Housing, Environment and the Poor in Ghana

A sustainable approach

By

Wilfred Marfo Oduro

HOUSING, ENVIRONMENT AND THE POOR IN GHANA
A SUSTAINABLE APPROACH

A THESIS SUBMITTED

BY

WILFRED MARFO ODURO

TO THE ENVIRONMENTAL MANAGEMENT PROGRAMME, DEPARTMENT OF DEVELOPMENT AND PLANNING, AALBORG UNIVERSITY, DENMARK. IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF MASTER OF SCIENCE DEGREE IN ENVIRONMENTAL MANAGEMENT

SEPTEMBER 2005

DECLARATION

This thesis is a result of research work undertaken by Wilfred Marfo Oduro in the Environmental Management Programme Aalborg University, Denmark under the supervision of Associate Professor Jens Müller.

DEDICATION

This research report is dedicated to my parents Mr and Mrs Oduro. Your support and encouragement has propelled me to this end.

Preface

This final thesis document has been written to fulfil the requirement for the award of a Master of Science degree (MSc.) in Environmental Management at Aalborg University, Denmark.

The report consists of eight chapters and has three appendices. Figures and Tables are referred to with numbers under each chapter. Example: for Figure / Table 2.3, the first digit (2) indicates the chapter while the second digit (3) indicates the number (position) on the list of figures or table within the chapter.

The referencing system is based on the Harvard method, where references are placed in square parenthesis with the last name or organisation an year. If the reference is before a period, it refers to the sentence; if it is after a period, it refers to the previous paragraph.

Acronyms that will be used throughout the report has been shown in the next two pages.

Finally I wish to express my sincere gratitude to all who have contributed directly or indirectly to the success of the report. Special thanks to thank Jens Muller, Steve Lebourveau and Davetta Samuels for their immense contribution to the success of the report.

List of Figures

List of Tables

Acronyms

AMA	Accra Metropolitan assembly
BRRI	Building and Road Research Institute
CESCR	Covenant on Economic, Social and Cultural Rights
CSIR	Centre for Scientific and Industrial Research
ECOWAS	Economic Communities of West African State
EPA	Environmental Protection Agency
EPC	Environmental protection Council
FGBS	First Ghana Building Society
GREDA	Ghana Real Estate Developer Association
GIS	Ghana Institute of Surveyors
HFC	Home Finance Company
ILMAD	Institute of Land Management and Administration
IMF	International Monitory Fund
KNUST	Kwame Nkrumah University of Science and technology
MDG	Millennium Development Goals
MOLF	Ministry of Land and Forestry
NGO	Non Governmental Organisations
NRC	National Redemption Council
PNDC	Provisional National Defence Council
SAP	Structural adjustment Programme
SCOPE	Scientific Committee on Problems of the Environment
SHC	State Housing Co-operation
SSNIT	Social Security and National Insurance Trust
TCPD	Town and Country Planning Department
TDC	Tema Development Corporation
UN – HABITAT	United Nation Human Settlement Programme
UNEP	United Nations Environmental programme
WCED	World Commission on Environment and Development

Abstract

Over the years, Ghana's Housing sector has performed poorly concerning meeting the housing demand of the population. The housing policy which is driven by the private sector has failed to address the shortfalls. The government's inadequacies have worsened the plight of low-income group of the society who also have a basic right for adequate shelter per UN-HABITAT declaration. As a result, all sorts of processes and activities which tend to affect the environment are employed to achieve people's shelter needs.

The research investigates and identifies the key concerns in the housing sector. It does that by reviewing the policy trends from before independence till the current 2002 Shelter Strategy (policy document). The report further views the housing sector as an institution taking a point of departure from Richard Scots institutional theory and uses that background to suggest ways of improvement.

The study reveals that there is a need for a multi-dimensional approach to addressing the general and environmental concerns of the housing sector. Government must do all in his power to promote the use of locally produce building material, enforce planning scheme to the letter and reconsider its role in the housing sector to address the housing needs of the masses who belong to the low income bracket of the Ghanaian society.

Table of contents

Chapter One

Meeting Ghana's housing needs – doing it right

1.1 Introduction.

People require protection from the elements, somewhere to bring up their families, a place to work from and a home to call their own. This defines the complex nature of one of humanity's basic need – shelter. As C.A Doxiadis (a renowned Greek architect and an advocate of improve environmental conditions) said [J.A.K Nutsugah, 1997]

"Human settlements are the territorial arrangements made by man for his own sake. They are the result of human actions and their goal is human SURVIVAL, an easier and better life; happiness and safety and opportunity for human development"

This thought was echoed by the International Covenant on Economic, Social and Cultural Rights (CESCR), which advocates for a decent living and adequate housing for all [Ghanaweb. 2004, A.K.Tibaijuka, 2003]. The CSECR and the African charter entreat governments to design mechanism for providing affordable housing for its citizens.

Yet at present, over a billion people – a fifth of the world's population – are homeless or live in very poor housing [A.K.Tibaijuka, 2003]. Many of these people live in the developing world, where deeply-indebted governments are unable to assist or provide their shelter needs for them.

Ghana is among these countries, where the housing needs of the population are not being met. It was estimated that 1.2 million housing units were needed between 2001 and 2005 to meet the needs of Ghana's population [Government of Ghana 2002]. This would mean constructing 133,600 new housing units each year. It was estimated in 2002 that the government would only be capable of building 25,000 units each year, meeting less than 20% what was actually needed.

Much of this growth is occurring in Ghana's urban centres (such as Accra and Kumasi), mainly due to rural-urban migration. Between 1984 and 2000, the population of Greater

Accra doubled, from just over 1.4 million to over 2.9 million (see table 1.1). Because of this growth, the population density of Greater Accra has increased from 441 persons per square kilometer in 1984 to 897 persons per square kilometer in 2000.

Increasing population densities puts pressure on urban land and housing, making housing unaffordable for the over 40% of Ghana's population living below the poverty line [World Bank 2002]. The need for shelter is so basic that people will go to extreme lengths to meet this need, often disregarding the environmental and health consequences. In Ghana, this has resulted in a number of environmental and health concerns, including:

- Loss of green belt, agricultural lands around cities, sensitive environmental areas.
- Degradation of raw materials sources e.g. quarries, sand pits etc
- Drainage effects (siting in flood plains etc)
- Social problems related to conflicts, land guards, displacement of communities etc. (land management)
- Service provision and its linkages to supply sources.
- Deforestation as a result of high timber usage.

1.2 Problem Statement

As has been discussed above, Ghana’s housing sector is saddled with numerous environmental problems. But there is very little practical understanding of the complex processes, temporal distinction of the extent of the problem or long-term cost/benefit of ecological damage.

A study by the World Bank in 1993 found that out of the 16 significant diseases in Accra, 13 are linked to poor housing and ventilation, an unsanitary environment, contaminated drinking water, poor drainage and lack of facilities for waste disposal [World Bank, 2002].The higher incidence of diseases in the areas surveyed means greater loss in work days and a higher cost of expenditure for medical attention.

This research examines the environmental concerns associated with government of Ghana's policy of ensuring adequate housing to the masses of the people. It does that by first identifying the main issues and suggests ways of reversing or addressing it to meet the sustainable development objectives of the country.

Research Question

This research will be guided by the following question:

What must be done to address the environmental consequence of the housing sector in Ghana?

Environment, in this context is referred to as all that is external to human beings, together with those factors created or influenced by human actions. Environmental consequence is the hazard or degradation that humans posed themselves or their surroundings.

1.3 Sub Research Questions

In trying to answer the above research question the following questions will also be answered to try to find the best way forward with respect to environmental sustainability for the housing sector of Ghana.

- What are the objectives of Ghana's housing policy?
- How does the government and the people of Ghana perceives environmental sustainability as compared to meeting a basic need of shelter?
- What are the ways of meeting the housing needs without compromising the environment?

1.4 Objective of the study

The primary objective of this study is to research into the constraints affecting the provision of houses for the majority of urban dwellers who are basically low income earners. Further more, to see how best the environmental degradation caused as a result of individuals trying to construct their own houses with their meagre income can be reduced if not eliminated. Other reasons include:

- Examine the contribution to environmental degradation by the real estate developers of Ghana and suggest ways of addressing it.
- Look at how the country can meet some of the changing trends in building construction – sustainable building systems.

1.5 Scope of Study

Accra the capital of Ghana has had its share of the rural urban migration as statistic show that the population has increased highest as compared to the other big cities (see Table 1.1). High population figures do not mean much in terms of housing development but the problem becomes clearer when the population is related to the land on which the people live as is shown in table 1.1

TABLE 1.1: DENSITY OF POPULATION BY REGION 1984 AND 2000

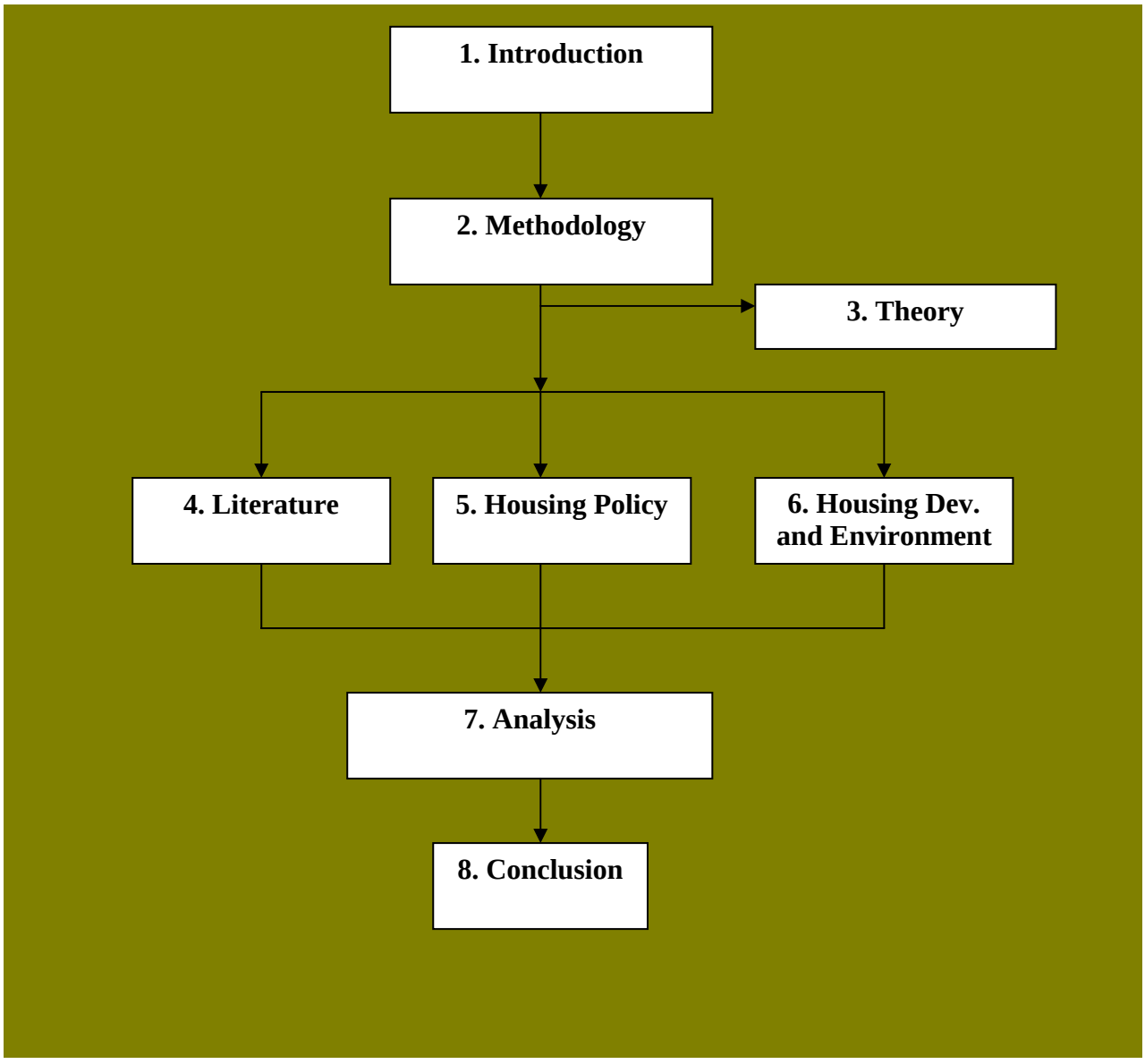
Regions	Area sq. km	2000 population	Density	1984 population	Density
All Regions	238,533	18,412,247	77	12,296,081	52
Western	23,921	1,842,878	77	1,157,809	48
Central	9,826	1,580,047	161	1,142,335	116
GT. Accra	3,245	2,909,643	897	1,431,099	441
Volta	20,570	1,612,299	78	1,211,907	59
Eastern	19,323	2,108,852	109	1,680,890	87
Ashanti	24,389	3,187,601	131	2,090,100	86
Brong Ahafo	39,557	1,824,822	46	1,164,583	31
Northern	70,384	1,854,994	26	772,744	17
Upper East	8,842	917,251	104	772,774	87
Upper West	18,476	573,860	31	438,008	24

Source: Ghana Government 2001

This research focuses on Accra as that is where most of the real estate development activities are currently going on. Accra is host to about 90% of the country's real estate agencies who provide shelter needs to their client who are mainly from the medium to high income level. Majority of the people in Accra are workers of low income range engaged in small commercial activities and civil servants. Their surrounding are characterised by haphazard development, unhygienic environment, poor housing among others. However this group of people also have a right to decent shelter but at what cost to their environment? The research looks at the two sides of the coin (high

income and low income) and their quest for shelter and its environmental consequences.

Report Structure



1.6 Report structure

This report has eight chapters which discusses various aspect of Ghana's housing sector. Chapter one explains the background of the research and spells out what the research intends to achieve. Chapter two discusses the methods that were used for the

research. It highlights on the primary and secondary data collection methods that the research employed and explains the significance of the methods. This is followed by chapter three which discusses the theoretical framework of the research. It explains how the theory will be used for the analysis of the housing sector. The essence of the chapter is to provide a general understanding of the theory employed and how it has been used in the report.

Chapter four focuses generally on issues that are of relevance to the research area. The chapter is entitle literature review as it covers a broad-spectrum of topics that are not directly linked to the research question but provides some bases for the analysis of the main issues. Chapter five is dedicated to past and the present of Ghana's housing policy. It discusses from before independence to present governments housing policy. This is followed by chapter six which talks into details about the present general and environmental problems that has bedevilled the housing sector of Ghana. Chapter seven analyses all the concern issues that the research identified. This has been done based on the literature, theoretical framework and empirical data collected. Chapter eight which is the last chapter draws a conclusion of the research and provides some recommendations for improvement in the housing sector.

Chapter Two

Methodological approach

This chapter discusses the methodological consideration of the study of the environmental implications of the housing sector in Ghana. It entails the research approach and the delimitations considered, coupled with data collection methods and how the analysis was done.

2.2 Approach

The approach to the research has been the **Top-Down**. This research is basically exploratory and descriptive in nature and has applied this approach in order to focus the work on it goals [Cobb, L. 1990]. The research concentrated on a selected group of professional, academicians and some stakeholders in the housing sector of Ghana. This was however limited to the Ministry of Works and Housing, Lecturers at the planning department of the Kwame Nkrumah University of Science and Technology (KNUST), Environmental protection agency, members of the Ghana Real Estate Developer Association (GREDA), and some professional at the Building and Road Research institute (BRRI) at Fumesua, off Kumasi - Accra road. This research is to identify the lapse in the current ways housing development and suggesting ways for improvement.

Although this research dealt mainly with official from the helm of affairs, the local people whose construction activities affect the environment were also not spared. I had isolated interviews in the form of conversation with some masons, carpenters and members of the stone and sand waning group to see their views on environmental sustainability with respect to their job. Even though some information was gotten from the local people it does not deviate from the main approach as it was inevitable to enable me appreciate the two sides of the story.

2.3 Limitations

An issue like environmental sustainability of the housing sector covers a wide area of study and as time constraints and other circumstances made it impossible to exhaust all the areas, the report has some limitation that have help focus the study in spite of the aforementioned problems;

- This study was limited to the Accra the capital since that is where the environmental degradation is of a great concern to the authorities.
- Housing is viewed by this report as encompassing all the ancillary services and community facilities which are necessary for human well-being. These include land, utilities and services (infrastructure), and social amenities as well as the structure itself.
- The study did not include environmental implication of actual building construction processes
- The focus is mainly on GREDA as they from the umbrella of the private sector in housing.

2.4 Data collection

Data collected for the study included both primary and secondary sources. Interviews, questionnaire and observation tours provided the primary data. The secondary data sources included mainly library material like books, journal, internet sources as well as reviewing reports and documents on housing policy of Ghana and other developing countries as situation seem similar.

Different methods of data collection has been used so that information obtained from one can be complemented by the other [Sarantakos S. 1998]

2.4.1 Reports and Documents

Reports and other documents on the national shelter strategy of Ghana have been reviewed to understand the background of the whole issue. Further more, articles and books on urban land and shelter for the poor as well as Internet sources have also

provided additional information especially that of UN-HABITAT (which is the world body responsible for issue concerning shelter for all) has enhanced the study.

The Kwame Nkrumah University of Science and Technology's (KNUST) main library, Department of housing studies and Institute of Land Management and Administration (ILMAD) library all of KNUST provided additional information for my study as I had the opportunity to read reports and research concerning the housing sector of Ghana. The Building and Road Research Institute (BRRI) at Fumesuah near Kumasi was one establishment that provided me with information concerning various researches into building materials and construction processes that are more suitable for the Ghana's building industry. Other establishment library's that was very helpful for my study was the EPA, Forest Commission and Ghana institute of Surveyors (GIS) all based in Accra.

This secondary source provided a general understanding of the subject area. Though not focused on specifics, it present the researcher a wide range of ideas in the field and also helps to complement other specific information from the primary data source [Cobb, L. 1990]

2.4.2 Questionnaire

Questionnaire has been one of the sources of information and data collection method employed for the study .This provided first hand information (primary data) for the subject matter as it was focused on issues. Questionnaire was administered to some selected members of the GREDA to collate their views on certain issues of their activities. The questionnaire further served as a survey to understand the main concerns of the estate developer with respect to the study.

Statistics from the GREDA office shows that Accra is host to more than 90% of the real estate agencies however the study made a random sampling of 10 companies due to proximity and also time constraints as I had to send the questionnaires personally to them. My follow-up for the questionnaires enabled me to also get certain additional information that was not in the list of questions. This was so because I ended up having short discussions with some of the staff who were willing to assist.

An attempt was made to ensure that the questionnaire was simple to understand by all and also optional answer was provided to facilitate easy completion. This was so because of problems I encountered with a study on municipal waste management. Simply because these agencies are private companies and are only enthused with things that will enable them make profit. They usually feel reluctant to assist students when they do not benefit in financial terms. In spite of this there were isolated situations where the questionnaire require own answers from the different firms to appreciate new ideas (see Appendix A).

2.4.3 Interview

Interview has been one of the main source of information for the research as it helps to investigate underlining motives of a subject in a way that self administered questionnaire cannot. Further more it is viewed as a flexible and adaptive way of finding out [Robson. C 2002; Kvale S 1996].

The interview undertaken for this research was based on two of the three types and styles of interviews suggested by Robson (2002) - **Semi structured** and **unstructured** interviews. He explains that the semi structured style as type of interview that has a predetermined set of questions with a flexible order which depend on what the interviewer perceives of what seem appropriate or inappropriate looking at the respondent capabilities. This was the method adopted for the interview with Mr. Yahaya of the ministry for Works and Housing who also doubles as an architect by profession. Some of the questions altered to reflect both the ministries (Governments) stand and the architects' views on how they can contribute to the environmental sustainability of the housing sector. Other professional interviewed were Dr. Inkoom and Mr. Asamoah all of KNUST, Mr. Atiemoh and Nana Osiewusu of BRRI.

Robson (2002) describes the unstructured interview as the one that the interview follows the area of interest or concern of the interviewer and can be completely informal. This is an example of the numerous conversations that I had with certain officials at the Environmental Protection Agency of Ghana (EPA) and Ministries of Land and Forestry (MLF). This research used these two approaches of interview for data collection to enhance the findings.

2.5 Analysis

This report has been partly analysed based on the **Institution and organisational theory** by Richard Scott (1995) where the three pillars of institution, (cognitive, regulative and the normative) is brought to bare as descried further in chapter three. The housing sector is viewed by this report as an institution, the attribute of these three pillars will be use to understand why certain things happen the way they are and will also help to suggest appropriate measures to employ in addressing some of the current problems.

Literature and empirical data collected was also one of the main backbone for the analysis of my findings. The research has been able to touch on most of the pertinent problems in the housing sector to enable one appreciate all the concern issues.

Chapter Three

Theoretical Framework

The conceptual framework of this study is mainly base on Richard Scott institution and organisation theory [Scott 1995]. This theory views institution as being composed of three pillars namely; cultural cognitive, normative and regulative elements which, in addition to, other certain activities and resources bring about meaning to social life. This chapter describes the various elements of institution and shows how it is used in the study.

3.1 Institutions and Organization theory

Institution is define as

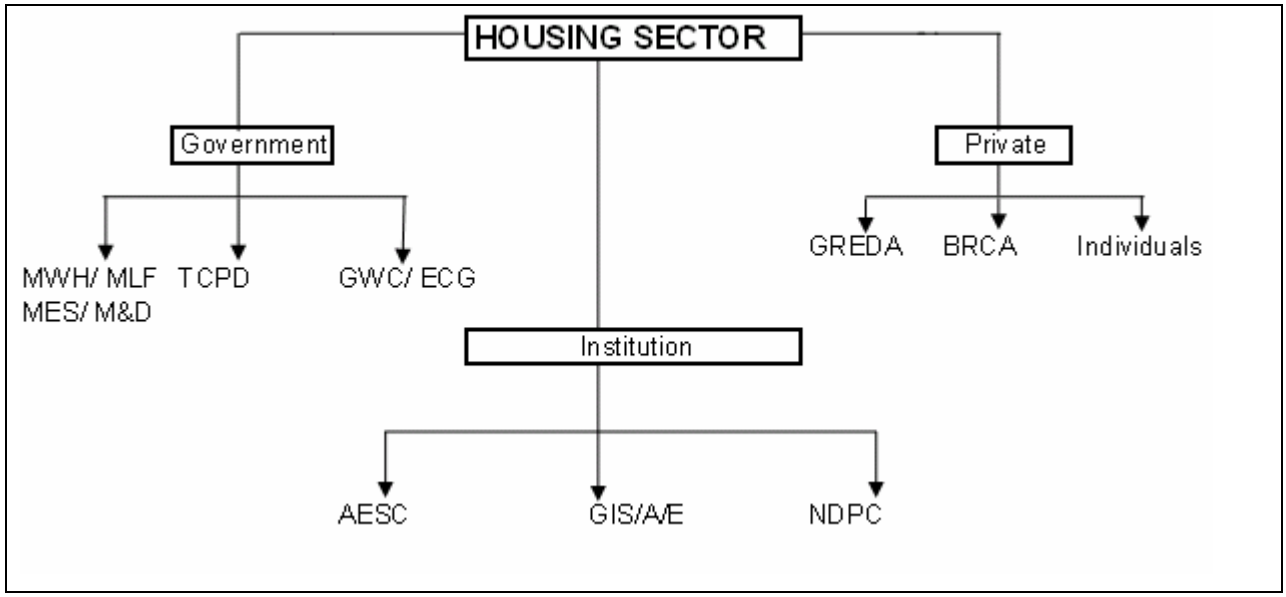
> *"An establishment, organization, or association, instituted for the promotion of some object, esp. one of public or general utility, religious, charitable, educational, etc., e.g. a church, school, college, hospital, asylum, reformatory, mission, or the like."* [1]

In this report, the housing sector of Ghana is viewed as an institution with the main actors being the government (Ministry of works and housing), Town and Country Planning, Real Estate Agencies (GREDA), Municipal and district Assemblies, National development Planning Commission, the architectural and engineering services company, building material suppliers and citizens. The aforementioned forms the core of the construction sector however other stake holders such as the environmental authorities namely the Ministry of Environment and Science and also the Environmental Protection Agency, Ghana water company, Electricity Company of Ghana, are considered as part of the stakeholders as

[1] Prof. Currah's 3 Core section: What Does "Institution" mean http://academic.brooklyn.cuny.edu/core3/currah/question/institution.htm

This report is focuses on how to achieve environmental sustainability of the sector as a whole.

Table 3.1: Ghana's Housing institutional setup



MWH – Ministry for Works and Housing	MLF – Ministry of Lands and forestry
MES –Ministry for Environment and Science	GWC – Ghana Water Company
ECG – Electricity Company of Ghana	GIS – Ghana Institution of Surveyors
AESC- Architectural and Engineering services company	BRCA – Building and Road contractors association
M&D – Municipal and District Assemblies	GIE – Ghana institution of Engineers
GIA – Ghana Institution of Architects	NDPC – National Development Planning Commission
GREDA – Ghana Real Estate Developers Association	

Many schools of thought have defined institution in several ways however this report embraces Richard Scott definition; "Institution consist of cognitive, normative and regulative structures and activities that provide stability and meaning to social behaviour. Institutions are transported by various carriers- cultures, structures and routines- and operate at multiple levels of jurisdiction." [Scott, 1995]

Scott (1995) definition of an institution categorises it into three main pillars:

- **Regulative**- institutional constraints and regulative behaviour
- **Normative**- values (ends), norms (how things should be done), roles (conceptions of appropriate action)
- **Cognitive**- social construction of reality; to understand an action you need to take into account not only the objective conditions but the actor's subjective interpretation of them; importance of constitutive rule –the creation of categories and construction of typifications; social construction of actors and interests.

Scott (1995) describes these pillars according to five main dimensions "along which assumptions vary and arguments arise among theorist emphasising one element over the others"

These dimensions are:

- **Basis of compliance**: This usually represents the process of conforming to a desire demand or proposal or dominating by force. As can be seen from the table below, there are vary ways from which Scott (1995) views the compliance of the three pillars. The regulative pillar believes in expediency or in order words what is advisable whilst the normative and cognitive postulate as a social obligation and taken for granted ness respectively.
- **Mechanisms:** This is the mode of achieving for example results. Sometimes one requires a coercive force, normative rules or ethics and may be to imitate to get things done.
- **Logic:** This concerns with what makes sense. From the table cognitive thinker just does things and do not question the legitimacy (orthodoxy).
- **Indicators:** Indicators here refers to the measure that is accepted by all.
- **Basics of legitimacy:** This refers the backbone of what makes it lawful as the Regulative pillar refers to legality and the normative is concern by morality.

According to Anneke Lub (2003) of CHEPS Summer school, Scott's definition for legitimacy is "that of a basic perception or assumption that the sanctions of an entity are described, proper, or appropriate with some socially constructed system of norms, values, believe and definitions". Further more each pillar is seen to have its distinguishable basis of legitimacy.

Table 3.2

Varying Emphases: Three Pillars of Institutions

	Regulative	*Normative*	*Cognitive*
Basis of compliance	Expedience	Social obligation	Taken for granted
Mechanisms	Coercive	Normative	Mimetic
Logic	Instrumentality	Appropriateness	Orthodoxy
Indicators	Rules, laws, sanctions	Certification, accreditation	Prevalence, isomorphism
Basis of legitimacy	Legally sanctioned	Morally governed	Culturally supported, conceptually correct

Source: Scott 1995

The table above explains the principles behind all the three pillars and how they affect institutions such as housing or building construction sector. This background provides an understanding of some of the environmental concern issues with the construction sector as a whole. It is evident that most environmental problems are caused by human activity so it imperative that measures geared towards addressing them is human focus.

3.1.1 Regulative Pillar

In support of this pillar Scott argues that regulatory processes consist of the ability to make rules, inspect and review others conformity to them, and further more engineer sanctions, reward or punitive measures in an attempt to affect peoples' behaviour [Scott, 1995]. The main purpose of this pillar is to constraint human behaviour. These rules are represented not only as regulations but also contracts and guidelines. The mechanism to conform to institutions can therefore, according to this pillar, be seen to be coercive. Rule and regulations are said to control these elements (coercion,

expedience) of the regulative pillar [Anneke Lub, 2003]. Theorists in support of the regulative pillar do so usually because of its defined regulative process; rule setting, monitoring, and sanctioning activities. Laws and regulation are made by people for people to ensure ‘sanity’ in society [Scott, 1995]. Society is dynamic and laws or rule change as society also changes.

Example of this is by way of laws governing building permit of the ministry of works and housing on the requirement one must satisfy before he/she will be allowed to develop any parcel of land for human habitation purposes. An assessment of some of the existing rules and regulations governing building construction sector is made to understand how this has influenced the goals of the country’s environmental sustainability objectives.

3.1.2 Cognitive Pillar

Cognitive elements are “the shared conceptions that constitutes the nature of social reality and the frames through which meaning is made” [Scott. R 1997] compliance of this theory occurs in many situations because other types of behaviour are inconceivable; routines are followed because they are taken for granted as ‘the way we do things’. Advocates of this view stress the legitimacy that comes from adopting a common frame of definition of the situation.

The cognitive view insists that much of the coherence of social life is due to the creation of categories of social actors. Through construction of typifications, constituting rules are creating sense and meaning to ideas, things, events and participants.

The cognitive thinking of people in relation to how they perceive the issue of environmental sustainability will be used as a guiding principle to understand why people engage in certain actions.

3.1.3 Normative Pillar

Advocates of this pillar places emphasis on normative rules that introduce a prescriptive, evaluative and obligatory dimension into social life. Normative system consists of values and norms. Values are conceptions of the preferred while norms specify how things must be done and also define legitimate means to pursue valued ends (Scott 1995). Norms and values guide behaviors of actors and portray what is right or not for actors to do. This pillar is also very important element of institutions and their basis for legitimacy is a moral one (See table 3.1)

This pillar will be used as a guiding rule to assess what society sees as what are the key environmental concerns in the housing sector. How environmentalism is embrace by the social setting of the citizenry etc. The normative pillar gives an idea of how things are and how things must be and with this, there will be a general understanding of why certain things are done in certain ways.

All the three pillars discussed earlier are intertwined to play a major role in shaping societal behaviour. This framework will be use as the basis to assess how the various stakeholders concern in this institution has affected both positively or negatively the housing sector of Ghana's economy looking at it from the three main pillars. The above-mentioned theory will be one of the tools for analysing and assessing the pros and cons on of achieving environmental sustainability of Ghana's housing sector.

Chapter Four

Literature Review

This chapter discusses mainly the highlights of the research question and seeks to bring about a general understanding of some the trends in relation to the issue of housing. It further discusses Ghana's environmental consciousness.

4.1 Housing

Housing represents one of the most basic human needs and has a profound impact on health welfare, social attitudes and economic productivity of the individual. It is also one of the best indicators of a person's standard of living and of his or her place in society [UN HABITAT, 2002]. Despite this essential role played by housing as a basic need, an adequate supply of this commodity has been lacking in most societies throughout the world.

The situation is particularly serious in developing countries where population growth and urbanisation are increasing very rapidly and where the gap between housing and supply is greatest. This condition remains because housing has typically been regarded as an unwanted stepchild, a frustrating nuisance in the family of projects that constitute development or economic programmes [UN-HABITAT, 2002]. Paradoxically, past theories of economic development regarded housing as a non productive, durable consumption goods or services with an extremely high capital output ratio [P.K.B Asamoah. 2005]. Ghana is one of the group of countries where the above conditions prevail.

4.1.2 BACKGROUND OF HOUSING POLICIES IN DEVELOPING COUNTRIES

One of the major areas of concern in the development process in the developing world is the problem of adequately providing for the housing needs of the mass of the people. The importance of housing in the economy cannot be over-emphasised. Together with

food and clothing, they form the basic essentials of life. The problem is more acute in developing countries where majority of citizens live in squalor, hopelessness and in degraded conditions. It is in the light of these that housing has engaged the attention of governments during the last two decades.

From the 1960's to the early 1970's the universal formula for housing policy held that the enormous growth of slum and squatter housing stem from people's inability to pay for conventional housing (housing from the private sector) and furthermore, government would solve the problem by building and subsidising the units. The formula gave rise to the concept of mass housing. With this concept as the backbone of governments housing policy, governments built mass housing with the sole aim of handing the units over to low-income households [Rashid, 1994].

Failure to this attempted solution to low-income households housing problem suggested that, governments in Third World Countries could not mobilised enough resources to sustain the programme. Consequently in the 1970's led by Charles Abram and Turner, self-help housing became a major policy tool for Third World governments [P.K.B Asamoah. 2005]. The policy was enshrined in upgrading and site and services schemes. This policy gained ground because of the mushrooming of squatter settlement, and slums in Third World cities. The rationale behind this concept was that upgrading site and services might improve the chances of poor families to benefit from governmental housing investment in three ways [P.K.B Asamoah. 2005]:

a) Funds that governments need to house one family conventionally can service and provide several people with serviced plots of basic information in old neighbourhoods. The house is also occupied before completion and allows the builder or owner to develop that unit at his own pace;
b) low-rate of subsidy;
c) The best way to increase access is by cutting standards. Site and services schemes cut standards as opposed to conventional housing.

4.2 Urbanization and Human Settlement

In simple language, the term Urbanisation may be defined as the increase in the proportion of people living in towns and cities. Urbanisation occurs because people move from rural areas (countryside) to urban areas (towns and cities). A country is considered to be urbanised if more than 50% of its population live in urban places [Enviro Facts, 2001]. This usually occurs when a country is still developing. City authorities have to factor the related problems of urbanisation into their development agenda e.g. provision of infrastructure, social services, adequate housing and the likes. These requirements have become a mirage in many developing countries as their governments have not obtained any meaningful achievement on the issue due to certain constraints.

Cities in developing countries are already faced by enormous backlogs in shelter, infrastructure and services and confronted with increasingly overcrowded transportation systems, unsustainable consumption patterns, deteriorating sanitation and environmental pollution [Inkoom, 2005].

National and local governments in developing countries have only a very limited capacity to cope with this transformation. This contributes to rapid increases in urban poverty, manifested through poor housing conditions, insecure land tenure, urban crime and homelessness. Moreover, poorly managed cities have negative impacts on environmental conditions. Taking into consideration pressing issues of human settlements development, the Habitat Agenda states that "*Urban settlements, properly planned and managed, hold the promise for human development and the protection of the world's natural resources through their ability to support large numbers of people while limiting their impact on the natural environment*." [UN-HABITAT, 2002]

Africa has the world's fastest annual rate of urbanisation. The annual average urban growth rate is 4 per cent, twice as high as Latin America and Asia. Already, 37 percent of Africans live in cities, and by the year 2030 this is expected to rise to 53 per cent [UN-HABITAT, 2002. A.K. Tibaijuka 2003].

The 2003 Global report on human settlement by the UN-HABITAT showed that Sub-Saharan Africa has the worlds largest proportion of urban residents living in slum, and

its home to 72% of urban African citizens [UN-Habitat 2003]. That percentage represents a whopping 187 million people living in inhumane conditions. This revelation makes nonsense to the Millennium Development Goal [MDG] number 7 target 11, which commits governments to achieve a significant improvement in the lives of at least 100 million slum dwellers by 2015.

The world became enlightened on the issue of physical and spatial organization of human life on this planet, and the need for a national and international action required to accommodate the growing number of population in urban and rural communities during the United Nations conference in 1976 in Vancouver, Canada. This conference, called Habitat: United Nations Conference on Human Settlements, established the concept of human settlements to consist of several elements that had been previously considered separately from one another - housing, building, planning and the relationship of these and such other activities as environmental change and national and international development. The Vancouver Declaration defined human settlements as follows: *"the totality of the human community - whether city, town or village - with all the social, material, organizational, spiritual and cultural elements that sustain*" [UN-HABITAT, 2002]. By this definition, human settlement comprised of physical components such as; shelter, Infrastructure and services

The second United Nations Conference on Human Settlement -Habitat II was held in 1996 at Istanbul, Turkey. Popularly called the City Summit, brought together high-level representative of national and local governments, private sector, NGOs, research and training institutions and the media. The themes of the conference were [Sharma, 1996];

- Adequate shelter for all, and
- Sustainable human settlement development in an urbanised world.

The Conference adopted the Habitat Agenda, a global action plan to realise sustainable human settlements. The Regional Action Plan and the Habitat Agenda has become the major guide for countries to improve the quality of life and promote sustainable development of human settlement the world over [UN-HABITAT, 2002]. Various countries are required to follow-up the recommendations of the Habitat Agenda and the Regional Action Plan with appropriate actions to meet the objective.

In the year 2006, the World Urban Forum is returning to Vancouver (Canada) where it all started 30 years ago with the establishment of UN-HABITAT. This gathering will bring together public and private institutions, experts and decision-makers from around the world to discuss the key urban challenges facing the world today.

The UN General assembly in 1985 designated the first Monday of every October as world habitat day. This day is used to remind the world of the state of human settlement and the basic right of adequate shelter [UN-HABITAT 2003a].

4.3 Sustainable Development

"Sustainable development is development which meets the needs of the present without compromising the ability of future generations to meet their own needs." World Commission on Environment and Development, *Our Common Future*, pp. 4, Oxford University Press, New York, 1987. This definition has been formulated by the World Commission on Environment and Development (WCED), led by the Norwegian prime minister Gro Harlem Brundtland, in 1987.

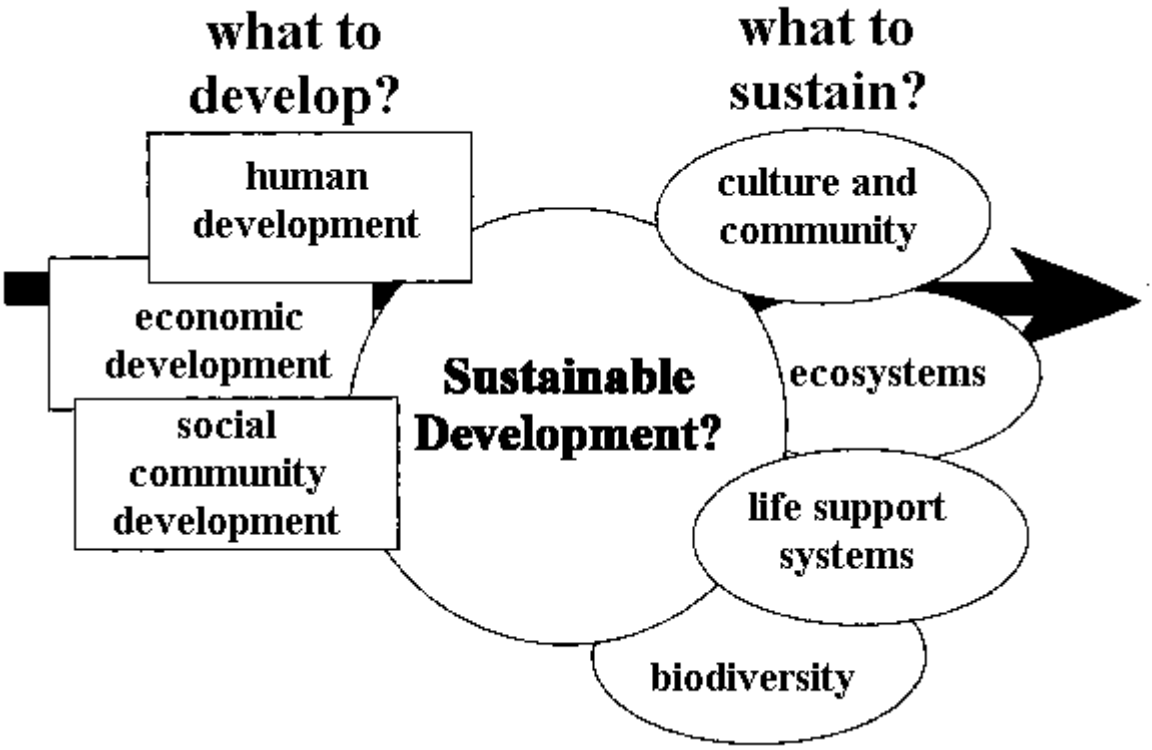
Sam Hui (2002) argues that the word 'development' in this definition implicates two aspects of concepts: It is omni disciplinary, it cannot be limited to a number of discipline or areas, but it's applicable to the whole world and everyone and everything on it, now and in the near future. Secondly, there is no set aim, but the continuation of development is the aim of development [Sam Hui, 2002]. He further claims that the definition is based on two concepts:

- The concept of ***needs***, comprising of the conditions for maintaining an acceptable life standard for all, and
- The concept of ***limit*** of the capacity of the environment to fulfil the needs of the present and the future, determined by the state of technology and social organisation.

The need consist of first basic needs such as food, clothing, housing and employment. Secondly every individual, in every part of the world should have the opportunity to try and raise his life standard above this absolute minimum [Sam Hui, 2002]. The limits

consist of natural limitations like finite resources, but also of declining productivity caused by overexploitation of resources, declining quality of water and shrinkage of biodiversity. For our common future it will therefore be best if needs are best fulfilled while limits are not increased but preferably decreased. This would lead to the quite simple conclusion that all political, technical and social development can easily be evaluated in the light of sustainable development by these two arguments. Any development should help fulfil needs and must not increase limitation [Sam Hui 2002]

Fig 4.1 Sustainable development



Source: http://www.asu.edu/caed/proceedings97/hitchcoc.html

Table 4.1

Economic dimension of sustainable:	**Environmental dimensions of sustainability:**	**Social dimension of sustainability**
• Creation of news markets and opportunities for sale growth • Cost reduction through efficiency	• Reduce waste, effluent generation, emissions to environment • Reduce impact o human health	• Workers health and safety • Impacts on local community, quality of life • Benefits to

improvement and reduce energy and raw material • Creation of addition added value	• Use of renewable raw materials • Elimination of toxic substance	disadvantaged group e.g. disabled

Source:http://www.arch.hku.hk/research/BEER/sustain.html

The main concern of environmental sustainability is to leave the earth in as good or better shape for future generations than we found ourselves. By definition human activity is only environmentally sustainable when it can perform or maintain indefinitely without depleting natural resources or degrading the natural environment.

4.3.1 Poverty and sustainable development

There seem to be conflicting reports when it comes to the issue of sustainable development and the low-income groups. Most of the writings about sustainable development not only ignore the needs and priorities of the poor but also cast them as major causers of environmental degradation [Sam Hui, 2002]. Another school of thought also believe that low-income groups contribute little to the global environmental problems as their income levels cannot support high resource-intensive capital goods such as automobile. In the same way also the volume of waste they generate per person are much lower than high-income groups.

The fact that people are poor means they generally have the most marginal or fragile renewable resource on which to draw their livelihoods. The more intense the competitions for access to resources, the more the lowest income groups are pushed to the least valuable margins. As a result they have most difficulties in sustaining production levels and are most likely to forsake long term sustainability because of short term survival [WCED, 1987]

4.3.2 Sustainable Construction

Construction involves large investment. Its economic, productivity, employment, financial and property markets, therefore, is important. Construction occupies land and

uses minerals, water, technology, chemical processes and energy in production of building material and use. It is therefore imperative to consider its environmental impacts. A large labour force both skilled and unskilled- is employed in construction work and users of the end product of construction process are human societies. Therefore the social aspects of construction are important. The institutional framework governing construction processes and product has a substantial bearing on the quality, output and cost and, therefore the institutional factors are important too.

Building materials and designs, construction techniques, and building operations and maintenance all have environmental impacts that can be minimised. Sustainable building merges sound, environmental responsible practise to look at the environmental, economic and social effects of a built project as a whole [Seattle.Gov 2001]. The entire life-cycle of the built environment is examined (planning, design, construction, operation and maintenance, and demolition). As construction is a process of many parts, Kirtee Shah views sustainable construction as consisting of sustainable design, sustainable planning, sustainable financing and investment; sustainable materials; sustainable tools, technology and methods; sustainable ownership and use; sustainable profession and labour practises ; sustainable institutions and of course sustainable product – with sustainable meaning that which protects nature and environment; reduces pollution; conserve resources and shares equitable; saves energy; treats people fairly and in a just manner; respects knowledge and tradition; and the vulnerable. [Kirtee Shah]

The table below show some facts about the construction industry which one has to take a critical look at if the issue of sustainable development is a main concern.

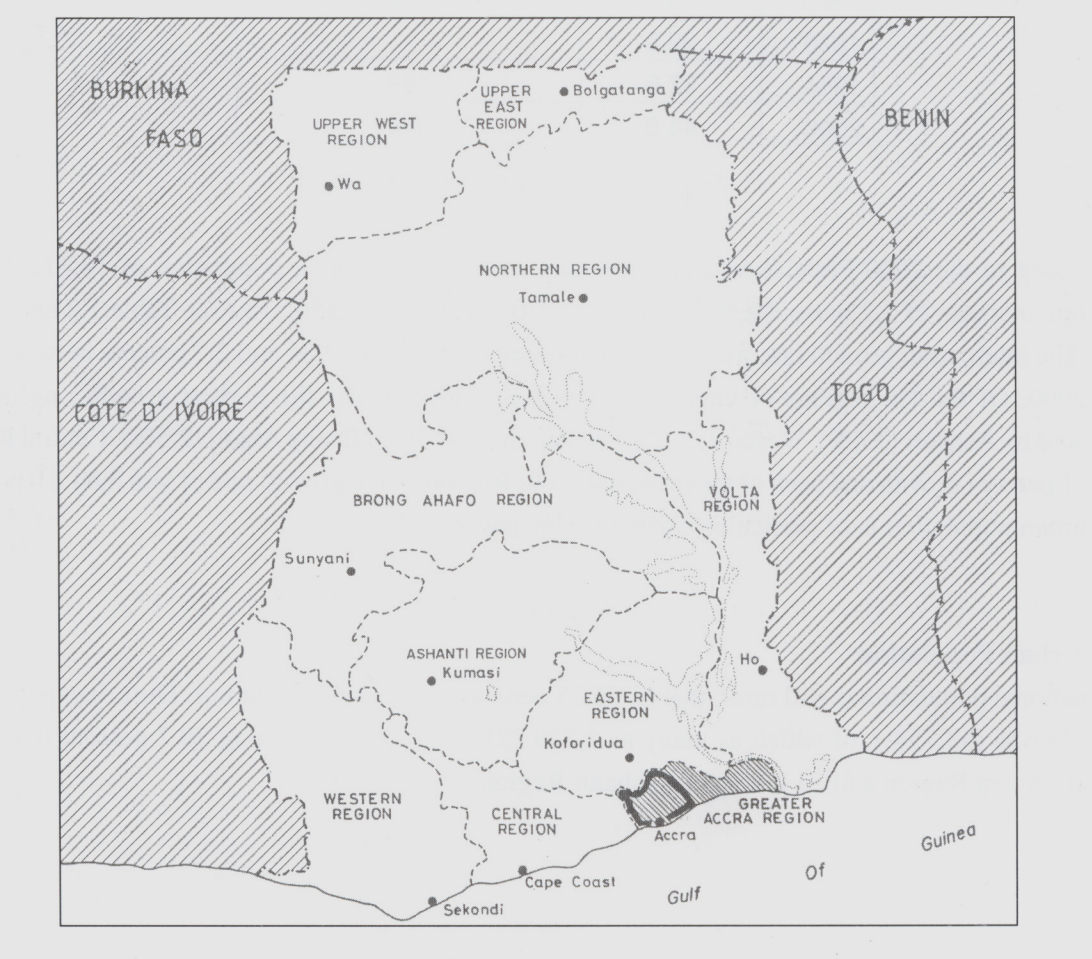
Buildings consume or are responsible for:

40% of the world's total **energy** use,
30% of **raw materials** consumption
25% of **timber** harvest,
35% of world's **CO2** emissions,
16% of fresh **water** withdrawal,
40% of municipal **solid waste** destined for local landfill, and
50% of ozone- depletion **CFCs** still in use
Structures also affects watersheds, habitat, air quality and community transportation

Source: Worldwatch paper # 124

4.4 The Country Ghana

Fig 4.2 Map of Ghana



Source: UN-HABITAT, 2004

Located in West Africa, Ghana is a relatively small country bordered in the north and northwest by Burkina Faso, in the east by Togo and in the west by Ivory Coast. The Gulf of Guinea lies to the south. The area is approximately 238,500 square kilometers and the population is approximately 18.9 million giving an overall population density of 77 persons per square kilometers (2000 census). Ghana is a lowland country except for a range of hills on its eastern border. Several rivers and streams across the sandy coastal plains. The Volta River in the east was dammed with the Akosombo Dam, forming the largest man-made lake in the world. The hydroelectric scheme at the dam generates much of Ghana's electricity. The climate is tropical with annual rainfall ranging from about 1,000 mm in the north to 2000 mm in the south (Ghanaweb). The hammattan, a dry desert wind, blows from December to March

Ghana is a republic and is a member of the West African economic grouping of countries (ECOWAS). The economy is largely base on agriculture. Ghana was once the world's largest producer of cocoa [ISSER, 2003]. Mining, logging, fishing and light industry are also key industries. The Gross National Product is about $400.00 [World Bank 2002].

After obtaining independence from Britain in 1957, Ghana's economy weakened, resulting in lack of investment in the provision of new and maintenance of existing infrastructure. This led to a situation of extremely poor municipal infrastructure and urban services throughout the country. In 1992, a new constitution saw the return of the country to democratic rule and multi-party elections have been held in 1996, 2000 and 2004. With the adoption of more market – oriented policies and support of the international community, Ghana's economic and infrastructure have, in recent years been improved.

4.4.1 Environmental protection in Ghana

The Stockholm conference on Human and Environment in 1972 which was organised as a result of a growing concern world-wide on the dangers posed to the environment through careless human activities prompted the government of Ghana to establish an Environmental Protection Council (EPC). This was a direct outcome of recommendation of the conference as the world body further set up the United Nations Environmental Program (UNEP).

Even before the Stockholm Conference, several bodies in Ghana had already taken important initiatives in various aspects of environmental work. The most prominent were [Ghana EPA 2004]:

- The Scientific Committee on Problems of the Environment (SCOPE) of the Ghana Academy of Arts and Sciences established as the local counterpart of the international body of the same name,

- The conservation Committee of the Council for Scientific and Industrial Research,
- The Ghana Working group on the Environment, which was informal group of individuals scientist united by common concerns about environmental matters,
- National Committee on the Human Environment formed by the Ministry of Foreign Affairs in 1971 as a result of concerns expressed by the Economic Commission for African Unity regarding the need to conserve and protect Africa's natural resources

It is therefore evident that before the Stockholm Conference, Ghana had long felt the need for environmental protection and had prepared the ground for the establishment of a body to deal with environmental matters in the country. The EPC was established by the National Redemption Council (NRC) Decree 239 and received the signature of the then Head of State on the 23rd January, 1974. It was however inaugurated on June 4, 1974 to coincide with the worlds' environment day [Ghana EPA 2004].

The functions of the EPC as set out in the Decree establishing it included the following:

- Co-ordination of all environmental matters in the country and responsible for advising government on all matters relating to social and economic life of the country with the aim of ensuring that sound environmental practises and standards are observe in all aspects of development
- Ensuring that the public are aware of their collective and individual responsibility in the management, enhancement and protection
- Serve as the official national body for cooperating and liaising with the local and international organisation and bodies on environmental matters.

The EPC continued to become an advisory body until 30th December 1994 when it was transformed into an agency by the Environmental Protection Act, 1994 (490). The Environmental Protection Agency (EPA) became a body corporate with powers to sue and be sued. It was also given the responsibility to regulate the environment and ensuring the implementation of government policies on environment.

4.4.2 Ghana's Environmental Policy

Over the past years, the country had been addressing its environmental problems largely on ad-hoc and cosmetic, or at best sector oriented and therefore had been very limited in scope [EPC, 1991] The worlds' environmental concerns enlightened the government of the fact that the economic prosperity of the country depended on the maintenance of high quality environment. The country came out with its policy direction with respect to the environment in the early 1990 in order to take due cognisance of environmental consideration in all development efforts and plans. Below are some of the main objectives of the policy. Specifically Ghana's environmental policy seeks to [EPC, 1991]

- Maintain ecosystems and ecological processes essential for the functioning of the biosphere,
- Ensure sound management of natural resources and the environment;
- Adequately protect humans, animals and plants, their biological communities and habitats against harmful impact and destructive practises, and preserve biological diversity;
- Guide development in accordance with quality requirement to prevent, reduce, and as far as possible, eliminate pollution and nuisance
- Integrate environmental considerations in sectoral structural and socio-economic planning at the national, regional, district and grassroots levels;
- Seek common solution to environmental problems in West Africa, Africa and the world at large.

4.4.3 Environmental Management in Ghana

Environmental considerations have taken centre-stage in development planning and policy decision- making process at all levels, national and global. The environmental policy of Ghana endorses the preventive approach to environmental management and emphasis the need to promote socio-economic development within the context of prescribed acceptable environmental standards and safeguards [Ghana EPA, 1995] Our current destructive paths of development are clearly unsustainable and there has been the need to reverse the trends and preserve the integrity and natural resources base environment, both for the present and future generations, through effective environmental interventions and strategies.

Ghana therefore accepted the use of Environmental Impact Assessment (EIA) as the main environmental management tool since it had the potential for contributing towards the sustainable use of environmental resources. It is in recognition of the immense demonstration potential of EIA, that the EPA Act 490 mandates the Agency to ensure compliance of all investment undertakings with any laid down environmental impact assessment procedure in the planning and execution projects, including compliance in respect of executing projects [Ghana EPA 1995].

Ghana has made a concerted effort to achieve environmental sustainability however much needs to be desired on this issue since what is on the ground does not reflect what one sees in the policy document. This research focus only on the environmental concerns of the housing sector as it intends to find solutions to the perennial problem.

Chapter Five

A look at Ghana's Housing Policy

This chapter re-examines Ghana's housing policy in totality. It does that by reviewing the policy trends way back from pre-independence Ghana to present Ghana governments housing policy. The chapter provides a thorough understanding of how governments over the years have tried to address the housing needs of the citizenry, looking at the set backs of the various policy and how attempt to solve them have still not yielded the desired results.

Otherwise referenced, the information about the history of the housing policy was obtained from Mr P.K.B Asamoah of the planning department of the KNUST [P.K.B Asamoah, 2005].

5.1 Review of Ghana's Housing policy

Ghana is one of the Africa countries which has been experiencing rapid population growth. From a population of 6.7 million in 1960, the nation's population now stands at 18.8 million 2000 population census [Ghanaweb 2005]. This high rate of population growth has created an equally high demand for housing in especially the urban settlements. It is against this background that successive government's since independence have been developing various policies to address the housing needs of the populace.

5.1.1 Pre-independence Housing Policy

Prior to independence, the colonial government's housing policy was mainly the provision of mass housing to house the victims of the Second World War and those in the employment of government.

All the efforts made in this direction happened in periods of emergency- during the outbreak of the bubonic plaque in 1924 and the earthquake in 1939 in Accra. – The Zongo estate was started in 1929 – 100 units were built [P.K.B. Asamoah 2005]

In the year 1939, the Labadi and James Town estates were built in responds to the earth quake in Accra. Other housing schemes initiated during this era were limited to the provision of barracks for the military, single and two roomed units for the police, civil servants and miners, and bungalows for senior civil servants.

5.1.2 Early Post Independence Housing Policy

The decade after independence did not change very much from the Colonial government's housing policy. The new government headed by Dr. Nkrumah, sought for assistance from the United Nations and a commission was set up. The recommendations of the United Nations Commissions Report emphasised the fact that there must be a shift from provider of Housing for low-income groups to encouraging those who have the ability to build to provide their own housing. However, the report was not given full attention. Some of its recommendations were implemented whilst others were ignored (for reasons best known to the Nkrumah government). For the first time in the history of the nation, a loan scheme was set up for the rural areas (***Roof Loan Scheme***). This period also saw the establishment of the First Ghana Building Society. In addition to this, the housing policies of the Second Development Plan (1959-1964) incorporated some of the Commission proposals. Under this plan, the Roof Loan Scheme, which has hither to been for only the rural areas, was extended to the urban areas. The First Ghana Building Society was also strengthened to extend mortgages to special groups such as civil servants (***Mortgage loan for Civil servants***) [Ghana Government, 1959].

All these attempts were in recognition of the fact that government alone cannot house the poor and that Self-help was the only practical way to house the low-income group through material loans. The system where government takes care of the provision of serviced plot (Site-and-Services scheme), was mentioned in the plan but never given attention.

This policy however experienced some setbacks. Notwithstanding the governments intention of self-help housing, the capital expenditure proposed showed a greater

emphasis on direct Public Housing than might have been expected (53.8% of total housing budget) whilst the Roof Loan Scheme and other self-help housing shared 34.6%. A quick look at the Urban Roof Loan Scheme indicated that the scheme did not achieve its objectives. Out of the proposed 6,700 units only 2,517 houses were built from the scheme.

Three Development plans were prepared during Nkrumah's era (1951-1956). The major housing policy component was the establishment of the TDC with the objective of housing industrial low-income workers in the town. The plan also attributed the housing problem to the following:

1. high cost of building materials
2. shortage of building craftsmen
3. lack of mechanisation in the building industry
4. Rural urban migration.

In response to these problems the government instituted the Schockbeton housing scheme of prefabricated concrete housing. The scheme was targeted to provide 168 units in Accra, Kumasi and Sekondi-Takoradi. However a total of 68 units were built at a cost of £448,000.00.

On the advice of a United Nations Commission, the Schockbeton scheme was abandoned and the State Housing Co-operation (SHC) was established (presently Sate Housing company ltd). Alongside SHC, The First Ghana 1955 Building Society and Roof Loan Scheme came into being.

There were also the revision of the building regulations and the land acquisition procedure (mud was allowed to be used as building material).

The Second Plan prepared under Nkrumah encouraged individuals to build their own houses. This philosophy was backed by 4 main strategies.

1 The Roof Loan Scheme
2 Self-help housing
3 Site-and service scheme
4 Assistance from employers in the form of loans.

The third plan prepared under Nkrumah was the Seven-Year plan for National Reconstruction and Development (1963/64 – 1969/70). The plan envisaged arresting the housing problem within the decade with emphasis on the TDC and SHC. The TDC was given a target of 20,000 housing units and SHC 2,000 per annum. To this end, the government supported these two sister organisations and the Roof Loan Scheme with financial assistance to undertake the project.

The policy objective underlying this plan as regards housing was that housing was to be generated by the productive balance in investment. The focus of the policy was slum clearance and slowing down the growth of slums in the urban areas [Government of Ghana 1964].

5.1.3 1960 to 1970

In the late 1960's and early 1970's Busia (Progress Party) saw the shift in emphasis from direct housing and self-help to the development of the construction and building material industries to cope with the demand for their products by eliminating production bottlenecks. This same period saw the revision of building regulations and encouragement of co-operative housing, as well as promulgation of Rent Law (rent law – to keep rent low to make it affordable to low-income groups).

In the 1970's the National Redemptions Council (Acheampong's government) realised that all these attempts were not enough if the people were to be adequately housed. There was massive mobilisation of all domestic savings of individuals, Insurance Companies and other Financial Institutions and the funds were channelled into housing. It was during this period that the Bank for Housing and Construction was established [Ghana government, 1975, UN-Habitat, 2004]. As a Financial Institution, the Bank was charged with the responsibility of financing and implementing all housing schemes of all kinds but along the line, it did not follow the housing purpose which established it so

was closed down in 2000. The Wall Protection scheme was also instituted along side the House Ownership Scheme. Under this, public servants acquire accommodation on hire purchase. In addition loans were also made available to public servants who wanted to build their own houses. In the five-year Development Plan (1975-1980) the scope of the housing policies was expanded to cover a wider ranged of areas. The policy objectives were:

- To speed up the production of low-income houses in both the rural and urban areas e.g. upgrading of slums, co-operative housing, and utilisation of self-help methods;
- To develop local building materials- reduce dependence on foreign building materials;
- To increase governments investment in the development of the infrastructure base necessary for housing development
- To encourage firms and organisations to contribute towards housing their employees.

5.1.4 1980's

The early 1980's saw Ghana suffering a sever drought which coincided with the expulsion of about a million Ghanaians from Nigeria [Inkoom, 2005] The drought and the refugees, alongside a general decline of the economy compelled the regime to initiate one of the most severe and longest structural adjustment programmes with a strict financial control by the International Monitoring Fund (IMF). This economic recovery programme changed government's housing policy direction, as it shifted its focus from the direct involvement in the provision of housing to becoming facilitators. The private sector was therefore encouraged to provide for the housing needs for the country.

Between 1980 and 1981 emphasis of government policy was on completion of on-going housing projects and the establishment of strong and viable building material industry to produce building materials locally. The rationale was to encourage the private sector to participate fully in the housing supply.

During the early stages of the economic recovery programme the government saw house ownership as an instrument of inequality in the Ghanaian Society. The Housing Policy therefore attacked the abuse of housing as an investment. This era saw the promulgation of rent decrees and toughened penalties for infringement in rent matters (PNDC Laws No.5, 7 and 82). However, the introduction of the second phase of the Economic Recovery Programme changed the direction of the government housing policy. The government placed emphasis on the provision of adequate and affordable housing with infrastructure facilities and also creates the enabling environment for the private sector to participate in housing (Urban Projects). This to the government was to be achieved through the encouragement of private sector in house building activities [Inkoom 2005].

Structural Adjustment Programmes and housing in Ghana

Structural Adjustment Programmes (SAP) are multifaceted programmes that involve implementing policies aimed at increasing economic efficiency while also increasing the economic resilience to exchange in the global market. These programmes were designed by the World Bank and the International Monetary Fund (IMF) as a precondition to attracting foreign investors.

The process forces receiving countries to devalue their currency, downsize public service, raise interest rate, privatise public enterprises, and reduce governments spending on welfare, health and education. Thus, in order to receive new loans, developing countries must surrender control over their own natural resources, financial system, interest rates, and inflation. These measures occur when foreign investment takes place, forcing local producers to compete with international corporations for the same market.

Housing is one sector that has been seriously affected by Ghana's SAPs. The capital Accra is a very crowded city, and there is a great demand for new housing. However, Accra relies heavily on imported building material supplies. As the SAP forces the devaluation of the cedi, imported building materials became more expensive. Additionally, forced hikes in interest rates increased housing cost (as builders who needed loans were forced to pass the increased cost to buyers).

As a result, prices for new homes and rents for existing homes have skyrocketed in Accra in the past decade. In the 1990, Ghana's housing price-income ratio was 1:12, one of the highest in the world. Additionally, prospective tenants pay between a years to five years advance rent before they occupy the houses.

It is clear that the housing market has been negatively affected by Ghana's SAPs. This is especially dangerous in a city such as Accra that continues to experience high in-migration rate.

Source: www.macalester.edu/geography/course/geog261/eskidmore/sap.html

5.1.5 1990 to present (2004)

The overall housing policies of the National Democratic Congress (1993-2000) and New Patriotic Party (2001-present) had been to ensure an enabling environment for the private sector to take the opportunity to provide safe and decent shelter for the citizenry. The policy expects government to play a less role in the housing sector and concentrate its efforts on the provision of infrastructure to ensure good sanitary conditions. The government seeks to implement and achieve the national shelter strategy through the following [Government of Ghana 2001]:

- Strengthening the provision of basic infrastructure and services
- Developing affordable housing schemes targeted at low-income groups and increase access to funds
- Accelerate home improvement and upgrading and transforming the housing sector through the granting of loans, training in building skills and construction technologies
- Improving institutional arrangement for shelter delivery, encouraging production of building materials based on local resources and improving title process for land
- Facilitating the flow of resources by establishing a revolving fund for housing, mobilizing more funds for the housing sector and reviewing credit and incentives for building materials
- Encourage greater private sector participation through the elimination of constraints

Administration and Institutional Framework

The management of housing development and control is fragmented among a number of Ministries and organisation. These include [Government of Ghana 2001]:

- Ministry of Environment and Science
- Ministry of Local Government and Rural Development
- Ministry of Works and Housing
- Environmental Protection Agency
- Ghana Water Company
- Town and Country Planning Department

- Ghana Real Estate Developers association
- Electricity Company of Ghana
- National development Planning Commission
- Municipal and District Assemblies

Summary of the policy trends

Having thoroughly looked at the housing policies over the years, it can be said that the colonial governments did not find it necessary to include housing programmes in it development plan. The Nkrumah regime did not see housing totally as a social policy and fused it into to its development agenda as for example housing generate employment and has also a multiplying effect on the economy. However, some governments of post colonial Ghana saw housing as a consumption commodity.

Further more governments' direct involvement in the housing delivery e.g. mass housing was not able to address housing problem as the demand was overwhelming considering the limit financial resource from the government. The private sector which has now assume the sole responsibility of housing delivery has also further widen the gap between the rich and the poor as the sector is run by the free market ideals.

5.2 Relevant Regulations on Housing Development in Ghana

There are several sets of laws, rules, relevant policies, standards and guidelines that are important for the execution of any development project in Ghana. These include the following:

- Ghana Vision 2020
- Towns and Ordinance of 1892 (Cap 86)
- The Local Government Act 462 (1993)
- The National development Planning (Systems) Act 480 of 1994
- The Ghana Investment Act 478 of 1993
- The Environmental Protection Agency Act 490 of 1994 and LI 11652 0f 1999
- Mining Health Areas Ordinance of 1945 (Cap 84)
- Building regulations of Local Authorities passed under the local government legislation

The PNDC law 116 establishing the Ghana Investment Code also requires that the Ghana Investment Centre, which is government agency for the promotion and coordination of private investment in the Ghanaian economy, must in its appraisal of enterprise, "…..have regard to any effect the enterprise is likely to have on the environment and the measure proposed for the prevention and control of any harmful effects to the environment." [EMEF, 2004]

5.2.1 Development and Development Control

Development processes in Ghana are characterised by the usual bureaucratic nature in the whole state machinery (See fig 5.1). The overall process is also cumbersome and a wise developer needs to have the patients to go through all the nitty-gritty since he or she tends to suffer greatly in cases of litigation.

After acquiring the land, development begins with the building plans and getting them approved. The Institutions concern with plans approval processes are; the Town and Country Planning Department (TCPD), the Land Commission and District Planning Authority. When the development application is first sent to the District Planning Committee, it is referred to the Lands Commission for verification of the title to the land in question. This process can take anything between two weeks to one year and sometime even more. There is the possibility of the document involve getting lost during the waiting period.

If the land Commission is satisfied that the title is in order, the application is then sent to the Town and Country Planning Committee for consideration and to ascertain its conformity to the layout plan for the area in which the development is purported to take place. After approval from the town and Country Committee, it is sent to the District Planning Authority where the application moves from the senior Building Inspector to Building Inspector. From here it goes to the Medical Officer of Health who vets the health and sanitary aspects of the plan. The application then goes to the City Engineers who vets the structural aspects of proposed building. It is then sent back to the Senior Building Inspector who forwards it to the Treasury for assessment and tax clearance. When finally the building permit is granted, the developer can begin construction work.

The 1993 Local Government Act, Act 462 section 53 empowers the District Planning Authority to Grant the permit conditionally, unconditionally or even refuse to grant permit but with reasons. The authority also has the power to remove, abate or pull down any structure where the developer flouts regulations or does not build according to the layout and planning regulations.

The World Bank estimates that registering formal ownership/lease over a piece of unencumbered land in Ghana is the third longest registration process in the world (CHF International, 2005). The below chart depicts all the process of getting a authorization to develop a land.

DEVELOPMENT APPLICATION PROCESSING-TCPD
(Accra Office)

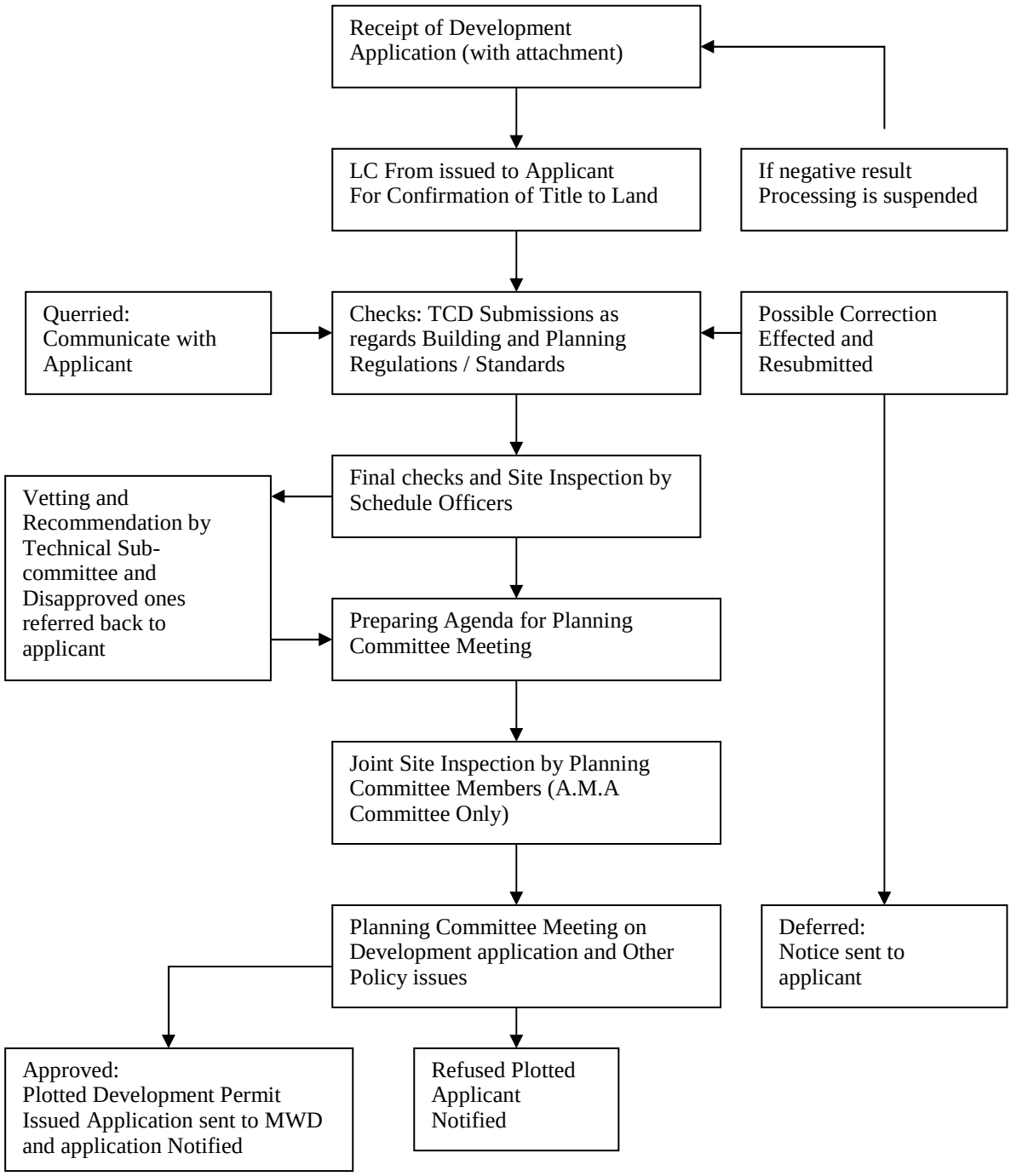


Fig. 5.1

Source: TCPD, Accra Office-Ministries

Chapter Six
Housing development and environmental implication in Ghana

This chapter focuses directly on specific issues concerning the housing sector in Ghana. It highlights some of the major constraints of the housing sector such as, financing, the issue of land acquisition, building materials, infrastructural services, and concludes with some environmental concerns in the sector. The chapter further gives a brief profile and the contributions of GREDA in the sector as the government is presently working hand-in-hand with them (private sector) in the housing delivery.

6.1 Demand and Supply of Housing

The main housing supply and demand factors include among others land, labour, building material, income, domestic services.

6.1.1 Housing Finance

Availability of financial assistance to prospective house owners has remained one of the main problems in Ghana's housing sector. The central problem faced by housing financing system in Ghana is the need for stable macro economy. It is an obvious fact that there is lack of housing finance especially for the low income earners which reduces the available supply of housing. The result of this trend is that most housing investors control very limited funds and this lead to a prolong construction period in Accra. By Inkoom's (2005) estimation, houses take between 5 to 15 years (sometimes more) to complete as a result of the limited flow of financial capital. This revelation is evident in all parts of Ghana as a simple walk through the communities is enough to see several uncompleted buildings.

Fig 6.1: Picture showing many uncompleted houses in Accra
Date : 27-02-2005.

The main financial institutions established to mobilize and provide credit for developing housing in the country are as mentioned earlier the First Ghana building Society (FGBS) and recently Home Finance Company Limited (HFC). Some banking institutions have also provided mortgage loans for housing development on a limited extent. Other non banking financial institutions that have also been involve in housing finance are the State Insurance Company (SIC), and Social Security and National Insurance Trust (SSNIT). The major thrust of governments housing finance is currently the HFC.

In spite of the network of these banking and financial institutions, there's in fact very little mobilization of saving that can be channelled into the housing delivery sector. By the World Bank's estimation over 40 % of Ghanaians live below the poverty line. People branded as middle income level are those who have a monthly income of $350.00 to $900.00 [Nana Oseiwusu, 2005]. People from the medium income bracket have problems sourcing finance from some of these institutions for their housing development let alone the low-income group which policy makers claims that the HFC is a solution to the housing finance. Per the 2005 budget statement, the minimum wage has been increased to 13,200 cedis a day (about $1.50)

Ownership of property, especially houses, is a very important aspect of the Ghanaian tradition. Houses do not only provide shelter, but also serve as a measure of social standing and prestige. Notwithstanding the high importance placed on houses and property, GREDA notes that only 5% of those who want to own a house can do so from their own resources. 60% would require some form of financial assistance and the remaining 35% are not capable of owing and building a house in their lifetime [Wisdom K Nyamadi 2004].

6.1.2 Building Materials in Ghana

Over the years traditional walling and roofing materials has been mud, thatch and un-burnt bricks but with the introduction of cement, lime and other cementitious materials, the use of these traditional materials, technology and the skills of building cheap were abandoned. Research shows that cement blocks accounts for about 39.1% of all walling units in the country. In urban and rural localities, the proportions are 65.4% and 16.5% respectively (see table 6.1). Cement blocks or concrete is the main walling material in urban housing. Its use is very high in Greater Accra 78.2% and Ashanti 72.4% [UN-HABITAT, 2004].

The country is very rich in natural resources such as limestone which can be used in its raw form for housing (see appendix B). Other materials such as cement pozzolana, lime and clay products (for the manufacture of bricks and tiles) can be produced using appropriate local and imported technology [Asamoah-Boadu 1982]. In spite of all these developments in the building material industry many Ghanaians have turn a deaf ear to this phenomenon. Even in the rural areas mud houses are being pulled down to be replaced with cement-sand blocks as it is viewed as a measure of prosperity. Research shows that houses built in mud (earth) are very good for our climatic conditions as the heat of the sun (radiation) does not easily pass through as compared to cement sand blocks [Nana Oseiwusu 2005]. The main problem faced with mud houses was that, the earth is easily washed away during the raining seasons. The Building and Road Research Institute (BRRI) came out with a solution to this problem through the soil stabilization system. The process is the addition of lime to the soil to help improve the bonding properties of the wall unit but still many have not embrace this new approach

[Atiemoh 2005]. The want for foreign materials as against locally manufactured materials has so many dimensions and this will be discussed further in the chapter 7.

Building materials accounts for about 60% of the total cost of the structure itself and there is therefore the need for a critical look at the material input if cost is an issue. Government in his wisdom to help reduce the cost of housing through the use of local raw materials established the BRRI a branch of the Centre for Scientific and Industrial Research (CSIR). Over the years some of the viable research findings of the institute among others include [J.K.Ocloo, 1986]:

- Small-scale productions of lime from limestone and clam shells from the lower Volta suing developed kiln
- Production of sand-lime bricks
- Production of clay bricks and tiles using hand moulding technology with the non-traditional residue from bauxite
- Production of pozzolana from bauxite waste which could replace about 40% of our current national cement requirement.

Investigations reveal that most of the research findings which have been undertaken by the establishment have been lying on their shelves at the mercy of rodents and cockroaches, as there has not been a consented effort to implement the findings.

Fig 6.2: picture of a timber been used as formwork. Date: 04-02-2005

Ghana exports timber as one of the main source of foreign income for the economy. In spite of this revelation, the product is not used extensively in Ghana for housing except for the roof carcass (structure), ceiling, doors, windows just to mention but a few. This is

as a result of the belief that it is an inferior and less durable material. Timber or wood products has been a

main source of energy (fuel wood) form for many Ghanaians over the past years so the idea of building a house in timber has been a very difficult concept to be embraced by the populace even though it was introduced long ago by the colonial master who settled in Ghana. However timber is widely used as moulds or formwork which does not make the actual finish product. Situation where this occurs is lintels, upper floor slabs, scaffolding, sheds, site offices, and storage sheds (see fig 6.3).

Table 6.1: Material used in Building Construction in Ghana

Building Material	**Quantity (percentage)**
Material for Roof	
Corrugated Metal sheets	6o.3
Thatch/Palm/Raffia	18.6
Slate/Asbestos	12.8
All Others	5.9
Cement/Concrete	2.4
Material for Walls	
Mud Earth/ Mud Bricks	50.0
Cement Blocks/Concrete	39.1
All Others	4.1
Wood	4.0
Landcrete	2.8
Material for Floor	
Earth or mud bricks	23.8
Cement concrete	72.0
Terrazzo	1.4
Wood	1.0
Other	1.8

Source: CHF International, 2005

The data in table 6.1 shows that in terms of construction, corrugated sheets are the preferred roofing material (60.3%); mud bricks or earth (50%) and cement or concrete (39.1%) are generally used for outer wall construction. Cement and mud are also primarily used for floors.

6.1.3 The issue of land

Land is one of the key resources in the housing sector as Inkoom (2005) puts it; where there is no land there is no building. Over the years the issue of land acquisition has been one of the main problems faced by the housing delivery in Ghana. The courts are overwhelmed with numerous land related cases as this attest to the severity of the land issue.

There are basically two types of land ownership: public or state land and private lands. Public or state land are defined as lands compulsory acquired by the government through the invocation of the appropriate legislation, vested in the president and held in trust by the state for the entire people of Ghana. In contrast private lands in most parts of the country are communal ownership, held in trust for the community or group by a stool or skin as a symbol of traditional authority or by a family [MLF, 1999]

Most of the problems encountered with land acquisition come from the private lands. In some cases, lands are sold outright without due consideration being given to the future generation. In fact purchase of an interest in stool/family lands is problematic and fraught with litigation and harassment. There have been several instances of multiple sale of a particular plot of land to different people. One critical social problem that resulted from the land dealings is the issue of land guards. Land guards are a group of men who are hired to guard a land which is faced with multiple sale to protect the owners interest. Though this is illegal, the guards are usually armed and are often engaged in fierce fight with the guards of the other party (owners). Many lives have been lost through these situations.

According to GREDA, there are over 4,000 land related suits pending at the courts to determine the rightful owner. The situation has invariably led to disputes among family members. In most cases, injunctions are placed on the development of such lands until

the rightful owner is ascertained. Meanwhile an investor who has borrowed money to develop the lands has to wait while his loan accumulates interest. It is therefore prudent that great caution is taken when acquiring land from private owners. In view of these related land problems, the government is planning of establishing a land court to fast-track all land litigations which many believe is long over due[Ghanaweb 2005].

6.1.4 Infrastructure and Services

Housing need is usually measured in terms of the housing stock deficit, but the absence of facilities or the existence of substandard facilities also spells a housing need. The quality of housing depends on the type and nature of facilities in the house or their accessibility to occupiers of the house.

In Ghana it's only a hand full of urban settlement that can boast of adequate infrastructure such as access roads, water, electricity and telephone service. In Accra for instance, a study by the University of Columbia, New York estimates that 61% of metropolitan Accra lives in informal settlement [CHF International, 2005]. Some communities in Accra that are covered by infrastructural services include among others; Cantonment, south Labadi estates, Ridge area, Abelemkpe, Dzowulu and most of the newly developed estates by some members of GREDA. Government has not been able to provide infrastructure for most communities and this further put an additional cost to building as the communities contribute monies to provide some of these services through their own effort (Self-help). The executive director of Regimanuel Gray limited (a renowned real estate agency) claims that provision of infrastructure by the private companies covers about a third of the cost of the buildings they provide [Ghanaweb, 2001]. He supports the idea where government assumes full responsibility for the provision of infrastructure as it's the situation in Ivory Coast – Ghana's Eastern neighbour. With this approach, he believes it will reduce the total cost of buying or owning a house and also help to reduce some of the problems in the sector.

In most settlements, housing development has preceded the planning scheme so makes it difficult to provide for example access roads as many buildings may have to be

pulled down in order to make way for these services. In other cases, services such as water and electricity is very poor as there are frequent power cuts and where there is water connection, hardly does water run through the taps. Infrastructure affects other productive sectors as well as housing. For instance many small scale enterprises which are located in un-serviced areas tend to reduce their potential productivity.

Fig 6.3: construction on a proposed road in Teshie, Accra.(inscription reads; **Road remove now by AMA 31-1-05**) Date: 25-02-2005

6.1.5 Labour

Ghana has a large labour force from which to draw-up for the construction activities of the housing sector. These include both skilled and unskilled labour like labourers, painters, masons, carpenters, plumbers, electrical engineers, quantity surveyors, architects, civil engineers etc. However majority of the artisans contribute to housing delivery in the informal sector.

The services offered by the informal sector artisans are comparatively cheap and are usually associated with sub-standard work. Many individual developers cannot afford the services of professional such as architect, engineers etc because the fees they charge is a percentage figure of the total project cost. Since most building construction is on incremental bases and also takes a long period to complete, it therefore makes it unwise to solicit for professional help as it makes overall construction cost high. There is always a sought of 'trade off', meaning use substandard workmanship and save

money and only hope that you get a good product. In spite of this, investigation shows that some mason can build a very good house devoured of construction defects without the assistance of a professional.

6.2 Housing Characteristic and location in Accra

The city of Accra according to a World Bank country assessment report [World Bank, 2002] developed inland from the Gulf of Guinea and the old coastal settlements close to downtown Accra (e.g., Jamestown) are now extremely dense (around 1,000 person/ha). There are many substantial buildings in such areas, some of historical importance (e.g. usher fort, light house), but infrastructure and general housing environmental conditions are generally poor.

Migrants have tended to settle in newer, poorer areas often close to water courses, prone to flooding and with poor sanitation. Accra does not have a sewage system (other than small system serving a few commercial properties in the city) and thus all areas rely on on-plot communal facilities. Public pit latrine facilities are common in Accra and other cities and bucket or pan system of human waste disposal has not been eliminated.

New development (much of it middle and higher-income development) is taking place all around Accra with land generally being allocated through traditional channels, with development largely uncontrolled and with little infrastructure provisions. This “peri-urban” development is leading to environmental problems and is placing a great strain on infrastructure and service delivery agencies.

It is estimated that at least 1.9 million urban dwellers in Ghana live below the poverty line [World Bank, 2002]. They usually group in identifiable areas of major cities. To date, these areas have developed through a mix of formal development and traditional development (e.g. land allocated by chiefs). The majority of the urban poor lives in these areas and pay rent to other house holders, often for a room in areas with poor housing stock and few urban services. Compound style living is also common in many of these areas sometimes with up to 20 families living in one or two rooms and sharing toilet facilities.

6.3 GREDA in Focus

The Economic Recovery programme which the government initiated in the middle of the1980's to revamp the state of affairs of Ghana's economy, made government to include the private sector in all national development agenda. With reference to housing development, the ministry of Works and Housing encouraged the private housing development companies to form an association in order to have a unified front to address their grievances. As a result, GREDA, an Association of Real Estate Developers was established.

The objectives for which the association was formed are [GREDA 2003];

- To provide a central organisation for real estate developers
- To provide a united front in making recommendations for government on ways of promoting real estate development and seeking solution to the practical problems in the property market.
- To promote the development of residential estate, to increase the stock in units thereby ensuring adequate provision of affordable housing for all classes of population
- To pool resources together towards greater economies of scale in real estate development and also ensure that product of members conform to national building standards and planning laws.
- In the spirit of the search for appropriate technology, the Association shall promote the use of local inputs and finance research into the suitability of local building materials in the country
- To liaise with financial institutions in developing an effective mortgage house ownership scheme for prospective owners and impress on the institutions the need for long-term financing in real estate development
- To establish links with real estate institutions and allied bodies at home and abroad with the aim of promoting the development of the industry.

Through its members, GREDA develops integrated community projects using approved housing types: 1-Bedroom, 2-bedroom, 3-Bedroom and 4-Bedroom as well as blocks of

flat for renting. GREDA has contributed immensely in the housing delivery but their houses are just beyond the reach of most Ghanaians. One can therefore conclude that they are defeating one of their main objectives (affordable housing)

6.3.1 GREDA and Environmental Sustainable Housing

The private sector housing provision which is been led by GREDA has not helped with the issue of sustainability in the sector. My general observation about some of the activities by some selected members of GREDA during my study attest to this fact. Below are some revelations:

- Depends heavily on imported building materials
- No measures towards water and energy efficiency
- No land use efficiency measure
- Land degradation through quarry activities

These and other concerns are what I will referred to as environmentally unsustainable activities and therefore requires some measures to address them as it puts the issue of sustainability in the sector at risk. Chapter seven discusses the pros and cons of the above issues.

6.4 Environmental concerns in the housing sector

The act of building construction, affects the natural environment as in the first instance, it disturbs the existing biodiversity (flora and fauna). The raw material of all construction works are obtained through the exploitation of the very natural environment that human existence depends on. As chapter four (Section 4.3.2) has provided a general understanding of some of the environmental issue in the construction industry, this section is limited to the concerns of Ghana's housing sector. It discusses some of the environmental problems that are worth looking at in order to make the housing sector more environmentally sustainable in order to meet future aspirations.

6.4.1 Quarry Activities

As mentioned earlier, fine and coarse aggregate (sand and stone) is one of the basic construction materials that every developer considers first and foremost when one wants to put up a building in Ghana. These material are virtually extracted every where that it's available. Some of the big construction companies own their own quarries where they get their supplies through the use of heavy machinery. These quarries usually obtain environmental permit and are more often than not sited away from the communities to reduce their environmental effects on their locality (mainly noise and dust). The other form of quarry can be referred to as informal quarry, where individuals from all ages, and sex use handheld tools to crush the rocks into acceptable sizes for construction purposes at location where the material is available.

Fig 6.4: Children working it a quarry. Source Ghanaweb 17-03-2005.

The informal quarry is a main source of income for most of the people who engage in it. They work from sunrise to sunset without any protective clothing or protection against the elements of the weather. Their activities poses as a health risk to themselves and also contribute to environmental degradation. Their activity does not receive any formal monitoring and they move from one point to the other without formal decommissioning.

The issue of sand waning is not different from the quarry with respect to the informal system. In Teshie, Nungua, Lashibi etc all suburbs of Accra, many have turned their backyards and open spaces into mini quarries and sand pits because the sand is readily available. These pits are usually converted into refuse dump which has its associated health problems or sometime the pits collect water during the raining seasons, developing into breading grounds for mosquitoes and other diseases. This problem further worsens the malaria 'crises in the country.

Fig 6.5: Picture showing peoples backyard turned into a sand pit and pit filled with refuse. The health hazards that the situation poses to the neighbourhood and the animal feeding on it any bodies guess. Date: 30-01-05

6.4.2 Loss of Agriculture site

Agriculture is the bedrock of Ghana's economy. It accounts for 40% of Ghana's Gross Domestic product (GDP) and 60% of Ghana's exports [ISSER 2002]. Statistics shows that over 50% of Ghanaians depend on agriculture as their main source of income (livelihood). As a result of the worlds trade imbalances many farmers are beginning to loose interest in the sector and are looking for other options for a livelihood. This fact is one of the numerous factors that have drastically increased the urban population and hence the burden on the housing supply.

Over the past two decades the landscape of Ghana's capital city has over stretched its boundaries as a result of migration and also the high demand for land for housing purposes. As land is geographically immobile and the demand highly outstripping the supply, there has been several clandestine activities in the land delivery in the major cities especially Accra (see section 5.6.3). Accra used to boast of vegetable farming business but presently there is not much to talk about as most of the farm lands have

been sold to prospective developers. This was echoed by the former minister of agriculture (Ex Maj. Quashigah) that "*we must not 'sit' on all our lands since it has the potential to affect the food supply for the future generation"[Ghanaweb2002]*.

Environmentally sensitive areas which have been declared as a no-go-zone have also had their share of the haphazard development which has sprung up in the Accra. Housing developments seen at the banks of the river Densu at Wajir (A main source of water supply to the Western part of Accra) is a typical example. The issue is that houses close by end up empting their waste into the river posing health problems to human and animals, endangering aquatic life and also making the treatment of the water for consumption very costly to the Ghana water company. The Koley lagoon in the heart of the city presently has no aquatic life as it has receive its fair share of solid and liquid waste pollution. Mangrove

close to the Kpeshi lagoon which is supposed to be preserved as a green area has also been affected by the development trends. See Fig 6.7

Fig 6.6: Picture of one of the slums showing human activities close to a drain that end up in the Koley lagoon in Accra.

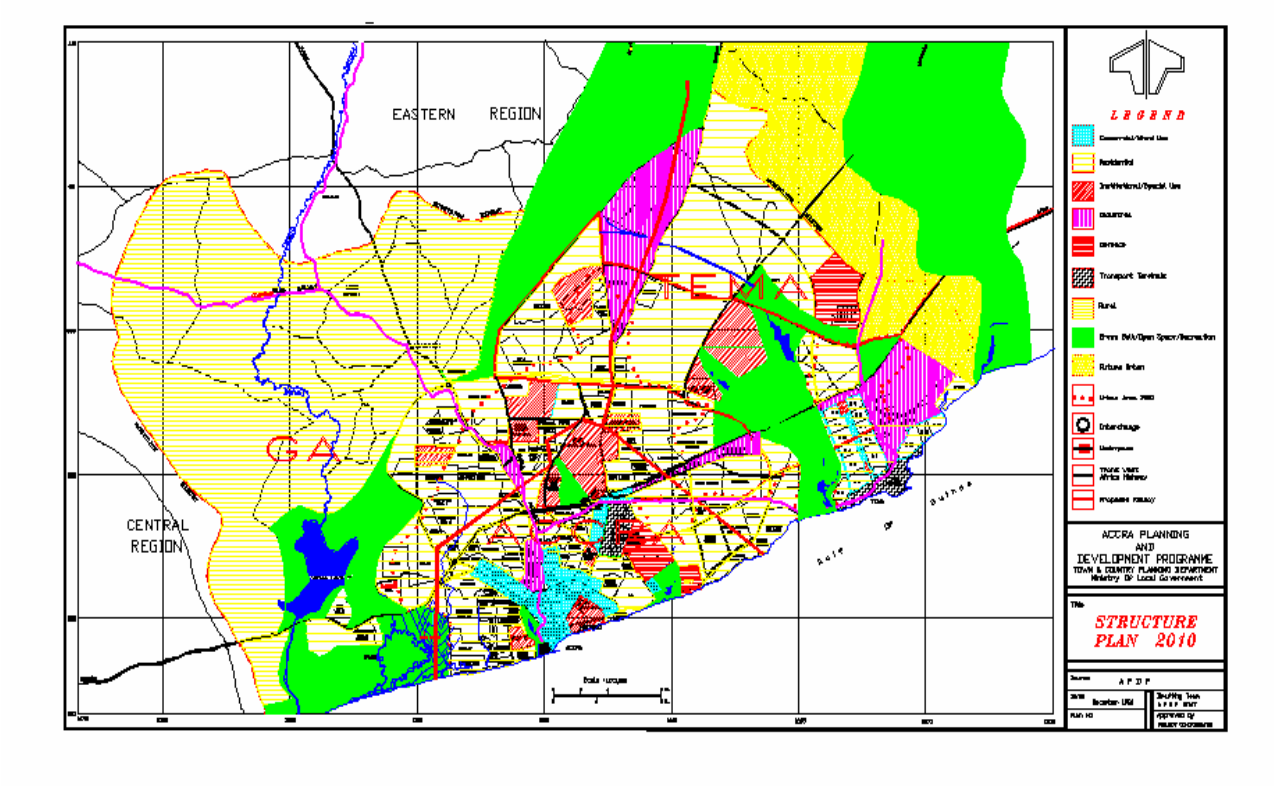


Fig 6.7: Picture showing a demarcation of the green areas of Accra. On the ground some of the green areas have now been converted to 'brown' areas.
Source: TCPD head office.

6.4.3 Drainage effects

Accra the capital of Ghana experiences severe flooding during the raining season the (the month of May, June and July). Engineers have explain the worsening flooding situation of the Accra to poor drainage because many people have constructed their houses in unauthorised places such as green belt zones, water courses and drainage lines .

The former mayor of Accra asserted that the Accra Metropolitan Assembly (AMA) will be demolishing 150 unauthorised houses in its bid to minimise the intensity of the floods (Ghanaweb 2002). One may ask who gave permission for unauthorised house to be built in the first place.

Flood waves move fast and peak quickly, destroying property, leaving standing water and bringing sewage in contact with people, living environments, as well as food and

water supplies. Flooding, in conjunction with insufficient and unsanitary water access, harms public health. Water-related diseases account for 70 percent of all illnesses in Ghana [Oduro. 2004]. Flooding hazards cost lives, harm property, and reduce Accra's potential for domestic and foreign investment.

Fig 6.8: Picture showing flooding in Accra (around Nkrumah Circle) during a heavy down pour. Source Ghanaweb. 19-06-2002

Chapter Seven

Analysis

Implementing environmental sustainability in Ghana's housing sector requires a multi-sectoral approach, and it is therefore imperative that all concerned stakeholders play their roles effectively in order to achieve the desired result. In order to determine what these roles should be, it is important that we identify what problems need to be addressed.

This section presents the results of an analysis of the main issues that have caused the deplorable situation of the housing sector in present-day Ghana. It combines the theoretical framework of Richard Scott's institutional theory, literature, and empirical data to explain why Ghana's housing sector is in its current state. It also presents some of the ways that government has tried to address these problems, and the results of these attempts.

7.1 Issues of Concern

The following are the main issues of concern identified during the study:

- Enforcement of planning schemes
- Land acquisitions problems
- Choice of building materials and technology
- Survival over environmental sustainability
- Water and energy saving in buildings.

These issues are discussed thoroughly in the subsequent sub-sections.

7.1.1 Enforcement of Planning Scheme

Accra became the capital of Ghana shortly after the British conquered the Ashanti Kingdom and declared Ghana a crown colony over 100 years ago. The British government heavy influenced all aspects of life in Accra during the early years of colonisation. For example, racial segregation was mandated by law until 1923. Not much was done about maintenance of infrastructure or improvement of public works until the governorship of Sir Frederick Gordon Guggisberg. Sir Guggisberg's

administration implmented a development plan under which there were several schools and hospitals built [Skidmore. E, 2003].

In the early 1940s Maxwell Fry was appointed the planner, and in 1944 he devised a town plan for Accra which was later revised in 1958 by B.D.W. Treavallion and Alan Flood [Skidmore. E, 2003]. This plan was to have a large number of public square fountains and ornamental pools and statues throughout the city in addition to broad open space for restaurants, country club, polo and cricket field. This plan was a reflection of the British vision which was geared towards the elites in society, neglecting the indigenous people.

The Fry/Treavallion plan (as it was known) was never followed as Ghana gained independence a few years after from the British under the presidency of Kwame Nkrumah. Nkrumah's plan was geared towards nationalism in his people and throughout Africa so spaces were created to inspired national pride (e.g. the Independence square, State House, Organisation of African Unity building). This shift in development planning shows the effects of political administration. The development programme of the country worsened after Nkrumah's overthrow in 1966. Ghana became unstable from then until 1981 when Jerry Rawlings seized power in a coup d'état. The period before this saw six corrupt governments, each with its own development programme which were never implemented to the letter. Over the years, political instability has cost the country dearly, both economically and developmentally. Now that the country has been stable for over 20 years, the country is ready for improvement, as development and planning programmes will have a better chance of being followed.

The Town and Country Department (TCPD) was established as far back as 1945 to promote orderly and efficient management of all human settlement in Ghana. Their responsibility includes formulating overall goals for the integration of social, economic and physical development for the country [TCPD]. The department collaborates with other agencies to prepare schemes for all the settlement of Ghana. Unfortunately, their plans were rarely followed fully, as what is seen on their drawing boards usually differs from what was actually implemented. This has been the case because the city or municipal authorities (district assemblies) who have the mandate of enforcing the

planning schemes have failed to do so. The regulative pillar which, according to Scott helps to shape societal behaviour through its sanctions or punitive measure, has not been able to achieve the desired result. The laws are there, but they are not enforced.

Because planning schemes are not always adhered to, there are many individuals who have built their houses in unauthorised areas such as greenbelt zones, water courses and other sensitive environmental areas. Barely three years ago, the mayor of Accra announced that the AMA was going to demolish 150 unauthorised houses to help reduce the effect of the perennial flooding of the city during the rainy season (May to July). One may ask who gave permission for unauthorised houses to be built in the first place (somebody is not doing his job well).

The issue of corruption which has now become a social canker in the Ghanaian society also has a serious effect on the implementation of laws. It is not unheard of that a city worker assigned to enforcing an area's planning schemes will receive a bribe from someone asking him to neglect his duties. In the 1960s there was a law that stop the authorities from demolishing an unauthorised building when it reaches the lintel level (upper window level). This law made it possible for many builders to by-pass the planning and building regulations. Some would begin construction at night, when the authorities weren't watching, in order to get immunity on their buildings. Others found corrupt law enforcement personnel that they could bribe or coerce into allowing them to build illegally. Most of the laws in the legal system are outmoded and has resulted in the some of the present problems in the housing sector.

Fig 7.1: Building without a permit in Teshie a suburb of Accra. The writing on the walls read; "***stop work and produce permit by AMA"***.

Religious beliefs are also a factor in the lax law enforcement practices in Ghana. Statistics show that 70% of Ghanaians are Christians and therefore the society is very much dominated by the Christian dogma (orthodoxy). The religion preaches about the act of forgiveness so many times people who flout the laws are forgiven by those who are supposed to bring them to book. Many people cannot draw the distinction between their religious beliefs and their professional obligation. Pastors are sometimes viewed by their followers as 'tin gods' and that everything they know and do is according to what the pastor or the bible says. I argued in my previous research about waste management that religion has been one of the setbacks to Ghana's development and I still stand by it [Oduro, 2004]. Many Ghanaians believe that the almighty God provides solutions to all their problems so will choose to spend countless times in the church for prayer meetings, all night services, deliverance services, etc instead of making an effort to deal with their problems. Per Scott's argument, the religious influence is conceptually correct looking at the legitimacy of the cognitive pillar. There is therefore the need to harmonise people's faith and their social obligation to meet development goals in Ghana.

7.1.2 Land acquisition problems

"Land forms the bedrock *of a nation's development and it's therefore essential that the set of activities, which through the exchange of values, property rights and interest in land are transferred, are well regulated to function effectively and efficiently"*. These were the words of the former deputy minister of Lands and Forestry at the 2002 seminar of the general practise division of the Ghana Institution of Surveyors [GIS, 2002]. A review of the report indicates that the authorities concern in the land sector are very much aware of the extent of the problems in the land administration but just seem to be overwhelmed by it - hence the present situation in the sector.

As has been emphasised in the previous chapter, land acquisition remains as one of the main problems in the housing sector as it is often difficult to determine who is the rightful owner of a piece of land. This problem can be attributed to the many laws relating to land in Ghana. The UN-HABITAT report on Housing and Urban development in Ghana [Habitat 2004] confirms twenty-six laws on land and land management; five on human

settlement; and fifty-six subsidiary laws. In addition to the laborious nature of the land laws, most of them are outdated, making it difficult for those dealing with it to understand the process clearly.

Out of the 10 members of GREDA which questionnaires were administered to, all of them complained of having had experiences of land litigation. Most of these companies have legal departments, so they are not novices in dealing with legal matters. Individual developers do not possess the legal resources that these companies have, and thus have an even more difficult time dealing with the issue of land litigation. Reports indicate that some of the cases are over 20 years old and still pending before the courts. This is truly a great weakness in the country's legal system. There are indications that some of the laws do not make sense in present day situations. For example the land development act of 1960 as it encourages people with the means to build on illegally acquired lands. As North (1990) puts it *"…institutions are a humanly devised constraint that shapes human interactions"*. It can further be said that institutions are supposed to reduce uncertainty in every day life (e.g. legal system). Society is dynamic and laws are supposed to change to suit present day circumstances. If laws remain constant, the result is chaos, as its evident in the Ghanaian land sector.

Another issue worth noting is the laborious nature of land documentation in Ghana. The process of obtaining land title is very complex and lengthy because of the multiplicity of agencies involve – the Lands Commission, the Land Valuation Board, the Town and Country Planning Department, the Deeds registry and Survey Department. Presently Ghana's land registration system is rated as the third longest process in the whole world (which is nothing to be proud of) [CHF International, 2005]. There is therefore the need for a total overhaul of the present system to enable it become effective and efficient. Researchers from the Institute of African Studies of the University of Ghana, Legon, have also disclosed that land title registration in Ghana only favours the rich. They stated in their report that "it is cumbersome, expensive, time consuming and prone to 'whom you know' or 'connection' syndrome" and that there is no hope for the poor in the present situation. [Ghanaweb news of 8-08-2005].

Another issue which is contributing to the pressure on the urban land is the choice of single storey houses with available land as compound. A survey conducted from some

members of GREDA confirms this fact. None of the members' interviewed were putting up high rise apartment buildings. They provided many reasons including expensive construction process, high cost of equipment and plant, high maintenance cost and, worst of all, low demand for such housing by the populace. They claim that this problem has something to do with the social-cultural nature of Ghanaians, who don't like to live in high rise buildings. Ghanaians prefer to own their house with the land. A favourite Ghana dish known as fufu (see picture below) cannot be prepared in a high-rise building as the vibration of the pounding becomes a nuisance to other tenants and also affects the structure of the building. SNNIT had a terrible experience getting people to occupy its flat at Esuoyeboah, a suburb of Kumasi, where they had built a couple of four storey apartment housing complexes for some institutions and individuals couple of years ago.

Fig 7.2: ladies pounding fufu - a favourite Ghanaian dish. Date 06-02-2005

Apartment housing helps to economise the use of land for human habitation. Even though the Ghanaian choice has some social-cultural strings attached, I think that the attachments are common with the old generation as they seem not to welcome change in the way they do things. There is a need for a government policy to encourage apartment housing especially in the city for young workers as the current situation where people commute from between 20 to 50km daily to and from work does not encourage productivity especially considering the unreliable nature of the transportation system in the country. Quite recently there has been an improvement in the way the

favourite fufu is prepare which does not required pounding and it is likely to catch up with the new generation (having a positive effect in choice of housing to say).

The size of Ghana is just a little over the size of the United Kingdom (UK) but the UK has a population of about 65 million as against Ghana's 20million. This means that something is really wrong somewhere as Ghana is having problem with availability of land for habitation in the big cities.

7.1.3 Choice of building material and Technology

As emphasized in chapter six, the material input accounts for about 60% of the overall cost of the construction so it's therefore very important that one takes a critical look at the choice of material if cost reduction is as issue. Ghana governments over the past three decades have realised this problem and set up some institutions (e.g. BRRI) to help address the high cost of material inputs in the building industry. However, their hard work has not been felt as building material costs are still very high on the open market.

Presently the Ghanaian market is flooded with all sorts of foreign construction material ranging from roofing tiles/ sheets, ceiling finishes, ironmongery, paints, sanitary wares, plumbing fittings and fixtures, wall and floor tiles, just to mentions but a few. The influx of the foreign materials can be attributed to the aftershocks of the Structural Adjustment Programme which opened the Ghanaian market to all sorts of products without any form of control (see box for ideals of the SAP). The SAP really worked against the government's policy of encouraging and promoting made in Ghana locally produced goods in general and building materials in particular. This is not to say that the country does not require any foreign building material since the country does not have the capacity, raw material or the technology to produce some of the building materials – hence importation is inevitable.

The issue of pozzolana, which research has proven could be used to reduce the amount of cement required in building construction by 30% has not been totally accepted by the construction industry (see Chapter six). Since the inception of ordinary

Portland cement into the Ghanaian market, Ghanaians have embraced the use of the material and it has become a norm to use cement in general construction works. From Scott's (1995) logic of the cognitive pillar, it seems that everybody is using cement because everybody uses it. As Scott would say, this has become a part of the orthodoxy of the culture. A survey of some masons in Accra reveals that many have not even heard of the material called pozzolana, let alone used it. This was however entirely not the case in Kumasi where some were using the product. Furthermore, I also identified that some construction processed and technology was different between Accra and Kumasi. The simple explanation to this was the fact that the main research institutions (BRRI and the Kwame Nkrumah University of Science and Technology) are all situated in Kumasi. This means they are able to introduce their findings to their immediate environs, but the results of their research have not been able to find broader application beyond Kumasi.

The educational system in Ghana has greatly influenced many building professional to opt for certain foreign designs and materials. 48yrs after independence from the British, most of the building construction education materials are still of British origin. British standards are used to teach students; Ghanaian standards are learned after graduation, in the field. It appears that our academicians have not been able to free themselves from British influence, and this attitude is being passed on to the current generation. One of the biggest implications of this is the adoption of foreign building designs that technically, are not suitable for our climatic conditions. This is a typical example of foreign influence. This problem is common with the elite because of their financial resources. The concern is that, the poor see these people as role models and will like to emulate whatever they do.

Another problem identified is the negative perception about locally-made products. There is a common perception that Ghanaian goods are inferior to foreign-made goods. For instance many Ghanaian youth will opt for a second-hand shoe from Italy instead of a brand new one made in Ghana even if the cost is the same. This has even resulted in Ghanaian salespeople faking a foreign-made product, for example by labelling a shoe made in Ghana with a "Made in Italy" label. For some time, the Government has been trying to change this perception through electronic and the print media education but it

has not caught on within the society. The advocates of the “Buy Made-in-Ghana” campaign are not themselves practising what they're advocating for, so why would the average Ghanaian? This is having a serious impact on local industries and hence further defeating the ideals of sustainable development. The only way for the country to become prosperous is to be able to produce and meet its basic human needs of food, clothing and shelter. As the presidential aspirant of the Great Consolidated Popular Party during the 2000 presidential election put it”…. *Let us eat what we grow and grow what we eat…. the only way forward for Ghana”* [Ghanaweb, 2000]

An issue which is very important to consider concerning the choice for foreign goods is that sometimes they turn out very cheap as compared to the local product. This is a result of the unfair world trade policies which is really having a serious socio-economic effect on many developing countries especially Ghana. The issue of agricultural subsidies by rich countries is a typical example of this, as this the issue turned out to be one of the issues at the recently ended G-8 summit held in Scotland [AFSC, 2004].

Apart from their excuse that the required materials are not produced locally, some real estate developers and construction companies used imported building products because they want to produce something distinct from their competitors, adding more value to their buildings. It is difficult to understand why roofing materials are imported from abroad when there are so many roofing options produced locally which better suites the local climate. There is therefore the need for a second look at the policy so that people will revert to the use of locally produce materials.

7.1.4 Survival over environment

The issue of environmental sustainability has been argued by two schools of thought with respect to the impact of the rich and poor on the environment (see chapter four). Some believe that the poor are having a greater impact, exploiting the environment for their basic needs, gravely affecting the very environment on which their livelihood depends. On the other hand, some argue that the huge resources that the rich consume living their extravagant lifestyle put a greater pressure on the earths’ limited natural resources. These two points of views are neither here nor there since they all end up

affecting the environmental sustainability anyhow. The earth has become a global village and to achieve environmental sustainability all must contribute (whether rich or poor) since the effect does not know boundaries (e.g. green house effects). This section focuses on the poor and vulnerable in society in their quest to meet their shelter needs and to understand to what extent they are willing to go to achieve their aim.

Past and present governments of Ghana have not been very successful in assisting the poor with their housing needs. This has left a gap, allowing for all sorts of inefficient processes and methods to develop for achieving this basic need of man (shelter). During my investigation I realised that almost all of the problems facing the housing sector are exactly the same problems that existed about 40 years ago. The entire predicament in the housing sector has been as a result of unsolved problems over decades. Because of the lack of a stringent measure to correct wrong-doing in this sector over the years, the bad deeds (building without a permit, building in unauthorised places, illegal quarry activities etc.) have come to be viewed as suitable and therefore a socially acceptable norm [Scott 1996].

Many developing countries have flexible legislation toward environmental sustainability as compared to developed countries. This is one of the means with which they attract investors into the country, in order to provide the needed jobs for the citizens and also to improve their economies. One will argue that this phenomenon is acceptable as the same was realised during the years of industrialisation in Europe and North America in the 1950s. As Inkoom (2005) put it, when the survival of a country is at stake, environment is second. The fact is during those years environmental concerns were not in the worlds' lime-light. It was not until the 1970s that the world became enlightened by the effects of human activity on the environment (see chapter four). One can therefore conclude that developing countries have an advantage with all the knowledge of environmental issues as it should be an integral part of their development agenda. In Ghana for instance though the country is abreast with all the environmental concerns, there is not much done due to financial and resources constraints in the institutions set up to deal with environmental problems. In effect the country's development pattern is not very different from that of the developed countries during the 1950s.

The flexible nature of the environmental laws in the country has further given a leeway to some private firms to flout the law. A look at some activities of the GREDA members attests to this fact. By law, they must provide an Environmental Impact Statement before they get a development permit. However, since monitoring is almost non-existent, they often do not adhere to the regulations after they are awarded the environmental permit. It was interesting to observe that 90% of the members surveyed claim that they get a monitoring team from the EPA at lest twice a year. My investigations from the EPA proves otherwise as they are not able to undertake monitoring exercises due to financial and resources constraints. As there seems to be a lack of monitoring of the activities of the private companies, one can be sure of what will be going on with the private individual in obtaining their housing needs.

My general observation during the study revealed that many individuals have very little knowledge about the environmental considerations in the construction industry. For instance people who have built on water courses and drainage lines are the same people who complain bitterly about flooding after a down-pour. Many tend to forget that their action has necessitated the situation. Besides, some of the affected developers, even though they were aware of the likelihood of certain problems, still had no choice but to develop those parcels of land that are not suitable for housing. Some of the people I spoke to claimed that they inherited or obtain their lands from their family long before (when there were no planning schemes prepared) and they cannot afford to purchase a new plot of land. When people are poor they tend to solve a problem by creating another one since many times either they cannot help it or are concerned with meeting an immediate need (in this case shelter).

It was again realised that many Ghanaians took for granted environmental implication of their actions. For example, some builders turned their backyards into a sand pit, in which they stored some of their garbage and waste produced by their construction activities. Little did they know that the pit will collect water and serve as a breading ground for mosquitoes or the refuse will encourage the presence of some diseases which will affect their health. However to them they are meeting a social obligation of their families by providing shelter. Many community hospitals are flooded with several cases of preventable communicable diseases. Government is more concern with

building hospitals and clinics but the health of many Ghanaians are still at risk as the unsanitary housing state of many means the hospital is their second home.

Human survival and especially meeting a basic need of shelter against environmental sustainability has become one of the main challenges in the fight for sustainable development the world over. Currently the catchments area of the Weija dam, including valleys and marshes, have been settled with approval from the planning authorities. In the event of the dam getting more water as a result of heavy rains, there remains no overflow channels. It is interesting to note that the country's universities and governments planning departments have not seen anything wrong with the level of development around the lake. There have been so many institutions set up in Ghana to address specific problems in the nations but many of the institutions have not lived up to expectations. It is a fact that there is a great deal to be done in the housing sector to help Ghanaians meet this basic need. But it is also important that in doing so, we do not create another problem for future generations.

7.1.5 Water and energy saving methods in buildings

Water and energy saving measures has been a key consideration in building designs lately, at least in the developed countries. This has been a concern not only because of the high cost factor but also the quest for sustainability in the construction industry. The sustainable development concept has brought about the issue of sustainability in all human endeavours – hence sustainable building construction (see 4.3.2).

During my study I realised that the issue of sustainability in the housing sector was not a concern as there were no effort to achieve this aim. My survey from GREDA attests to the fact that the private sector did not really understand the ideals of sustainability in the housing sector. About 90% of the members surveyed did not have any measure towards efficient water usage in the houses they build. None of them had energy efficient measures like use of energy saving bulbs etc. The issue of sustainable energy systems like solar energy was not a consideration in their scheme. Ghana has abundance of sunshine all year round but this natural resource is not exploited to the benefit of the country.

There has been a series of debate on the use of solar energy in building (at least for lighting) to help reduce the energy demand pressure on the hydro and thermal electric power from Akosombo and Aboadze respectively. Dependence on solar energy could help reserve power for industrial use to boost the nations' economy. Investigations reveal that the reason why it's not popular in the housing sector is the high initial installation cost of solar energy systems. This problem can be reversed only through a policy direction. For instance government can encourage the private investors to venture into solar energy production by granting them tax holidays, etc. The high cost of importing crude oil, high transformer cost, high cost of cable wires, etc, make it prudent for alternative energy sources for a country which is aspiring to become a middle income economy by 2020.

Access to pipe-borne water has become a preserve of the rich in society even in the major cities of Ghana. My investigation reveal that while many low income communities did not have access to tap water, the high income areas were using pipe-borne water for their lawns and gardens. One will argue that they have the right to use the commodity the way they like as long as they can pay their bills. One could also argue that water is a public resource, and should not be reserve for only a few people. Rather, there should be a sort of equity in its distribution and efficient usage must be encouraged. Many of the GREDA members did not have a system to collect rainwater for other uses like watering their gardens. They were also not aware of the water closet system that have two nubs (one for faecal matter and the other for foul water) as it is seen elsewhere e.g. Denmark as I know. These are a few water efficient measures which, when encouraged, will go a long way to help the country's sustainable development objectives.

7.2 Governments' Housing delivery effort

The first term of the New Patriotic Party's government (Ghana's ruling party today) ended with the administration been seriously criticized for not doing anything to address the numerous problems that the housing sector was faced with. The government in its second term has made an attempt at coming out with a framework to help address the

housing shortfall in the country. This was highlighted by the president during his state of the nations address to the parliament, where he said that 100,000 thousand housing units will be constructed under a private sector initiative including 10,000 units of houses nation-wide (Daily graphic 4-2-05). The president further said that the 2002 Shelter strategy will be reviewed to include low-cost housing programmes and that the government was going to support banks and real estate developers to provide housing for low and medium income workers. The address really showed how committed the government was with respect to the solving the housing problems but as the old adage goes “easier said than done”. The Ghanaian populace is accustomed to political promised which go nowhere, so the president's commitment was met with mixed feelings.

For the past few years, the government has commenced a redevelopment scheme in all the locations in Accra which was settled by the colonial masters before independence. During that era, houses occupied a large area of land which does not make economic sense in this present situation. For instance, some of those colonial housing plots have been converted into a 15-unit bungalow housing locate at Ridge. Others are been sold to private developers on a 40 year lease after which the government owns the property [Yahaya, 2005]. According to Mr. Yahaya of the MWH, government is using this measure to get funds for housing for the low income bracket. ‘Palaver’ (an opposition news paper) claims that this policy direction is meant to house the governments’ ministers and its cronies and that it will be sold at half price to the occupants after they are out of office [Ghanaweb 2005]. If this is going to be the case then there is a serious problem with this redevelopment scheme as it will not help the current housing problems in the country in any way.

In the month of February 2005, SNNIT and Metro Ikam Sdn Bdh of Malaysia has began the construction of about 2088 housing units in Tema (industrial community near Accra) by way of supporting governments effort in housing provision. SNNIT has been involved in house rentals since 1974 but had to abandon the programme in the late 1990s as a result of some payment refusals, high property rates and high maintenance cost [Daily graphic Feb 23, 2005]. Under this new policy, the houses will be sold to organisations and corporate bodies. This policy by the SNNIT is recommended, but the question

remains is why partner with a foreign company (Malaysian)? SNNIT is a public organisation which is responsible for the management of workers' pension fund. One will be curious to know the role of the Malaysian company. The BRRI held a press conference to protest the way they have been sidelined in this housing programme, as they have handled similar projects to perfection in other parts of the country before.

When BRRI is involved, one can be sure that they will bring all their research findings into practise and will also help the local industries. It is amazing to note that government is preaching for Ghanaians to buy locally-produced materials and expertise but they are the same people who do otherwise. The Malaysian company is sure to import most of the materials from their country and seek get tax relief at the detriment of the Ghanaian economy.

Chapter Eight

Conclusion and Recommendations

This research has examined how the housing needs of Ghana can be met while minimising its negative impacts on the environment. In doing this, it has focussed on the low income group, as well as GREDA (private sector). The goal of this investigation has been to answer the following question:

> *What must be done to address the environmental consequence of the housing sector in Ghana?*

Population has increased drastically in the big cities of Ghana (especially in the capital, Accra) and the central government has not been able to meet the accompanying infrastructure and shelter needs of the populace. The government's effort to meet these needs is presently led by the private sector which is focussing its efforts on providing housing for the high income group only, due to present economic considerations. This has made it very difficult for the majority of the population, who are struggling to get enough food to survive, let alone meet their shelter needs.

This research has reviewed the country's housing policies since before independence to present (2005) and has been able to identify some of the weaknesses which have resulted in the present deplorable state of the housing sector. This analysis has been completed partly using Richard Scott's institutional theory, where the housing sector has been viewed as an institutional set-up. Below are some recommendations which when implemented will help address the present problem in the housing.

- **Land sector problems**: The genesis of the housing problems in Ghana is the land tenure system which is burdened with numerous problems presently. There is a need for a reform of this system, to streamline all the bottlenecks. This will eliminate the issue of multiple land sales and make the general land administration effect. A land sector reform is currently underway (called Land administration programme), funded partially by the World Bank. Hopefully this will correct the problems that exist in this sector.

- **Enforcement of planning laws:** The institutions responsible for the enforcement of planning laws must be overhauled so that current and future laws relating to urban planning are properly enforced. Concrete effort must be made to eliminate or reduces all human induced factor that hinders their work like nepotism and favouritism through checks and cross-checks of their duties.

- **Lack of financial aid for the low-income group:** More effort should be spent on exploring other ways of assisting the low income group meet their housing needs. The HFC is currently not able to meet the current demand. If people are supported to acquire decent accommodation, it will reduce the health risk as a result of poor housing and tend to reduce governments expenditure in the health sector. By doing this housing will be an integral part of the overall development agenda.

- **Use of local material and building technology:** Government should encourage builders to use low-cost materials and appropriate technologies from the research institutions. It could begin by using these materials to construct some of its own buildings. This is one of the easiest ways to reduce the cost of buildings. Low-income households and the poor are likely to emulate the government's example when they see the good results.

- **Environmental education**: There must be a rigorous environmental education for all citizens. This is to start from the schools (all academic establishment), Churches, local and traditional authorities and print/electronic media. The local authorities must liaise with the community based organisations and non-governmental organisations to enable them achieve the desired results. This will help change peoples perception about the environment and seek to protect it.

- **Environmental task force:** Each community must have a local environmental task-force, or better still, a sanitation task force. These organisations can play the dual role and become the 'watch-dogs' of environmental and sanitation in their respective communities. The task-forces will report all unauthorised building

activity and further assist in halting any environmental degradation activity as they reside in the communities where it will take place.

- **Governments' direct involvement:** Government should not leave the private sector alone to provide the housing needs, as this policy has not help reversed the housing shortfall. Government should directly help build subsidised housing in selected poor communities, or must at least be directly involved in building squatter housing (especially in the big cities) to help curtain slum development.

- **Policy on use of local materials:** The policy on local building materials must be reviewed. Government must come out with a quota of local material input of its entire project and seek to enforce it. A good example of this is the Indian sustainable construction measure where on the account of a growing reduction in forest cover the central government has instructed for the use of wood substitutes in at least government buildings [Kirtee Shah]

- **Sustainable construction:** Government must encourage and support the private sector (GREDA) to go into sustainable housing or sustainable construction systems as a whole through tax incentives etc. GREDA must educate its prospective clients about sustainable building methods and approaches through a series of housing exhibitions. This will encourage many people to embrace the new construction systems which have become a new phenomenon in the building industry and geared towards sustainable development.

This report has shown that there is no clear-cut way to achieve environmental sustainability in Ghana's housing sector, especially with respect to the housing needs of the poor. The issue of sustainability requires that so many little things are done and done right like the few recommended suggestions above and in the report all over. The government is trying to design policies to meet the MDG, which is viewed as the bedrock for sustainable development. The MDG number six – environmental sustainability, which this research takes its point of departure is by and large proving a difficult task to meet. In spite of that, the country cannot turn a death ear to it as the

repercussions for the future will be enormous. The time to be proactive in dealing with the housing problems must start now.

Reference

A

A.K.Tibaijuka, 2003. Address to the Africities Summit by Mrs. Anna Kajumulo Tibaijuka, Under-Secretary General and Executive Director, UN-HABITAT. Available on http://www.unhabitat.org/africities/ed_speech.asp accessed on 10-03-2005

Anneke Lub, 2003. Higher Education institutions' Responses to Europeanization, Internationalisation and Globalisation. CHEPS Summer school. Available on (page) accessed on

Asamoah-Boadu, 1982. Some significant Factor that influence cost of construction projects in Ghana. Special report. Building and Road Research Institute

ASFC, 2004. Towards a new Africa. 2005 G- summit http://www.afsc.org/africa-debt/G8outcomes.htm. Accessed on 9-09-2005.

C

Cedric P.1996. *Sustainability, the Environment and Urbanization.* Earthscan Publications limited.

Cobb, L. 1990: Top-Down Research Approach. (Online) Available at http://www.aetheling.com/docs/TopDown.htm Accessed on 5-04-04

D

Dregne H E 1984. Combating desertification: 'Evaluation of progress' *Environmental Conservation*

E

EMEF, 2004. Environmental impact statement (EIS) of EMEF Hill View Estate
Enviro Facts, 2001. Urbanisation. Available on http://www.botany.uwc.ac.za/Envfacts/facts/urbanisation.htm accessed on 21-03-2005.

EPC, 1991. Ghana Environmental Action Plan Vol. One

G

Ghanaweb. 2004. General news of Monday 20th September 2004 . (Online) available on, http://www.ghanaweb.com/GhanaHomePage/NewsArchive/artikel.php?ID=66334. access on 21-9- 2004

Ghanaweb. 2004 a. General news of thusrday, 18th November 2004. (online) available on www.ghanaweb.com.GhanaHomePage/NewsArchives/printnews.php?ID=70083 accessed on 18-11-2004

Ghana EPA, 1995. Environmental Impact assessment procedures.

GREDA, 2003. Brief profile of Ghana real Estate Developers association.
Government of Ghana, 2001. Ministry of Works and Housing. Housing programmes and action plan to implement the National Shelter Strategy. Draft Report.

H

Hardoy, Jorge E. et al. 2001, Environmental Problems in an Urbanised World. *Finding solutions for Cities in Africa, Asia and Latin America.* Earthscan publications ltd, London and Sterling, VA.

I

Inkoom, 2005. Interview with Dr. Dan Inkoom of the planning department of Kwame Nkrumah university of Science and Technology. Date 14-02-2005

ISSER, 2003. The state of the nations economy in 2002. The institute of Statistics, Social and Economic Research. University of Ghana, legon.

J

J.A.K Nutsugah, 1997. Socio-cultural considerations for designing low-cost housing in Ghana. CIB seminar on Building Research and its Application in developing countries: February 28 – March 6, 1977 New Delhi, India

J.K. Ocloo, 1986. Building material and Housing. The building material of tomorrow – a clue to Africa's Housing Problem.

K

Kirtee Shah Agenda 21 for Sustainable Construction in developing Countries – The Indian Case.

Kvale S. 1996: Interviews. An Introductory to qualitative Research Interviewing. SAGE publications inc.

M

MLF, 1999. Ministry of Lands and Forestry (MLF), Ghana. National Land policy.

Ministry of Work and Housing, 2000. Policy Planning, Monitoring and Evaluation. Sector Handout

N

North. 1990. Institutions, Institutional changes and economic performance. Cambridge university press.

Nsiah-Gyabaah, 1994. Environmental degradation and desertification in Ghana: A Study of the Upper West Region (Avery Studies in Green Research)

Nana Oseiwusu, 2005. Interview with Nana Oseiwusu of the construction processes section of BRRI on the 17-02-05.

O

Oduro, 2004. Municipal waste management in Accra, Ghana – The way forward. Internship research report submitted to the department of environment and planning – Ålborg University Denmark.

P

P.K.B Asamoah, 2005 Interview with Mr Asamoah of the Centre for Settlement studies of the Kwame Nkrumah University of Science and Technology. Date 15-02-2005

R

Rashid, 1994. *frustrations and hope in housing the urban poor. The case of Shah Jala-Shahar, Bagledish.* Buiding Function analysis. The Royal Institute of Technology.

Robson, C. 2002: Real World Research: A resource for social scientist and practitioner. Blackwell publishing ltd.

S

Sam Hui, 2002. sustainable architecture and building design. (online) accessed on 9-08-2004. Available on www.arch.hku.hk/research/BEER/sustain.html

Sharma, 1996. Address by Mr. K.S. Sharma, secretary, ministry of urban affairs and employment, Leader of delegation, government of India, in the high segement st Habitat II Istanbul. (online) available at www.iisd.ca/vol11/1101002e.html accessed on 17-03-2005

Sarantakos, S. 1998: Social Research, MacMillan Press Ltd.

Skidmore. E, 2003. Welcome to Accra- Ghana. (Online) available at http://www.macalester.edu/geography/courses/geog261/eskidmore/history.htm

Accessed on 7-07-2005

U

UN-HABITAT, 2003. Africities summit Yaoudé Cameroon 2-6 December 2003. Available on http://www.unhabitat.org/africities/default.asp accessed on 15-03-05

UN_HABITAT, 2003a. United Nationa Human Settlement Programme. Thousands celebrate World Habitat day. Available on http://www.unchs.org/whd2004.asp Accessed on 28-04-05

UN-HABITAT, 2002. "National Trends in Housing-Production Practices. Volume 4: Nigeria" available on http://www.unchs.org/programmes/housingpolicy/hpu/hpu-pub.htm accessed on 10-03-2005

UN-HABITAT, 2004. Housing and Urban Development in Ghana *with special reference to low-income housing.*

W

Wisdom K. Nyamadi, 2004. The supply of housing in Kumasi: Analysis of trends and constraints. Case study of Ayigya and Aboabo. A study report for the degree of Bachelor of Science in planning.

World Bank. 2002. Upgrading low Income urban settlements country assessment report, Ghana.

(WCED), 1987. World Commission on Environment and Development (WCED): Our Common Future, London: Clays Ltd

Appendix A

Questionnaire administered to selected members of GREDA.

Background: I am conducting a study on the environmental implications of real estate development in Ghana. The below listed set of questions will assist me in my findings. This questionnaire will be used **strictly for academic purposes**. I entreat you to answer the questions as truthfully as possible. Thank you.

Please find attached an introductory letter from my university.

Company Profile:

1. What is the name of your Company?

   _____
2. When was the company established?

   _____
3. When did you become a member of GREDA?

   _____
4. How many houses do you build per year?

   _____
5. Type of housing (circle all that apply)

   a. domestic housing c. industrial houses (e.g. factories, office blocks)

   b. apartment housing e. other._____
6. Can you list the locations where you have on-going projects or completed projects in the past five years?
   - _____
   - _____
   - _____
   - _____
   - _____
7. What is the ratio between single storey houses and multiple storey houses you build every year?

   _____
8. What is your target group of clients?

   a. Any body who can afford d. Institutions

   b. Industry

   c. Other_____
9. How many workers does the company currently employ?
   - 5 to 20 c. 50 to 100
   - 20 to 50 d. more than 100
10. What is the minimum amount of money one requires to buy a house from your company _____
11. Do you employ your craftsmen or you use subcontractors?

a. Sublet all jobs for subcontracting d. other_____

b. We employ all workers directly c. We do both.

12. Who is responsible for the provision of infrastructure such as access roads, electricity, pipe water and telephone to the site?
    a. Government c. house owners
    b. The company d. other_____
13. How do you acquire the land to develop?
    a. Government (district assembly, state institutions) d. individual owners
    b. Traditional authorities' e. Other_____
    c. Family heads
14. What are some of the problems you have concerning land acquisition
    a_____
    b_____
    d. _____
15. How can the problems be solved.
    a_____
    b_____
    c_____

Materials:

1. Where do you get these building materials - sand, stones and filling materials?
    a. From a private quarry. c. from one of my land
    b. Sometimes from the site. d. other_____
2. Do you import some of the building materials?
    a. Yes c. Other_____
    b. No
3. If yes why do you import some of the building materials?
    a. Clients demand c. It's not manufactured in Ghana.
    b. Expensive on local market d. Architects design.
    c. Quality demand
4. Can you list some of the materials you import from abroad?
    a. _____
    b. _____
5. Does your clientele have any influence on the choice of materials?
    a. We build according to their choice of materials. d. Not at all
    b. We have a strict standard that we adhere to.
    c. We have a list that the client can choose from.
6. What material do you use for formwork, scaffold and the likes?
    a. Mainly timber boards d. combination of timber and steel
    b. Plywood e. other material _____
    c. Steel
7. Do you employ the use of prefabrication units for your buildings e.g. Walls, floors, beams and columns?

a. Yes
   e.g._____
b. No

8. If no why?
   a. We have not thought about it, c. we do not have the skill man power.
   b. its too expensive, d.
   other_____
9. Do you have incidence of stealing or pilfering by your workers?
   a. Yes
   b. No
10. If yes, can you list some of the possible courses of this bad practise?
   a. _____
   b. _____
   c. _____
11. What measures have you/ will you take to curb the incidence of stealing and pilfering?
   a. _____
   b. _____

Environment and Occupational safety

1. How do you dispose off your construction waste from site?
   a. We send the waste to the landfill site d. we sell timber pieces for wood fuel.
   b. We send some for recycling
   c. We use the material to reclaim some of our site
2. Do you think your building activities affect the environment in any way?
   - Yes c. Other_____
   - No
3. If yes what are some of the measures you would like to take to improve on the environmental problems.
   _____
   a. _____
4. How do you deal with noise and dust nuisance on site during construction?
   a. We don't have any problem with these
   b. We adhere to the safety precautions on site
   c. Other_____
5. Do you provide protective clothing for your workers on site?
   a. Yes. d. No
   b. Yes, but we are not able to provide for all. e.
   other_____
   c. We don't control that.
6. List some of the protective gears you provide for your workers?
   a. _____
7. Do you have a safety department or on-site safety officer?
   a. Yes
   b. No
8. If no why?
   _____

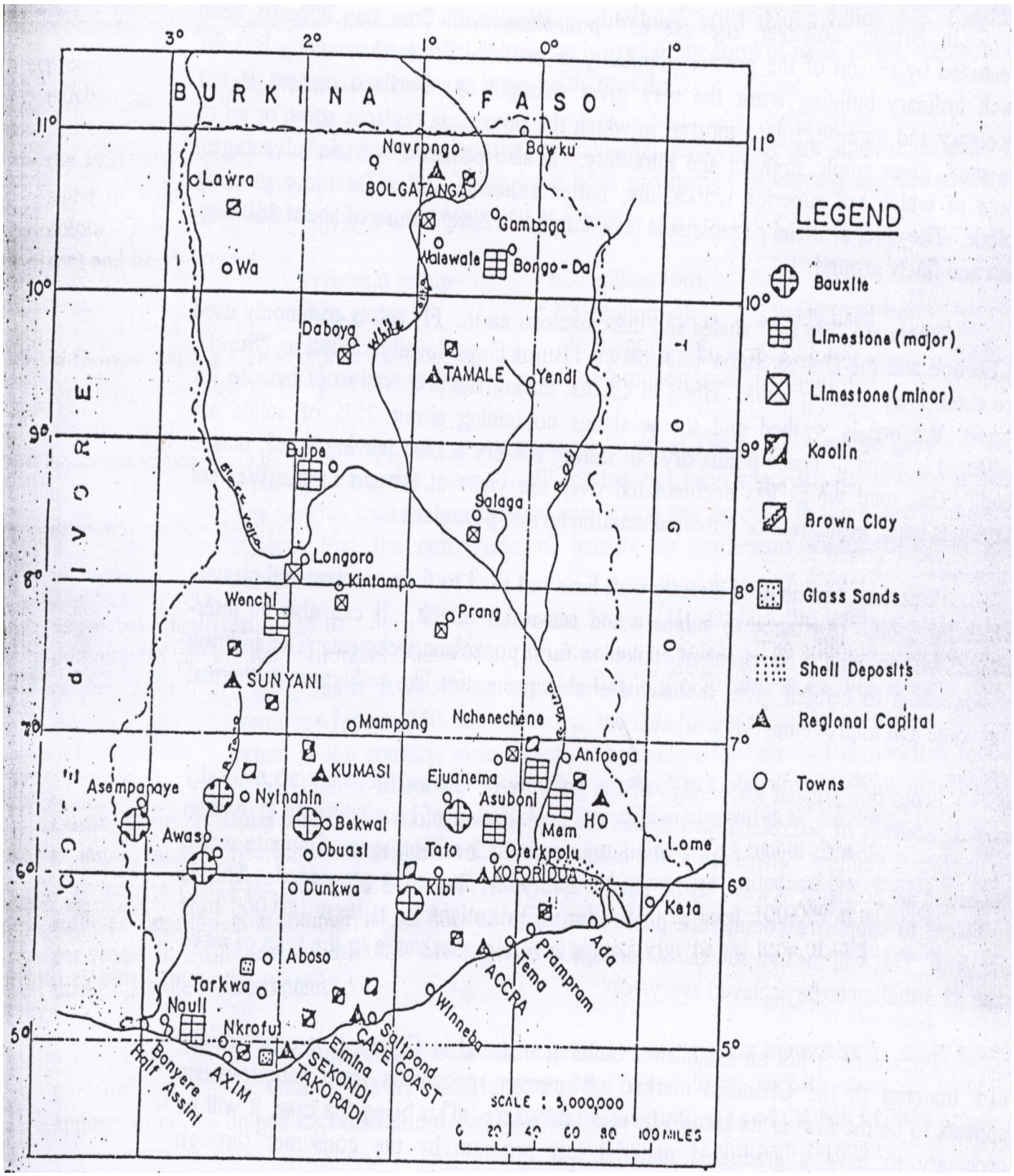
9. If yes, list some of the things that your safety officer is currently working to improve.
    a. _____
    b. _____
    c. _____

10. Do you have data on the rate of accidents on site?
    a. 1 to 5 per week c. We don't have any data.
    b. 5 to 10 per week d. other

11. Do you acquire an environmental permit before you build the houses?
    a. Yes explain
    _____
    b. No
12. How often do you get visitors from the Environmental Protection Agency?
    a. Once every month c. Every quarter e. Never before
    b. Once every six months d. Once a year
13. In your estimation what constitute the most waste on your site?
    a. Timber pieces d. plastics
    b. Blocks, concrete and mortar debris e. Packaging materials
    c. We don't have any figures.
14. Do you incorporate the use of solar energy or any energy efficient measures in any of your house types?
    a. Yes
    e.g._____
    b. No
15. Any water efficiency measures in design
    a. Yes
    e.g._____
    b. No
16. If yes what are some of the measures you taken employed
    a. _____
    b. _____

Appendix B:

Raw Building Material deposit in Ghana



Source: BRRI library

Appendix C:

SSNIT Houses Not for the Poor

The joint venture housing scheme between the Social Security and National Trust (SSNIT) and Metro Ikam Sdn Bhd of Malaysia has been priced out of the reach of the ordinary worker.

According to a brochure advertising the Meridian Gardens Project, a Type A- two bedroom house will sell between $20,000 (186 million cedis) and $22,000 (204 million cedis), a type B - three bedroom house will sell between $30,000 (279 million cedis) and 35,000 (325 million cedis), while a type C-four bedroom house will go for $75,000 (697.5 million cedis) and $80,000 (744 million cedis), using last week's exchange rates.

A conservative estimate shows that a worker must be earning around a 100 million cedis annually to be able to afford such a house. These prices have therefore virtually ruled out those in low-income earning groups who are contributors to SSNIT scheme. The high cost of the house also conflicts with the government's highly publicized plan to provide affordable houses to Ghanaians.

In the 2005 budget, Minister of Finance and Economic Planning, Kwadwo Baah- Wiredu said government would build 5,000 houses nationwide over a five year-period. The two -phase scheme will start at Ashalley Botwe in Accra with over 300 houses, 600 in Kumasi, 400 in Second-Takoradi, 300 in Tamale and 700 in 20 selected district capitals.

And just last week the Minister of Works and Housing, Hackman Owusu Agyeman announced that government would work out a scheme to subsidise interest rates on mortgage houses to ensure that workers acquired their own houses after retirement. He was speaking at the sod-cutting ceremony of the controversial Meridian Housing project at Tema community 19.

The minister rightly said that the present cost of building would make it difficult for an average salary earner to put up a house and cope with the ever-rising cost of living.

In a reaction to the 2005 budget statement, the Integrated Social Development Center (ISODEC) argues that the government's policy on housing as contained in the 2005 budget, though modest, lacks focus on the poor and makes no provision for the more vulnerable and needy in the society.

"The question is how many of the middle and lower income earners today in Ghana can afford these houses?", ISODEC asks.

In the view of ISODEC, government's economic policy for 2005 also failed to address the problem of slums in the country. ISODEC says in 2001 the slum population for Ghana was estimated at 4,993,000 people, growing at an annual rate of 1.83 percent per annum in all the major cities of the country and is expected to reach 5.8 million by 2010. This rising slum population calls for careful planning if Ghana is to achieve MDG 7, which states that by 2020, a significant improvement would have been achieved in the lives of at least a 100 million people. "But to meet this target requires a national urban policy, slum upgrading, institutional strengthening and budgetary provision", ISODEC points out.

Source: http://www.ghanaweb.com/GhanaHomePage/NewsArchive/printnews.php?ID=77239