has been the haphazard development of these neighbourhoods with no clearly defined layouts or planning schemes. Consequently these communities tend to be deficient in well designed communication networks, utility services such as water and sanitation facilities, electricity, post and telecommunication services, proper and efficient drainage systems, parks and gardens as well as spaces for other public uses.

This is the vacuum this study intends to fill and it is envisaged that the results of the study would help find solution to the problems in the neighbourhood and other communities with similar characteristics.

Accordingly the following research questions were derived from the above problem statement:

- What is the pattern of development in the study area?
- What are the planning and development control measures in the urban edges? and
    - Is there any implication(s) of physical developments on the environment of the study area?

1.2 OBJECTIVES OF THE STUDY

The main focus of this study is to investigate the environmental effects of physical developments within the urban fringes. Specifically, the study will attempt to:

- study the pattern of developments in the study area;
- investigate planning and development control in the urban edges;
- determine the implications of physical developments on the environment of the study area; and

- to make recommendations aimed at addressing the problems identified.

1.3 THE SCOPE OF THE STUDY

In undertaking this study the researcher has in mind the general features of the growth of modern urban communities. This study is however focused on the New Juaben Municipal area (fig. 1) with Koforidua as the capital since the trends in its growth and development typifies the features of most growing metropolitan areas in Ghana and the developing world in general. Specifically, the scope covers the Adweso neighbourhood, which has grown to become a suburb of Koforidua and is limited to the examination of physical developments and its effect on the urban-fringe environment. It is hoped that the findings and recommendations from the study could be applied to other areas with similar characteristics in the country and other parts of the third world.

1.4 JUSTIFICATION OF THE STUDY

Two main reasons could be adduced for the relevance of the study. Currently there has not been any comprehensive research into the problems identified in the study area. This work will therefore serve as a valuable literature and useful reference material for the New Juaben Municipal Assembly, policy makers and other stakeholders involved in city planning and development. The study will further provide an analytical basis for the appreciation of environmental issues occasioned by development and growth in peri-urban communities.

Finally recommendations will be made which will aid the New Juaben Municipal Assembly and other policy-makers to factor environmental issues into programmes designed for the development of our peri-urban neighbourhoods.

1.5 RESEARCH METHODOLOGY

1.5.1 Basic concept

Research methods may be understood as all those methods or techniques that are used for conducting a research. In other words, all those methods employed by a researcher during the course of studying his research problem are termed as research methods. Research methods can be categorized into the following three groups: those methods concerned with the collection of data, those statistical techniques used for establishing relationships between variables and those methods used to evaluate the accuracy of the results.

Whereas research methodology is a way to systematically solve the research problem it may also be understood as a science of studying how a research is done scientifically. It has many dimensions and research methods do constitute part of the research methodology. When we talk of research methodology we are not only talking of the research methods but also the consideration of the logic behind the methods employed in the context of our research study and explains why a particular method or technique is other than others. This ensures that the research results are capable of evaluation either by the researcher himself or by others.

Why a research study has been undertaken, how the research problem has been defined, in what way and why the hypothesis were formulated, what data has been collected and what particular method has been adopted, why a particular technique of analyzing data has been used and a host of similar other questions are usually answered when we talk of research methodology. It is on this conceptual frame work that this paper was prepared.

The study was conducted by collecting data through a variety of means, some of which have been itemized below.

- Structured questionnaire was designed and administered to target groups to source for relevant information; and
- Information was further obtained from relevant literature on the topic.

1.5.2 General approach of the study

As this research will be seeking to describe the environmental implication of physical developments in unplanned urban fringes such as the Adweso neighbourhood of Koforidua, a case study approach was used. A case study was found suitable since the research will be carried out in the natural setting where the researcher has little control over the events. It will also allow the use of random probability sampling where every member of the population under study will have equal chance of being selected as a sample.

Apart from the fact that the phenomenon under investigation is a contemporary issue, the use of case study will enable for extrapolation of the research results to general populations with similar characteristics. The result may be used for similar districts in the country.

The three common approaches to the conduct a research are quantitative, qualitative and mixed methods. A researcher typically selects a quantitative approach to respond to research questions

requiring numerical data, the qualitative approach for research questions requiring textual data, and the mixed methods for research questions requiring both numerical and textual data.

Quantitative research method involves a numeric or statistical approach to research design. This approach maintains the assumption of an empiricist paradigm. Data is used objectively to measure reality. The intent is to establish, confirm, or validate relationships and to develop generalizations that contribute to practice and theory.

On the other hand qualitative approach is a holistic approach that may involve discovery. It occurs in a natural setting that enables the researcher to develop a level of detail from high involvement in actual experiences. In the qualitative approach social phenomenon is investigated from the participants view point. It is the most commonly applied approach in social science researches.

In examining the environmental implication of physical developments in unplanned urban fringes the qualitative research approach was adopted as the most suitable method for the study. This method was used to examine participants' perceptions on patterns of physical development and its effects on the environment of the study area and the causes of haphazard physical development on the study area.

1.5.3 Variables and data requirements

The major variables of data requirement are views and opinions of property owners in the study area. Additional data was also obtained through depth interviews that was conducted with stakeholders involved in development planning and control. Finally another source of valuable material was gathered through personal observation of physical developments in the study area.

1.5.4 Data Sources

The main data used for the study is primary data. Primary data was collected through structured interviews from selected property developers and the officials in charge of physical planning and development in the district. Secondary data from the records and reports from the office of the Town and Country Planning Department was also used.

1.5.5 Sampling and sample size determination

A sample is a small part of something intended as representative of the whole. Sampling is that part of statistical practice concerned with the selection of an unbiased or random subset of individual

observations within a population of individuals intended to yield some knowledge about the population of concern, especially for the purposes of making predictions based on the sample frame.

The first one is intended to find the views, expectations and recommendations of developers or property owners in the study area. As it has been difficult to know the exact number of developers, the sample size was determined by intuition approach through consultations with the district authorities. Sixty-five (65) developers/ property owners were selected randomly as a sample.

1.5.6 Data processing and Analysis

Data collected from primary and secondary sources are processed for analysis. First, editing of the collected data was carried out to eliminate any potential error that may pose a serious challenge to the reliability of the research results. At this stage checking the accuracy, consistency and completeness of the information from the survey and the secondary sources was carried out.

Coding process was then followed where the answers provided were classified in terms of the research questions and objectives. This is carefully done to ensure that all data collected were taken into consideration while also ensuring that information is coded on mutually exclusive and exhaustive groups.

Finally, the data was transformed into usable format such as tables, charts and diagrams with respect to frequencies and percentages. Microsoft excel application was used for data processing.

Data collected was analyzed through description and statistical analysis to determine the effects of physical developments on the environment in the study area.

1.6 LIMITATIONS OF THE STUDY

The study encountered the following problems. The response rate from questionnaire administration and interviews with some of these officials to illicit relevant information was very low. The responses from some of these officials and some illiterate land owners were very poor. The suspicion of some of these land owners about the real intention of the survey made them not to be forthcoming with relevant information. In some instances, the researcher and his team of assistants had to take pains to explain the questions and the purpose of the work to the respondents in the local dialect in order to obtain the needed information from them. All these problems made the entire exercise very laborious.

Finance and time constraints also hampered the study. It was difficult to secure funds to finance the field data collection and the hiring of field data collection assistants. The study was purely for an academic purpose and for that matter time was limited, since the institution only offered one year for the study. The findings in this study cannot be generalised. The case study approach adopted for the study limits its broader application to capture all urban fringes in the country. The study makes it impossible to generalise its findings and recommendations to other urban fringes in the country.

1.7 OUTLINE OF THE STUDY

This project work has been organized into five chapters. Chapter one deals mainly with the general introduction to the study. It includes the background to the study, problem identification and study objectives, the scope of the study and study justification, the methodology adopted for the study as well as the limitations of the study. This chapter ends with the outline of the study.

Chapter two of the report has been devoted to the review of the relevant literature on the subject. It examined the concept of urbanization and its impact on the growth of the surrounding fringe areas or communities. This chapter ends with a review of the planning and regulatory mechanism and institutions available for the orderly growth and development of cities. Chapter three deals with the examination of the empirical facts of the growth and development of the study area while chapter four concentrates on the analysis of the data collected and the discussion of the results of the survey. The final chapter of the report outlines the findings from the study, conclusions drawn from the survey and recommendations made from the study.

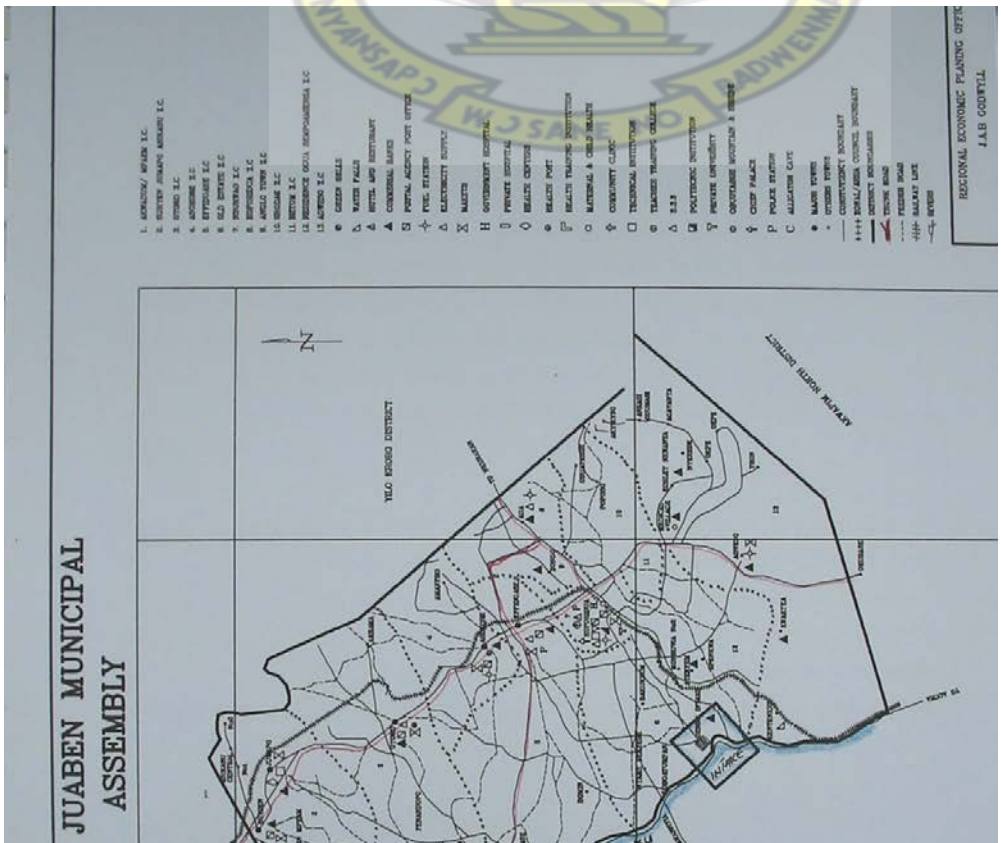


FIG. 1.1 Map New Juaben Municipal Assembly

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

This covers the review of the concept of urbanization, urbanization in the developed world, urbanization in the developing world, urbanization and settlement patterns in Ghana, urban fringe development in the developed and developing counties, planning laws and building regulations, restrictions on private ownership of property, agencies responsible for physical planning and development control and the concept of unauthorized developments.

2.1 THE CONCEPT OF URBANIZATION

Several reasons may be adduced for the evolution of cities. Harvey (2000) observed that while some towns and cities emerged for purposes of trade and defense, others came into being as political and religious centres. At the dawn of civilization, nature and geography of the land were the predominant factors in the establishment of a community on a particular piece of land (Shahrestani, 1987). To be dependent on agriculture and animal products meant to reside near water sources and to seek protection from severe natural conditions, mountains and caves were inhabited.

In reality, towns and cities provide a setting for the lives of a growing majority of the world's citizens. Chapman (1996) observed that cities provide cultural, emotional as well as physical fulfillment to inhabitants and often possess great qualities of place and identity. Once the city is

established, the opportunities that it provides for the fulfillment of these objective serves as an attraction for people from the hinterland most of who tend to relocate into the cities. It is noteworthy that whatever the reasons for the commencement of cities, the original impetus is often reinforced later by economic and other social forces.

Economic reasons are, therefore, usually cited for the rapid growth of urban centres. According to Balchin et al. (1988), the underlying influences upon urban growth are both national and regional. It was argued that at the national level, the size and rate of the gross national product (GNP) per capita determine the quantity and quality of urban land – use activity. Regional or local economic, social and political factors, on the other hand, may result in some cities growing more rapidly than others. An area may be endowed with expanding industries and, because of greater job opportunities and other attractions, there may be net inward migration of population. Conversely, declining industries, an out-dated infrastructure and outward migration of population may disadvantage other areas.

Urbanisation, therefore, involves the movement or migration of people from areas of lesser economic opportunities, usually the rural areas, and relocation into areas of perceived economic potentials, which mainly tends to be the cities. Law and Smith (1987, p. 192) argued that the reason for which people migrate to urban centres may be summarised by the fact that they are unhappy with their existence in the rural areas and perceive greater opportunities for themselves and their families in urban areas. In most cases although their perceptions usually turn out to be false hope, once the movement has taken place, it becomes very difficult to reverse. Urbanisation means not only the growth in the population of urban centres but also growth in the proportion of the total population concentration in urban settlements (Ged, 1982). The movement often leads to the reduction of the size of the rural population at the expense of those of the cities. To Little (1974), it is the process whereby people acquire material and non-material elements of behaviour patterns and ideas that originate in or are distinctive of the city.

The term, according to de Blij (1993), is the clustering of people and their activities in nucleated non-agricultural settlements. He opined that the term is an infinitely complex process that involves concentration at several levels and, not only do the human clusters or concentrations increase in size, but also simultaneously in numbers. In the process population is transformed from rural to urban and relocates from countryside to the city. The view of Warren (1994) is that urbanization

essentially refers to the process that leads to the formation and growth of urban areas. He attributed the causes of such urbanization to a great variety of factors ranging from economic to non-economic explanations. The non-economic reasons were identified as when settlements began for the purposes of defense, religion or as administrative centres for the government and management of local populations; while the economic reasons include the various pull and push factors that have characterized rural-urban migration in both the developed and developing countries over the years.

It is also a process whereby a society shifts from being largely bound to the country to being bound to the city. It connotes a process, which is almost always the close companion of economic development, which, of itself, suggests the close theoretical connection of urbanization with demographic processes (Weeks, 1989 p. 360). Rubenstein (1994) also saw the term as the increase in the number of urban dwellers combined with an increase in the percentage of urban dwellers. The increase in the number of urban dwellers, according to him, results from an overall population increase in the society. In reality, as a country's population grows, some of the additional people inevitably live in urban settlements. As the percentage of urban dwellers grows, there is normally a corresponding decrease in the percentage of rural residents as people move from the countryside in search of better opportunities of work and the glamour of the city.

Weeks (1989) defined an urban place as a spatial concentration of people whose lives are organized around nonagricultural activities; the essential characteristic here is that urban means non-agricultural. According to Morrish (1983) the last 150 years have seen a dramatic change in the proportion of the world's population living in cities and the proportion living in the countryside. He observed that the percentage living in cities have increased steadily and now the rate of change is accelerating and finally referred to this process of change as urbanisation.

Urbanization is a phenomenon with both a rich history and relatively new beginning. According to Hartshorn (1992), cities first appeared at least 5000 years ago. It was argued that the millennia that followed that period had witnessed many periods of city growth and grandeur as well as failure. Cities indeed are nothing new and their influence on society is not a uniquely modern feature of life; however, the widespread emergence of urban life (i.e. the explosive growth of urban population) is very much a recent feature of human existence (Weeks, 1989). Largely because of population increases, the number and sizes of cities have grown everywhere. Fellmann et al. (1990)

observed that in 1950, less than 30 percent of the world's population lived in urban areas and, by 1989, more than 41 percent of a much larger global total population were urban dwellers

Harvey (2000) pointed out that urban growth has taken four main forms in the developed countries. From his analysis, it was observed that the first form of urban growth has been urban renewal usually with high rise buildings. This situation normally occurs where a dilapidated and blighted central business district undergoes a redevelopment programme. The second form of growth in the city, according to him, occurs when inter–urban competition results in the movement of people between cities as some grow (e.g. Greater London) and others decline (e. g. Glasgow). Thirdly, he observed that with the rise in income and the development of fast and convenient transport, particularly the car, there has been movement of population from the inner and other parts of the city to the suburbs and other outlying towns and villages. The result of this is that the sharp distinction that hitherto existed between "town" and "country" gradually diminishes. The final form of growth, he observed, was the evolution of a hierarchy of urban centres differing in size and importance. This hierarchy of urban centres includes the districts (provinces), regional, national and international spheres of influence.

Balchin et al. (1988) also identified four stages in the urban growth process. The first stage is the actual urbanization stages where agricultural labour is attracted to fast growing industrial cities. The second stage is the sub-urbanization stage where improved transportation systems facilitate the out- migration of an increasing number of households from the urban core while, at the same time, the core continue to attract in-migration from the rural areas and elsewhere. By the third stage, sub-urbanization continues but the core area experience decline in population. In the final stage, which was called de-urbanization, even the sub-urban areas experience population decline as households out-migrate to satellite towns and villages? It was argued that Britain passed through stage one during the Industrial Revolution from the late eighteenth to mid-nineteenth centuries, stage two in the late nineteenth and early twentieth centuries, stage three from about 1950 to the early 1960s and has subsequently been passing through the final stage.

From the foregoing submissions, urbanization could be referred to as the process of relocation of people from rural areas to the urban centres due to the socio-economic attractions of the cities which serve as a pull factor to migrants from the rural communities. Generally, there are two main components of urban growth. These are the natural increase in the urban population itself and net

migration. In Europe, as observed by Turner and colleagues, it was in the urban-ward migration (net migration) that the 55-year long wave rhythm city of urban growth is revealed. If this rhythmicity is compared with the long swings of economic growth, it becomes clear that the urban-ward migrants were simply responding to economic opportunities. Each burst of economic growth called for a rush of urban-ward migrants and raised the level of urbanization.

2.2 URBANIZATION IN THE DEVELOPED WORLD

Urbanization in the advanced world has been linked to the period of the industrial revolution. According to Turner et al (1990), urban growth in the advanced countries was a result of the long waves of industrial urbanization. It was argued that the late eighteenth century burst of industrial growth was concentrated in Britain, and ended in the sharp depression that followed the Napoleonic wars of 1812. From the initial acceleration to a peak in 1792, the wave of growth was alleged to have lasted for 55 years. This 55-year pattern has been repeated three more times in modern history. This growth upswing, it was alleged, quickened urban-ward migration while each slow down was followed by a lower rate of urban growth. From the 1820s onwards, the rhythms were sharpest in the United States where the urban-ward migrants came not only from America's farms but from Europe too.

Rubenstein (1994) observed that in 1800, only 3 per cent of the world's population was urban compared with more than 40 percent today (table 2.1). According to him, in 1800 as the industrial revolution began to diffuse from Great Britain to Western Europe, only three of the world's ten most populous cities were in Europe namely London, Paris and Naples while the remainder was in Asia. By 1900, nine of the world's ten most populous cities were in countries that had rapidly industrialized during the 1800s. London, the capital of the world's first industrial state, was by far the world's largest city. Each upswing of industrial growth in Europe and the United States during the industrial revolution quickened the urban-ward migration while each slow down was accompanied by a lower rate of urban growth (Turner et al, 1990).

Table 2.1 Percentage of World Population living in Urban Centers by Year

YEAR	PERCENTAGES
1800	3
1850	6
1900	14

1950	30
1995	43

Source: Rubenstein, James H. (1994). An introduction to Human Geography, 5th Ed.

In the opinion of Carter (1985), urbanization is the dominant process in the spatial organization of the world's population. The argument was made that ethnocentric westerners, aware of the great changes brought about by industrialization in the last century, often regard that period as marking the peak of urbanization. While some people take the city for granted, some curse it for its problems while at the same time others find its attractions irresistible but no one denies that urban life is the centre of western industrial civilization (Weeks; Chapman, 1996).

Large cities with over one million populations represent a relatively recent phenomenon in the chronology of urbanization. While ancient Rome may have had one million population and cities of comparable size may have existed in China, it was the industrial revolution in the nineteenth century that made large cities more practical (Fullman et al., 1990). Admittedly, the nineteenth century advances in transportation, building and construction technology and enhanced worker productivity, it was observed, all converged to make the city a place of opportunity and efficiency. London, Paris and New York all reached the one million-population mark by the mid-1800s. GED (1982) regards Western Europe as the most highly urbanized area of the world since it was more urbanized than the United States of America and has many large cities. Table 2.2 shows the eight largest cities in the European Economic Community (Western Europe) as at 1980. West Berlin was then politically part of West Germany but geographically East Germany.

Table 2.2 Eight largest cities in the Europe and their population

CITIES	POP. IN MILLIONS	CITIES	POP. IN MILLIONS
Paris	9863	Milan	1677
London	6917	Copenhagen	1251
West Berlin	1902	Brussels	1009
Rome	2916	Rotterdam	1017

Source: GED, Lewis (1982). A Human Geography for West Africa

2.3 URBANIZATION IN THE DEVELOPING WORLD

Morrish (1983) estimated that the number of urban dwellers in the developing world would increase by four times between 1950 and the year 2000. It was argued that after the rapid urbanization in Europe and North America due to the industrial revolution in the nineteenth century, the focus of rapid urbanization has now shifted to the developing world while the growth of cities in the developed world has slowed down. United Nations estimates suggest that between 1950 and 1980 the urban population of less developed countries (excluding China) increased by almost 600 million comprising almost 40 per cent of the global (excluding China) population increase (Huw, 1990). Huw pointed out that in 1975, for the first time in world history, a majority of the world's urban population was located in the less developed countries and, by 2000, the proportion is expected to reach two-thirds.

Turner et al (1990) further observed that urbanization is increasing most speedily in Latin America, Africa and South Asia and it is there that the most rapid increases in the proportion of the population concentration in the million-plus cities are taking place. In reality, the degree of urbanization in both the developed and developing countries has been generally on the increase. The tempo or rate of change, however, appear to be more rapid in the latter due to the simultaneously high rates of natural population growth and rapid internal migration from the rural to urban areas (Miller, 1988; ; Morrish, 1983; Turner et al, 1990,). Table 2.3 shows the world urban population by region.

In contrast to urban growth in the more developed countries, urban settlements in today's less developed countries including Ghana is not accompanied by rapidly expanding industries. People migrate into the cities in these countries mainly because economic conditions in the rural areas are less attractive (Rubenstein, 1994). Hartshorn, (1992) and Warren (1994) referred to the "push" and "pull" factors that account for the high level of rural-urban migration in the developing world. It was argued that the rural migrants get hooked to the perception of more affluent opportunities in the cities (pull factors) and this, coupled with rural overpopulation, the poor state of subsistence agriculture and few employment opportunities in those areas (push factors), ultimately culminate in the rural-urban exodus in developing countries. It is quite clear that the push and pull factors have an impact upon the movement of rural and village populations into urban areas (Breese, 1966).

It was argued that the available evidence seemed to indicate that it is the push of existing rural circumstances which suggest to the rural resident that things might be better in the urban areas and,

hence, the exodus of people into these centers. In most cases, these migrants or "new-comers" into the city live in squalid conditions in slums and shantytowns.

The rapid growth of cities in the less developed countries is, therefore, a reversal of the historical trend in Western Europe and North America created by the industrial revolution. In other words, urban growth in developing countries is not a measure of an improved level of economic development. On the contrary, developing world city growth and development amply demonstrates that urbanization and affluence and/or urbanization and the growth of the middle class are not inexorably linked. Fellmann (1990) pointed out that outside the urban models in the United States are the cities of Africa, Asia and Latin America where industrialization has come only recently or not at all. Modern technologies in transportation and public facilities are barely known or sparsely available and the structures of the cities and the culture of their inhabitants are far different from the urban world familiar to North America.

Quite clearly, therefore, urbanization in the developing countries occurs in the absence of job opportunities and access to good life. Many developing countries are characterized by very depressed and inefficient agricultural sectors and this situation is generally responsible for the accelerating rural-urban migration, which inevitably fuels urban growth. It is noteworthy, however, that the developing world is vast in extent and diverse in physical and social content and, as a result, any generalization or its urban landscapes would lack certainty and universality (Fellmann, et al. 1990). They argued that the Islamic cities of North Africa are entities sharply distinct from the black African, the South-east Asian or the Latin American City. Yet, by observation and consensus, some common features of cities in the developing world are discernible. All, for example, have endured massive migrations from the rural areas and, as a result, most are ringed by vast squatter settlements high in density and low in public facilities and services.

Table 2.3 World Urban Population by Region, 1980 (est.) and 2000 (est.)

World Region	**1980(est.)**		**2000(est.)**	
	Urban Population		Urban Population	
	(Millions)	(%)	(Millions)	**(%)**
North America	196	79	256	86
Western Europe	268	74	321	83
Oceania	17	73	26	78

Latin America	237	64	464	75
Eastern Europe/Soviet Union	243	62	344	74
North Africa/Middle East	112	48	243	50
East Asia	358	33	591	43
Southeast Asia	90	24	207	34
South Asia	199	22	441	31
Sub-Saharan Africa	80	22	210	37
World	1800	41	3103	50
More developed countries	850	72	1107	77
Less developed countries	950	30	1996	35

Source: Adapted from Decision-making Geography by Law N. et al (1987)

The presence of massive quantities of squatter housing on the periphery of cities in developing countries poses yet another contrast with cities in the developed world due to housing shortages, high land values and weak infrastructure to support urban development (Hartshorn, 1992). Hartshorn observed that almost all-urban centres in developing countries have populations greater than their formal functions and employment base could support. According to him, a large number of the migrants, therefore, find themselves in the informal sectors of the economy. It is common to find people engaged in vocations such as street-side barbering or tailoring, snack-food or "chop-bar" operation, porters or what is locally known as "kayaye" in Ghana etc. all of whom fall outside the usual form of wage labour.

The extent of acceptable generalization is, however, limited since the backgrounds, development histories and the current economies and administration of cities in developing countries vary greatly. Some are still pre-industrial without a commercial core, industrial districts, public transportation and any meaningful degree of land-use separation. Wherever the automobile and modern transport systems are an integral part of the growth of cities in the developing world, the metropolis begins to take on Western characteristics. On the other hand, in places such as Bombay (India), Lagos (Nigeria), Jakarta (Indonesia), Kinshasa (Zaire), Cairo (Egypt) and even Accra (Ghana) where modern roads have not yet made a significant impact and the public transportation system is limited, the result has been overcrowded cities centered on a single major business district in the old and central parts of the city. In such societies, the impact of urbanization and the responses to it differ from those of the patterns and problems of the Western advanced countries.

The developing countries emerging from earlier predominantly subsistence economies have experienced disproportionate population concentrations, particularly, in their national and regional capitals. Vast numbers of surplus low-income rural populations have been attracted to these developed seats of wealth and political centrality in the hope of finding jobs. Although attention may be lavished on creating urban cores on the skyscraper model of Western Cities, most of the new urban multitudes have little choice but to pack themselves on the fringes of the city quite isolated from opportunities that are found only at the centre. Fullmann et al. (1990) found that in the sprawling slum district of Nairobi (Kenya) called Mathare Valley, some 250,000 people squeezed themselves onto 6 square miles (15.5 square kilometres) and this number is increasing by 10,000 people every year. Such impoverished squatter districts exist around most of the major cities in Africa, Asia and Latin America.

2.4 URBANIZATION AND SETTEMENT PATTERN IN GHANA

Ghana's population is generally distributed into small sized settlement communities.

About one-third (32.4%) are scattered in over 40,000 settlements with populations of less than 500 persons. A little over another one-third (35.6%) live in about 7,000 settlements with populations ranging between 500 and 5,000 while the remaining approximately one-third (32%) are in the 189 urban settlements with the defined populations of 5,000 or more. More than one half (56.6%) of the population are scattered in villages of less than 2,000 people (E. P. C., 1991).

Although the rural population is growing and not declining in absolute terms, an important feature of the distribution of the national population is its progressive concentration in urban settlements with the progressive reduction of the relative share of the population in rural settlements. Whereas only 23.0% of the national population lived in settlements with populations of 5,000 or more in 1960, the proportion shifted to 32.0% in 1984 and currently stands at 43.8% as per the 2000 population census figures (Ghana Statistical Service, 2002).

Urban development in Ghana was favoured by the general concentration of towns, both large and small, in the forest belt located within the southern half of the country including the coastal belt. These were the centres of industrialization and other productive ventures during the colonial and post-independence times and thus became obvious destinations for migrants from the rural areas who flock into the cities in search of jobs and better means of living.

The major stream of migration during the past three or four decades has been rural-urban in character. Not only has the urban proportion of the national population changed from 23% in 1960 to 32% in 1984 and currently to 43.8% in the year 2000, but the percentage of national population in settlements with populations of less than 2000 persons has reduced from 64% in 1960 to 56.7% in 1984, even though settlements in that group had increased in number by many more thousands during the period. The 1984 population census (Ghana Statistical Service, 2002) estimates northern Ghana comprising the Northern Region, Upper East and West had strikingly low levels of urbanization. The Ghana Statistical Service (2002) reports that the situation has not changed by the year 2000. According to the 2000 population and housing census results, while the growth of population at the national level was largely due to lowering, but still high, fertility rate and stable but fairly low mortality rate. The same document reports that at the regional level is mainly as a result of the influence of migration inflows (Ghana Statistical Service, 2002).

Thus, while Greater Accra (mainly Accra, Tema and Ashiaman), Ashanti (mainly Kumasi and Obuasi) and Western (Bibiani, Tarkwa and Prestea) have tended to be net receivers of migrants, Central, Volta, Upper East and West together with the Northern Regions are areas of net out-migration. The most populous region, according to the 2000 census estimates, is Ashanti (19.1% of the country's population) followed by Greater Accra (15.4%) and Eastern (11.1%). Greater Accra, however, is the most densely populated region with 895.5 persons per square kilometre, followed by Central (162.2) and Ashanti (148.1). Apart from Greater Accra (87.7%) and Ashanti (51.3%), the rest of the country remains predominantly rural in spite of the substantial increase in the level of urbanization since 1984.

Quite clearly, the greater concentration of the rural-urban population shift towards the urban centres as indicated above come as a result of the initial development of these areas as colonial outposts which had benefited from investment and locational advantages and tend to attract further population inflows. Subsequent post-colonial development with emphasis on the establishment of import substitution industries accompanied by infrastructure and social service development within and connecting the locations within the inherited space economy further spurred on the urbanization process. People, thus, continued to move from the deprived and depressed rural areas to the urban industrial core and other advantaged principal towns in the southern sector of the country. Table 2.4 shows the total population of Ghana by region and their respective urban and rural components.

Three main factors may, thus, be cited as being responsible for the feature of internal migration in Ghana. Primarily, the colonial investment and labour policies of the then colonial governments led to the concentration of investment initiatives within the southern sector of Ghana. Subsequent post-colonial economic development policies followed after the pattern laid down by the previous colonial masters. Again, with a focus on import substitution industrialization, industrial establishments and supporting infrastructure and services were concentrated in the few key urban centres whose pride of location had been founded on their historical position as colonial outposts (E. P. C., 1991). Finally, increasing rural poverty and deprivation in the rural areas and the search for relief in the privileged urban communities served as another reason for the rural-urban exodus in Ghana.

Table 2.4 Regional Population of Ghana by rural-urban

REGION	TOTAL POPULATION (2000)	RURAL (2000)	URBAN (2000)
Western	1,924,577	1,226,159	698,418
Central	1,593,823	995,418	598,405
Gt. Accra	2,705,725	358,042	2,547,684
Volta	1,635,421	1,194,337	441,084
Eastern	2,106,696	1,378,782	727,914
Ashanti	3,612,950	1,759,885	1,853,065
Brong Ahafo	1,815,408	1,136,628	678,780
Northern	1,820,806	1,337,016	483,790
Upper East	920,089	775,807	144,282
Upper West	576,583	475,735	100,848
All Regions	**18,912,079**	**10,637,809**	**8,274,270**

Source: Ghana Statistical Service (2002)

One of the major effects of the phenomenon of rapid urbanization in Ghana is the explosion of lawlessness and uncontrolled physical developments in the rapidly growing urban areas. The expanding urban-fringes are filled with new physical structures but without proper access roads and adequate community services. Reservations created for streets and other utilities are taken over by uncontrolled private buildings before public authorities are able to organize resources to open up

the roads and connect the services. The last few decades have seen virtually no new roads and services being provided by public authorities to the rapidly sprawling settlements in the new ever-expanding urban fringes. The towns and city authorities appeared to have ceased to draw up programmes for the provision of new roads and streets in the neighbourhoods while the existing roads and streets have fallen into bad state of disrepair. Pedestrian sidewalks are often broken down, non-existent or trespassed upon by parked motor vehicles.

In addition, sites set aside for the provision of community and other essential services such as waste disposal/collection points, schools, recreation, drainage channels etc. are plundered and encroached upon with impunity. This situation usually occur because public officials leave such sites to fallow without any attempt or sign of developing and delivering the services many years after private developments have sprang up in the sprawling communities. It is common to find city centres choked with informal trading activities and structures that conflict with pedestrian and vehicular traffic while big urban markets become crowded places of filth, squalor and seasonal mud.

Furthermore, drains often get broken and choked and refuse collection and street clearing systems fail to keep pace or cope with mounting refuse and filth in most parts of the urban settlements. There has always been the excuse of lack of the requisite personnel, resources and capacity required for efficient waste management and general environmental sanitation in these areas. The cumulative effect of this phenomenon has been the accumulation of huge heaps of refuse in the neighbourhoods for several days before final delivery is made to the disposal points. Added to the above is the fact that several parts of large urban settlements do not receive any form of refuse collection service. As such, many uncontrolled private dumps exist to create high risk of rodent infestation and disease outbreak. Home drains, except in the very few first class residential areas, and especially in the newly developing residential areas, generally discharge into open surroundings. Their effluent are, therefore, often left to freely collect into stagnant, meandering and offensive pools of sullage around houses in most residential areas.

In spite of the gross inadequacy of the provision of basic services, the installation of one infrastructural service to disrupt another at great costs and public inconvenience is very rampant in these communities. The basic services are usually narrowly planned and carried out as separate activities outside the stream of general town planning and so are uncoordinated in space and time with each other and with other physical developments.

2.5 URBAN FRINGE DEVELOPMENT IN THE DEVELOPED AND DEVELOPING COUNTRIES

The redistribution of people from the countryside to the city results in the spatial expansion of the urban geographic space. Law and Smith (1987) observed that the process of sub-urbanization, particularly in Western Europe and the United States of America since mass transportation became available in the early nineteenth century, has only led to an outward expansion of cities and not the dilution of urban living that people moving to the suburbs had hoped. Writing in "The Ghanaian Surveyor" a Journal of the Ghana Institution of Surveyors (2003), Dadson observed that rapid population growth all over the world has resulted in most settlements being in a constant state of transition. The physical development and extension of the city size is, therefore, one of the manifest realities of urbanization. This spatial growth needs to be managed or ordered in a manner that will ensure that the best optimum economic and social objectives of mankind would not be compromised.

The fringe is not an easily defined geographical area that begins and ends at a certain distance from the city centre but rather an area characterized by functional and visual uncertainty about its dominant use (Davidson and Wibberly, 1978). It contains substantial, if discontinuous, areas of urban developments mixed with stretches of more extensive and traditionally rural areas used predominantly for agricultural and forestry purposes. Essentially these uses tend to be strongly affected by the presence of urban activity. Basing his argument on earlier works by Wissink (1962) and Golledge (1960), Carter (1985) employed the terms "an area of great differentiation" and "geographical no-man's land" respectively to describe the fringe. Both of these expressions derive from the wide variety of uses found in the area, which has been partly brought into the urban complex. In Carter's view, the city does not normally grow outwards in well-defined advancing rings of rapidly completed developments but rather haphazardly, making rapid advances at one point and hardly moving at another. It is this process which occasions the incoherent land-use patterns regarded as being representative of the fringe.

Brook (2000) adopted the term "peri-urban interface" to describe these zones at the periphery of urban centres. It was observed that more than half of the world's population lives in areas that are designated as urban. In developing countries, a substantial and growing proportion lives in or around metropolitan areas and large cities including the zone termed as the "peri-urban interface".

In this zone, the livelihoods of inhabitants depends to some extent on natural resources such as land for food, water, fuel and space for living. At the city margins, in the context of the fringe, a wide range of land-uses is characteristic. This ranges from the old-untouched rural villages to modern residential estates, from a variety of commercial developments including out-of-town shopping centres to the city services and industries which are conveniently located at the margins. From the work of Wehrwein (1942), Carter again employed the term an "institutional desert" to describe the margin in the United States because of the uncontrolled location there of unpleasant and noxious establishments such as slaughterhouses, junkyards and wholesale oil storage and utilities such as sewage plants and cemeteries.

Population over-spill onto the fringes of urban areas is a phenomenon not limited to Third World countries as the Western Advanced countries have also witnessed same in their respective stages of city growth and development. The high level of urbanization throughout the industrial period in Western Societies resulted in the rapid growth of their cities, which eventually swallowed formally independent neighbouring districts and villages in the process. According to Chapman (1996), in May 1911, Birmingham tripled in size annexing over 30,000 acres of Staffordshire, Warwickshire and Worcestershire. This scale of growth, it was believed, led to problems of sub-urban sprawl which was also clearly evident in the United States.

The continued sprawl, particularly around London, spurred up by easy commuting on the new sub-urban railway lines, evoked serious concern in the 1930s. This led to the evolution of the "Green Belt" concept after the post-war periods, which was developed and implemented around major metropolis and some particularly vulnerable towns such as Oxford. The "Green Belts" were observed to have had some success in containing the sprawl but development tended to "leap-frog" the designated belts to surrounding towns and villages, particularly, where there is easy access to the main city for commuting.

The trend of population movement away from the city centre to the peripheral areas was reflected in the growth process of both the United Kingdom and the United States. In the United States, for instance, the growth of cities like Cleveland, Ohio was found to be of extreme cases which led to development of "doughnut" cities with houses and land at the centre simply being abandoned and lying derelict. In the United Kingdom, this trend was reinforced in the 1950s and 1960s by slum clearance programmes, which razed down large areas of inner urban high-density terrace slums.

Not all of the local population could be re-housed in the redeveloped high-rise flats and so large new municipal estates were constructed at the urban fringe to re-house the displaced population (Chapman, 1996).

The United States provides the classic case of a nation in which the extent of suburbs has expanded during the twentieth century. Although statistics are notoriously unreliable indicator of detailed changes around the fringes of the cities, the official census returns record some 30 million suburban dwellers in the United States for 1950, a figure which gives some hint of the relative importance of this growth (Johnson, 1972). This growth was attributed to the vast improvement in transportation systems that made it possible and easier for people to commute from their localities to and from work. It was noted that the flexibility of travel particularly associated with motor-cars opened up new tracts of land for residential development. These areas often lay between main roads or around rapidly expanding outer fringes of cities and quite detached from the continuous built-up areas of large cities. In the process, commuters also dominated smaller towns. Another important factor which accounted for the rapid expansion of cities in the U. S. was the return from the war of ex-service men setting up homes for the first time and creating larger demand for new and relatively cheap homes than had ever been experienced before.

Quite clearly, therefore, urban growth in the developed world follows orderly programmed policies through properly developed structures by which developments within the city fringes were regulated. Proper and efficient transport infrastructure was first developed to ensure easy mobility of commuters between the cities and the outlying neighbourhoods that became the destination for the urban-fringe relocation. The Western European and American examples demonstrate that a lot of industries were re-located at the fringes of cities to provide job opportunities for the migrants or residents thus making it more convenient for workers in terms of time to and from work. Carter (1985,) relates that other aspects of the fringe in the United Kingdom became conspicuous in the 1980s. It was noted that in the U. K. two of the most notable land-use modifications on the urban fringes were the growth of considerable number of nurseries and garden centres, selling plants and equipment to newcomers. Others include the development of horse riding schools and stables catering especially for the young female members of the incoming middle and upper class families. A further use is found in the creation of recreational land, for instance, where the fathers of the horse riding daughters can play golf.

Similar developments can be identified in both the United States and Australia but perhaps the major feature in the United States has been the out-of town shopping centre which planning legislation has limited in the United Kingdom. Dawson has indicated how the increasing size of such shopping centres has made the U. S. leaders in the expansion of the city into the fringe areas (Carter, 1985). "While developers of large centres seek 40 hectares of flat land at motorway intersections in high-income neighbourhoods in the suburbs, it would be false to assume that all centres have been located in this way. For the very large centres, a single segment of suburbia is not large enough and land requirements cannot be met by a location in the present suburbia or on its fringe. Centres of 50,000 square metres and more may seek locations between major suburban tracts and in open agricultural land. Midway between Los Angeles and San Diego, for example, work began in 1977 on a multi-purpose centre, which is to have 750,000 square metres of retail and business space on a 190 hectare site in the triangle formed by three freeways. Green-field and inter-urban sites are almost inevitable for developments of such size".

The scenario of the development of the urban fringes in developing countries contrasts sharply with those in the Western countries. The rapid growth of cities in the Third world has brought about many problems. Because many city dwellers are squatters it becomes impossible to plan the growth of the built-up areas (Morrish, 1983). The population pressure means that resources in such zones are often over-exploited (Brook, 2000). Although heterogeneous in its social composition, the fringe constitutes the habitat of a diversity of populations including lower-income groups who are particularly vulnerable to the impacts and negative externalities of both rural and urban systems. This includes the risk to health and life and physical hazards related to the occupation of unsuitable sites, lack of access to clean water and basic sanitation and poor housing conditions.

Environmental changes also impinge upon the livelihood strategies of the communities by decreasing or increasing their access to different types of capital assets including access to natural resources such as land, water, energy etc. As the city expands, so the zone representative of the fringe increases. The urban fringes are, therefore, in a state of constant and rapid change in the Third World countries without any proper control. Land that met earlier definition of urban fringe becomes urban and truly rural land now becomes the fringe. Consequently, all agricultural and other rural land-use activities become transient in character and the incentive to invest in capital development in these areas becomes unattractive.

Unlike Western Europe and America, urbanization in the developing countries has been accompanied by little or no industrial expansion. As a result, people who migrate into the city in search of jobs most often get disappointed. The army of these migrants, therefore, tends to settle on the fringes, as they cannot afford the high rents in the city centre. Quite contrary to the situation in the Western World where it is rather the rich and affluent class of people, who relocate to the fringes of the cities, the reverse is the case in developing countries. Poverty, filth and squalor therefore, characterize the urban fringe in most Third World countries. Inhabitants mostly find themselves in odd jobs as porters, domestic servants, cleaners, watchmen, shoeshine, wayside tailors etc. just to make a living.

It is not uncommon to find sprawling residential neighbourhoods, most often, with very poor quality houses. The lack of planning and development control in these areas account for the haphazard nature of developments in these communities where valuable environmental assets such as streams and rivers, ponds, wetlands, nature reserves etc. are usually lost. Another problem these areas face in developing countries include lack of social and economic infrastructural facilities such as good road networks for easy inter-connectivity and integration within the neighbourhood and the city centre, lack of markets, schools, clinics, community centres and children's playgrounds.

Due to the lack of proper drainage and sanitation facilities, storm and wastewater collects in pools which act as breeding grounds for mosquitoes and other water-borne disease carrying parasites. It is, therefore, not surprising that malaria, guinea-worm infestation, bilharzias etc. are among the common diseases found in these communities in most developing countries.

2.7 PLANNING LAWS AND BUILDING REGULATIONS

Law provides an indispensable framework for regulating and developing the natural environment (Newson et al, 1992). Quite clearly, the Towns Ordinance 1892 (Cap. 86), arguably, marked the genesis of formal planning in Ghana. This law established Health Boards and vested in them planning responsibilities in order to meet ad-hoc problems and emergencies regarding floods, earthquakes, health and the control of building works, street layouts and for the proper development of certain specified areas. By 1920, health boards were established in the Colony, Ashanti and the Northern Territories with a central health board in Accra.

The period 1872 to 1945 may be termed as the golden age of ad-hoc planning when very little, if any, attempt was made to integrate the whole country into the planning process. The introduction of formal planning into the development process of settlements in the Gold Coast in and around the 1940s led to the promulgation of laws and regulations designed to regulate the activities of man with regards to the use of land. Planning was, therefore, accorded a statutory backing by which all land users were enjoined to order their activities in accordance with the provision of law. The effect was that, after almost forty-three years of formal planning, the evidence of good planning and development control was discernible mainly in the Colonial /Government Residential areas. To a large extent, the indigenous parts of Koforidua and the Adweso neighbourhood were devoid of the benefits of formal planning.

In Ghana, the legal basis of planning regulation and development control include the Town and Country Planning Ordinance, 1945 (Cap. 84) as amended, the Local Government Act, 1992 (Act. 462), the National Lands Policy (1999), and the National Building Regulations, 1996 (L. I. 1630), with the 1939 Building Regulation enforcement law as the fundamental reference point. The 1939 Building Regulations was revised in 1961 and 1971 respectively but these revised versions never became operational until 1996 when a new one was made by the Minister responsible for Works and Housing in consultation the Minister for Local Government. Specific clauses in the 1992 Fourth Republican Constitution of Ghana also dealt with planning and development control. Currently, there is no approved planning scheme for the Adweso neighbourhood to which all development operations must conform. Most of the developments in the area were not covered by planning and development permits prior to construction but quite a number of them had been regularized by the planning authorities after completion. The planning laws and regulations governing physical planning and development control in Ghana today are discussed in the sections that follow.

2.7.1 The Town and Country Planning Ordinance no. 13 of 1945 (cap. 84) with subsequent Amendment

This enactment promulgated on 21st April 1945 has, as its preamble, "An ordinance to make provision for the orderly and progressive development of land, towns and other areas, whether urban or rural, to preserve and improve amenities thereof and for other matters connected therewith". Section 3 (1) of this ordinance provides for the declaration of a planning area if the Minister thinks a scheme should be prepared for the area concerned. According to subsection (2) of

this section, an order from the Minister declaring an area a "Planning Area" shall come into operation upon the date of its publication in the Gazette and shall cease to have effect if, within three years from that date, no such scheme in respect of the planning area or any part thereof has been prepared and approved by the Minister according to the provisions of section 13 of the ordinance.

According to section 4 (I) of the ordinance, "when an order declaring a planning area has been published under section (6) of this ordinance, no person shall within the planning area, carry out any development of land or any construction, demolition, alteration, extension, repair or renewal of any building until a final scheme is approved under section (13) of this ordinance for the area containing such land or building". This law, therefore, provides for the prohibition of any development once an area has been declared a planning area until a scheme is prepared and approved for the area concerned.

The ordinance further provides for the appointment of a Committee (Planning Committee) by the Minister, which shall be responsible for furnishing him (Minister) with information and particulars with regards to the present and future needs of the area. It (Committee) is also required to furnish the Minister with information about the probable direction and nature of the developments of the area and to exercise such other functions as the Minister may delegate to it from time to time.

The Minister is required by section (8) of the ordinance to frame a scheme for the planning area or any part thereof in consultation with the Planning Committee. Section (9) provides for the scope, contents and effect of schemes. It states inter alia "A scheme may be made under this ordinance with respect to any land in any urban or rural area, whether there are or no buildings thereon, with the general object of controlling the development of the land comprised in the area to which the scheme applies, of securing proper sanitary conditions and conveniences, the co-ordination of roads and public services, of protecting and extending the amenities and conserving and developing the resources of the area". The law further provides that every scheme shall specify and define clearly the area to which it relates and shall include a plan in which shall be shown the extent of the scheme and such other matters as can conveniently be included therein.

Section 13 of the ordinance vested the power of approval to the scheme in the Minister. The scheme then becomes operational when approved by the Minister. An essential element in the preparation and subsequent approval of a planning scheme is the publication of the said scheme.

Under section (14) of the ordinance, the law requires the deposition of a copy of the scheme for inspection in such offices within the planning area as the Minister may direct. This is intended to afford members of the public the opportunity to raise objections where necessary.

The power of the execution of the scheme, once approved by the Minister, is provided for under Part IV of the ordinance. Section (16) therefore spelt out the power to enforce and carry into effect planning schemes. Section 16 (1) for instance, stipulates that the Minister, subject to the provisions of this section, may at any time:

(a) Remove, pull down or alter, so as to bring into conformity with the provisions of the scheme, any building or other structures which does not conform to those provisions, or the removal, demolition or alteration of which is necessary for carrying the scheme into effect, or in the erection or carrying out of which any provision of the scheme has not been complied with;

(b) Where any building or land is being used in such a manner as to contravene any provision of the scheme, prohibit it from being so used;

(c) Where any land has been, since the date on which the order declaring a planning area has been published, put to any use which contravenes any provision of the scheme, reinstate the land;

(d) Execute any work which, it is the duty of any person to execute under the scheme in any case where delay in the execution of the work has occurred and the efficient operation of the scheme has been or will be jeopardized.

Section 16 (2) further provides that a person whose interest would be or is likely to be affected by the operation of a scheme should be so notified by the Minister. Specifically, the law stipulates that "Before taking any action under this section, the Minister shall serve a notice on the owner and on the occupier of the building or land in respect of which the proposed action is to be taken and on any other person who, in his opinion, may be affected thereby, specifying the nature of and the grounds upon which he proposes to take such action". In other words, the law provides for adequate notice to be served on the owner and occupier of the land before any action under the law could be carried out.

Under this ordinance, sanctions are prescribed against people who willfully perform any action in contravention of the scheme. It further provides for the acquisition of lands by the Minister as may be necessary or expedient for carrying into effect the provisions of the schemes. Provisions were

also made under the law for the payment of compensation to people who may be affected by the operation of the scheme.

From the foregoing discussions, one can argue that the generality of the law is not that of arbitrariness but one that takes into consideration the interest of affected people while, at the same time, ensuring that neighbourhoods are planned and human activities properly regulated for the general good of the community.

2.7.2 The Local Government Act, 1993 (act. 462)

The Local Government Act, 1993 (Act. 462) established the District Assemblies as the Planning Authorities for their respective areas of jurisdiction and prescribed their functions. According to section 46 (1) of the Act, "For the purpose of national development planning, each District Assembly is, by this Act, established as the Planning Authority for its area of authority". Sub-section (2) of this section further vested in the Assembly the power to perform planning functions conferred on it by any enactment for the time being in force. By this provision, the Assembly was given authority to carry into effect the provisions of Cap 84, which is the fundamental law on planning and development control in Ghana.

Act 462 further empowers the District Assemblies to draw up development plans, which shall be submitted to the National Development Planning Commission for approval. Section 47 (1) of the law enjoins the Commission to prescribe the format district development plans should take and, after approval is given, modification to any part thereof could be made only with the express approval of the Commission. This provision is contained in section 47 (3) of the Act. Once the Commission has approved a district development plan, it becomes the duty of the relevant Assembly to ensure compliance to it by all developers within the district. Section 48 of the Act provides that "An approved district development plan shall be complied with by any person, body or organ in the district responsible for or connected with the implementation of the pan". This is a duty relevant pubic officials must perform without fail.

Furthermore, section 49 of the Act makes provision for the legal framework within which developers could obtain/secure permit prior to the execution of physical developments. Sub-section (1) of this section states inter alia "No physical development shall be carried out in a district without prior approval in the form of written permit granted by the District Planning Authority".

By inference, therefore, any physical development carried out in contravention of this provision of the law becomes an unauthorized development and, thus, constitutes an illegality.

Additionally, the law provides for the grant of development permit conditionally and unconditionally to prospective developers. According to section 51 (1), "A District Assembly may grant a permit for development conditionally or unconditionally or may refuse to grant the permit, except that where a permit is refused or granted conditionally reasons shall be given in writing in each case". Sub-section (2) of this section empowers the Planning Authority to revoke a permit to develop or impose additional conditions to a permit already granted. Attached to this power, however, is a proviso that any such revocation or modification shall be subject to the payment, on the receipt of a claim, of such compensation as the District Planning Authority may determine.

Relevant sections in the Act empowered the Assemblies to take measures to ensure enforcement of the law in respect of unauthorized development. According to section 52 (1), "Where (a) physical development has been or is being carried out without a permit contrary to this Act; or (b) conditions incorporated into the permit are not complied with, a District Planning Authority may give written notice in such form as may be prescribed by regulations to the owner of the land requiring him on or before a date specified in the notice to show cause in writing addressed to the District Panning Authority why the unauthorized development should not be prohibited, altered, abated, removed or demolished". This implies that developers cannot do what they like and the onus rest on the Planning Authorities to ensures that activities are regulated within the confines of the law.

Further to the above provision is the authority granted under the law to the effect that if the owner of the land fails to show sufficient cause why the development should not be prohibited, altered, abated, removed or demolished, the District Planning Authority may carry out the prohibition, abatement, alteration, removal or demolition and recover any expenses incurred from the owner of the land as if it were a debt due to the District Assembly. The Planning Authority is further empowered by section 52 (3) to issue an enforcement notice demanding the immediate stoppage of the execution of any work carried out contrary to the provisions of the Act or to the terms of an approved development plan. Section 52 (4) spells out the appropriate sanctions that could be imposed on offenders under the law. Among other things, the law states that "Any person who fails to comply with a notice issued under sub- section (3) of this section commits an offence and is liable on conviction to a fine not exceeding two hundred thousand (¢200,000.00) cedis or to a term

of imprisonment not exceeding six months or to both and in the case of continuing offence to a further fine not exceeding two thousand (¢2,000.00) cedis for each day that the contravention continues after the written notice has been served on the offender".

In addition to the requirement for the procurement of development permit the developer is further required to obtain building permit prior to the construction of a physical structure. Section 64 of Act 462 provides the framework for securing building permits and regulations concerning unauthorized buildings. Subsection (1) of this section provides that "Every person shall, before constructing a building or other structure or undertaking any work, obtain a permit from the District Planning Authority which shall contain such conditions as the District Planning Authority may consider necessary". According to subsection (2), "The District Planning Authority may give notice in the form prescribed in the Third Schedule of the law to the owner, occupier or developer of premises, if the owner, occupier or developer- (a) is constructing a building or other structure; (b) has constructed a building or other structure; or (c) is working or executing work without permit or in contravention of any bye-laws made by the District Assembly. Furthermore, subsection (3) of section 64 provides that the notice under sub-section (2) shall require the owner, occupier or developer on or before a day to be specified in the notice by a statement in writing under his hand or under the hand of an agent duly authorized in that behalf and duly served on the District Planning Authority to show sufficient cause why the building, structure or work should not be removed, altered or pulled down. This implies that if the developer or occupier of a building or structure has any reason as to why his/her development should not be prohibited, he or his authorized agent must communicate such reason(s) to the Planning Authority.

Sub-section (4) of section 64 empowers the Planning Authority to serve notice on the owner of an authorized development to remove, alter or pull down the building, structure or other work by him/herself within a specified time in case he fails to provide sufficient reason as required under sub-section (3) of this section. If he/she again fails to comply with the order from the Planning Authority as required under sub-section (4), sub-section (5) empower the Planning Authority to demolish the structure and surcharge the owner for it. Again, a developer who contravenes any building bye-law made under section 61 of the Act could be fined or sentenced to a prison term not exceeding six months or to both under section 64 (6) of the Act.

2.7.3 The National Building Regulations, 1996 (l. I. 1630)

The National Building Regulations, 1996 (L. I. 1630) came into effect on the 27th day of September, 1996 by the Minister of Works and Housing in consultation with the Minister of Local Government as required by section 63 of the Local Government Act, 1993 (Act 462). The relevant portions of the said Regulation relating to the construction and development of physical structures are discussed in the sections that follow.

Section (1) of the regulations spelt out the type of works to which the regulations may apply. Among other things, this section states that "these regulations shall apply to the erection, alteration or execution of a building as defined in these regulations unless otherwise provided in these regulations. According to section (2) of the Regulations, "any person who intends to (a) erect any building; or (b) make any structural alteration to any building; or (c) execute any works or install any fittings in connection with any building; shall apply in Form A specified in Part (1) of Schedule (1) to these Regulations to the District Planning Authority of the district where the building, structure or works is or is intended to be and shall submit in duplicate the relevant plans with the Form.

Section (7) of the Regulations sets out the requirements for obtaining permit for development. According to section (1) "the District Planning Authority to which the plans have been submitted, may in the exercise of its powers under section 64 (1) of the Local Government Act, 1993 (462), grant the building permit in the Form B specified in Schedule (1) Part (3) to these Regulations and may attach to the permit any conditions with respect to the proposed building or work that is not inconsistent with these regulations including the condition that the applicant shall submit further information or details as may be required by the District Planning Authority from time to time as the building or work progresses". Section 7 (2) gave power to the Planning Authority a discretionary power to specify in a building permit the time in which the work authorized in the permit should commence while section 7 (3) provided for the duration of validity of a building permit. Section 7 (3), for instance, states that "the period of validity of a building permit shall ordinarily be five years, except that if the work authorized in the permit is not completed within the stipulated time 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". According to section 7 (4), "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 these Regulations. This implies that a building permit that expires before the completion of a project

should be renewed before the work could continue. Again, the Planning Authority has power to refuse the issue of a building permit to an applicant who fails to complete his/her project within the period specified in a building permit. Specifically, section 7 (5) states that "A District Planning Authority may refuse to issue a building permit if the applicant has failed to complete any building or work authorized by a building permit or other approval previously granted to him".

Section 7 (8) enjoins the District Planning Authority to notify an applicant for a building permit within a specified period whether or not his/her application has been approved. It further provides that if, after a period of three (3) months after the deposition of an application for building permit with the relevant Planning Authority the applicant has not been informed about whether or not his/her application has been approved, the applicant may commence the development on the basis that the application is acceptable to the District Planning Authority. The Planning Authority, therefore, ought to be proactive to ensure that the requirements of the law are met with regards to the proper and management of the physical planning and development control process.

2.7.4 The National Land Policy of Ghana

The National Land Policy came into effect in June 1999. Among other things, the foreword to the policy listed issues of the use of unapproved development schemes for land transactions and haphazard development of land as part of the problems confronting land management and administration in the country. These are some of the crucial problems the policy was crafted to address. The Policy, therefore, provides a framework and direction for dealing with the issues involved in land ownership and tenure, problems of land use and development as well as the attainment of sustainable environmental management and conservation. In order to enhance the conservation of environmental quality, preserve options for the present and future generations and secure human sustenance, there is the urgent need more than ever before, to ensure the wise use of land, based on sound principles of resource management through striking a meaningful balance among the competing demands of the various economic activities which support human livelihood and survival (Land Policy, 1999). This was part of the preamble to the National Land Policy under review. Essential elements, quite succinctly made clear in that statement, were the urgent need to ensure wise use of our land resources in whatever manner, for the purposes of enhancing the conservation of environmental quality, ensuring inter - generational equity in our resource management and utilization as well as securing the sustenance of humanity.

Generally, the Land Policy provides a framework for addressing the numerous problems and constraints bedeviling the land sector. It is envisaged that this would ensure equity in land allocation and tenure and to maintain a stable environment for the country's sustainable social and economic development. Under the policy framework, therefore, are the guiding principles, aims and policy objectives. Among the many principles designed to guide Ghana's land policy, the following are relevant to this work:

- The principle of optimum usage for all types of land uses, including human settlements, industry and commerce, agriculture, forestry and mining, the protection of water bodies and the environment in the long-term national interest;
- The principles of government facilitating equitable and reasonable access to land within the context of land use planning;
- The principle that whoever takes land for mining and timber operations should restore same to the state as it was before the operation. In effect the principle that the "Polluter Pays" applies to land, water resources and the environment. This implies that in our developmental activities every effort must be made to prevent, as much as possible, the destruction of the environment and that, where this is not possible, the agency or organization causing the destruction or pollution should ameliorate same;
- The principle of private sector as an engine of growth and development subject to national land use guidelines;
- The principle of continued political support at the highest levels, as well as provision of strong incentives to encourage responsible land–use and respect for regulations. This, it is envisaged, would offset real or perceived costs imposed by loss of access or restriction on use; and
- The principle of community participation in land management and development at all levels, which is vital for sustainable urban and rural land management.

The major aim of the Land Policy of Ghana is the judicious use of the nation's land and all its natural resources by all sections of the Ghanaian society in support of various socio–economic activities undertaken in accordance with sustainable resource management principles and in maintaining viable ecosystems.

The policy objectives relating to land development and environmental quality are itemized below:

- To ensure that every socio–economic activity is consistent with sound land–use through sustainable land–use planning in the long–term national interest; and
- To instill order and discipline into the land market to curb the incidence of land encroachment, unapproved development schemes, multiple or illegal land sales, land speculation and other forms of land racketeering.

From the Policy Objectives, policy statements were made to serve as a guide to proposed actions and mode of execution. These are contained in the Policy Guidelines fashioned out in section 4 of the Land Policy document. Under facilitating equitable access to land, the following points are relevant to our discussion on planning and development control as instruments for enhancing environmental quality in growing urban fringes:

- An individual can have access to land in any part of Ghana, provided that he undertakes to put the land to a use which conforms to land use plans for the area and to the principles of sound land use and management;
- There can be no valid transaction in private lands between or among private entities if the area has been declared a protected area or no planning scheme, which conforms to the provisions in Article 267 Sections (3) and (8) of the 1992 Constitution has been approved for the area where the transaction is to take place; and
- The District Assemblies in conjunction with land owners and the Lands Commission should prepare planning schemes for all land uses to facilitate dispositions of land for development.

Under security of tenure and the protection of land rights as a policy guideline, the Land Policy provides for the demolishing, at the cost of the developer, of developments to which the owner has neither title nor development/building permit. So far as the Land Policy is concerned, therefore, it would not be in the interest of developers to do the wrong thing as they stand the risk of eventually losing their investment if caught in the wed of regulations and laws governing developments.

The Land Policy on sustainable land- use has the following policy guidelines:

- The use of any land in Ghana for sustainable development, the protection of water bodies and the environment and any other socio–economic activity will be determined through national land–use guidelines based on sustainable principles in the long–term national interest;

- Land categories outside Ghana's permanent forest and wildlife estates are available for such uses as agriculture, timber, mining and other extractive industries and human settlement within the context of a national land–use plan;
- Inland and coastal wetlands are environmental conservation areas and the following uses considered incompatible with their ecosystem maintenance and natural productivity are strictly prohibited: (1) Physical draining of wetlands; (2) Damming of streams and water courses feeding wetlands; (3) Human settlements and related infrastructural developments in wetlands; (4) Disposal of solid waste and effluents in wetlands; (5) Mining in wetlands;
- Land development planning for the purposes of human settlement, industry, large–scale intensive agriculture or their expansion will have to make adequate provisions, among others, for: (a) population density, growth and distribution pattern; (b) settlement location and pattern preference; (c) direction for spatial growth (d) physical and social infrastructural development or expansion; (f) land and other environmental conservation requirements; (g) provision for persons displaced by such development; and
- For all construction projects in urban areas, due care should be taken to ensure the provision and maintenance of adequate tree cover to protect the environment.

In pursuing the stated policy objectives, several policy actions have been crafted for implementation by Government in the short, medium and long–term within the framework of the policy. Among the catalogue of actions designed for implementation is for the Government to ensure a planned land–use for all categories development projects in the country. Here the Ministry of Lands, Forestry and Mines, in conjunction with other relevant MDAs, is to develop and implement a comprehensive District, Regional and National Land-Use Plan and Atlas, which zones sections of the country to broad land–uses according to criteria agreed upon among various public and private land stakeholders. When this is done it is expected that every developmental activity would be carried out in conformity with the said land–use plan.

2.7.5 Building Bye–Laws and Building Permit

Section 62 (1) of the Local Government Act, 1993 (Act. 462) empowered the District Assemblies to make building bye-laws in order to control physical development in their areas of authority. According to this provision, "The District Planning Authority, subject to section 63 of this Act,

may make building bye–laws within the scope of national building practices prescribed by law and shall in particular make provision for:

- The control of the construction of buildings, streets, boarding, fences and signboards;
- The execution of work on and in relation to existing buildings, structures and streets;
- Drainage and sanitation;
- The removal and abatement of obstructions and nuisances; and
- Matters referred to the guidance of District Planning Authorities in the second schedule of this Act.

Constitutionally, under the Directive Principle of State Policy, Article 36 (9) made provision for environmental protection. Specifically, the said Article provides that "The State shall take the appropriate measures needed to protect and safeguard the national environment for posterity; and shall seek co–operation with other States and bodies for purposes of protecting the wider international environment for mankind". The appropriate measures as provided in the section quoted above find expression in the various ordinances, laws, rules and regulations on environmental protection and management that are inconsistent with the spirit and letter of the constitution. Some of these statutes and regulations have been incorporated into the diverse instruments that regulate the operation of the various land–use agencies in the country.

Under the functions of the Lands Commission, both Article 258 (1b) of the 1992 Fourth Republican Constitution of Ghana and Section 2 (1b) of the Lands Commission Act, 1994 (Act, 483) tasked the Commission to perform its functions in a manner that would ensure that every developmental activity would be carried out in conformity with the relevant development plan for the area concerned. Specifically, the law stipulates that the Lands Commission shall "advise the Government, local authorities and traditional authorities on the policy framework for the development of particular areas of Ghana to ensure that the development of particular pieces of land is coordinated with the relevant development plan for the area concerned". Again, Article 267 (3) states that "There shall be no disposition or development of any stool land unless the Regional Lands Commission of the region in which the land is situated has certified that the disposition or development is consistent with the development plan drawn up or approved by the planning authority for the area concerned".

2.8 RESTRICTIONS ON PRIVATE OWNERSHIP OF PROPERTY

Ownership of land and landed property or what, in other words, is called real estate is not absolute and does not confer absolute power of development. The fact that one owns a piece or parcel of land /plot does not mean that he/she can use it anyhow or in whatever way or manner he likes. Many landowners feel that their land could be used for an alternative purpose, which would make it more valuable, such as residential development on agricultural land. However, they may be restricted by planning control (Richmond, 1985) as even the most complete ownership that the law allows is limited by public and private restrictions. Floyd and Allen (1997) argued that governments have the power to create limitations on the ownership of real estate. These limitations are permitted by law and intended to ensure that the owner's use or enjoyment of his/her ownership does not interfere with the interest and right of others and with the general public welfare.

The individual's ownership rights are subject to certain powers or rights held by the State such as the power of eminent domain, the police power, the power of taxation and zoning and other land-use controls under the police power. The State's power of **eminent domain** is the right of government to acquire privately owned real estate for public use. In Ghana this power is referred to as **compulsory acquisition**. According to Floyd and Allen (1997), under this power, a government can acquire property for public use, even if the owner does not want to sell, when it pays just compensation. Just compensation refers to the true market value of the property. They pointed out that this power came from the Fifth Amendment to the United States Constitution, which, among other things, states that property shall not be taken from any person for public uses without the payment of just compensation.

According to Article 20 (2) of the 1992 Constitution of Ghana, "compulsory acquisition of property by the State shall only be made under a law that makes provision for – (a) prompt payment of fair and adequate compensation; (b) a right of access to a High Court by any person who has an interest in or right over the property whether direct or, on appeal from any other authority, for the determination of his interest or right and the amount of compensation to which he is entitled". Two things needed to be established in an eminent domain proceeding namely: - that the land is required for a public use or benefit and that the amount of money offered to the land owner is the reasonable value of the land being taken. Section 1(1) of the State Lands Act, 1962 (Act 125) states that "Whenever it appears to the President in the public interest so to do, he may, by executive instrument, declare any land specified in the instrument, other than land subject to the Administration of Lands Act, 1962 (Act 123), to be land required in the public interest; and

accordingly on the making of the instrument it shall be lawful for any person, acting on that behalf and subject to a month's notice in writing, to enter the land so declared for any purpose incidental to the declaration so made". Article 20 (5) of the 1992 Constitution of Ghana provides that "Any property compulsorily taken possession of or acquired in the public interest or for public purpose shall be used only in the public interest or for the public purpose for which it was acquired". The concept of public interest is, however, a very broad one. Under section 4 (n) of the National Land Policy of Ghana (1999), the whole gamut of public interest for which land could be compulsorily acquired was described. According to the said section "Provided that payment of adequate compensation in reasonable time will be made, government may acquire land wherever and whenever appropriate to, among other things: -

- Secure and control areas of urban expansion;
- Facilitate urban renewal and redevelopment programmes;
- Implement any rural or urban improvement programmes;
- Provide social infrastructure;
- Supply promptly serviced or unserviced lands at prices, which can secure socially and economically acceptable pattern of economic development;
- Provide for the purposes of national defense, national security, national health and conflict resolution; and
- Protect areas of historical, cultural or ecological interest.

The real issue, however, is not as to whether or not the land is required in the public interest. The most important consideration is the payment of fair and adequate compensation to the landowner. In case the acquiring authority (Government) and the landowner fail to agree on the property's value, Article 20 (2b) provides that the owner of the land can have redress at the High Court. This provision ensures that the rights of the property owner are protected by the due process of law.

The police power of the State is exercised through the enactment of legislation to preserve order, protect the public health and safety and promote the general welfare of society. In other words, under **police power**, governments have the power of regulation, which gives them the ability to protect the public health, safety, morals and the general welfare (Floyd and Allen, 1997). The use of a particular piece of land is affected by other nearby land–uses and depends heavily on public investments and the economic vitality of the surrounding neighbourhood and the community. It is this interdependence of land-uses that create the need for public land–use controls. The police

power is, therefore, generally employed in the form of comprehensive general plans or planning schemes to effectively implement land–use controls. In Britain, the system of planning control originated with the Town and Country Planning Act 1947, which created local planning authorities to prepare plans and control development (Richmond, 1985). Under the 1947 Act, local planning authorities were required to prepare development plans for their administrative areas. These plans allocated land for different uses, such as residential, shopping, industrial and roads. They also indicated areas requiring development or redevelopment and designated land subject to acquisition by compulsory purchase. In most countries including Ghana, this authority is passed on to Local Government institutions through appropriate enabling acts or legislation. To ensure that urban areas develop in an orderly fashion, many local governments have formulated and adopted comprehensive schemes to regulate the physical development of their communities. These schemes normally provide basis for the land–use control methods employed by a municipality. It is, therefore, common for the Police power of State to be used to enact laws on environmental protection, zoning ordinances, building codes and regulations governing the use, occupancy, size, location and construction of real estate. It is important for these laws to be uniform and non-discriminatory in order not to benefit one locality at the expense of others.

Another important power of the State over private property is the power of taxation. This is normally a charge on real property in order to raise funds to meet the public needs of government. The taxes are imposed in the form of property rates, stamp duties, estate duties and constitute an important source of revenue for the state and local governments.

The restrictions discussed in the foregoing sections of this work constitute the bunch of public encumbrances incidental on private property that is relevant to the subject matter under study. It does not present a conclusive picture of the whole spectrum of limitations on the acquisition and use of private property as the list of restrictions is endless. The point, however, is that ownership of private property is not sacrosanct but subject to several limitations. These limitations are often imposed for the general public good and therefore supersede the rights and interest of the individual.

2.9 AGENCIES RESPONSIBLE FOR PHYSICAL PLANNING AND DEVELOPMENT CONTROL

The main agency responsible for physical planning and development control in the country is the Statutory Planning Committee of the various District Assemblies. Both the Town and Country Planning Ordinance (Cap. 84) and the Local Government Act, 1993 (Act 462) are silent on the exact composition of the committee. According to section 6 (1) of the Town and Country Planning Ordinance, "when an order declaring a planning area has been published under section 3 of the Ordinance, the Minister shall appoint a **Committee** to be called (**The Planning Committee and hereinafter referred to as the Committee**) for the area concerned". Section 6 (2) provides that the Committee shall consist of not less than five persons appointed by the Minister for such periods that the Minister may determine provided that where the planning area lies wholly or partly within a municipal area, the Committee shall include among its members the **Medical Officer** of health of the Town Council concerned, and the **Town Engineer** of such Council or, if there be no such Town Engineer, the **District Engineer**; and not less than two members of such Council to be nominated by the council.

Section 46 (1) of the Local Government Law, 1993 (Act 462) stipulates that "for the purposes of national development planning, each District Assembly is by this Act established as the Planning Authority for its area of authority". This provision, therefore, established the New Juaben Municipal Assembly as the planning authority for its area of jurisdiction and under section 46 (2) vested in it the power to perform any planning function conferred on it by any enactment for the time being in force. It is under this section that the New Juaben Statutory Planning Committee derives its power to regulate and control physical development in the entire municipal area. The Committee, whose membership consists of the Municipal Chief Executive as Chairman, the Municipal Town Planning Officer as its Secretary, representatives each from the Lands Commission, Survey Department, Land Valuation Board, Public Works Department, Ministry of Health, Environmental Protection Agency, the Social Welfare Department and a host of other co-opted members, meet periodically to discuss issues concerning the progressive development of municipality. The committee also has a number of sub-committees, which ensures that the decisions of the Committee are efficiently implemented in the best interest of the community.

2.10 THE CONCEPT OF UNAUTHORISED DEVELOPMENTS

Development in relation to land, according to the Town and Country Planning Ordinance (Cap 84), 1945 with subsequent Amendment, is defined as including any building or re-building operations and any use of the land or any building thereon for a purpose which is different from the purpose

for which the land or building was last being used. A modern and more widely accepted definition is that provided by the 1971 British Town and Country Planning Act (1971) which defines development as "the carrying out of building, engineering, mining or other operations in, on, over or under land or the making of any material change in the use of any building or other land" (Britton et al,). There will, therefore, be development either if an operation is carried out or if a material change of use is brought about on any property (land and building). Most often, the carrying out of any project on land involve development since there will be one or more operations and a material change of the use as well. According to Section 162 of the Local Government Act, 1993 (Act 462) physical development is defined as 'the carrying out of building, engineering, mining or other operations on, in, under or over land, or the material change in the existing use of land or building and includes sub-divisions of land, the disposal of waste on land including the discharge of effluent into a body of still or running water and the erection of advertisement or other hoarding". This latter definition added another dimension by expanding the frontiers of the 1971 British Town and Country Planning Act to include waste and effluent discharge on land and water bodies as well as the erection of advertising hoarding. For any of these activities to be undertaken permit must be obtained from the relevant planning authority before work could be carried out.

Any physical development carried out without planning permission except where the said development falls under the category of cases listed under statutory exemptions as provided for under section 51 (3) of the Local Government Act, 1993 (Act 462), is regarded as an unauthorized development. In cases where conditions are incorporated into the grant of the permit, the stated conditions must be met to make the development acceptable; otherwise, it is an unauthorized development.

Section 52 of the Local Government Act empowers the Statutory Planning Committee to take action to enforce compliance with the law by all developers with respect to unauthorized developments. According to Section 52 (1), "where:- (a) physical development has been or is being carried out without permit contrary to this Act; or (b) Conditions incorporated in a permit are not complied with, a District Planning Authority may give written notice in such form as may be prescribed by regulations to the owner of the land requiring him on or before a date specified in the notice to show cause in writing addressed to the District Planning Authority why the unauthorized development should not be prohibited, altered, abated, removed or demolished.

CHAPTER THREE

THE STUDY AREA

3.0 THE GROWTH OF KOFORIDUA AND ITS EFFECT ON ADWESO NEIGHBOURHOOD

3.1 THE GEOGRAPHY AND ECONOMY OF KOFORIDUA

Koforidua serves as the administrative headquarters of the Eastern Region and the capital of the tiny State of New Juaben (Dickson & Benneh, 1988). It also doubles as the seat of the New Juaben Municipal Assembly as well as the headquarters of the Eastern Region House of Chiefs. It is located about 85 kilometres North-West of Accra and West of the foothills of the Obuotabiri Mountains. The town is sited near the Western end of the natural crossing between the Densu and Nsukwa river basin and easily accessible from all sides (figure 3.1).

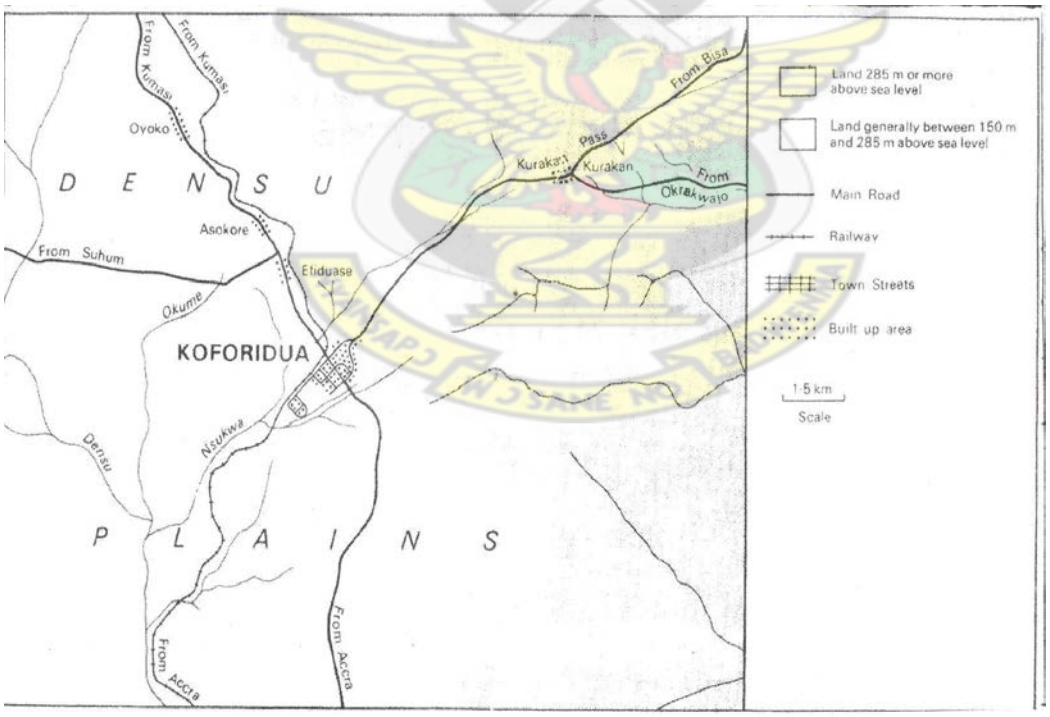


Fig. 3.1 Location of Koforidua

Source: A New Geography of Ghana (Dickson & Benneh, 1988)

This growing urban centre is strategically located to serve as a converging point of very important trade routes and as a principal collecting and market centre for the surrounding cocoa and food production areas. The original settlement of Koforidua has, over the years, spread along the Accra-Kumasi motor road and covered the formally separate settlements of Effiduase and Asokore. It has, similarly, engulfed Ada at its North-eastern section and Adweso on the South. The town has a generally low-lying topography with the Obuotabiri (Pantampa hills) mountains serving as the only range of hills bordering its Eastern section. Several small streams criss-cross the topography and generally flow into the Densu River bordering its South-Western section.

The town of Koforidua falls within the wet semi-equatorial climatic region of Ghana with two rainfall maxima, while the mean annual rainfall ranges between 125 and 200 centimetres. The first rainy season normally begins from May to June and the second occurs from September to October. The dry season in this climatic region is quite sharp or pronounced unlike those in the South-West equatorial climatic region. The highest mean monthly temperature of about 30ºC occurs between March and April and the lowest of 26ºC in August. Average monthly relative humidity is highest (75-80%) during the two rainy seasons and the lowest (70-80%) during the rest of the year. The vegetation of Koforidua follows closely its climatic regime. The town is, therefore, located within the moist semi- deciduous vegetation zone of Ghana where the annual rainfall is between 125 and 175 centimetres and the dry seasons are more clearly marked.

The current population of Koforidua, according to the 2000 Population Census of Ghana, stands at 87,315 people. This is made up of 42,099 males and 45,216 females which is, quite clearly, indicative of a female dominated population size. Compared with the 1984 and 1970 census figures of 58,731 and 46, 235 people respectively, the current population size reflects 48.7% and 88.9% increase over the estimated figures for those census years. The 2000 population census also listed 7,318 as the total number of houses within the Municipal area with a total household of 22,513 and an estimated average household size of 3.9 people.

The status of Koforidua as the capital of the Eastern Region of the Republic of Ghana makes it an important administrative, commercial, educational and cultural centre. It is, therefore, well endowed with a wide variety of economic, administrative and social infrastructural facilities. As the seat of regional and municipal administration, the Regional Coordinating Council and the Municipal Assembly are located within the town. Other Government and Para-Statal Organizations

as well as the regional representation of most of the major local and foreign financial institutions, NGOs and other organizations could all be found in the municipality. Educational institutions, health facilities and postal and telecommunication services, fuel and service stations, hotels and restaurants etc. could be found in many parts of the town. This phenomenon has naturally led to the influx of people from the hinterland into the Municipality and consequently brought pressure to bear on existing facilities.

The predominant land uses in the Municipal Area are housing or residential and commercial developments as there are only few industrial establishments. The house occupancy rate within the Koforidua Municipality ranges from 2.5 to 5 persons which inevitably lead to overcrowding in most parts of the study area. Over the years, SSNIT, State Housing Company Ltd. and some other private estate developers have tried to stem the housing shortage by putting up residential units for both sale and rental purposes. On the contrary, however, the high capital and rental values of these properties put most aspiring house owners and tenants off and thereby, doing little to salvage the housing problem in real terms.

Water supply is a major problem in Koforidua. This is partly due to the low capacity of the treatment plant and the obsolete pumping machines being used at the moment. The perennial water shortage compels most households to depend on wells and stream water for their domestic and commercial water requirements. Sanitation coverage over the Municipality could be conservatively rated at about 60% as the current Municipal administration has instituted a lot of measures to rid the Municipality of filth. Rehabilitation of road works and the construction of drains are ongoing all over the town and the Assembly's refuse collection trucks could be seen carting refuse to dumping grounds on weekly basis. There is, however, the need for the proper designation of the refuse collection points as well as the maintenance of a regular collection schedule to ensure that the desired impact of securing a healthy environment for the society is achieved.

The occupational distribution of the Municipal populace shows a preponderance of tradesmen and artisans, trade and commerce as well as people engaged in tertiary activities. Public and Civil Servants including educational service providers form a very significant proportion of the working population. It is noteworthy that the local economy of Koforidua has declined over the years due to the low level of economic activity. As a result, a number of wealthy and notable businessmen have folded up their activities and relocated most of the businesses in Accra. This slump in economic

activity has also culminated in the closure of commercial enterprises such as UTC, CFAO, Glamour stores, Standard Chartered Bank, GNTC et cetera in the mid 1990s.

The expansionist policy of Ashanti in addition to the collision between European trading interests formed the background to the New Juaben settlement of in 1875 (Lowy, 1971). Old historical manuscripts referred to this new settlement as "Akyem Dwaben" which was defined as a district in Akyem, West of the Pantampa Hills (Obuotabiri) which was inhabited since 1877 by the Asantes of Dwaben, the sister town of Kumasi (Christaller, 1933). The destruction of Kumasi during the Worseley war against the Ashantis in the Nineteenth Century led to the rebellion of the Dwabens against the rest of the Ashanti Kingdom (Balmer, 1925). Following the defeat of the Dwabens in a civil war that ensued (Lowy, 1977), Asafo-Agyei the rebellious Dwaben Chief was expelled out of Ashanti along with a large number of his disaffected followers who later sought refuge at the site which has become the present day Koforidua Balmer (Balmer, 1925).

In 1882, the Colonial Administrator (Mr. Maloney) visited the New Juaben settlement in the neighbourhood of Koforidua where the refugees were thickest. He negotiated and secured the "gift" of land from the stool of Kukurantumi, the Adontenhene of Akim Abuakwa, for these Juaben migrants to occupy. In 1892, trouble arose between the New Juaben settlers and the Krobos with regards to the lands to the east of the granted (gifted) area i.e. On the Effiduase-Somanya road. The District Commissioner was sent to investigate this and found that the Krobos claimed part of these lands by virtue of purchase from the stool of Kukurantumi prior to the gift. It was, therefore, decided that land to the north of the gifted area should be purchased from the stool of Kukurantumi for the accommodation of the Juaben refugees provided they would withdraw their claims to the lands disputed by the Krobos. In accordance with this arrangement, the sum of £400 was paid to the stool as consideration for the land by the Colonial Government. The transaction was evidenced by a Deed of Conveyance dated 28th May, 1894 and made between Kofi Abrante, Chief of Kukurantumi, hereinafter, called the vendor of the first part and Her Most Gracious Majesty Victoria, Queen of Great Britain and Ireland and Empress of India, hereinafter, called purchaser of the other part and which was duly executed by the parties.

The purchase of this land further increased the Colonial Government's authority over the New Juabens. The land bought was leased to the New Juaben Stool for £0.1s.0d (One shilling) per annum by the then Colonial Governor William Maxwell on 4th September, 1895. Although this rent

only applied to the northern strip, the people, chiefs and even Government treated all the land in the settlement as belonging to the British (Lowy, 1971) mainly due to the role played by the Government in the entire negotiation and subsequent grant of the lands. On 6th August 1932, the Gold Coast Government entered into an agreement- a Deed of Covenant (L. S. 12333/32) with the Stool of New Juaben represented by Nana Osei Hwere, the important terms of which were as follows:-

- "The Government granted and conveyed unto the State all estates, rights, interests of the Government in the New Juaben District together with all mines and minerals under the lands granted and conveyed to the State".
- "The State, on the other hand covenanted with the Government that at any time and, from time to time, when Government shall deem it desirable so to do, it shall be lawful for the Government to acquire any land or lands free from all compensation save for houses and growing crops".

The effect of the above transaction was to transfer all legal and beneficial estates in the newly acquired lands to the State of New Juaben symbolized by the seat of traditional authority (Stool). By this token, all lands within the domain of the New Juaben Traditional area became Stool Lands.

3.1.1 The Growth and Development of Koforidua

The neighbourhoods of Srodae and (Betom) were believed to have existed as settlements in the area during historic times long before the events precipitating the migration of Dwabins (Juabens) from Ashanti. Field investigations revealed that unlike Koforidua (Betom) which was established through the activities of traders during the pre-colonial era, Srodae was said to have existed from time immemorial.

An old Akyem informant in the study area revealed that Srodae used to be a very small settlement which was under the leadership of one Odikro Mankrado Nana Asaase Asa. He related that the said settlement was later subdued by the Akim Abuakwas to whom they later became servants. The village was reported to have later evolved to become a commercial calling point for traders under the barter system of trade that existed during the pre-colonial period. Srodae, located near the eastern part of the Pantampa hill (Obuotabiri), was then pronounced by the Dutch as "Soldaat" meaning soldiery regiment (Balmer, 1925). The earlier settlers were believed to have actually lived near the source of the Amemensu stream that linked another tributary later called Asuo Koforidua.

Indications are that this is the stream that crosses the main Adweso-Koforidua road near the Wesley Methodist Church.

It was believed that the Dwabens (Juabens) who migrated here after the events of the 1870s in Ashanti settled within Srodae and Betom which was later referred to as Koforidua by the "Whiteman" (Colonial Masters) to distinguish the new abode of the Juaben migrants from those of the Effiduase and Asokore people who also came along with them from Ashanti. It was gathered from the interviews that Christianity reached the settlement around 1886 when a small Christian community established their place of worship near the southern section of a small stream (Koforidua Nsuo) and later commenced a school. The indigenous people were reported to have later referred to this area as "sukum" and, indications are that, this is the site on which the present Wesley Methodist Church Mission house and Appenteng Hall stand. The first Muslim, popularly called "Awudu the Zugu" reportedly arrived in the area in and around 1897 and obtained land to build. More Muslims, who later came in, especially from Nigeria and the Northern Territories, were reported to have lived in clusters among the Juaben settlers. As their number continued to increase, the then Omanhene Kwaku Boateng granted them land in the North-East portion of the settlement for the development of a new Zongo between 1915 and 1916. The reports further indicate that this land was divided between Zugu, Dagomba, Moshie, Yoruba, Hausa and Wangara. With the passage of time and, as the settlement experienced the influx of more non-Juabens from the Gold Coast and other West African countries, the Ewes, Fantis, Gas and other tribes were granted land to settle on in areas forming enclaves among the Juaben settlers.

Significantly, after all these people had settled, there was a social mix in the life of the New Juaben community. By the middle of the twentieth century, the settlement had attained an appreciable level of social and economic integration to the extent that encouraged further migration of people from all walks life into the area. This, according to interviewees, marked the genesis of urban growth in the community. As a result of the growing population at the time, farmers were encouraged not only to increase cocoa production but also to cultivate enough food to feed the ever increasing number of people. The improvement in the social and economic life of the people helped to create more job opportunities in Koforidua which further fueled the rate of immigration. The construction of the Accra-Kumasi railway line further boosted more economic activity and wealth. This was largely responsible for the establishment of more commercial ventures, all of which contributed in no small measure in accelerating the pace of urban growth and development in Koforidua.

Srodae, as the earlier sections of this work have shown, appeared to be the oldest settlement which has grown to become a suburb of the Koforidua Municipality. The settlement was said to be located around the present Omanhene's palace and was believed to have been the nucleus of the original settlement. As the people increased in number, there was the spill over of development to Betom. The Asokore and Effiduase settlements portrayed a linear type of settlement depicting the structure of settlements from their homes of origin in Ashanti. Quite clearly, developments in the study area pre-date the introduction of formal planning. As a result, the older parts of the study area exhibits elements of unplanned development. Developments were clustered together partly due to the traditionally closely-knit family bonds that caused relations to live close to one another in those times.

In the pre-colonial period, factors which appeared to have influenced the location and development of settlements in the study area were defence, proximity to the sources of water and communication links. In Koforidua, for example, it was believed that the area settled by the original inhabitants (Srodae) was around the present Central Police Station and its neighbourhood. The Ashantis (Juabens), who later arrived in the area were alleged to have moved to the outskirts of this original settlement and occupied a portion of land at the brow (foothills) of the mountain, probably to offer protection to their chief, who had just fled from the war front in Ashanti. In those times space requirement was basically for residential and agricultural use to enable the people meet their basic needs, which were mainly food, clothing and shelter.

It appeared that, in those times much thought was not given to the order in which development was carried out as buildings were indiscriminately put up. A close study of the old neighbourhoods reveal a situation of poor accessibility to homes due to over-crowding of buildings, poor drainage network for liquid waste disposal, lack of open spaces and play-grounds as well as inadequate essential services such as schools and clinics.

From the above submissions, it would not be far-fetched to state that the development of Koforidua pre-dates the formal introduction of physical planning. The task of the planning authorities, at the inception of planning and development control was, therefore, threefold namely:

- Planning for the old settlements;
- Creation of new neighbourhoods; and

- Control of developments in line with the provisions of the relevant laws and approved schemes.

It was a major task of the planning authorities, when physical planning was introduced, to restructure the old neighbourhoods (settlements) so as to adapt them to meet the needs of a changing society. This called for the evolution of policies and programmes aimed at harmonizing and redevelopment of these areas in order to secure their conformity with present day laws, regulations and standards.

A physical observation of the old settlements in parts of Srodae, Betom, Ada, Effiduase and Asokore indicate that those areas have been left untouched by planning regulation in terms of the provision of street layouts, creation of open spaces and schools. What planning has done to these areas was to incorporate them into new schemes drawn for the areas. The effect of planning control is noticed in areas immediately bordering these old neighbourhoods, as streets are properly laid-out, provisions were made for markets, schools, clinics and sanitary sites. Space requirement for various land use types such as residential, industrial, civic/cultural and commercial uses were also catered for.

The effect of planning regulation is also seen through the outward growth of Koforidua as new neighbourhoods are created by the planning authorities. There is, therefore, a segregation of land uses making it possible for incompatible ones to be separated from compatible ones and vice versa. There is one distinct Central Business District (C. B. D.) with several satellite markets doted over the Municipality. New neighbourhoods are created such as the Old Estates, SSNIT flats and Adweso Estates where people in the middle and higher income bracket live and commute to their work places in the Central Business District on daily basis.

The introduction of formal planning and development control in Koforidua has positively contributed to the rapid growth and development of the area. Quite clearly, the inhabitants now enjoy relative improved health service delivery, better avenues of economic performance of the people and improved housing delivery. One could also talk about the provision of better social and capital infrastructural facilities and improved aesthetic beauty of the neighbourhoods as some of the pluses of the establishment of planning controls in the developmental process of Koforidua.

3.1.2 Land Ownership and Tenure

Following the grant of the newly acquired lands to the State of New Juaben, the citizens of the State immediately commenced its effective occupation and cultivation. By so doing, they managed to appropriate large chunks of virgin lands for their respective families. It so happened, therefore, that while the families and individuals scrambled and reduced vast tracts of land into their areas of occupation, the Stool had only small portions as stool lands. The effect of this situation has been that the respective families began to claim ownership of the lands. This position could best be described as a frivolous attempt by the New Juaben settlers to usurp the authority of their paramount stool over land within its jurisdiction; since the claim runs counter with Akan traditional customary law.

Customary and historical evidence in Ghana show that Ashanti traditional political structure was organized into a highly centralized state with well-entrenched political authority. Akin to all other Akan traditional areas, ownership of land is vested in the Stool with the Stool occupant (Chief) as the symbol of traditional authority. Asante (1975) argued that a central consequence of traditional religious dogma was the attribution of the unqualified dominium of all land within the state to the Stool. According to him, customary law recognizes no other absolute owner of land other than the Stool as title to land was one and indivisible and was exclusively vested in the Stool.

The same principle was espoused by Dr. Danquah in his book "Akan Laws and Customs". He pointed out that "the Stool occupier is, in common parlance or by courtesy, referred to as the owner of land; but he is only so in so far as he occupies the Stool and represents the sovereignty of the people giving due respect to the sacredness of the stool". In the New Juaben settlement, therefore, paramount title to land rightly vested in the Stool of New Juaben represented by the Omanhene of the State and these were legal rights in every respect. All other interests enjoyed by the subjects of the stool were usufructuary rights which were derivative of the Stool's absolute (paramount) title. No subject usufruct could, therefore, alienate any interest in land without the prior consent of the stool. This is still the practice in other New Juaben towns such as Jumapo, Suhyen, Oyoko and Akwadum which fall outside the vested area.

During the pre-independence era, all lands within the domain of the New Juaben traditional area was administered by the Stool. The traditional system of land administration was, however, plagued with a myriad of problems some of which are listed below.

- The lands were disposed off in an indiscriminate manner (sometimes freehold grants were made) by the Stool. A clear example of this case is a piece of land at Nsukwao which was sold freehold by the Krontihene of New Juaben to the Hamenu family of Togolese origin in 1939;
- Proceeds from the sale of the lands were utilized exclusively for the personal benefits of the chiefs to the detriment of the interest of the community;
- The situation led to uncontrolled litigation over land;
- There was insecurity of title to land; and
- There was fragmentation of holdings with attendant boundary disputes.

The above problems and many other factors such as the unique history of the emergence of the New Juaben State, which was closely linked with the acquisition of the land for the original settlers, prompted the intervention of Government in the administration of Koforidua lands after independence. This was the time when the government of the day, with its bold and ambitious economic programmes, felt that unhindered access to land was required for rapid socio-economic development, particularly, in the emerging urban communities.

In reality, by the early 1960s, Koforidua had assumed the status of an urban community. In line with the objective of the government of the day to speed up economic growth and development, laws and regulations were promulgated to enable it have unhindered access to land for development. One of such laws was the Stool Lands Act, 1960 (Act 27). Section (1) of this Act provides that "where it appears to the President that it is in the public interest so to do, he may by Executive Instrument declare any Stool Land which is subject to the provision of the Stool Lands Act, to be vested in him and accordingly, it shall be lawful for the President to execute any Deed or do any act as a trustee in respect of the land specified in the Instrument".

Specifically, this section of Act 27 was used as basis for the vesting of Koforidua lands in the President of the Republic of Ghana. To carry into effect this provision of the Act, the Executive Instrument (E. I. 195) was passed in 1961. The Instrument states that "In the exercise of the powers conferred on the President by Section (1) of the Stool Lands Act, 1960 (Act 27) the following Instrument is made this first day of November, 1961".
"The Stool Lands specified in the schedule hereto which are subject to the stool Lands Act are hereby declared vested in the President".

SCHEDULE

"All Stool Lands within the boundaries of the towns of Koforidua and Nkawkaw".

The above enactments were followed by the Administration of Lands Act, 1962 (Act 123) which sought to consolidate all earlier legislations into one workable document. By the provisions of Act 27 and E. I. 195 of 1961, therefore, all Stool Lands within the boundaries of the towns of Koforidua including Effiduase, Asokore and Ada in the New Juaben Municipal area were vested in the President in trust for the Stool of New Juaben. The President's hold over these lands was further strengthened by the passage of the Administration of Lands Act, 1962 (Act123). This later Act, particularly Section (7), clears all illusions about the effect of the law as regards the authority of the chief in matters relating to the disposition of lands for any purpose in these areas.

The act of vesting of lands in the President, therefore, brings about what is called "split ownership" of land in the sense that while the legal estate resides in the President, the equitable (beneficial) estate still resides in the stool whose land was vested. Quite clearly, therefore, one could state that the immediate post independence legislations on land placed the management of all lands in Koforidua in the hands of the President of the Republic of Ghana and, since then, this function has been performed by the Lands Commission on behalf of the State.

From the foregoing discussion, one could identify two principal land owning groups in Koforidua namely, the Stool and the State. Stool lands constitute about 80% of Koforidua lands with state lands constituting roughly 20%. Two main allodial (absolute) title holders were, therefore, identifiably which are the Stool and the State. With the subsequent vesting of Koforidua lands in the President of Ghana as discussed in earlier sections of this report, however, the State of Ghana became the only body in which the allodial (absolute) title to land in the area resides. Subject to this absolute interest in the new Juaben lands are the usufructuary (customary law freehold) interest enjoyed by both subjects of the Stool (citizens of New Juaben) and strangers alike, leasehold interests enjoyed by Lessees of the vested lands and, in some cases, licenses given to various licensees to utilize plots of land within specified periods for limited purposes.

The stool lands, which have become public lands by virtue of the Vesting Instrument E. I. 195 of 1961, are controlled by the government together with all State Lands within the municipality. In practice, these lands are managed by the Lands Commission on behalf of the State. The major

effect of the Vesting Instrument, together with its consolidating Act 123 of 1962, was to whittle away the Stool's management function of Koforidua lands and transferring them to the President of the Republic of Ghana. This implied that Chiefs no longer wield the authority to alienate any interest in these lands as that power has now been vested in the State. For a fast developing urban area like Koforidua, a host of merits exist for the transfer of authority of land administration to the State.

The first advantage of this measure is to make access to land for any developmental activity easy and cheap. Before the assumption of control over lands in Koforidua by the Government, the administration was done by the Chiefs (Stools). Allocations of plots were made to prospective developers after the payment of bottles of schnapps, a live sheep and cash, usually, referred to as "Drink Money". Most often, these cash payments were arbitrarily determined by the Chiefs, which tend out to be the "purchase price" of the land to be leased. In addition, the allotee would be required to pay annual ground rent to the Stool. This eventually makes the cost of land very expensive and, serves as a disincentive for prospective developers. Now the system has been made simple and relatively cheaper by the intervention of Government in the administration of these lands. Prospective developers now only have to apply to the Lands Commission stating the purpose for which the land is required. This application, upon receipt by the Commission, is processed and, when approved, a lease is engrossed for the applicant. With the decentralization of the functions of the Lands Commission, applicants could take a maximum of three Months to have their titles to land documented. This makes the land delivery system more efficient, faster and cheaper for prospective developers.

Government control of lands in Koforidua also ensures that land is made available in sufficient quantity when requested. Grants of lands made by the Lands Commission are properly recorded according to approved layouts prepared for the areas concerned. References are made to these records to ensure that a particular piece of land is not encumbered before an allocation is made to a new applicant. By so doing multiple grants of the same parcel of land is avoided.

Furthermore, insecurity of tenure is eliminated by Government control of lands in Koforidua. The traditional system of land administration is fraught with a high degree of insecurity of tenure. This is largely due to ignorance about the importance of registration of interests in land. As a result, allotees of Stool lands often fail to go beyond the allocation stages of the acquisition process to

register their interest in the land. When searches are subsequently conducted on such plots, the results could indicate that they are vacant, which could lead to possible re-allocation to other applicant. In addition, traditional land owners do not normally keep records of their transactions. This situation often leads to multiple allocation of one plot to more than one person, which inevitably, results in very expensive conflicts and litigations. The present system, however, ensures that all these problems are mitigated, if not totally eliminated.

Proper management of Stool land revenue is another very important advantage of allowing Government control of lands in Koforidua. By the prescribed formula of sharing stool land revenue as contained in Article 267 (6) of the 1992 Republican Constitution of Ghana, revenue generated from the management of stool lands is apportioned among the respective beneficiaries under the stool. This method, therefore, ensures that certain percentages of revenue generated through royalties and rents are made available to support development projects. Unlike the former times when revenue from stool lands find their way into the personal pockets of chiefs, legal and constitutional provisions now make it possible for those funds to be managed to serve the best interest of the larger community.

It is also easier to ensure that the various neighbourhoods are planned before allocations of plots are made to applicants. Unlike the past when lands were indiscriminately parceled out to people without any proper planning, the regulations governing the management of vested lands make it mandatory for these lands to be planned before any disposition or development is carried out. These lands are, therefore, duly planned by the planning authorities and the layouts deposited with the Lands Commission to be used for its work. Plots are allocated strictly according to the zoning provided for in these schemes and this makes it possible for plots to be utilized for their best uses.

The main argument against the vesting of the administration of Koforidua lands in the Government of Ghana has been the seeming total disregard accorded the interest of the subject usufructs. Although in Akan custom and tradition, the usufructuary interest (customary freehold) of members of the land owning group is recognized and upheld and, not even the chief (stool) could take land from them without their consent, the law on apportionment of stool land revenue makes no provision for them. It is noteworthy that the stools now appear to hide behind Government to take everything away from them. This is quite an unfair situation, especially when viewed against the backdrop that many, hitherto, farming areas are now being allocated to developers without

reference to the occupants and, by so doing, depriving them of their only means of livelihood. The natural reaction, therefore, is for them to create problems which turn out to become impediments in the administrative work of the Government agency (Lands Commission) responsible for the management of these lands.

3.1.3 Problems Associated with Land Administration in Koforidua

Despite the intervention of government in the management of lands in Koforidua, the desired results have not yet been realized. This is mainly due to a host of problems that plague the system. One of the foremost problems encountered by the administrators of public lands in Koforidua is the demand for compensation by the native occupiers from the lessees of both State and Vested lands. The Juaben natives often claim that the lands being parceled out as building plots were their ancestral farming lands. Although most of these natives are aware of the vesting order, the argument has always been that because of their inherent rights in these lands by virtue of membership of the land owning group, they deserve some form of compensation, at least, for their crops. Recalcitrant lessees are often subjected to harassment and threats to the extent that some people even lose interest in the plots and turn to Adweso and other areas where they could obtain land for outright purchase.

In most cases, the activities of the original owners of land in Koforidua have not been limited to the demand for compensation from lessees alone but also involve the illegal sale of land to prospective developers. Sometimes these illegal vendors go to the extent of preparing conveyance documents for the unsuspecting purchasers. Although these documents often lacked legal authority and are, therefore, not usually accepted for plotting when they accompany application for leases, they sometimes influence the allocation of plots in cases where the affected plots were still vacant at the time of the presentation of the application. Where the affected plots were already allocated or leased to an earlier applicant, problems normally arise as the earlier lessee is subjected to harassment on the site. Additionally, most of the native Juaben settlers view the role of the Government (Lands Commission) as a threat to their future generation as most of their former farming lands are now giving way to residential developments and their only means of livelihood is gradually being eroded. It is important to point out, here, that the legal position of the subject usufruct has been sacrificed by the law-makers at the time laws on vesting of lands and administration of stool land revenue were passed. The recognition accorded this interest by

customary law has been compromised by these enactments, hence, the dilemma that is faced by land administrators in Koforidua.

Another serious problem connected with land administration in Koforidua is the rate of litigation over land. Some "die hard" land litigants in the Municipality often institute action at the courts, at the least instance, with claims of ownership over land. In most cases, it is a challenge by the so-called "customary land owners", usually a family, as against the interest of a government lessee. In the majority of the cases, the Lands Commission is usually cited as co-defendants in the suits. Some of these cases sometimes become problematic when some of these litigants dared to challenge the authority of the Lands Commission to make grants of lands in Koforidua. A case in point was a Court of Appeal Suit involving Osei Kwasi Amankwa versus the Chairman of the Lands Commission, Accra and three others. This case is still pending at the Court of Appeal, Accra, although the plaintiff had died long ago. In the substantive case which was decided at the High Court, Koforidua (Suit No. L. 179/84) the plaintiff sought a declaration of title to a piece of land which was leased to the Universal Play School. He further sought, among other things, an order to cancel all leases and proposals made by the Commission with regard to these lands, damages in ¢500,000.00 for trespass and a perpetual injunction restraining the Lands Commission from entering onto the disputed land. In her ruling, Her Lordship Justice S. O. A. Adinyirah (J) held that the plaintiff's claim failed since the land in dispute is Vested Stool Land and covered by E. I. 195 91961). Subsequently, the plaintiff, not satisfied with the ruling, filed an appeal at the Court of Appeal, Accra which is yet to be determined.

Land sterilization and speculation are other problems bedeviling land administration in Koforidua. Over the years, several plots of land were granted to both individuals and Government organizations but most of which still remain largely undeveloped. Of particular mention are vast tracks of land covering sectors 11-17 of Koforidua. This phenomenon could partly be blamed on the lack of access roads to these areas and the generally harsh economic conditions that existed in the entire country in recent years which make investment in landed property extremely difficult. Associated with the above point is the problem of speculation in land. In recent years many people appear to take advantage of the fact that Government plots are cheap and so apply for these lands only to sell them later when the values appreciate. This issue is assuming quite an alarming proportion these days and requires urgent action by the Commission to institute measures which would make the practice unattractive to prospective speculators.

The problem of unauthorized developments is also worth citing as one of the bottlenecks in the land administration and delivery process in Koforidua. There are many unauthorized structures all over the Municipality most of which are not in conformity with the planned land use (zoning) of the areas. It is a common occurrence for plots to be officially allocated to people, only to find out on inspection that, such plots have been developed by other people not known to the Lands Commission. Such unauthorized developers were often found to be purchasers of land from the original owners. The situation usually results in the distortion of the allocation process of the Commission and renders record keeping very difficult.

Finally, environmental degradation caused by the activities of sand winners is another problem assuming alarming proportions in recent years. This appears to be a new menace to land management in Koforidua as vast areas of land planned for residential, industrial and other uses are degraded through the removal of the vegetative cover and the top soil by sand and stone contractors. Attempts to control their activities by the Sand and Stone Task Force set up by the Regional Coordinating Council is yielding little result due largely to lack of logistic support to aid the members in their operations.

3.1.4 Modern trends in the growth and development of Koforidua - The role of the Planning Authorities

The New Juaben Municipal Assembly is the highest planning authority for its area of jurisdiction. In practice the Assembly's function with regards to physical planning and development control is carried out through the New Juaben Statutory Planning Committee. Currently, the Committee is composed of the following members:

- The Municipal Chief Executive – Chairman;
- The Municipal Town Planning Officer – Secretary;
- The Municipal Works Superintendent (P. W. D.) – Member;
- The Building Inspector (P. W. D.) – Member;
- The Municipal Medical Officer (M. O. H.) – Member;
- The Regional Lands Officer – Member;
- The Regional Surveyor – Member;
- The Regional Valuer – Co-opted member;
- Representative of the Department of Social Welfare – Co-opted member;

- Representative of Community Development – Co-opted Member; and
- Representative of the New Juaben Traditional Council – Co-opted Member.

The law establishing this committee further requires that other members may be co-opted to serve on the committee as and when it is found expedient and necessary to do so. In compliance with sections 3 (8) and (9) of the Town and Country Planning Ordinance, 1945 (Cap 84) Planning Schemes were prepared for the New Juaben Municipal area. In practice, this function is carried out by the Municipal Town and Country Planning Department. By laws, these schemes must receive approval from the Minister responsible for Town and Country Planning and, once this is done, it becomes law which all developers must comply with.

The approval process of the Planning Scheme involves a very lengthy administrative procedure, most often with a lot of delays. As a result, therefore, after a preliminary approval of the draft layout by the Statutory Planning Committee, it is adopted as a working layout after which copies are sent to Accra for Ministerial assent. The schemes for the Municipal area have been reduced to Sectors and numbered chronologically from 1-21 (Appendix 5).

Quite significantly, out of the twenty – one (21) planning schemes so far prepared for the New Juaben Municipal area, only a sector has received Ministerial assent. All the other schemes currently in use as "working layouts" are yet to receive Ministerial approval although they have received preliminary approval from the Statutory Planning Committee.

3.1.5 The Approval process of Development Applications

The Town and Country Planning Department, being the secretariat of the statutory planning committee, receives application from prospective developers for permit to develop their respective plots. These applications are first vetted by the technical subcommittee of the planning committee and latter processed by the Secretariat before it is brought before the Committee for consideration.

Currently, the New Juaben Statutory Planning Committee meets quarterly to consider applications for development permits and other related issues incidental to carrying into effect the implementation of the planning schemes drawn up and approved for the area. It is at these meetings that matters related to the orderly development of the Municipality are discussed and decisions taken thereon.

Applications for permit are made with prescribed application forms provided by the Municipal Assembly. This must be supported by the building plans of the proposed development showing all the structural details of the building including the roof plans and details of electrical installations. The applicant is further required to submit a site plan together with the building plan showing the particular plot earmarked for development. As pointed out earlier, these applications are vetted to ensure that the proposed development meets the requirements of the building regulations and other prescriptions of the Planning Authorities. The plans are further scrutinized against architectural and structural details, adequate provision for utility services and other amenities such as fire hazard prevention measures.

In order to prevent and control litigation over land, there is a further requirement for the applicant to ensure that his title to the land intended for development is cleared from the Lands Commission before applications are approved. These applications for title clearance are also in prescribed forms which are made available to the applicant by the Town and Country Planning Department on the submission of his application for development permit. The applicant, in turn, presents this form at the Lands Commission where title is cleared if he/she had duly registered his interest in the land he/she wanted to develop.

To ensure that applicants do not commence development on site before submitting their plans for approval, an Inspection Oversight Committee (a Sub-Committee of the Planning Committee) conducts inspection of the sites for which plans were submitted for permit a few days prior to the actual sitting of the Committee. Applicants found to have developed or commenced development before the submission of plans are penalized either by the imposition of fines in cases where the development can be regularized or demolished where the development conflicts with the approved Scheme for the area.

After the vetting process of the applications at the Technical Sub-Committee level, a schedule of the applications recommended for approval is prepared for the consideration of the Planning Committee. Decisions on individual applications could be made in any of the following forms:

- Unconditional grant of permit;
- Permit granted with conditions;
- Outright refusal of permit; and
- Permit deferred pending prescribed corrections or amendments to plans.

Where permit is refused or conditions are attached (imposed) on the grant of permit, the Statutory Planning Committee is required by law to give reasons for its decision. Permits are normally granted for specified periods, usually two years, for specific land uses. An applicant who fails to develop his/her property before the expiration of the period is required to re-submit his/her application for renewal before the proposed development could be undertaken or continued.

3.2 THE ADWESO COMMUNITY

The area broadly referred to in the study as Adweso generally consists of two sections mainly in terms of the nature of land ownership and tenure. There is, for instance, the Krobo section made up of such villages as Korle-Nkwanta, Okpe, Agavenya, Bonya and Trom-Nyerede. These are basically farming villages belonging to people of Krobo descent who settled in the area as farmers in times past. There is also the Akwapim section consisting of villages like Owusukrom (Two-Streams), Abogri, Adweso village and Kwakyea (Mile 50) which were also farming villages belonging to the Guan group of people of Akwapim origin. From the field surveys and interviews, it was gathered that these group of people had settled on the land and established themselves long before the migration of the Juabens to their present location in the late 1870s.

The area is located about two-and-half kilometres south-west of Koforidua along the main road that links Accra from Koforidua through Manfe, Aburi and Adenta. It has a generally flat and low-lying topography. The field investigations have shown that this area used to be a farming community mainly utilized for the cultivation of cocoa and foodstuffs. Some elderly Guans (Larteh) interviewed during the filed survey have intimated that the settlements of the Larteh people in the area predate the arrival of the Krobos. This assertion was confirmed in some of the Krobo settlements where it was gathered that most of their ancestors had purchased the lands they now occupy from the Larteh people. It was found that the Krobo farmers were particularly attracted to the rich forest lands in this area at the time and acquired large tracks for cocoa plantations.

Unlike Koforidua and other towns within the New Juaben Municipality, the people of Adweso have no centralized political organization as each village settlement is an independent unit. The only unifying factor among the people appear to be the common Twi language spoken all over the study area in addition to the respective native dialects of the ethnic groups such as the Krobo (Ga-Adangbe) and the Guan dialect of the Larteh and other tribes from the Akwapim mountains.

Until recently, the Adweso area used to be administered as part of the Akwapim North District Assembly with its District Headquarters at Akropong-Akwapim. This was closely linked with the pattern of land ownership and tenure as the lands basically belonged to people of Akwapim and Krobo descents and fell outside the New Juaben Traditional Area. It is however very far away from the administrative capital, Akropong, making administrative and political control very difficult. As a result, it was ceded to the New Juaben Municipal Assembly in the mid 1990s due to its relative proximity to Koforidua and for administrative convenience. The location of the Adweso area is shown on figure 3.2 below.

In addition to the cocoa industry which brought a lot of financial returns to the people in the past, it was gathered from the study that other values were attached by the people to the land and forest resources in those times. Some of these include environmental, ecological, economic, cultural and spiritual values the forest ecology used to provide the people. A retired teacher interviewed at Mile 50 explained that, in those days, the forest vegetation was relatively undisturbed and this ensured that the tree canopies prevented the direct impact of rainfall on the soil underneath the forest.

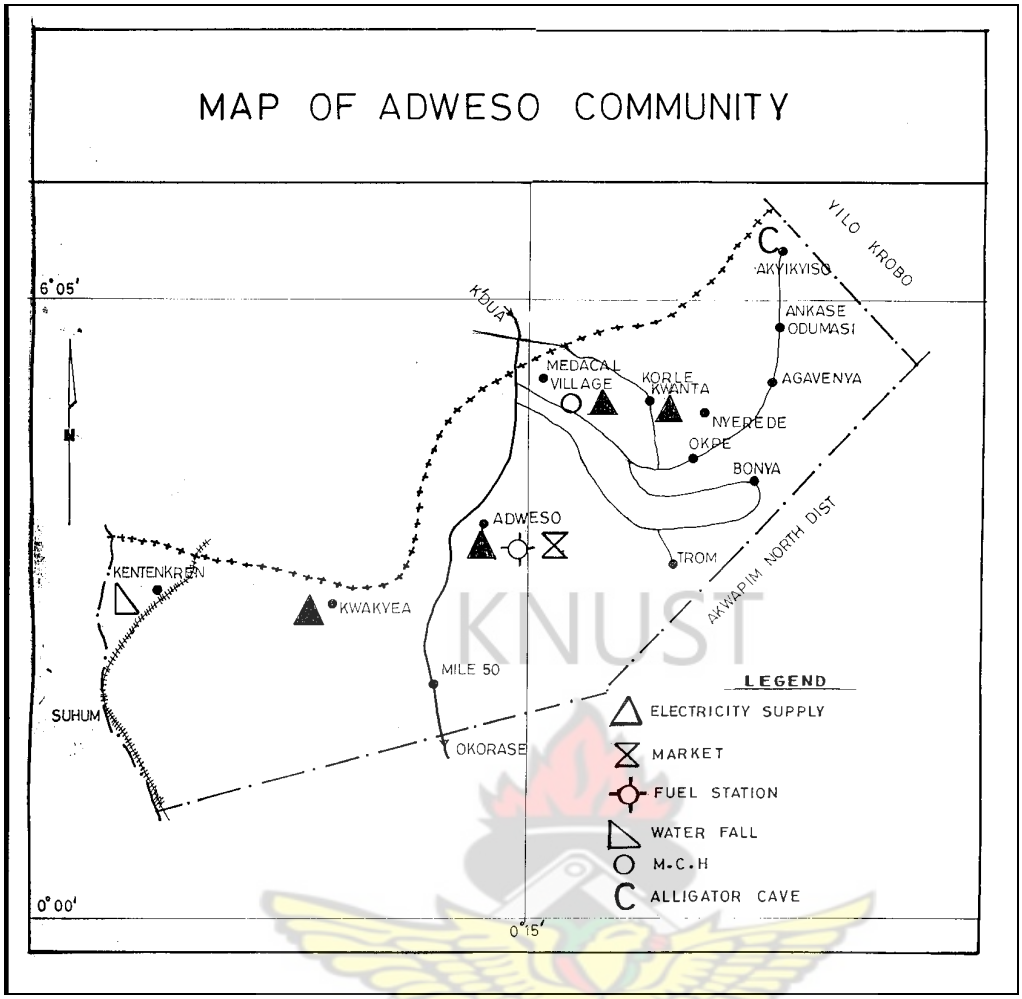


Fig 3.2 Location of the Study Area.

Source: Regional Economic Planning Office, Koforidua

In this way, the soil was protected from splash and gulley erosion. The trees, it was observed, also served as wind breaks to prevent disaster during heavy storms. It was further observed that the environmental function cited above is complemented through the maintenance of plant and animal diversity. Elderly inhabitants covered by the survey recalled that different kinds of plant and animal species were found in the community in the olden days when the forest was undisturbed. They also intimated that valuable timber species were found in the area which provided additional source of income to the people.

Further investigation revealed that the forest cover of the area also played important roles in the socio cultural and spiritual development of the people. Some respondents recalled that, in those days, a simple and mere walk through the forest was both physically and spiritually refreshing. Inarguably, society depends on the forest for food, shelter, medicine and a variety of other

biological resources for their livelihood (Barraclough and Ghimire, 1995). Because of this dependence, society ascribed certain cultural and religious values to the forest ecosystem. In the study area, therefore, certain parts were set aside for cultural and religious purposes such as sacred groves and burial grounds. This set the framework for indigenous land resource conservation in the area during the past.

Some of the interviewees argued that, in the olden days, forest and land resources were considered as sacred natural endowments with all forms of life in traditional practices. Both the living and non-living environment (plants, animals, water bodies, soils and hills), therefore, played significant cultural and religious functions. As a result, appropriate sacrifices were performed to honour the ancestral forest deities during festivals and also to pacify them when the forest ecosystem was disturbed by the removal of certain trees or the breaking of rules considered as being taboos. Some animals used as totems were also kept and worshiped and, thus, their capture, hurt or destruction was considered as a taboo. One such sacred grove, which was claimed to have survived extinction, is a river god located at a place on the mountains beyond Bonya called "akyekyeso" where alligators are said to be the reptiles used as totem. It was, however, admitted that their activities and influence have diminished over the years due to the spread of Christianity and modernization.

3.2.1 Brief historical account of Land Ownership and Tenure in the Study Area

The Guan and Krobo ethnic groups of people, who form the greater majority of the early settlers in the study area, are a different and distinct set of people in terms of ethnicity, traditional values and customary practices. This section of the study will, therefore, attempt to outline some of the historical accounts of the mode of land acquisition and tenural practices among the two groups of people. From the study, it was found that the mode by which lands were acquired in the past affords some explanation for the nature of the interests the respective families hold in these lands.

The field survey and investigations have established that land acquisition in the study area during historic times was done in two principal ways. According to informants during the field interviews, the first major means by which land was made available for settlement in those times was by the discovery of, hitherto, unoccupied land. It was alleged that this pacific means of land acquisition was the main method of acquisition by the Guans, particularly, people of Larteh descent who owned the greater portion of these lands. An elderly Larteh respondent recalled that the first Larteh settler in this area was a man he could remember only as Awuku who was a farmer, traditional

healer and a bone specialist. The information indicated that this man was the founder of the present Abogri village that became notable and famous for the treatment of fractured bones. Other Larteh farmers who established large cocoa plantations later joined this man, according to the respondents. As to why pockets of lands within their domain came to be owned by Krobo indigenes, the informants indicated that some of their lands were sold to the Krobo 'huza farmers' when they wanted land for the cultivation of cocoa farms.

As a general feature of land acquisition among the Guans, settlement was not by virtue of apportionment by a political authority as found in Akan traditional law and custom. There is, therefore, no centralized political authority such as a stool (Chief) in which the absolute title (ownership) to land is vested as no stool lands were found in the study area. In this community, the clans and families generally owned land and the absolute (paramount) interest is vested in the respective heads. The right of alienation of any interest in such lands is, therefore, vested in the respective family heads that are enjoined by law to do so with the consent and concurrence of the principal elders of the family concerned.

The investigations have further shown that outright purchase of some of these lands was another major means by which land was made available for settlement in the past. This mode of acquisition was identified among the Krobo settlers in the area. Some of the respondents interviewed in the Krobo section of the study area have alluded to the fact that the lands they now occupy were purchased by their ancestors from people of Akwapim descent who were the original settlers. In the Bonya, Agavenya and Okpe settlements, some of the respondents intimated that they were, in fact, the third and fourth generation of their forefathers who were the original purchasers of the lands. The present adult populations (inhabitants) in most parts of the study area have been found to be the grandchildren of the first buyers of the lands and, in fact, the names of their settlements often reflect their place of origin in the Manya and Yilo-Krobo Districts of the Eastern Region of Ghana.

Huber (1993) pointed out that the passion to acquire new lands for farming became an important feature of the Krobo way of life particularly during the reign of Konor Sakite in 1867-92. He asserted that nearly over a century ago, this extreme passion for the purchase of new farmlands took some Krobo indigenes from their native towns and villages to their present locations within the study area in search of new lands. This appeared to have been the genesis of the migration of

this ethnic Krobos and their relocation in an entirely different geographical area from their native towns in the plains of the Krobo Mountains.

The Krobos, in the past, were noted for their 'huza system of farming' whereby individual farmers came together to form groups and contributed money for the purchase of fertile forest lands for cultivation. From the field interviews, it was gathered that farmers constituting a huza do not necessarily belong to the same sub-tribe. As a rule, according to the respondents, the purchase of lands was done by groups or companies with their leader (not necessarily the chief or senior kinsman) as spokesman or negotiator. The huza (purchased plot of land) is then divided among the members of the group according to one's share in the price paid. These individual portions of farmland thus became their fully acquired personal property and, upon the death of the original purchaser, become inherited by one's descendants.

Two land ownership types were, thus, identified in the study area among the Krobos. These were ancestral lands inherited by the present generation and are owned by kinship groups and lands acquired through the personal effort of individuals and, therefore, belong to them and their children. Throughout the study area, it was found that inheritance in family property was determined strictly by a patrilineal descent. Among the Krobo group of settlers in the area, it was gathered that women, as a rule, do not inherit land. According to Krobo custom and belief, 'a woman does not own or inherit or rule a house'. The reason for this belief, according to Huber (1993) is that, a woman ordinarily bears children for someone else's house. It was further gathered during the field interviews that these days fathers, often during their lifetime, share part of their personally acquired lands among their male children and the sons of their unmarried daughters. In the Akwapim section of the study area, it was also found that inheritance within the natives is by patrilineal decent. Significantly, however, it was gathered that among these ethnic groups of people, no discrimination is made against the female members of the family in terms of the sharing of the family property. The investigations have shown that women as well as their male brothers and siblings share equally in the distribution of the ancestral land and they (woman) are more prone to the outright disposition their portion of the shared property to strangers.

3.2.2 The Development and Growth of the Neighbourhood

As mentioned in section 3.2.1 of this report, the Adweso area of Koforidua basically used to be a farming community in the past. Most elderly respondents interviewed in the field survey recalled

that the present settlements in the area were, in fact, hamlets sited on cocoa plantations as the principal occupation of the early settlers was farming. These initial hamlets have now grown into villages within the area which, although are being engulfed by the process of urbanization, still exhibit signs of rurality.

Residential units found in most parts of the original settlements are made of old swish buildings with constructional materials typical of those found in village settings. Figures 3.3 a, & b, below show some of the relics of the old rural settlements still found in this growing urban fringe. While figure 3.3a depicts part of the old Abogri village, 3.3 b reflect parts of the old Adweso settlement. Similar structures are found in most parts of the study area inhabited by the original and indigenous settlers. Gradually, the outward growth and development of these settlements has brought about significant modifications in the type and design of structures that are springing up. This new phenomenon partly appear to be the result of the caliber of people acquiring properties in the area who are mainly those belonging to the middle to high income bracket with a comparatively high degree of sophistication and modernization than the indigenes.

In the foreground of figure 3.3a is waste water from washing of clothing and domestic utensils poured on to the ground. This manner of liquid waste disposal has been observed in most parts of the study area. Numerous footpaths linking the settlements still exist and some of them are gradually being turned into permanent access ways. Most of the immediate environs of the villages still consist of forests with some cocoa and forest tree species. Quite clearly, these communities also lack essential social services such as schools, clinics, electricity as well as potable water.

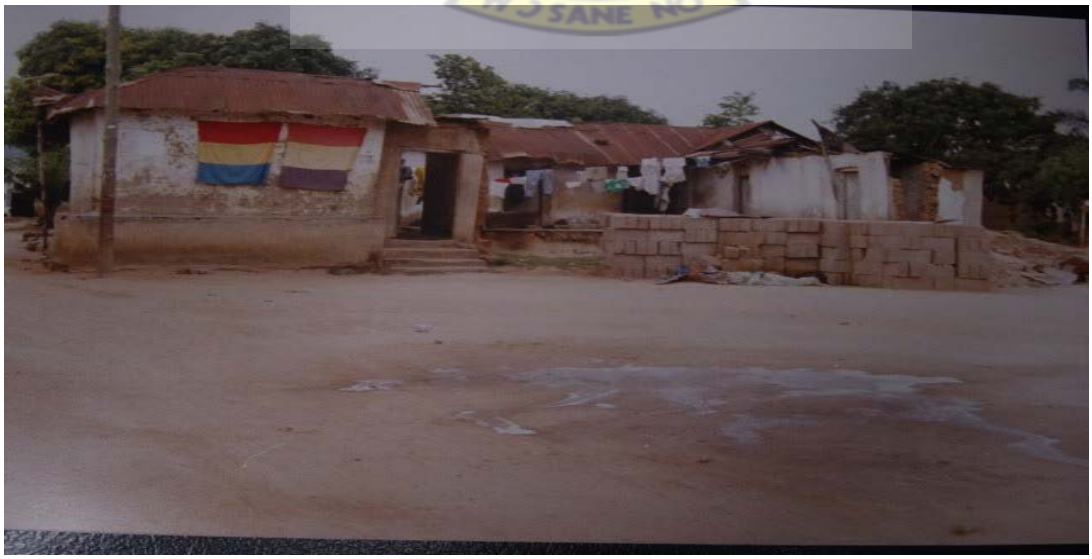


Fig 3.3a Parts of the old Abogri village

Source: Field Survey

Fig 3.3b Parts of the old Adweso village

Source: Field Survey

The investigations have indicated that the current physical transformation of the outlook of the neighbourhood begun about twenty years ago. Some of the respondents observed that the large cocoa plantations and forest cover that served as sources and protection for swift and fast flowing streams and creeks that served the area have all given way to rapid residential developments. Most of the streams have dried out and the wetlands and vegetation that used to be sanctuaries for various animal and bird species have left only relics of their former existence. In figures 3.4a, b &c below, some streams and wetlands in the study area which are giving way to residential developments have been shown.

Fig 3.4a Wetlands being encroached upon by physical developments

Source: Field Survey

Elderly respondents recalled the widespread destruction of their cocoa farms in 1983 by wild bush fires which resulted in huge losses from farm proceeds to them. They claimed that the aftermath of the destruction inundated their lands and reduced the level of its fertility. They intimated that the secondary vegetation which later emerged was unsuitable for coca cultivation and, hence, the collapse of the industry. In most of the Krobo settlements, the respondents attributed the sale of their lands to prospective developers to three main factors.

As observed by Huber (1993, p.42), among the Krobos, the sale of ancestral lands is strictly forbidden except under exceptional circumstances and never without the asking of the original owners (ancestors) by the pouring of libation. It was gathered through the interviews that this practices still persist among the inhabitants even in these modern times

Fig 3.4b River courses giving way to physical developments.

Source: Field Survey

Fig 3.4c River courses giving way to physical developments.

Source: Field Survey

The first major reason ascribed to the present phenomenon of the sale of their lands was the unfair manner in which Government, over the years, has taken over portions of their lands without the payment of any form of compensation. It was alleged that the western boundary of their lands with the New Juaben settlement was originally around the present Galloway-junction on the main Koforidua-Adawso to Mamfe highway. They intimated that Government's attempt in the 1970s to re-demarcate the New Juaben settlement boundary resulted in its unjustified extension to areas

around Korle-Nkwanta. They claimed that this action led to the take-over of some of their lands by Government for which no compensation was paid to them. The present sites for the Nurses Training College, Medical Village and Nurses Quarters in Koforidua were said to have included the portions of their lands taken by Government. Most of the respondents claimed that their fathers considered the action of Government very unfair to them and, thus, resolved to dispose off the lands for development as the area was ripe for that purpose.

Added to the physical extension of the boundary is the formal acquisition of some of the lands for government projects without the payment of compensation. This particular concern was raised by the Larteh (Akwapim) settlers covered by the interview. The respondents claimed that the sites for the Adweso Estates, Low-Cost and Adweso-SSNIT residential estates were all lands for the Larteh indigenes that were taken by Government but, to date, no form of compensation has been paid to the land owners. Some of them even questioned the fairness in the Government depriving them of their only source of livelihood while the agencies for which these lands were acquired have amassed colossal amount of wealth through the sale and disposition of land and properties on the acquired lands. Some respondents considered this action as flagrant violation of their constitutional rights of property ownership in this era of constitutional democracy.

A check from public records on land transactions at the Lands Commission Secretariat, Koforidua, confirmed the claim of the respondents. A study of the relevant file on the acquisition (KD662-Koforidua-Adweso site for State Housing Corporation) has revealed that, although the Executive Instrument No. 12 of 1981 which acquired the site has been published, for well over twenty-three years, nothing was paid to the land owners in terms of compensation. This was cited as one of the major reasons for which most of their lands are now being sold outright to prospective developers.

Furthermore, it was gathered from the study that the proximity of the study area to Koforidua is another factor accounting for the disposition of the lands for development. The construction of the dual carriage-way from Koforidua to Mile 50 and the subsequent execution of the State Housing Company and SSNIT housing projects in this area have led to an appreciable rise in the value of land in the area. This situation, coupled with the fall in the financial returns on agricultural activities, has ignited and re-directed interest in farming to the sale of the lands since it is now a prime area for residential and other uses.

Today, the study area has developed into what can best be described as a sprawling residential neighbourhood. In order to maximize financial returns, the land owners have sold every available space to prospective developers, who hurriedly erect or construct structures without any recourse to planning controls. The problem now is the serious lack of space for public uses since the area was not planned before developments began. The area lacked proper access roads and adequate community services as no space reservation was made for these and other social services. Some respondents argued that they would rather sell their lands to prospective developers and receive good financial returns than allow Government and its agencies to take them for free. Ultimately, essential social infrastructural facilities like schools, clinics, communication networks, community markets, electricity, water et cetera are lacking in most parts of the neighbourhood.

Quite clearly, all other services that are complementary to residential land use such as sanitary sites and refuse disposal points, public places of convenience, public open spaces and community centres are non-existent in the area. This has resulted in the existence of many uncontrolled private refuse dumps in the community with their attendant incidence of rodent infestation and disease outbreaks. Furthermore, apart from crèches (early childhood development centres) established in homes by certain individuals, educational facilities are almost unavailable in the area. The few primary schools found at Bonya, Trom-Nyerede and Kwakyea (Mile 50), although inadequate to meet the needs of the growing number of school going children in the community, are grossly neglected as in the case of any other rural community school in the country. Health facilities and other services that enhance social intercourse and integration among the inhabitants of the area are also inadequately provided.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.0 INTRODUCTION

In the previous chapter, the geography and general physical characteristics of the study area were outlined. The historical account of the settlements in the area including land ownership and tenure, the growth of the Koforidua Municipal area both before and after the formal introduction of planning controls as well as the existing planning institutions and their functions were discussed. The chapter ended with a focus on the Adweso community with respect to its location, social and economic geography together with a discussion of its present state of growth and development.

In this chapter, the data presentation and analysis results covers the pattern of developments found in the community, an appraisal of the Planning and development control in the area as well as a discussion of the implications of the physical developments on the environment of the neighbourhood.

4.1 THE PATTERN OF DEVELOPMENTS IN ADWESO

4.1.1 Nature of Developments

Developments in the study area have generally been found to be made up of single storey sandcrete block residential units. Most of the units consist of an average of three bedroom self contained, purpose built and owner occupied tenements. In most of the settlements within the area, some traditional compound houses of the hall and chamber design types could be found as shown in Fig 4.1.

Developments have mainly been found to be haphazard and disorderly as buildings were constructed anywhere except for the corridors along the main arterial roads such as the Accra – Mamfe – Koforidua highway and the few trunk roads within the community where developments were found to be linear. From these major communication links, developments spread outwards in a seemingly endless manner. Table 4.1 shows the responses of developers (residents) with respect to the description of the pattern of developments in the study area.

Figure 4.1 A traditional compound house in the old Adweso settlement.

Source: Field Survey

Out of a number of sixty-five (65) developers covered by the survey, fifty-one (51) claimed that developments were haphazard and uncontrolled in the community. Five (5) respondents claimed developments were orderly while nine (9) of them could not give any description. This result constituted about 78.0%, 8.0% and 14.0% respectively of the three classes of respondents. Significantly, those who claimed that the developments are orderly were found to be residents whose houses fell along the main roads within the area and to whom some services like electricity were and water are accessible.

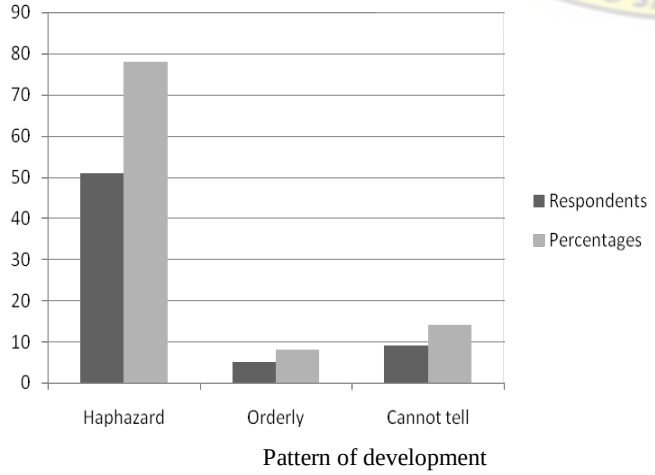


Table 4.1 PATTERN OF DEVELOPMENTS IN ADWESO

Dev't Pattern	Respondents	Percentages
Haphazard	51	78.0
Orderly	5	8.0
Cannot tell	9	14.0
Total	65	100.0

Source: Field Survey

The investigations revealed that the indiscriminate manner in which structures were put up in the area directly affects the free flow of essential services to the area. During the field survey, it was observed in sections of the community that illegal connection of services such as water and electricity were made to most homes. The result of this phenomenon is the low pressure of the flow of water to the area in addition to low and fluctuating voltage levels of electricity supply with its attendant risk of fire outbreak in most parts of the neighbourhood. Ultimately, the situation leads to the loss of huge sums of money to the service providing agencies as the culprits are usually not covered by the net of bill paying consumers.

The situation also results in the disruption of natural drainage courses. Evidently, a lot of water-ways and wetlands in the study area have been used for the construction of buildings resulting in the loss of these vital ecological areas. Quite clearly, these developments made along the flood plains of streams and water bodies inevitably block these natural drainage systems which would, otherwise, have allowed the free flow of storm water during heavy rains. Perennial flooding of areas bordering these water bodies during rainy seasons was found to be a common feature in most parts of the study area sometimes with the loss of life and property. Fig 4.2 depicts a familiar scene in the area where buildings were constructed to block water-ways.

Figure 4.2 Buildings constructed in a river course around Prince Boateng (Adweso)
Source: Field Survey

It was further gathered from the survey that the indiscriminate and uncontrolled manner in which structures were constructed in the area makes it difficult for the extension of infrastructural facilities and other social services to most parts of the community. It was observed that the

clustering of buildings together is generally accountable for the difficulty in getting passages for main pipe and high tension lines for servicing most parts of the community.

Figure 4.3 Prince of Peace area of Adweso.
Source: Field Survey.

Figure 4.3 shows an area within the study area where service provision is made nearly impossible due to the congestion created by a number of buildings within a given space. In the foreground is a new structure coming up while its rear is rendered inaccessible as a result of the cluster of physical structures.

4.1.2 Causes of the haphazard development of adweso

In order to assign possible reasons to the phenomenon of uncontrolled and indiscriminate construction of structures in the study area, attempt was made to investigate the background of the residents (developers) and to solicit the views of the land owners and Planning Authorities in terms of their appreciation of issues relating to the regulatory framework within which developments could be carried out.

Quite significantly, the character of the study area (Adweso neighbourhood) has changed dramatically from the description of the old settlements outlined in chapter three. To account for the current degree of sophistication and modernization in the type of structures constructed in the area, the background of the new residents (developers) was investigated in the study. Among the issues considered were the educational background of the developers, their occupational status and place of origin, duration of stay in the area as well as processes they went through for the acquisition and development of their plots. Their knowledge or otherwise about the regulatory

framework of developments was also explored and these and other results of the survey are discussed in the subsequent sections.

From the field surveys, it was observed that the majority of property owners in the study area were people with an appreciably good level of education and in very good employments. It was further gathered that quite a good number of the respondents were teachers, civil / public servants, businessmen and women who once lived and worked in Koforidua and lived in very small apartments. With the passage of time and, as their family sizes increased and their economic fortunes improved, they moved to acquire lands in the Adweso area for the development of their homes. This revelation partly lends credence to the fact that urban growth inevitably results in the natural movement of people from old areas in the city centre into the outskirts in search of new lands as conditions in the city centre deteriorate and become unattractive.

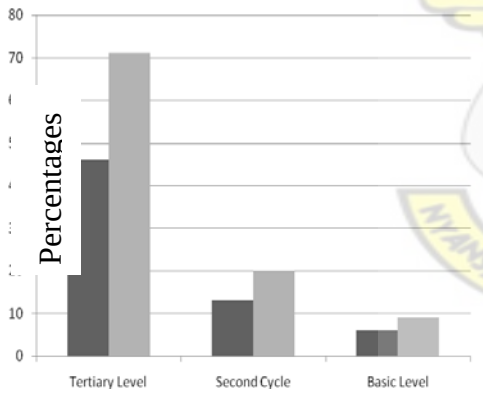
For the purposes of this work, tertiary education was used to cover the Training Colleges, Polytechnics and the Universities. Similarly, second cycle education was employed to include the Secondary Schools and Technical Institutions.

Educational background of developers

Table 4.2 EDUCATIONAL BACKGROUND OF DEVELOPERS

Level of education	Respondents	%
Tertiary Level	46	71.0
Second Cycle	13	20.0
Basic Level	6	9.0
Total	65	100.0

Source: Field Survey



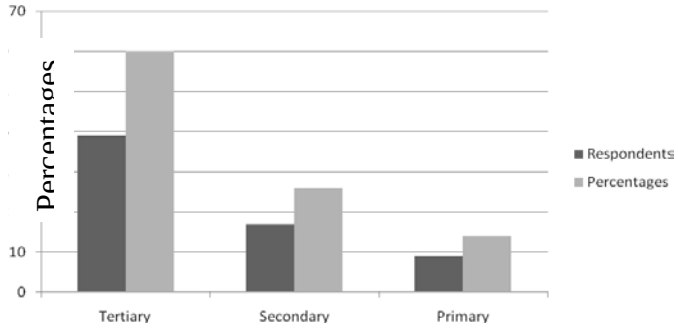
Level of

Finally, Basic education was used to refer to First Cycle education and artisans with requisite skilled training for their chosen vocations.

Akin to the descriptions employed above, tertiary occupation was used in this study to include professions such as teaching, legal professionals, medical and para-medical officers, civil and public servants as well as people employed in allied professions. Secondary occupation was also used to cover people engaged in self employment and other businesses other than farming while

primary occupation refers to people engaged in vocations relating to the extraction of the resources of the land such as farming and related undertakings.

Occupation of developers



Occupation

Table 4.3 OCCUPATIONS OF DEVELOPERS

Occupation	Respondents	Percentages
Tertiary	39	60.0
Secondary	17	26.0
Primary	9	14.0
Total	65	100.0

Source: Field Survey

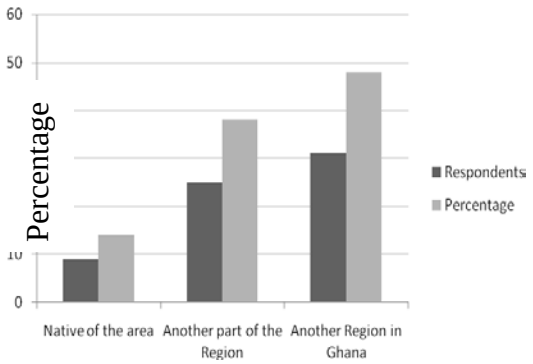
Tables 4.2 and 4.3 are indicative of the caliber of property owners in the study area. As indicated earlier in this research work, majority of the developers are relatively well educated and are in fairly good employments. Table 4.2, for instance, about 71.0 of the respondents have had tertiary education while 20.0% have also had, at least, some second cycle education and 9.0% had only basic level education. Furthermore, table 4.3 have shown that 60.0% of the respondents were people engaged in tertiary vocations; about 26.0% are either businessmen or women and people in other self employments while about 14.0% claimed they were farmers. It was observed from the survey that this last group of people included some family heads that had employed proceeds from the sale of portions of family lands in the rehabilitation of their respective old family houses.

The survey results have further shown that majority of property owners in the area are non-indigenes. This is reflective of the heterogeneity of the social composition and integration of the inhabitants in the community. Apart from the indigenous population (the Krobos and Lartehs), the new developers have not been found to be of any particular dominant cultural or social group.

PLACE OF ORIGIN

Table 4.4 PLACE OF ORIGIN OF RESPONDENTS

Place of Origin	Respondents	Percentage



Place of

Native of the area	9	14.0
Another part of the Region	25	38.0
Another Region in Ghana	31	48.0
Outside Ghana	-	-
Total	65	100.0

Source: Field Survey

In table 4.4, while about 48.0% of the respondents were fellow Ghanaians from other parts of the country, 38.0% were found to have come from other parts the Eastern Region in much the same way as the study area. Only about 14.0% of the respondents are indigenes from the study area who have acquired lands to build their own homes. No foreigner was found to own a home in the area probably because of the constitutional provision which proscribes non-Ghanaians from acquiring freehold interest in lands in Ghana.

The investigations have further revealed that lands in the study area are generally owned by the families with the absolute (allodial) interests vested in the respective family heads. No stool lands were found in the area and the only government lands identified in the survey were those covering the Adweso Estates, SSNIT flats and the Low-Cost housing units belonging to the Regional Coordinating Council, all of which fell outside the scope of this study. Outright sale (freehold grants) were found to be the major means by which lands were acquired for developments in the study area. The results shown in tables 4.5 and 4.6 are indicative of the persons from whom lands were acquired and the type of interests acquired in these lands.

From table 4.5 while about 52.0% of the respondents bought their lands directly from the original owners, 39.0% and 9.0% respectively purchased their lands from people who were not the original owners.

Table 4.5 SOURCES OF LAND ACQUISITION

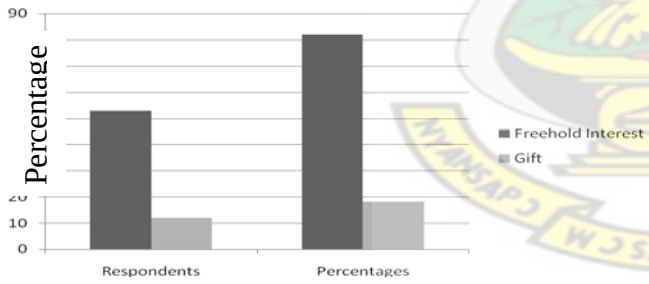
Source of Land

Source of acquisition	Respondents	%
Original Land Owners	34	52.0
Second Transactions	25	39.0
Third Transactions	6	9.0
Total	65	100.0

Source: Field

On the contrary, this category of developers had their lands acquired from people who had first bought them from the land owners and re-sold them to prospective developers. These sources were referred to as second and third transactions respectively in table 4.5. It could, therefore, be safely deduced that land speculators also play active roles in the land market of the study area. The survey results from table 4.6 further indicate that about 82.0% of the respondents acquired their interest by outright (freehold) purchase from the land owners.

TYPES OF INTERESTS ACQUIRED



Type of

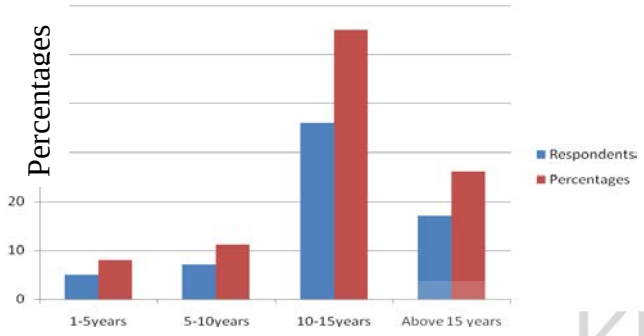
Source: Field Survey

Table 4.6 TYPES OF INTERESTS ACQUIRED

Type of Interest	Respondents	Percentages
Freehold Interest	53	82.0
Leasehold Interest	-	-
Gift	12	18.0
License	-	-
Total	65	100.0

No leasehold grants or lands offered on license terms were found in the area. Furthermore, 18.0% of the respondents had their lands through gifts from the owners. Significantly, this group of respondents was found to be natives of the area who were granted portions of their respective family lands for the construction of their homes.

The field investigations have further shown that the majority of people covered by the survey have lived in the community for ten years or more and are, therefore, very conversant with the problems of the area. This result is shown in Table 4.7.



Length of

Source: Field Survey

TABLE 4.7 LENGTH OF STAY IN THE COMMUNITY

Length of stay	Respondents	Percentages
1-5years	5	8.0
5-10years	7	11.0
10-15years	36	55.0
Above 15 years	17	26.0
Total	65	100.0

Source: Field Survey

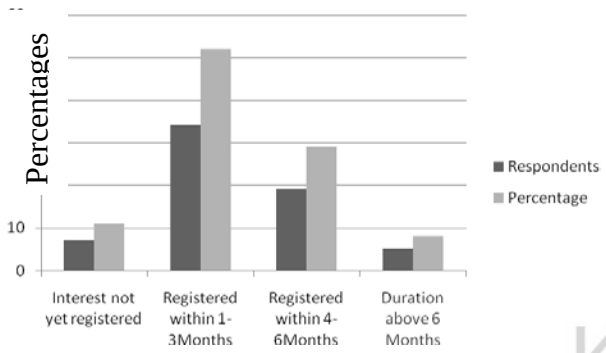
From the above table, 55.0% of the respondents claimed they had lived in the area for between ten to fifteen years while 26.0% had lived in the area for more than fifteen years. A total of 19.0% of the result represent respondents who had sojourned in the community for a period of between one to five years.

It is further shown that most property owners in the area have got their interests in their respective properties registered and therefore had good titles to their developments. The responses provided by people covered by the survey as shown in table 4.8 indicates that the majority of them have registered their lands with the relevant departments in reasonably good times either within the first-three months or, at most, within six months. Once their title to the land is perfected, they move into physical development usually without recourse to the Planning Authorities.

From the 4.8, out of a total of about 89.0% of the respondents who registered their lands, about 81.0% had theirs completed within six months and only about 8.0% of the respondents had the process of registration going beyond six months. Inaccurate survey plans normally attached to some of the documents and the activities of some land agents were alleged to be among the reasons which, sometimes, account for the delay in the processing of some of these documents for

registration. Otherwise, the process of registration of freehold grants on lands in the area is relatively easy when the proper things are done.

TABLE 4.8 REGISTRATIONS OF INTERESTS IN LANDS



Duration of land

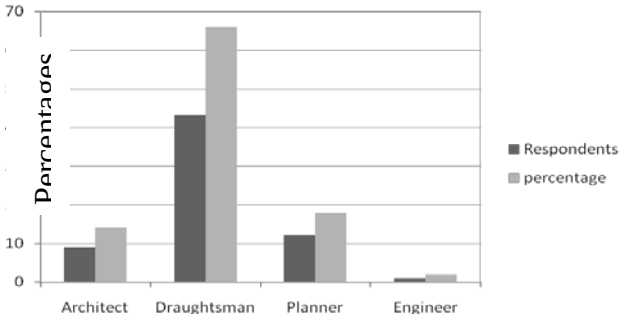
Duration of Registration	Respondents	Percentage
Interest not yet registered	7	11.0
Registered within 1-3Months	34	52.0
Registered within 4-6Months	19	29.0
Duration above 6 Months	5	8.0
Total	65	100.0

Source: Field

Further field information have revealed that the remaining 11.0% of the respondents covered during the interviews, who had not yet registered their lands, included some indigenous people who had obtained some portions of their respective family lands for personal development by way of a gift from the families and, therefore, had seen no need for registration.

Table 4.9 is reflective of the different groups of professionals engaged in the design of the building plans for the generality of developers in the area. The results show that majority of developers engaged the services of draughtsmen in the design of their structures.

TABLE 4.9 DESIGN OF BUILDING PLANS



Designer of

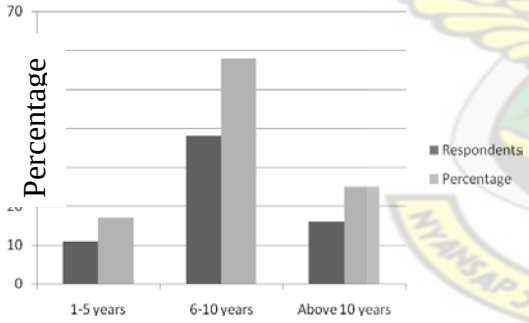
Designer of Plan	Respondents	percentage
Architect	9	14.0
Draughtsman	43	66.0
Planner	12	18.0
Engineer	1	2.0
Total	65	100.0

Source: Field Survey

From the table 4.9, while about 66.0% of the respondents had their designs made by draughtsman, about 18.0% and 14.0% of them had their designed by Planners and Architects respectively. One respondent who is a Civil Engineer by profession had his property designed by himself and this constituted 2.0% of the number of people interviewed as shown above.

Further information as shown on table 4.9, most developers preferred the engagement of draughtsmen in the preparation of their building designs because of the relatively cheaper costs and ready availability of their services. In most cases, it was observed that the actual constructional work was supervised by the developers themselves. In some other cases, the work was either supervised by the respective professionals who prepared the original designs or masons.

Further results of the investigations have shown that in a majority of the cases, it took the developers between six to ten years to complete the development on their plots. From table 4.10 below, about 58.0% of the respondents covered by the survey claimed that this was the period within which work on their respective projects was done.



Duration of

TABLE 4.10 CONSTRUCTIONAL PERIOD

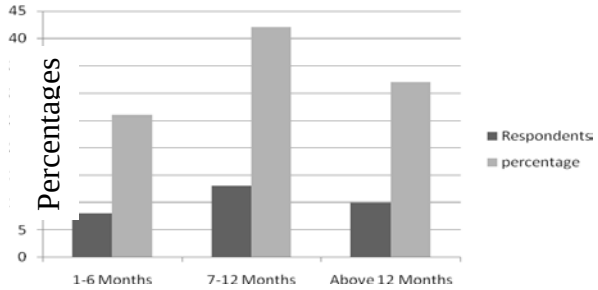
Duration of construction	Respondents	Percentage
1-5 years	11	17.0
6-10 years	38	58.0
Above 10 years	16	25.0
Total	65	100.0

Source: Field

The table further shows that it took about 25.0% of the developers more than ten years to complete work on their projects while nearly17.0% of them took between one and five years to get theirs completed.

The field investigations have established that most of the structures were not covered by planning and development permits. Furthermore, it was observed that the majority of respondents were either ignorant of the regulatory requirements of their physical developments or simply blamed the Planning Authorities for too much or unnecessary bureaucracy and delay in the approval process

for securing permits. It was further gathered that some people also just have the inclination to take the law into their own hands and do the wrong thing. Table 4.11 shows the results of the length of time taken by some respondents to obtain permit for their developments. This duration covers the period from the date of first deposition of application to the date of actual grant of permit.



Duration of permit

TABLE 4.11 DURATION OF PERMIT ACQUISITION

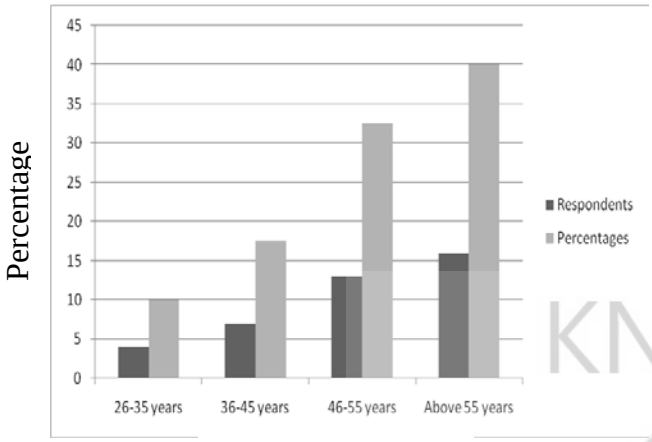
Duration	Respondents	percentage
1-6 Months	8	26.0
7-12 Months	13	42.0
Above 12 Months	10	32.0
Total	31	100.0

Source: Field Survey

From table 4.11, out of a total of thirty-one respondents who obtained permit for their developments, almost 74.0% of them had their permits granted after seven or more months. Further investigations proved that, even in cases where permits were granted for the developments, some of the buildings were not well positioned on the sites. While some were sited in areas which could have been used for access roads, others were either positioned between the boundaries of two plots or on other people's plots. In most cases these problems were blamed on quack surveyors who prepared the original site plans. In other cases, the situation was blamed on the building inspectorate division of the Municipal Engineer's Department as they, most often, failed to monitor the developments on the ground to ensure that the required set-backs and building lines were set-out before the developers commence their projects.

This is a post permit approval duty of Building Inspectors as required by section 10 of the National Building Regulations, 1996 (L. I. 1630) to ensure that the developers construct their structures in accordance with the standards and specifications approved in their building plans. Results of interviews conducted at the P. W. D. pointed to the lack of adequate personnel at the department in addition to logistical problems which account for the difficulties in carrying out effective monitoring of projects in the study area. Currently there is only one Building Inspector responsible for the entire New Juaben Municipal Area with no means of transport to facilitate their work.

Again the investigations have shown that most of the land owners were illiterates or semi-literates. This is in direct consonance with the kind of vocations they engage in as most of them are farmers. Another significant fact about them is that, most of them are above forty-five (45) years as shown on table 4.12.



Age of land

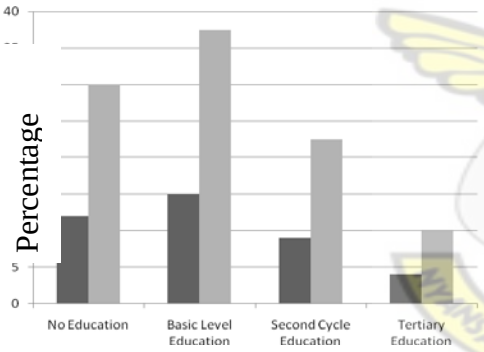
TABLE 4.12 AGE OF LAND OWNERS

Age Group	Respondents	Percentages
26-35 years	4	10.0
36-45 years	7	17.5
46-55 years	13	32.5
Above 55 years	16	40.0
Total	40	100.0

Source: Field Survey

TABLE 4.13 EDUCATIONAL LEVELS OF LAND OWNERS

Level of Education	Respondents	Percentages
No Education	12	30.0
Basic Level Education	15	37.5
Second Cycle Education	9	22.5
Tertiary Education	4	10.0
Total	40	100.0

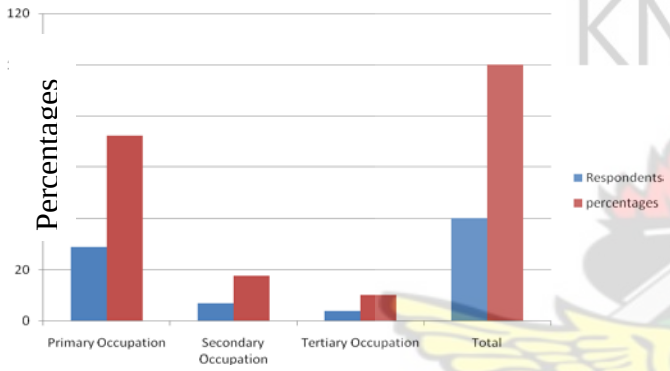


Educational level of land

Source: Field

Tables 4.12 and 4.13 present the background of the land owners covered by the survey in terms of their age and level of education while their occupational status is shown on table 4.14. This information was deemed important in as much as it provided the basis for the appreciation of the level of their understanding of the rules and regulations governing the disposition and development of lands in the area. Ultimately the level of cooperation Public Officials responsible for the design and implementation of planning and development control receive would be contingent on the depth of awareness and knowledge the people (land owners) have of the regulatory requirements of their actions as well as the state of their economic circumstances.

From table 4.12, while 72.5% of the respondents are elderly people, 27.5% are relatively young. The higher percentage of these respondents in the higher age group is explained by the fact that, in the study area, it is the most senior family member that becomes the family head and who is responsible for the disposition of land. The field survey has also revealed that the relatively younger land owners (27.5%) represented on the table were those individuals who first acquired the lands from the original owners and later resold them to prospective developers. These groups of people were not necessarily citizens of the area but people considered to be strangers who are speculators in the land market.



Occupation of land

TABLE 4.14 OCCUPATIONS OF LAND OWNERS

Occupation	Respondents	percentages
Primary Occupation	29	72.5
Secondary Occupation	7	17.5
Tertiary Occupation	4	10.0
Total	40	100.0

Source: Field

Again, from table 4.13, while 67.5% of the respondents (land owners) had little or no education, 22.5% of them had, at least, some second cycle education and 10.0% had some tertiary education. Furthermore, the occupational status of the respondents was shown on table 4.14. The results have revealed that 72.5% of those covered by the survey were farmers and, therefore, basically lived on the resources of the land. About 17.5% of them were in self employment and other businesses while 10.0% claimed they were either retired civil and public servants or teachers.

It was further gathered from the survey that almost all respondent land owners saw no need to consult any land related agency for any form of advice on how to manage their lands. While the majority of them claimed not to have known or heard about what a planning scheme was, a few of them claimed that although they were aware of the relevance of such schemes, they had not seen any concerted action from the relevant authorities to get their areas planned. Again, the investigations have revealed that most of the people were not well informed about existing land-use

regulations. It was alleged that there had, over the years, not been any educational outreach programme to disseminate such information among the people.

4.2 THE APPRAISAL OF PLANNING AND DEVELOPMENT CONTROL IN THE AREA

The relevance of physical planning and development control and the legal and administrative regime within which it operates were discussed in chapter two of this work. The essence of this section would be to examine the effectiveness or otherwise of their implementation and application to the study area and the identification of bottlenecks or limitations, if any, in the smooth administration of those policies in the community.

In order to do a fair appraisal of the level of planning and development control in the study area, a number of land-use agencies were covered in the study and questionnaires administered to some for evaluation in addition to the one-on-one interviews conducted with some of them. Among the agencies covered were the Town and Country Planning Department, the Survey Department, Lands Commission, Land Valuation Board, the Municipal Engineer's Department and some members of the New Juaben Municipal Assembly. All the departments covered in this work are key members of the Statutory Planning Committee of the Assembly. The Town and Country Planning Department is particularly responsible for the preparation of planning schemes for the purposes of determining the use to which a particular piece of land could be put. All the agencies covered under this survey admitted that this is one of the administrative functions of the department. They also serve as the secretariat for the Statutory Planning Committee. As part of their functions, they accept applications for development permits and process them for the consideration of the Planning Committee. All the departments covered were grouped under land-use planning agencies in this work. While the Lands Commission deals with issues concerning land ownership and tenure and keeps public records of all land transactions within the Region, the Survey Department is basically responsible for all issues relating to land survey and the provision of Base Maps as well as the demarcation and survey of all layout schemes. The functions of all the agencies listed in this work are interrelated and essentially complimentary to one another.

Quite significantly, the survey results have not shown any divergent view as to whom the owners of Adweso lands were and the nature of interests held by them in these lands. There has been considerable unanimity in the responses to the fact that the absolute owners of the lands in the area are the respective families. The main issue of contention among the views of respondents sampled

has to do with whether the Adweso area has been declared a Planning Area under the current laws of the land. While others felt that this is not the case in this predominantly family land area, others were of a contrary view.

Many of those who argued against the application of planning rules and regulations in this area contended that the current mode of application of the regulations is at variance with the provisions of the fundamental law on planning controls in the country. It was argued that the Town and Country Planning Ordinance (With Subsequent Amendments) No. 13 of 1945 formed the basis of planning regulation and control in the country. The respondents were of the view that the current Local Government Act, 1992 (Act 462), the 1992 Fourth Republican Constitution of Ghana and the National Building Regulations, 1996 (L. I. 1630) never made any mention or reference to the preparation of planning schemes and the modalities under which it should be made. To make the point advanced by the respondents clearer, the relevant portions of the Ordinance are discussed in the subsequent sections.

It was argued that under the 1945 Ordinance, before an area can fall under planning control, it had to be declared as a Planning Area by the Minister responsible for Town and Country Planning. Part Two of the Ordinance deals with the declaration of a Planning Area and the Powers of the Minister. The "Minister" under Part One Section 2 (1), which deals with interpretations, was used to refer to the Minister responsible for Town and Country Planning.

According to Part Two Section (1) of the ordinance, if the Minister after consultation with the Town Council concerned, is of the opinion that a scheme should be made for an area, he may by order, declare that area to be a Planning Area. Section 2 of Part Two provides that such an order can only become operational on the day of its publication in the Gazette. The law further provides that such a declaration shall cease to have effect if within three years from such date of publication no scheme in respect of the Planning Area so declared or any part thereof has been approved under the provision of Section 13 of the Ordinance. For the avoidance of doubt, Section 13 subjects the approval of a Planning scheme to the Minister as defined in the earlier section of this work. Section (3) of the Ordinance requires that a copy of the order so made by the Minister under Section (1) shall be posted at such places within the Planning Area as the Minister shall direct.

Section 4 (1a) on the prohibition of development states that "When an order declaring a Planning Area has been published under Section 3 of the Ordinance, no person shall, within the Planning Area, carry out any development of land or any construction, demolishing, alteration, extension, repair or removal of any building until the final scheme is approved under Section 13 of this ordinance for the area containing such land or building". This Ordinance has operated for well over five decades in this country without any repeal or substantial amendment. The questions which required answers, according to some of the respondents, were listed as follows:

- Whether there has been any Gazetted declaration of Adweso as a Planning Area?
    - Has there been any publication of any such order as prescribed under Section 3 Part Two of the Ordinance?
    - Which Minister is responsible for Town and Country Planning under our current laws?

This later question arose against the backdrop that while at the district level the Department is under the Ministry of Local Government, at the National and Regional levels, it is under the Ministry of Environment, Science and Technology. Furthermore, the current National Building Regulations, 1996 (L. I. 1630) by which physical developments are regulated was crafted by the Ministry of Works and Housing in consultation with the Ministry of Local Government with no reference to the Ministry of Environment, Science and Technology. The argument was advanced that, under this seeming confusion about the location and duplication of the role of the Town and Country Planning Department, which Minister is responsible for Town and Country Planning and, by extension, which Minister is responsible for making an order declaring a Planning Area as required under the Cap 84? This group of respondents was of the view that in so far as these requirements under the Ordinance were not met, any attempt to impose planning controls on the study area would be considered unlawful.

Quite surprisingly, many Planning Officers interviewed during the survey cited the 1945 Ordinance discussed above as the legal basis of the preparation of schemes but failed to appreciate the issues raised above as they claimed these facts had never occurred to them. Some of them even cited the provision of Article 267 (3) of the 1992 Fourth Republican Constitution of Ghana to buttress their points. The said provision states that "there shall be no disposition or development of any **stool land** unless the Regional Lands Commission of the Region in which the land is situated has certified that the disposition or development is consistent with the **development plan** drawn up or approved for the area concerned". It was argued by this group of respondents that the above provision implied that before any land could be either sold or developed; it must be planned by the

Planning Authorities concerned. Again, this argument fails because the Constitutional provision cited above, in unambiguous terms, refers to **stool lands** and this cannot be equated to family lands as the two are two distinct land holding systems in Ghana. Quite clearly, therefore, family lands under the spirit of Article 267 (3) are unknown to the current Republican Constitution of Ghana. Furthermore, the Constitutional provision under discussion refers to **development plans** and this can also not be equated to planning schemes as provided for under the 1945 Ordinance (Cap 84). It was observed that planning schemes and development plans are entirely two different things and the two cannot be used interchangeably under the laws of the land.

From the above submissions, one discovers the existence of a lot of gaps or loop-holes in our laws relating to physical planning and development control which requires urgent harmonization in the larger interest of the orderly development of our towns and cities. It was further discovered from the interviews that no public awareness is created among the populace in the area in relation to the requirements of the construction of physical developments as no educational programmes are carried out to get the people informed. Again, the composition of the New Juaben Statutory Planning Committee has no representation of chiefs and opinion leaders from the Adweso area whose lands are different from those of the New Juaben Traditional Authorities. This was found to be a serious drawback on the effective implementation of any programme for the community. A number of respondents were also of the view that, in addition to the preparation of base maps for planning schemes, baseline studies should also be conducted prior to the preparation of such schemes. Such a study, it was argued, would take account of the pre-scheme social, cultural, economic and environmental conditions of the people of the area concerned and to evaluate the likely impact of the preparation and adoption of the final scheme on the lives of the people. Among other things, it was argued that a proper evaluation of such a study vis-à-vis the scheme would facilitate its final general acceptability and implementation to better the lot of the people.

Checks from the Town and Country Planning Department, Koforidua have shown an attempt to plan the study area in the past. It was discovered during a search through the records at the Department that the first Planning Scheme for the area was prepared in 1977. As to why no attempt was made to implement the scheme on the ground, an official of the Department explained that, at the time of the preparation of that scheme, the whole area was outside the administrative jurisdiction of the New Juaben Local Council. He further observed that the land owners in the area were particularly uncooperative as they claimed that since they owed no allegiance to the New

Juaben authorities, no official from Koforidua could control them. Unfortunately, the area remains geographically so distant from Akropong, the Akwapim North District capital that, it was very difficult and ultimately impossible for the authorities to exercise administrative and planning control from there. The official larmented that, by the mid 1990s when the area was ceded to the New Juaben Municipal Assembly, it was already messed up with unauthorized developments. Although the revision of the 1977 scheme was made in 1998, implementation has, up to date, not been possible because of a number of problems. Some of these problems are listed below:

- Developments within the area were far ahead of planning making most of the areas already built-up before the scheme was prepared
- Before the preparation of the scheme, there had not been any effective consultations with the people in order to solicit any input from the land owners and developers, if any, into the final layouts.
- Up-to-date, the schemes have been opened to the public especially the land owners and the other land delivery agencies that required them for the effective performance of their administrative functions by Officials of Town and Country Planning Department.
- The effective implementation of the scheme would require the demolishing of some structures to make way for roads and other social services. This would require huge sums of money for the payment of compensation to affected people. Because of this, the Planning Authorities have not shown any serious commitment to the implementation of the scheme for the area.
- Where developers were found to have violated the requirements of the building regulations the Authorities find it very difficult to muster the necessary political will to impose sanctions since, in most cases some big politicians were found to be behind the recalcitrant developers.

The result of the inability of the authorities to exercise effective control on developments in the study area is that unauthorized structures continued to spring up in the community with careless abandon. Another problem identified during the field survey was the delay in the permit securing process. It was revealed from the interviews that people who even submitted plans for approval had to wait for months or even years to have approval given. Section 8 (1&2) of the Building Regulations, 1996 (L. I. 1630) provides that, if after three months from the date of application for permit the District Planning Authority fails to notify the applicant of the grant or refusal of the

application, the applicant may commence his/her development on the basis that the application is acceptable to the Planning Authority.

In the year 2003, only two meetings were held by the Planning Committee of the New Juaben Municipal Assembly to consider applications. By July 2004 when this project is being completed, only one meeting was held. Under these circumstances, most developers would not have the patience to wait, in the face of constant rises in the price of building materials, for permits to be granted when the delay in the approval process comes from the very authorities vested with the power to regulate developments. In the study area therefore, most developers do not obtain permit prior to the commencement of their projects partly because of the above problems.

The field investigations have further revealed a general non-compliance by developers with the scheme prepared for the area. In addition to the reasons outlined in the earlier sections, other problems are created by the land owners and developers. Firstly, this is a predominantly family and privately owned land area where the land owners would want to maximize their financial returns from the sale of lands. As a result, every bit of space is sold for residential use and the people do not wait for planning officials to come in before the lands are sold out. Secondly, the long delays on the part of the relevant authorities in getting the schemes prepared and approved, to a large extent, contribute to the non-compliance. Some respondents also attributed the phenomenon of non-compliance to the general indiscipline among developers in the area but this, to some of them, must be seen in relative terms. The respondents contended that if public officials could not be disciplined enough to do their work well, one cannot accuse a developer, who has no control over prices of building materials, to be disciplined enough to wait for years before a simple permit for his development could be granted.

In this scenario, Sixty five (65) developers, it was gathered in the survey, even developed their houses before applying for permit. On the ground, therefore, one finds that the necessary set-backs and regulations are not adhered to as roads are blocked and buildings clustered together. The situation in this area is so serious that even Planning Officials covered by the survey conceded that the community is gradually being turned into a slum area generally lacking access roads and sanitary sites for domestic waste disposal. Furthermore, it was observed that the lack of access, in particular, has rendered some areas vulnerable in the event of fire outbreaks.

In the survey, the views of residents (developers and land owners) were sampled about their perceptions about the role of the Municipal Assembly in ensuring sound and effective planning controls in the area. The responses provided by the respondents were assessed in a three-fold term by the use of the words “impressive”, “unimpressive” and “nothing at all” to represent the views of the people. The result of the responses is shown on table 4.15. The opinions of those who thought the Assembly is doing well is represented by the word “impressive” while “unimpressive” is used to represent the views of those who believe the Assembly is not doing much in the area. Again, the term “nothing at all” represents the views of those who thought the Assembly is doing nothing to foster any efficient and proper planning and development control in the community.

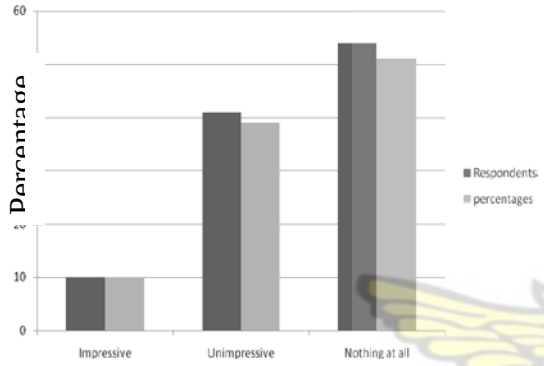


Table 4.15 Assessment of Assembly’s Role in Planning Control

Assessment of role	Respondents	percentages
Impressive	10	10.0
Unimpressive	41	39.0
Nothing at all	54	51.0
Total	105	100.0

The views Assembly role in land owners who are r Source: field ve been sampled. Out of the 105 residents covered, 54 were of the view that the Municipal Assembly does not play any role in the area except for the collection of property rates. Forty-one (41) respondents thought that not much is being done while ten (10) of them thought they are doing well although more could be done. These responses represented about 51%, 39% and 10% of those covered by the survey respectively. The above results are indicative of the apparent neglect of the area in terms of the exercise of planning controls and the inherent consequences the situation poses to the environment of the community and its residents could be enormous if nothing is done now to salvage the current situation.

4.3 IMPLICATIONS OF THE PHYSICAL DEVELOPMENTS ON THE ENVIRONMENT OF ADWESO

The field observations have shown that haphazard development of study area has considerable consequences on the environment of the community. For a fair assessment of the environmental impact of physical developments in the area, the views of residents (land owners and developers)

were sampled in addition to those of the Environmental Health and Waste Management Department of the New Juaben Municipal Assembly as well as some Programme Officers of the Regional Office of the Environmental Protection Agency, Koforidua. Out of the total number of 135 people covered by this aspect of the survey, 65 were developers, 40 were land owners (all residents of the area) and 30 were officers from the offices of the Environmental Protection Agency and the Environmental Health Department of the Municipal Assembly. Specific issues addressed in the survey included the level of distribution of sanitation and drainage facilities in the area, level of environmental degradation, general accessibility of the neighbourhood as well as level of integration of the study area with the Central Business District (C. B. D.) of Koforidua in terms of the fluidity of communication links. The results of the field investigations have been discussed in the subsequent sections of this work.

4.3.1 Drainage facilities in the Community.

Drainage and sanitation management form part of the integrated municipally controlled utility networks that characterize most urban environments. These essential services are usually managed by the municipal authorities since they constitute some of the public collective goods requiring substantial capital investments usually beyond the personal capabilities of individual residents. The efficient management of drainage and sanitation in a community would impact positively on the health of the people and, by extension, enhance their creative and economic potential.

The essential purpose of drains in a community is to check run-offs along roads and serve as conduits for flush and storm water. In addition, they help in the disposal of both municipal and domestic liquid waste. The survey results of the views expressed by the respondents on the level of distribution of drainage facilities in the study area have been shown in table 4.16 below. Out of a total number of 135 people covered by the survey, 83 respondents claimed that such facilities were non-existent in their area. In the opinion of 34 respondents, drains existed in their community but were inadequate to serve any useful purpose while 18 people indicated in their responses that enough drains existed within their community. These responses represented about 62%, 25% and 13% respectively of the opinions of people covered by the survey.

The responses shown in the table are indicative of the current situation in the study area. Larger sections of the community are without drainage facilities since the road network along which the drains could be constructed are generally not opened up. Flooding occurs in most parts of the study

area during periods of heavy rainfall due to the non-existence of drainage facilities. This phenomenon often leaves pools of stagnant water in their wake which serve as breeding grounds for mosquitoes and other water related diseases. It was observed from the field investigations that some drains are currently under construction along the Motel junction-Medical Stores to the Two Streams road, which is undergoing rehabilitation.

TABLE 4.16 DRAINAGE FACILITIES IN THE AREA

Drainage Systems	Respondents	Percentages
No drains available	83	62.0
Inadequate drainage facilities	34	25.0
Enough drainage facilities	18	13.0
Total	135	100.0

Source: Field Survey

It was noted that this is the only road in the entire community along which some drains could be found in addition to those along the main Koforidua-Adawso to Manfe highway. Even here, the new drains under construction are so narrow that if their width and depth are not enlarged and deepened now, one wonders if they could serve any useful purpose after completion.

Further observations along most sections of the main highway have revealed that the drains have been silted or choked with all kinds of garbage and human excreta creating very nasty and unhealthy sights along these portions of the road. Apart from the stench that pedestrians and other road users are often subjected to along these sections, homes around these areas are usually flooded as a result of the choked drains during periods of heavy storms in the rainy seasons. Many residents interviewed during the field research were of the view that a proper execution of the road projects planned for the area would help in the efficient distribution of drainage facilities since the drains necessarily follow the road networks.

4.3.2 Sanitation system in the area

Sanitation system within the community under investigation was assessed in terms of the location of buildings, liquid and solid waste disposal systems, availability of public places of convenience

and means by which residents generally attend nature's call. The field investigations have shown that while most of the physical structures (homes) have been sited on fairly flat and well drained grounds, a considerable number of them were also located within or close to water courses and wetlands. The major effect of these developments is the blockage of the swift flow of the rivers and stream courses in these areas which inevitably leads to the flooding of homes along the banks of these water bodies. The proximity of some homes to water bodies also makes the latter the subject of abuse by some members of the communities that live along them. It was observed in these areas that people either defaecate into the streams or deposit all kinds of domestic waste into them. The responses on the location of buildings in the study area have been shown in Table 4.17.

TABLE 4.17 Locations of Buildings

Location of homes	Respondents	Percentages
Positioned on well-drained ground	73	54
Positioned in wetland/marshy area	47	35
Positioned in stream flood plain	15	11
Total	135	100

Source: Field Survey

From the above table, while 73 of respondents claimed that their homes were positioned on well-drained grounds, 47 were of the opinion that some are located in wetlands/marshy areas and 15 thought some homes are within the flood plains of streams and rivers. These responses constitute about 54%, 35% and 11% respectively of the views the people sampled. The above results show that about 46% of homes in the study area are located either close to or within water bodies. What this means is that, there is high propensity of pollution of these water bodies from the activities of people living along or within these areas. Furthermore, the loss of the competitive edge of these ecological areas to physical structures leads to their eventual demise.

The management of both domestic liquid and solid waste in the community has also been found to have serious health and environmental implications for the people of the area. It was observed from the field survey that most households just pour domestic liquid waste from bathwater, washing of clothing and utensils onto the compounds of their homes.

TABLE 4.18 Liquid Waste Disposal Systems in the Community

Method Liquid waste disposal	Respondents	Percentages
Traditional Method	79	59.0
Soak-away systems in homes	42	31.0
Open gutters at homes	14	10.0
Total	135	100.0

Source: Field Survey

Again, while some homes have septic tanks constructed in them with soak-away facilities for the disposal of domestic waste water, others have open gutters through which they are disposed onto surrounding grounds. Most often, the effluent discharged collects freely into stagnant meandering and offensive pools of sullage around homes which sometimes become playgrounds for children with their potential health hazards. From table 4.18, about 59% of the respondents simply dispose their liquid waste onto their respective compounds referred to as the use of traditional method. Again, while about 31% of the respondents had domestic sewerage systems, about 10% had open gutters in their homes which drain the waste water onto open grounds outside their homes.

In most parts of the community, refuse disposal and collection points were found to be non-existent. In the absence of neighbourhood refuse disposal mechanisms, individual households have devised their own means of waste management. As shown on table 4.19 below the major means by which solid waste is managed in the study area include the construction of private dump sites at homes, burning of refuse generated by some households and the simple throwing of refuse into nearby bush and streams by some people. In few cases some people with their own means of transport claimed during the field interviews that refuse from their homes are collected into bins and conveyed to the Koforidua town centre where containers have been placed for disposal on weekly basis. The views of the respondents on solid waste management are shown on table 4.19.

TABLE 4.19 Methods of Refuse Disposal Available in the Community

Mode of refuse disposal	Respondents	Percentages

Domestic dumps	65	48.0
Burning of refuse	17	13.0
Thrown into nearby bush or streams	47	35.0
Others	6	4.0
Total	135	100.0

Source: Field Survey

Table 4.19 is indication of the major means by which refuse is managed in the community. From the table 4.19, 65 people covered in the survey claimed that holes were dug in the backyard of their homes or compounds which serves as dumping grounds for the waste generated from the home. According to them, as a dump gets filled up, new areas are dug to serve the purpose and this constitute the main method of waste disposal in most parts of the study area. Another method of disposal identified in the field work is the burning of the refuse generated by some households. This was the view of 17 people covered in the survey. Again, 47 of those covered claimed refuse generated from their homes is just thrown into the nearby bush or streams while 6 people claimed that filled refuse bins from their homes are conveyed to the Koforidua town centre in their personal cars on weekly basis for disposal.

Another serious problem identified in the study is the complete absence of public places of convenience and other sanitary facilities in the community. The result of this aspect of the survey is shown in 4.20. As shown in the table 4.2, no public toilet or KVIP facility was found in the community during the field research. Toilet facilities found in the area included pit latrines, water closets in certain homes and people just resorting to the bush to defaecate, otherwise, referred to on the table as free range. The above phenomenon represents the reality of the situation in the community. As shown in the table 4.2, Sixty-Six (66) of those covered identified pit latrines as the major toilet facility used by the members of the community. Water closet facilities in certain homes was also identified in the study representing the view of 54 of the people covered by the survey while 15 people indicated that some people in the community just defaecate in the bushes around their homes.

TABLE 4.20 Available Toilet facilities in the Community

Mode of attendance	Respondents	Percentages
Public Toilets	-	-

KVIP Systems	-	-
Pit Latrines	66	49.0
Water Closet at homes	54	40.0
Bush (Free Range)	15	11.0
Total	135	100.0

Source: Field Survey

Toilet facilities found in the area included pit latrines, water closets in certain homes and people just resorting to the bush to help themselves, otherwise, referred to on the table as free range. The above phenomenon represents the reality of the situation in the community. As shown on the table above, 66 of those covered identified pit latrines as the major toilet facility used by the members of the community. Water closet facilities in certain homes was also identified in the study representing the view of 54 of the people covered by the survey while 15 people indicated that some people in the community just use the bushes around their homes as their toilet facility. These responses constituted 49%, 40.0% and 11% respectively of the respondents in the survey. It was further noted from the study that some of the facilities are located either close to or within water courses to serve the communities around them.

The pictures showed in figures 4.4 and 4.5 are some of the toilet facilities being used by some members of the community in the study area. Figure 4.5, for instance was found located within the flood plain of a water system. In some other cases, buildings found to be located within or close to water courses also have their ancillary sanitary facilities like man-holes or septic tanks also located within these areas. Quite clearly, these facilities sited close to water courses have serious consequences for the underground water systems of these areas due to the likelihood of pollution.

Figure 4.4 Pit latrines in some parts of the Adweso community

Source: Field Survey

Figure 4.5 A pit latrine within a water course in the community: Source: Field Survey

4.3.3 Level of Environmental Degradation

The level of environmental degradation in the area has also been investigated especially in terms of sand winning activities. It has been found that large scale sand winning activities goes on in some portions of the community where, sand won from these sites, are sold to prospective developers for their building projects. The field investigations and personal observations of the researcher have revealed that large tracks of land are degraded through this activity, particularly, in the Agavenya community of the study area. The pictures showed in figures 4.6 and 4.7 below depict relics of some sand pits often left after the top soils have been removed

Figure 4.6 Some young men at work at a sand pit in the study area

Source: Field Survey

It was observed during the survey that it is the youth with ages ranging from 25-35 years who are mainly engaged in this activity. A few of the workers interviewed on site have indicated that it is not the lack or non-availability of jobs per se that attract them into this kind of job but rather, it has become a means of making some quick money. It was established from the interviews that some of the people engaged in the activity were trained artisans of various kinds but failed to practice their trade because incomes from those ventures were alleged to be irregular.

Figure 4.7 A degraded area within the study area

Source: Field Survey

Information gathered from the field indicates that lands on which the sands are won were normally bought from the land owners by some contractors who later engage the local boys to do the job.

According to the respondents, after the land has been secured, an application is normally made to the Regional Office of the Environmental Protection Agency for approval to win sand in the area.

Figure 4.8 A sand pit in the study area.

Source: Field Survey

Figure 4.9 A degraded area in the study area.

Source: Field survey

Officials from this office (E.P.A.) would then carry out an inspection of the site after which an approval would either be given or the application rejected. Investigations from the Office of the Environmental Protection Agency have indicated that reclamation conditions are always contained

in the permit granted to the applicants. In practice, however, no step is taken to reclaim the degraded lands after work on these lands are completed. As shown in figures 4.6-4.9, the original vegetation and the top soil of the sites are often removed while deep gulleys and large excavations are left behind. Some of these degraded areas were found to have turned into pools of stagnant water that served as breeding grounds for mosquitoes. Children from the community also play in these pools of water with its attendant health hazards.

General accessibility of the community from one point to another, it was observed in the study, is very poor as road networks in most parts are non-existent and the few ones generally not motorable. The area was also not properly integrated with the business centre of Koforidua because of its general inaccessibility. Apart from the few privileged private car owners who live in the community and commute to work in Koforidua on daily basis, the only means of transport available to the residents are taxis and, due to the poor nature of the roads, only few taxis ply the area. A larger number of people in the community had to resort to walking several kilometres to the main road side before they could board a vehicle to town.

CHAPTER FIVE

FINDINGS, RECOMMENDATIONS AND CONCLUSIONS.

5.0 INTRODUCTION

The empirical facts relating to the physical development of the study area and its effect on the environment of the neighbourhood were presented in the last two chapters. In this chapter, the main findings from the study and conclusions drawn based on the results of the data gathered from the field are presented. This section also contains the recommendations made in the study.

5.1 FINDINGS

The findings from the study are presented as follows:

i. Types of Structures Constructed.

It was discovered from the study that, in the community under investigation, developments were mainly single storey residential units. The entire area has been reduced to the development of residential accommodation which has been found to be the major land-use in the community. The architectural designs of the structures could have been made in a manner that would have provided room for high rise (vertical) structures. In reality, the uncontrolled spread of single storey developments (horizontal buildings) onto a given space falls short of the rational and economic use of that space. In the study area, therefore, land sizes could have been reduced with the encouragement of the construction of high rise residential units.

ii. Pattern of Developments in the Area.

The pattern of developments in the study area was generally found to be haphazard and disorderly as buildings were indiscriminately constructed anywhere. Some linear developments were also found along the main roads from where structures spread outwards in an almost endless fashion. This pattern of uncontrolled development was found to have resulted in the destruction of some natural drainage courses as some physical structures were constructed in water-ways and wetlands.

Eventually, these vital ecological areas have been lost due to the competitive edge of buildings. Additionally, the blocking of drainage channels of streams by physical structures lead to flooding which sometimes destroy life and property. Again, the indiscriminate and uncontrolled manner of development was found to create difficulty for the extension of infrastructural facilities and other social services to most parts of the community. Due to the clustering together of buildings and lack of accessibility, most areas have been left vulnerable in times of disasters like fire outbreaks and floods.

iii. Social Composition of the Residents

It was observed from the study that majority of the new resident property owners in the study area are civil and public servants and other businessmen and women. It was shown that most of these people had earlier lived and worked in Koforidua but as their family sizes increased in addition to improved economic fortunes over time, they relocated to these fringe areas to acquire lands for the development of their own homes. This confirms the view expressed by some urban growth theorists that as conditions in the city centre deteriorates over time, people move outwards to the fringes to acquire new lands for development. It was further observed that the social composition of the residents have changed from the, hitherto, homogeneous rural population in terms of customary practices and values to a more sophisticated and affluent urban heterogeneous society.

iv. The Land Factor in the Rapid Development of the Area

It was shown in the study that lands in the area belonged to the respective families the absolute ownership of which is vested in the relevant family head. A prospective developer's main task, therefore, is to try and identify who the rightful family head is and to deal with him in terms of the purchase of land for development. The study further showed that perfection of title to land in this area is relatively easy, hence, the preference by developers of this community to other areas. This easy means of land acquisition appears to be one of the motivating factors for the rush of developers to this community. Once the land was acquired, developers quickly sought the services of draughtsmen and some planning officers for the preparation of plans for the commencement of their projects. It was discovered from the study that most developers do not engage the services of architects in the design of their buildings because they (architects) are not common in the New Juaben Municipality. Some respondents were of the view that the services of the available architects were too expensive and often beyond their reach. The research has further shown that most land owners do not consider it expedient to consult any land related agency for any form of

advice in the disposition and management of their lands. In a nutshell, it was discovered that the ease of land acquisition stands out as one of the reasons for the rapid rate and haphazard development of the Adweso community.

v. Delays in the Approval of Building Permits

It has been observed from the study that delays in the approval of building permits to prospective developers were among the major causes of the indiscriminate manner in which physical structures are put up in the area. This comes as a result of the fact that the Statutory Planning Committee meetings at which these applications are approved are usually held irregularly and far-in-between. The survey results discussed in the previous chapter have shown that application for planning and development permit to carry out physical development could, sometimes, take up to two years to receive approval. This phenomenon, against the backdrop of persistent rising cost of building materials, results in many prospective developers moving into the development of their plots without the necessary permits.

vi. Ignorance of the People about the Legal and Administrative Requirements of Their Developments

It was gathered from the study that most resident developers were ignorant about regulations governing physical development. Even many educated people were also found to be ignorant about the regulations. The investigations have shown that developers were generally not aware of the existence of the rules and regulations which govern property development and most of the respondents covered by the study appeared not to have been informed about these regulations. This was found to be the case because the necessary public awareness or educational outreach programmes which could have created such awareness was not carried out by the relevant authorities.

vii. Lack of Effective Supervision of Developments

The work of the Planning Committee does not only involve or end with the approval of applications and the grant of the relevant permission to carry out the physical development. After the grant of the planning and development permit, the Committee is supposed to monitor the development to ensure that structures are put up in accordance with the requirements of the regulations and standards contained in the approved permit. This function is normally performed by

the Building Inspectorate Division of the Municipal Engineer's Department of the New Juaben Municipal Assembly. It was found in the study that this monitoring stage of the process, in most cases, was not carried out by the relevant bodies due to problems such as lack of adequate manpower, equipments and other logistical support usually beyond the control of the officials concerned. As a result, buildings were constructed on plots different from the ones for which permit was granted. In some instances, buildings were constructed on areas which could have been used for roads or public open spaces due to wrong identification of plots or improper demarcation of plots by quack surveyors. Under these circumstances, several unauthorized structures were put up which later turned out to attract sanctions from the very Planning Authorities whose officials failed to perform their duty.

It has also been noted that a common feature of most developments in the area is the failure of developers to adhere to their approved plans in the course of construction. Instances abound in the study area where some developers went through all the hustle to secure approval for their building plans but got on site to put up structures with the plans significantly altered from those that were approved for them. In most cases, stores and kitchens in the original designs were converted into bedrooms while circulatory areas and other passages in the proposed plans were totally changed. In some cases too, materials used for the construction were found entirely different from what had been proposed in the approved plans. With the proper monitoring and supervision from the relevant authorities, these problems could have been averted.

viii. Inconsistencies in the Legislative Framework on Planning and Development Control

It was discovered from the study that a lot of inconsistencies exist in the planning laws and regulations which both some self-serving officials and developers try to exploit to their advantage. Land related agencies could not agree amongst themselves whether or not the regulatory framework on planning and development control, with special reference to the Town and Country Planning Ordinance of 1945 (Cap. 84) as it exists today, could be applied to the study area. This appeared to be one of the reasons for the disorderly development of the community under investigation.

ix. Inability of Planning Authorities to out Pace the Rapid Rate of Development

It was discovered from the study that physical developments took place very rapidly and far ahead of planning to the effect that, by the time attempt was made at correcting the problems created by

the haphazard developments, the area was already a built up. The actual implementation of planning schemes which were later prepared was not possible because of the costs involved which the relevant authorities could not marshal for such a programme. Secondly, attempts at exercising planning controls failed because the planning of the area was largely done without any consultation or involvement of the people of the community for whom such programmes were designed. It was, in fact, discovered during the field research that no attempt was made to create any form of public awareness among the populace in the community about planning requirements of their developments. In the light of the above shortcomings on the part of the planning authorities, any programme for the area, no matter how well intentioned, was most likely to fail.

x. Neglect of the Area by the New Juaben Municipal Assembly

In the opinion of some respondents, the problems of this community arose out of sheer irresponsibility and outright neglect from the New Juaben Municipal Assembly. This was believed to be responsible for the poor environmental conditions currently prevailing in the area. Some people could not see why the Municipal Authorities continued to collect property rates and other tax revenue from them but utterly left the community in the state it finds itself in.

xi. No Representation of Family Land Owners and Opinion Leaders from Adweso on the Statutory Planning Committee

The Statutory Planning Committee established by law to direct and regulate development in the Municipal Area is composed of Civil and Public Servants and some traditional rulers from the New Juaben area without any representation from the Adweso Community. It happens, therefore, that planning decisions are taken for the whole Municipality without the involvement of people from this (Adweso) area or their representatives. Given the tremendous power and influence chiefs and opinion leaders wield over their subjects, one would have thought that such an important platform for the discussion of planning and development issues so fundamental to the lives and very existence of the people would have included people from that area. This would have afforded them the opportunity to be part of the planning and decision making process which could have made acceptability and implementation easier. As it stands, the exclusion of these family and private land owners from the planning process constitutes a serious drawback on the part of the relevant authorities. Ultimately, this lapse makes the efficient implementation of the final decision difficult and impossible in real terms. A sort of community involvement and participation in every stage of

the planning process that affects the area is, therefore, required if the desired final objectives are to be achieved.

xii. Unavailability of Drainage Facilities

It was observed from the study that drainage facilities are generally not available in the study area. The lack of these facilities was found to be mainly responsible for the perenial flooding of the community during times of heavy rainfall which, most often, results in the loss of life and property of residents. Pools of stagnant water often left behind after floods were found to create breeding grounds of mosquitoes with their attendant health hazards for the community. Children who, sometimes, play in these pools of water are often prone or vulnerable to the contraction of other water related diseases such as typhoid fever, cholera and bilhazia to mention but a few. The few existing drainage facilities found in the area were found to be very often left chocked with all sorts of garbage which also aggravates the problem of flooding and ultimately endangers the life and health of residents. It was realized that if planning controls were properly exercised and the necessary infrastructure laid before developments commenced, these problems would have been avoided.

xiii. The Level of Sanitation Coverage in the Community

The study has shown that some physical structures were constructed either close to or within water courses and this proximity leads to the pollution of these water bodies by some of the residents in the area. It was found that some inhabitants either defaecate or throw rubbish into streams/rivers close to them. This phenomenon, it was observed, has a high propensity of polluting these water bodies. The mode of waste management in the community was also found to have serious health and environmental implications for the residents of the area. It was shown from the study that waste water was mostly disposed onto the compound of homes or surrounding grounds near homes causing stagnant pools of water to form around these areas. Again, this creates a favourable environment for the breeding of mosquitoes and other water-borne diseases.

Refuse disposal and collection points are unavailable in the area. In the absence of this, some members of the community create private dump sites by excavating portions of the backyard in individual homes for the management of domestic waste. While some other households resort to the burning of the refuse generated at home, others simply throw them into nearby bushes or water bodies. All these methods of waste disposal were found to have health and environmental

implications for the residents of the area. In the homes, the possibility of children playing on the dumps has the potential of exposing them to health risks. Mosquitoes may breed in water contained in cans and other containers left on these dumps while non-biodegradable materials like plastic and polythene waste on the dumps create environmental hazards for the homes. Finally, leachate from these sites has the possibility of posing health hazards to underground water systems in these areas.

It was further shown from the study that public places of convenience were generally non-existent in the community. In the absence of this, the major means by which people attend nature's call in the area was the construction of several pit-latrines in the community. Again, while some households have private water closets in their homes, others simply defaecate into nearby bushes. Apart from the water closets, the other two methods have health and environmental hazards. While the obnoxious smell or stench from the local pit-latrines pollutes the environment to the discomfort of other residents, possible leachates from these sites have the potential to pollute underground water systems. Defaecation into bushes also create unhealthy sights, pollutes the environment and has the potential to cause the outbreak of epidemics.

xiv. Environmental Degradation in the Area

The activities of sand winners were found to create serious environmental problems in some parts of the community. The study has shown that the activity thrives in the area because of the ready market for sand created by the developers in the area. In most cases, the original vegetation is normally destroyed and, consequently, its biodiversity through the activity of sand winners. Furthermore, the destruction of the soil structure together with soil micro organisms and bacteria which helps in soil formation is likely to have grave consequences for the geology of these areas of activity. Quite often, while hard dry surfaces of grassless land are left in certain areas as relics after the sand winning activity is completed, in other areas, deep gulleys and large excavations are left behind which are often filled with pools of stagnant water . These open earths most often become sites for pools of stagnant water in which mosquitoes and other water-borne diseases breed to pose health risks to members of the community. Ultimately sand winning, in whatever form, was found to destroy the ecology of affected areas and, thus, poses serious environmental challenges to these communities.

5.2 RECOMMENDATIONS

In the preceding sections of this chapter, the main findings of the study and conclusions drawn based on the results obtained from the discussion of the research data were presented. Quite clearly, the pattern of development identified in the study was found to have significant adverse effect on the environment of the community. The recommendations given below are, therefore, designed and aimed at finding solutions to the problems catalogued from the research findings. The implementation of some or all of these suggestions, it is hoped, would help to ensure that physical developments and other human activities in urban-fringe communities would be regulated and conducted in a sustainable and more environmentally friendly manner. This would ultimately enhance the quality of life as well as the creative and economic potential of people living in those areas.

i. Strict Enforcement of Planning Laws and Building Regulations

Laxity in the enforcement of Planning Laws and Building Regulations by the Planning Authorities has been shown to be a major reason for the indiscriminate springing up of unauthorized structures in this urban-fringe community. To stem the spate of haphazard developments in this area, therefore, there is the urgent need for the relevant authorities to master the necessary political will and resources towards a strict enforcement of the laws and regulations governing such developments. This requires that the Planning Bodies would have to be proactive in spearheading the development process by preparing and implementing the planning schemes for area once it becomes ripe for development. It is only when such schemes are taken off the drawing boards and effectively implemented on the ground that the developers could be compelled to follow the standards set out for them. In the absence of that, there would be no reference point to serve as a guide for peoples' actions and, thus, leaving them prone to doing the wrong thing. Ultimately, it is only when the authorities set and implement the standards on the ground that there could be some justification in imposing sanctions on deviants.

ii. Reforms and Consolidation of Planning Laws and Regulations

Quite clearly, the Town and Country Planning Ordinance, 1945 (Cap 84) was a Colonial law passed to meet the requirements of those times. Over the years, the Ghanaian society has undergone so much socio-cultural and economic transformation that, one considers it unrealistic for such an ordinance to still remain the fundamental framework for planning and development control in the country without any major review or amendment. Evidently, not only have some of its provisions outlived their usefulness and relevance in the light of present day development challenges and

planning goals but the entire document requires a holistic reform towards a pragmatic, practical and more comprehensive Town Planning Law. Again, all the various fragmented enactments relating to physical planning and development control could be consolidated into one workable and useful document for general application to the country.

iii. The Need to open Up the Community with Access Roads

Inaccessibility of most parts of the study area in terms of the provision of road network and its attendant general lack of drainage facilities has been identified in the study as one of the major problems of the community. The inadequate road network, it was observed, leaves most areas vulnerable in times of disasters such as floods and fire outbreaks while the lack of proper drainage network results in flooding during heavy rains. A very comprehensive infrastructural development programme such as provision of access roads and the construction of drainage systems needs to be embarked upon by the Municipal Assembly to help open up the community with the necessary road networks and drainage systems. In addition to easing the transportation problems of commuters in the area, the supply of other services like electricity and water could be properly channeled along these communication lines/routes to serve the community. The drainage network that may go along the roads would also help in solving the flooding menace and the management of domestic waste water.

iv. Preservation of Ecological Areas

Ecological areas such as wetlands, watershed/water bodies, sacred groves, cemeteries and other animal and bird sanctuaries form an important component of the physical/natural and biological environment. They constitute an integral part of the universal environment, the ultimate survival of which depends on the keeping and maintenance of the balance of the ecosystem. The destruction of these vital ecological areas through uncontrolled human activities therefore disturbs the balance of the ecosystem and, ultimately, the quality of life on earth. The haphazard development of the study area has been shown in the study to impact negatively on these areas in the community as most of them have been lost to residential buildings. To forestall this problem, the Planning Authorities need to make conscious effort to delimit or carve out these natural areas on their planning schemes for preservation. This is one other reason why they must be proactive in their planning efforts to ensure that new areas ripe for development are properly planned and standards set out before developers commence their projects. The preservation of the ecological areas could be made

possible if, in addition to the preparation of base maps for planning schemes, baseline studies could be conducted by the Environmental Protection Agency in collaboration with the Planning Authorities to take account of the pre-scheme socio-cultural values of the community as well as their economic potential. This could be evaluated to ascertain the impact the final scheme would have on the lives of the residents of the community. In the process, the various ecological areas could be identified and incorporated into the final schemes as public open spaces for possible protection and preservation.

v. Encouragement of Urban Afforestation Programmes

As shown in the study, forests play very vital environmental, ecological, spiritual and cultural functions wherever they are found. In undisturbed forests the canopies of trees intercept rainfall and prevent it from having direct impact on the soil. The root network also provides a binding effect on the soil and, thus, ultimately helps in preventing splash and gulley erosion. In addition to their canopies further serving as wind breaks during storms, the forest ecology provides the environment for the maintenance of plant and animal diversity. With the removal of the original forest vegetation in the study area due to widespread and indiscriminate physical developments, the community has not only been denied the benefits of these important functions of the forest but also the entire area has been left at the mercy of the vagaries of the weather with resultant storms, sometimes, posing threats to the life and property of residents. As a possible solution to the above problem, urban afforestation programmes could be initiated by the Assembly and encouraged among the residents. In reality, the emphasis need not be merely placed on tree planting but rather, people should be taught the art of growing trees to ensure a sustainable programme of planting and nurturing trees to maturity. Developers could also be encouraged to adopt horticultural practices in landscaping and grassing of compounds to keep the topography green. In addition to the aesthetic beauty that this practice would afford the community, the grasses could also protect the topography against erosion.

vi. Provision of Sanitary Sites within the Community

The unavailability of public sanitary sites and facilities in most parts of the community has been found to be the major reason for the poor manner in which domestic and other waste materials are managed in the area. There is the need for the provision and maintenance of sanitary sites throughout the community. The sites need to be properly acquired in this predominantly family and privately owned land area by the municipal authorities and adequately protected against encroachment by developers. Refuse containers could then be provided at these sites to serve as

refuse collection points. From here, the Assembly's waste management trucks could cart them away to the final disposal points. Alternatively, waste management could be privatized and door to door collection service encouraged in order to boost waste management in the community. In the long term, incinerators could be provided at various points in the community for the management of refuse. Again, public places of convenience could be provided within the community to serve residents to help solve the problems posed by the proliferation of pit-latrines and the indiscriminate defaecation into streams and bushes. Ultimately, developers could be encouraged to provide environmentally friendly toilet facilities such as water closets and KVIPS in their homes. Planning Authorities should also implement their planning decisions with emphasis on the proper monitoring and supervision of building works to ensure that physical structures are not developed within river courses and wetlands.

vii. Co-Option of Chiefs and Opinion Leaders in the Area onto the Planning Committee

The non-involvement of chiefs and opinion leaders from the study area in planning decision making was found as a drawback on the effective and efficient implementation of those decisions and policies. It is necessary, therefore, for these influential people from this, largely; family land area to be co-opted onto the New Juaben Statutory Planning Committee to enable them also to participate in the planning decision making process which ultimately affects them and their people. If it was possible to co-opt representatives of the New Juaben Traditional Council onto the Committee, then it should also be possible to do same for the representatives of the people from the study area. By so doing, it would be easy for these opinion leaders to carry their people along during the implementation stages of the final planning decisions. It should also be possible to strengthen the Unit Committees of the Assembly at the grass root level and empower them to become effective instruments of policing and monitoring physical developments in the area to ensure their conformity with set standards. They could also serve as vehicles for the dissemination of information and education of the people on land-use policies and regulations. Again, land owners in the area could be educated to better appreciate their roles as partners in development.

viii. Enforcement of Land Reclamation Conditions in Permits Granted To Sand and Stone Contractors

The study has shown that vast tracts of degraded land have been left in some parts of the study area as relics of sand winning activities by some people in the community. This was found to be the case due to failure on the part of officials of the Environmental Protection Agency to monitor the

activities of sand and stone contractors to ensure strict compliance with land reclamation conditions normally contained in the permits granted them. To stem this problem, the relevant agency (i.e. EPA) needs to put its acts together to ensure that reclamation conditions and programmes incorporated into permits granted to the contractors are enforced after work is completed on the approved sites. If possible, they could be made to sign performance (reclamation) contracts with the EPA which could be enforced against them in case of default. Again, a certifying mechanism could be devised by which every post activity reclamation exercise could be inspected and certified. The respective contractors could then be required to submit such certificates for verification as added conditions for granting new permits. Finally the Environmental Health and Protection Agencies should be properly equipped with the necessary logistics to enable them perform their functions well.

5.3 CONCLUSIONS

The objective of this study has been primarily to study the pattern of developments in the study area and to examine the extent to which planning and development control have been exercised in the community by the relevant Planning Authorities. It is also aimed at ascertaining the impact of the pattern of development on the environment of these areas. The analysis and presentations made in the previous chapters of this work, therefore, provide the basis for drawing conclusions.

In the Adweso area of Koforidua, there is a communal or group ownership of land. Lands were found to have belonged to the respective individual families as a group. The identifiable traditional authority in which the absolute (allodium) interest in land is vested is the family head of the particular land owning group. Unlike other parts of the New Juaben Traditional area, ownership of land in the study area is not an essential ingredient of political sovereignty and there is no over lordship of the stool over lands within its territorial jurisdiction. Land acquisition for residential use in the study area, therefore, was found to be very easy as a prospective developer's principal task is to identify and deal with the rightful head of the particular land owning group.

Thereafter, the acquisition process involves a direct negotiation between the prospective developer and the identified land owner for an agreed purchase price usually, without the involvement of any land professional. Freehold grants (outright purchase) of lands were found to be very prevalent in the community and this appeared to be one of the major reasons for the rapid rate of development of this area. Once the land issue was settled, developers moved to commence the construction of

their structures on site, most of the time, without any recourse to planning controls and building regulations. This situation, as the study has shown, was exacerbated by the inability of the Planning Authorities themselves to assert their authority to control and regulate physical developments in the area.

The direct consequence of the above submissions is the haphazard and disorderly development of the community as buildings are indiscriminately constructed anywhere. This unplanned and uncontrolled development was found to have engendered serious consequences on the environment of the area. Foremost among the problems identified in the study was the destruction of the original forest ecology and biodiversity of the area. The study has shown that the rapidly sprawling residential development was responsible for the decimation and virtual extinction of the diverse flora and fauna in addition to the various kinds of mammalian and bird species that were believed to have, hitherto, inhabited the area. Again, the desecration and complete destruction of the spiritual values that were attached to forests and sacred groves in the past, which were believed to have formed the basis of traditional environmental protection and conservation practice, is another environmental problem created by the haphazard development of study area. Apart from destruction of valuable timber species and other medicinal trees, most sacred sites were found to have lost their value due to the competitive edge of residential property development.

Furthermore, many vital ecological areas such as cemeteries, rivers/streams and wetlands etc. have been lost to physical structures. In most cases the disruption of these natural drainage channels through, either diversion or blockage by buildings, accounts for the flooding of sections of the community during rainy seasons. The general lack of drainage facilities in the entire area also adds a further dimension to this problem. Normally, stagnant pools of water left behind after the floods became breeding grounds for mosquitoes and other water related diseases which pose serious health hazards to residents of the community. Poor sanitation and unacceptable waste management practices in the area, again, were found to pose considerable environmental concern to residents of the area. Another evidence of the mismanagement of the land resource of the area, which raises environmental concern of relevance to the foregoing discourse, is the vast stretches of degraded lands often left as relics of sand winning activities.

Finally it could be pointed out that, although several environmental issues of concern were identified in the study, it is equally noteworthy that problems created through the uncontrolled

construction of buildings in the community were not limited only to the environmental question. Other problems identified included general inaccessibility of most parts of the area due to the lack of access roads, lack of essential economic and social services such as schools, public open spaces and children play grounds, community centres, markets, clinic sites etc. All these are some examples of the municipally controlled services that are complimentary to residential land-use which, otherwise, would have been provided for if the community had been planned prior to the commencement of physical developments.

APPENDIX 1

DEPARTMENT OF MATERIALS ENGINEERING

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI

THESIS TOPIC: ENVIRONMENTAL IMPLICATIONS OF PHYSICAL DEVEOPMENTS IN UNPLANNED URBAN FRINGES: THE CASE STUDY OF ADWESO NEIGHBOURHOOD OF KOFORIDUA

STUDENTS RESEARCH QUESTIONNAIRE

RESPONDENTS: LANDOWNERS

PERSONAL DATA

1. Sex of Respondent A. Male B. Female

2. Age of Respondent A. 18-25yrs. B. 26-35yrs. C. 36-45yrs. D. 46-55yrs. E. above 55yrs.

3. What is your level of education? A. Basic level B. Second Cycle C. Tertiary level D. None

4. What is your occupation?……

5. Where do you come from? A. This village B. Another place in the Region C. Another Region of Ghana D. outside Ghana

SETTLEMENT HISTORY AND LAND OWNERSHIP PATTERN

6. Who are regarded as Landowners in this area? A. Stools B. Government C. Families D.other

7. What is the name of your Stool/Family?……

8. What is the extent of your Stool/Family lands? A. 1-5 acres B. 6-10 acres C. 11-15 acres D. above 16 acres
9. By what means did your family become owners of these lands?.....
10. What is the primary occupation of the original settlers of this area?.....
11. How has the current rate of development in your area affected the original occupation of the setters?.....

SOCIAL ISSUES

12. Did you have sacred/fetish groves and nature reserves in this village in the past?.....
13. What purpose did they serve?.....
14. Are they still in existence today?.....
15. If yes, where are they located?.....
16. What is their relevance in this present age?.....
17. What do you consider to be the possible reasons for their extinction? A. Christianity B. Lack of interest by the people C. Outmoded customs D. Other (specify)
18. How has this affected the sites?.....
19. In your opinion what effect has their destruction have on the environment of your area?.....

LAND ALLOCATION PROCESS AND PLANNING ISSUES

20. How do prospective developers acquire land for development in this area? A. sale B. lease C. gift D. license
21. Would you require advice from any land related public office prior to the disposition of your lands? Yes/No
22. Which office would you contact for advice?
23. Was a Planning Scheme/Layout prepared for land before the sale? Yes/No
24. If yes, who did the planning for you? A. Town and Country Planning Department B. Draughtsman C. Surveyor D. Other (specify)
25. Was the Scheme/Layout for your area approved by the Planning Authorities? Yes/no
26. If no, why was it not approved?……
27. Are you aware of regulations governing the disposition of land in areas with no planning schemes? Yes/No
28. If your answer to question 25 is yes, then how long did the approval process take?
29. How would you describe/assess the process? A. Cumbersome B. Easy C. Not necessary

PATTERN OF DEVELOPMENT AND EFFECT ON THE ENVIRONMENT

30. How would you describe the pattern of developments in your area? A. Orderly B. Disorderly C. I don't know.
31. Has the pattern of development affected the original vegetation (forest ecology) of your area? Yes/No
32. If yes, in which way?
33. In your opinion, what effects has the pattern of development had on the environment of your area?……
34. What remedies will you suggest for the environmental effects stated above? ……
35. How is refuse disposed in your area? A. Buried underground B. Burnt C. Carry rubbish to collection point D. Throw rubbish into nearby steams E. Other (specify)
36. How do people of the community attend nature's call? A. W/C at homes B. Public places of convenience C. Pit latrine D. Bush E. Other (specify)
37. How are waste/floodwaters controlled in your area? A. Public drains B. Natural drainage C. No control D. Other (specify)

MUNICIPAL ASSEMBLY'S ROLE IN DEVELOPMENT

38. What role does the Municipal Assembly play in the development of your area?……
39. How would you assess their role in controlling the pattern of development in your area?.....
40. What should they do to improve upon their services in order to enhance the environmental quality of your area?……

APPENDIX 2

DEPARTMENT OF MATERIALS ENGINEERING

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI

THESIS TOPIC: ENVIRONMENTAL IMPLICATIONS OF PHYSICAL DEVEOPMENTS IN UNPLANNED URBAN FRINGES: THE CASE STUDY OF ADWESO NEIGHBOURHOOD OF KOFORIDUA

STUDENTS RESEARCH QUESTIONNAIRE

RESPONDENTS: DEVELOPERS

PERSONAL DATA

1. Sex of Respondent A. Male B. Female
2. Age of Respondent A. 18-25yrs. B. 26-35yrs. C. 36-45yrs. D. 45-55yrs. E Above 55yrs.
3. What is your level of education? A. Basic level B. Second Cycle C. Tertiary level
4. What is your occupation?……
5. Where do you come from? A. This village B. Another part of the Region C. Another Region in Ghana D. Outside Ghana
6. For how long have you lived in this town?……

LAND ACQUISITION AND DEVELOPMENT PROCESS

1. Do you own a house at Adweso Yes/No
2. If yes, where is it located?……
3. Did you acquire the land yourself? Yes/No
4. From whom was the land acquired……
5. What interest did you acquire? A. freehold B. leasehold C. license D. other (specify)
6. Has the interest so acquired been registered Yes/No
7. If yes, go to question 9
8. If no, why was the interest not registered? A. I don't know about registration B. I don't consider it necessary C. I will do it later
9. How long did it take you to get your land papers (indenture) registered?……

10. Did you do the registration yourself or through an agent?……
11. Who drew your building plans for you? A. Architect B. Draughtsman C. Surveyor D. Other (specify)
12. Any reason for your choice?.....
13. Who supervised the construction of your building? A. Mason B. Architect C. Draughtsman D. Building Contractor E. Self
14. Does your building conform to the land use Plan of the area? Yes/No
15. How long did it take to get the building constructed?……
16. Have you secured permit for your development? Yes/No
17. If yes, go to question 19
18. If no, why was permit not obtained? A. It's not necessary B.I don't know about permit C. Permit would be obtained later
19. How long did it take to secure approval for your plans?……
20. How would you describe the procedure for securing approval for your plans? A. Easy B. Cumbersome C. Unnecessary D. Other (specify)
21. Any suggestion for improvement in the process?.....
22. If your answer to question 16 is no, why then did you develop the site?.....

PATTERN OF DEVELOPMENT AND EFFECT ON THE ENVIRONMENT

1. How would you describe the pattern of developments in your area?.....
2. Does the developments in the area present any challenges to the environment of the area? Yes/No
3. State some of these challenges?……
4. Suggest remedies to these problem?.....
5. Would you have preferred living in a different neighborhood other than this?……
6. What are your reasons?.....
7. What advise would you offer prospective buyers of land in this area……
8. What role does the Municipal Assembly play in ensuring environmental quality in the area?.....
9. How would you assess/evaluate the role they have been playing?.....

DRAINAGE

1. Are drains provided within the community in which you live? Yes/No

2. If yes, do you consider them adequate? Yes/No

3. In your opinion, are the existing drains large enough to contain and hold storm-water and run-offs after heavy rains? Yes/No

4. If no, what do you think should be done to improve the situation?.....

5. Are the drains well distributed throughout the community? Yes/No

6. If no, how should the current situation be improved upon?.....

7. If your answer to question (1) is no, what do you think needs to be done?.....

8. Besides carrying run-offs and storm-water, what other purposes do the drains serve?.....

SANITATION

1. Is your house located close to a water-logged/marshy area or drained by a river /stream? Yes/No

2. How do you dispose off your domestic liquid waste (bath water, washing of clothing, utensils etc.)?……

3. Do you have refuse disposal/collection points located within the community? Yes/No

4. If yes, are they adequate? Yes/No

5. Are they located near river/stream course (banks)?

6. If yes, what is the estimated distance of a refuse dump from the nearest watercourse?

……

7. What are the environmental and health implications of the location of such sites near watercourses?……

8. What are the estimated distance of your house to the closest refuse disposal point and that of the farthest dumpsite?.....

9. Do you consider the distance from your house to the nearest refuse disposal point to be too long (far away)? Yes/No

10. If yes, how closer do you want it/them to be?.....

11. If the answer to question (3) above is no, then how do you dispose off your refuse?.....

12. How did this become possible?.....

13. What do you think are the possible environmental and health implications associated with the disposal of refuse in your area?.....

14. In what alternative ways do you think waste (refuse) should refuse be disposed off in the community?.....

15. Are public places of convenience located within the community? Yes/No

16. If yes, are they close to marshy areas/watercourses? Yes/No

17. If your answer in question (15) above is no, then how do people in the area attend nature's call?

……

18. Do you have toilet in your home? Yes/No

19. State the type of toilet you have in your home (Water closet, KVIP, Pit-latrine etc.)

20. Is your house close to a watercourse? Yes/No

21. How would you assess the general waste and sanitation management in the area?.....

22. What are the environmental and health implications of waste and sanitation management in the area?.....

APPENDIX 3

DEPARTMENT OF MATERIALS ENGINEERING

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI

THESIS TOPIC: ENVIRONMENTAL IMPLICATIONS OF PHYSICAL DEVEOPMENTS IN UNPLANNED URBAN FRINGES: THE CASE STUDY OF ADWESO NEIGHBOURHOOD OF KOFORIDUA

STUDENT RESEARCH QUESTIONNAIRE

RESPONDENTS: LAND-USE PLANNING AGENCIES

1. Name of Department……
2. Sex of Respondent……Position of Respondent……
3. Do you belong to the Statutory Planning Committee?……
4. What is your role on the committee?.....
5. Who determines the use to which a piece of land could be put?.....
6. Any legal basis for your answer in question 5?……
7. Please state the relevant instrument…….
8. Who are the owners of lands within the Adweso neighbourhood? A. Stools
   B. Families C. Government
9. What interest do they hold in these lands? A. Allodial Interest
   B. Usufructuary Interest C. Leasehold Interest D. Other (specify)
10. Is the Adweso neighbourhood a Statutory Planning area? Yes/No
11. Who is responsible for such a declaration?.....
12. How is this done? A. By Statute B. By a legislative Instrument
    C. By a Decree D. Other (specify)
13. What specific law made Adweso a Statutory Planning area?……..
14. What is the effect of this law?……
15. Is the Public aware of the requirements of their developments? Yes/No
16. If yes, how is the awareness created?.....
17. If no, why are they not aware of such requirements?.....

18. Is there any existing Planning Scheme/Layout for the Adweso Community? Yes/No
19. When was this Scheme/Layout prepared?.....
20. Would you recommend the conduct of baseline studies before the preparation of the Scheme? Yes/No
21. What effect would such a study have on the final scheme?.....
22. Has the Landowners been involved in the preparation of the Scheme? Yes/No
23. What is the level of their participation?.....
24. Are prospective developers required to provide any input into the preparation of your Schemes? Yes/No
25. What purposes do Planning Schemes generally serve?.....
26. Are these Schemes always complied with? Yes/No
27. Would you suggest possible reasons for the non-compliance?.....
28. Are the Public sufficiently informed about the existence of these Schemes and their responsibilities under them? Yes/No
29. What is the medium of information dissemination about the Schemes?.....
30. How effective has the medium been?.....
31. Has the Planning Scheme for the Adweso area, if any, been practically implemented on the ground? Yes/no
32. If yes, have there been problems? Yes/No
33. List some of the problems?.....
34. If the answer in question 31 is no, why was the Scheme not implemented?.....
35. Do you always ensure that prospective developers obtain permit prior to the commencement of their projects? Yes/No
36. If yes, then briefly describe the process one goes through to secure building and development permit……
37. Are sanctions imposed on people who flout building regulations? Yes/No
38. If yes, spell out some of the sanctions……..
39. Can a Planning Scheme, once approved, be amended? Yes/No
40. Under which circumstances could amendments be made to the scheme?.....
41. What is the legal duration?……
42. How would you describe the current pattern of development in the Adweso neighbourhood?……

43. List some of the problems the present state of Adweso pose to the environment of the area……

44. What measures should be taken in order to salvage the situation? ……

45. What difficulties does your Department face in ensuring sound environmental quality in the Adweso area? ……

46. How can these problems be solved?.....

APPENDIX 4

DEPARTMENT OF MATERIALS ENGINEERING

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI

THESIS TOPIC: ENVIRONMENTAL IMPLICATIONS OF PHYSICAL DEVEOPMENTS IN UNPLANNED URBAN FRINGES: THE CASE STUDY OF ADWESO NEIGHBOURHOOD OF KOFORIDUA

STUDENT RESEARCH QUESTIONAIRE

RESPONDENTS: ENVIRONMENTAL HEALTH AND PROTECTION AGENCIES.

1. Name of Department……
2. Sex of Respondent…….Position of Respondent……..
3. What role does your office play in ensuring good environmental health/protection within the Adweso community?……

DRAINAGE

1. Are drains provided within the Adweso community? Yes/No
2. If yes, do you consider them adequate? Yes/No
3. In your opinion, are the existing drains large enough to contain and hold storm-water and run-offs after heavy rains? Yes/No
4. If no, what do you think should be done to improve the situation?.....
5. Are the drains well distributed throughout the community? Yes/No
6. If no, how should the current situation be improved upon?.....
7. If your answer to question (1) is No, what do you think needs to be done?.....
8. Are the existing drains well kept? Yes/No
9. If yes, describe how they look like……
10. If no, what is wrong with them?.....
11. Besides carrying run-offs and storm-water, what other purposes do the drains serve?....

SANITATION

1. Are houses in the area located within a water-logged/marshy area or drained by a river/stream? Yes/No
2. How are domestic liquid waste (bath water, washing of clothing, utensils etc.) disposed off within the area?……
3. Are refuse disposal/collection sites located within the community? Yes/No
4. If yes, are they adequate? Yes/No
5. Are they located near river/stream courses banks? Yes/No
6. If yes, at what estimated distance are the sites located from watercourses?.....
7. Are some of the sites located within marshy areas? Yes/No
8. What do you consider to be the environmental and health implications, if the answers to question (5) and (7) are yes?.....
9. If the answer to question (3) is yes, what is the estimated distance from a house to the nearest refuse dump and that of the farthest disposal site?.....
10. Do you consider the distance from a house to the nearest refuse disposal point to be too long (far away)? Yes/No
11. If yes, how closer do you want it/them to be?.....
12. If the answer to question (3) is No, how do the people in the community dispose off their refuse (waste)?.....
13. How did this become possible?.....
14. What in your opinion is the possible environmental and health implication associated with the way refuse is disposed off in the area? (Refer to question12)……
15. Have you thought of any alternative way by which refuse could be disposed off in this community? Yes/No
16. If yes, what is it?.....
17. Are public places of convenience located within the community? Yes/No
18. If yes, what is their level of distribution in the neighbourhood?.....
19. Are the sites close to marshy areas/watercourses? Yes/No
20. What is the approximate distance of public place of convenience from the closest waterway?.....
21. If the answer to question (17) is no, how do the people in the area attend nature's call?……
22. Where toilets are located in homes (water closets) are the facilities (soak ways) close to watercourses? Yes/No

23. What is the approximate distance of a house with water closet from the closest watercourse?……

24. What is your assessment about general waste and sanitation management in the neighbourhood?.....

25. What are the environmental and health implications of the manner of waste and sanitation management in the area?.....

ENVIRONMENTAL DEGRADATION

1. Is the area affected by sand-winning activities? Yes/No
2. If yes, to what extent has the activity affected the vegetation and the environment of the area? ……
3. What categories of people (age group) are mostly engaged in these activities?.....
4. Why, in your opinion, are these groups of people particularly attracted to this activity? ……
5. What do you think should be done?.....
6. How are wetlands/river courses/nature reserves affected by the rapid rate of residential developments in the area?.....
7. Do you consider their survival threatened by the rate of physical development? Yes/No
8. What do you think should be done?.....
9. Do the elements of the weather have any adverse effect on the topography in terms of erosion? Yes/No
10. Could you suggest ways to solve the problem, if any?.....
11. How accessible is the area from one point to another in terms of road networks?.....
12. What is the level of integration of the area with the central business district of Koforidua by way of fluidity of transportation?.....
13. Any suggestion for improvement?.....
14. What is your assessment of the general level of environmental degradation and pollution in the area?.....

APPENDIX 5

SECTOR LAYOUTS OF KOFORIDUA AND ADWESO NEIGHBOURHOODS

1. Sector 1 – Central Area including the C. B. D. and the Ministries.
2. Sector 2 – Nsukwao
3. Sector 3 – Koforidua Resettlement area (Anlo town & Zongo areas)
4. Sector 3A – Ada
5. Sector 4 – Srodae
6. Sector 5 – Betom
7. Sector 6 – Effiduase
8. Sector 7 – Asokore
9. Sector 8 – Atekyem
10. Sector 9 – Medical Village
11. Sector 10 – Asokore Extension
12. Sector 11 – Nsukwao Extension
13. Sector 12 – Effiduase Extension
14. Sector 13 – Atekyem Extension
15. Sector 14 – Akwadum road light industrial area
16. Sector 15 (A&Bb – Adweso
17. Sector 16 – Asokore North-West
18. Sector 17 – Effiduase / Kentenkye
19. Sector 18 – Asokore north
20. Sector 19 – Nyamekrom
21. Sector 20 – Kwakyea
22. Sector 21 – Adiemmera

BIBLIOGRAPHY

Acquah, P. C. (1996) Environmental Protection Agency at a glance. Acts Commercial Ltd., Accra.

Balchin, P.N., Kieve, G. H. and Bull, G. H. (1998) Urban Land Economics and Public Policy. 4th Ed., The McMillan Press Ltd., London.

Balmer, W. T. (1925) A History of the Akan People of the Gold Coast. The Atlantis Press, London.

Barraclough, S. L. and Ghimire, K. B. (1995) Forests and Livelihoods, the social dynamics of deforestation in Developing Countries. Macmillan Press Ltd., London.

Beale, J.G. (1980) The Manager and the Environment. Pergamon International Library

Breeze, G. (1966) Urbanization in Newly Developing Countries. Prentice-Hall, New Jersey.

Britton, W., Keith, D. and Tony, J. (1989) Modern Methods of Valuation of Land, Houses and Buildings. 8th Ed. The Estate Gazette Ltd., London.

Brook, R. M. (2000) Peri-Urban Interface: A Tale of Two Cities. Gwasg Ffrancon Printers, Wales.

Cater, H. (1985) The study of Urban Geography. 3rd Ed. Edward Arnold Property Ltd., Australia.

Chapman, D. (1996) Creating Neighbourhoods and Places in the Built Environment. E & FN Spon, an imprint of Chapman & Hall, London.

Christaller, J. G. (Rev.) (1933) Dictionary of the Asante and Fante Language called Tshi (Twi). 2nd Revised Ed., Friedrich Reinhart Ltd., Basel.

Davidson, J. and Wibberly, G. (1978) Planning and the Rural Environment. Pergamont Press Ltd., England.

De Blij, J. (1993). Human Geography: Culture, Society and Space. 4th Ed., John Wiley & Sons, Inc. New York.

De Bruin, C. A. (1991) Aspects of Physical Planning: Module Planning Backgrounds ITC/US/CAB/910604.

Dickson, K. B. and Benneh, G. (1988) A New Geography of Ghana. Revised Ed., Longman Group, UK. Ltd., England.

Fellmann, J. Getis, A. and Getis, J. (1990) Human Geography: Landscapes of Human Activities. 2nd Ed. Wm. C. Brown Publishers, 2460 Kerper Boulevard, Dubuque, I A 52001.

Floyd, C. F., and Allen, M. (1997) Real Estate Principles. 5th Ed., Dearborn Financial Publishing, Inc., Chicago, Illinois 60606-1719.

GED, L. (1982) Geography for West Africa. Hodder and Stoughton Mill Road, Dunton Green, Sevenoaks, Kent.

Golledge, R. G. (1960) Sydney's Metropolitan Fringes: A study of Urban-Rural relations. Australian Geography, 743-55, 1960.

Hartshorn, T. A. (1992) Interpreting the City: An Urban Geography. 2nd Ed. John Wiley & Sons, Inc., New York.

Harvey, J. (1996) Urban Land Economics. 4th Ed. McMillan Press Ltd., London.

Huber, H. (1993) The Krobo: Traditional, Social and Religious life of a West African people. University Press, Fribourg, Switzerland

Huw, J. (1990) Population Geography: The Political Economy of Internal Migration. Paul Chapman Publishing Ltd., 144 Liverpool Road, London

Johnson, J. H. (1972) Urban Geography: An Introductory Analysis. Pergamont Press Ltd., Oxford, England, 1972.

Law, N. and Smith, D. (1987) Decision-Making Geography. Stanley Thorns (Publishers) Ltd. Old Station Drive, Leckhampton, Cheltenham GL53 ODN

Little, K. (1989) Urbanization as a Social Process. An Essay on Movement and In Contemporary Africa. Routledge and Keegan Paul, London.

Lowy, M. J. (1971) The Ethnography of law in a Changing Ghanaian Town. University Microfilms Ltd., High Wycomb, England.

McLaughlin, B. J. (1969) Urban and Regional Planning: A systems Approach. Faber & Faber, London.

Miller, T.G. Jr. (1988) Living in the Environment: An Introduction to Environmental Science. 5th Ed., Wadsworth Publishing Company, Belmont, California.

Morrish, M (1983) Development in the Third World. Oxford University Press, Walton Street, Oxford OX2 6DP.

Naes, J. and Rothenberg, D (1990) Ecology, Community and Lifestyle. Outlook of an Ecosophy. Cambridge University, Cambridge.

Newson, M. and Or (Eds). (1992) Managing the Human Impact on the Natural Environment: Patterns and Processes. John Wiley & Sons, Inc., Chichester.

Nunan, F and Others. (2000) Valuing Peri-Urban Natural Resources: A guide for Natural Resource Managers. School of Public Policy, University of Birmingham.

Obeng, L. E. (1980) Environmental Management and the Responsibility of the Privileged. The J. B. Danquah Memorial Lectures Series 13.Ghana Academy of Arts and Sciences, Accra.

Otiende, J. E., Ezaza, W. P. and Boisvert, R. (1997) An Introduction to Environmental Education. Nairobi University Press, Nairobi.

Passmore, J. (1980) Man's Responsibility to Nature. 2nd Ed. Duckworth, London.

Richmond, D. (1985) Introduction to Valuation. 2nd Ed., McMillan Education Ltd., London.

Rubenstein, J. M. (1994) An Introduction to Human Geography. 5th Ed., Prentice-Hall, Upper Saddle River, New Jersey 07458, Shahrestani.

S. M. A. (1987) Urban Planning in Developing Countries. A guide to Low-Cost Housing and Urban Development. International Centre For Technical Research, Beirut, Houston and London.

Silberstein, J. and Maser, C. (2000) Land use Planning for sustainable Development. Lewis Publishers, London.

Thomas, K. (1984) Man and the Natural World: Changing Attitudes in England 1500-1800. Penguin Books, Harmondsworth.

Trivedi, R. N. (2001) A Textbook of Environmental Sciences. An mol Publications Pt Ltd., New Delhi-110002.

Turner, B. L. & others (1990) The Earth as Transformed by Human Action: Global and the Regional changes in Biosphere over the past 300 years. Cambridge University Press, Cambridge.

Warren, M. (1994) Economics for the Built Environment. Butterworth-Heinemann Ltd., Oxford.

Weeks, J.R. (1989) Population: An Introduction to Concepts and Issues. 4th Ed. Wadsworth Publishing Company, Belmont, California.

Wehrwein, G. S. (1942) The rural-urban fringe: Economic Geography, 18 217-22.

Wilks, I. (1975) Asante in the Nineteenth Century: The Structure and Evolution of a Political Order. Cambridge University Press, London.

Wissink, G. A. (1962) American Cities in Perspective with special reference to the Development of their fringe areas. 201, Assen.

REPORTS AND PERIODICALS

Asante, S. K. B.: Interests in Customary Land Law of Ghana-A new appraisal. Unpublished Report.

Dadson, J. E. K. (2003) The role of Information Technology in the development/ Performance of the Land Market. The Ghanaian Surveyor (Journal of the Ghana Institution of Surveyors). Design Press, KNUST, KUMASI, TCS, 2003 ISSUE.

Edjehumjene, I. (2002) The impact of development on the Environment. Paper presented at the Annual Seminar of the General Practice Division of the Ghana Institution of Surveyors on 19th September 2002 at the Institute of Renewable Natural Resources, KNUST, KUMASI.

European Commission. (2002) Choices for s Greener future. The European Union and the Environment. B-1049, Bruxelles, Brussels.

Fafchamps & Others. (2001) Towards a growth strategy for Africa. Report by CSAE, Oxford .

The Ghana Environmental Action Plan (Vol. 1) (1991) The Environmental Protection Council, Accra, Ghana.

Gueye, B., Ouedraogo, H. and Toulmin, C. (2002) Country case study, Regional Overview: West Africa. Paper presented at the Regional Workshop on land issues in Africa, Kampala, Uganda: April 29-May 2, 2002.

Juaben Residents in Akim Abuakwa (subsequent case 1272A/20). ADM/KD/29/6/24, Case Number 72/20. (Regional Archives, Koforidua).

New Juaben Lands Correspondence (Re-Compensation for land taken for Juaben Settlement). ADM/KD/29/6/13, Case Number 0171/1976. (Regional Archives, Koforidua).

World Bank. (1992) World Development Report 1992. Development and the Environment. Oxford University Press, Oxford.

National Lands Policy. (1999), Ministry of Lands and Forestry, Accra, June 1999.

LIST OF STATUTES

1. Town and Country Planning Ordinance No. 13 of 1945 (Cap. 84) with subsequent amendments.
2. Local Government Act, 1993 (Act 462).
3. The National Building Regulations, 1996 (L. I. 1630).
4. The State Lands Act, 1962 (Act 125).
5. The Administration of Lands Act, 1962 (Act 123).
6. The Lands Commission Act, 1994 (Act 483).
7. The 1992 Fourth Republican Constitution of Ghana.