UNIVERSITY OF CAPE COAST

LAND USE PLANNING AS A TOOL FOR ENVIRONMENTAL MANAGEMENT: A CASE OF THE TAMALE METROPOLIS

BY

ERIC BAADE POGBEKUU

DISSERTATION SUBMITTED TO THE INSTITUTE FOR DEVELOPMENT STUDIES OF THE FACULTY OF SOCIAL SCIENCES, UNIVERSITY OF CAPE COAST IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR AWARD OF MASTER OF ARTS DEGREE IN ENVIRONMENTAL MANAGEMENT AND POLICY

DECLARATION

CANDIDATE'S DECLARATION

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

Candidate Signature……. Date……

Eric Baade Pogbekuu

SUPERVISOR'S DECLARATION

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

Supervisor Signature…….. Date…….

Professor Stephen B. Kendie

ABSTRACT

Environmental degradation has been exacerbated where there has been absence or weak land use planning and regulations to ensure orderly human settlement development. The first land use plan for Tamale was formulated in 1969 for the period 1970 – 1985 and received statutory approval in 1975. The plan is still the legal frame-work within which developments are carried out

This study investigated the problem of planning and development in Tamale which is not due to unavailability of layouts but rather the local plan implementation machinery to enforce compliance.

To achieve this, 131 respondents aged from 18 years and above in five zones within the study area were sampled and interviewed. Five public institutions and the traditional land owners were also interviewed. The main finding of the study was that the preparations of land use plans were not participatory as the general public/community members were not involved. There was also no linkage between plan preparation and implementation. Coordination among agencies involved in land use planning was non existent. More importantly, it was established that land use plans have not been effective tools for managing the urban environment in the Tamale metropolis.

It is recommended that the Metropolitan Assembly should employ qualified personnel as building inspectors and also provide adequate logistics to support the Works Department. Public education, coordination and cooperation among all stakeholders in the land use and planning process should be encouraged.

ACKNOWLEDGEMENTS

My sincere thanks go to Professor Stephen B. Kendie, my supervisor, for his criticism, extreme patience and guidance throughout the research period. I am grateful to Mr. S.Y. Gyogluu, the Tamale Metropolitan Director of the Town and Country Planning Department, Dr (Mrs) M. E. Fiadzigbey, former Administrator of Stool Lands, Accra, for the assistance offered to me during the course of the work. I am equally indebted to Mr Benjamin Dapilah, Masawudu Sulemana and Muftau Salifu for assisting me to collect data from the field. Special appreciation goes to my wife, Mrs Rachel Baade for her moral support and patience.

DEDICATION

To my mother Imelda Yuor and my wife Mrs Rachel Baade for their support and inspiration in life.

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF TABLES

LIST OF FIGURES

LIST OF PLATES

LIST OF ACRONYMS

CBD: Central Business District

CPP: Convention People's Party

CRS: Catholic Relief Service

DENR: Department of Environment and Natural Resources

EPA: Environmental Protection Agency

ESCAP: Economic and Social Commission for Asia and the Pacific

FAO: Food and Agricultural Organisation

GSS: Ghana Statistical Service

IIED: International Institute for Environment and Development

ISRIC: International Soil Reference and Information Centre

IUCN: International Union for the Conservation of Nature

JSS: Junior Secondary School

LCS: Lands Commission Secretariat

MLF: Ministry of Lands and Forestry

NDPC: National Development Planning Commission

NEP: National Environmental Policy

NEAP: National Environmental Action Plan

NGO: Non-Governmental Organisation

NPDP: National Physical Development Plan

OASL: Office of the Administrator of Stool Lands

PG: Parks and Gardens

SPSS: Statistical Product and Service Solution

SSNIT: Social Security and National Insurance Trust

SSS: Senior Secondary School

TAMA: Tamale Metropolitan Assembly

TCPD: Town and Country Planning Department

TLUP: Tamale Land Use Project

UDS: University for Development Studies

UNEP: United Nations Environment Programme

WCED: World Commission on Environment and Development

CHAPTER ONE

INTRODUCTION

Background to the study

Human-induced environmental degradation has taken place all through history. During this century, however, environmental degradation has increased enormously in extent and severity, by direct action of a strongly growing world population and its increased livelihood expectations and demands (ISRIC, 1990). Land Degradation has affected 1900 million hectares of land world-wide (UNEP, 1999). The rate of environmental degradation may continue unabated or even increase under conditions of human-induced global climatic changes. However, this cannot be automatically assumed (FAO, 1995).

In Africa, an estimated 500 million hectares of land have been affected by soil degradation, including 65% of the Region's agricultural land. The rate at which arable land is being lost is increasing. Africa lost 39 million hectares of tropical rainforest during the 1980s, and another 10 million hectares by 1995. Fourteen countries are subject to water stress or water scarcity and a further eleven will join them by 2025 (UNEP, 2000). Most African countries have growing environmental debts where the cost of remedial action will be far greater than preventive action. One of the causes of environmental degradation is the development of human settlements. Rapid urbanisation of African cities has

resulted in slums and urban sprawls which governments can not contain. This has resulted in poor urban environments with its health related effects. The Food and Agriculture Organization (FAO, 1995) has stated that environmental degradation has been exacerbated where there has been absence or weak land use planning, and regulations to ensure orderly human settlement development.

This scenario applies to Ghana and government and the environmental regulating bodies and civil society have been taking measures to address the problems of the environment. Some policy measures/initiatives taken so far include the following:

- Establishment of the Ministry of Local Government, Rural Development and Environment to provide policy direction;
- Setting up of the Environmental Protection Council in 1974 now Environmental Protection Agency (EPA) as the main body to advise and enforce environmental laws;
- Formulating National Environmental Policy (NEP) in 1991 and the National Environmental Action Plan (NEAP) also in 1991 were developed and implemented;
- Implementation of Environmental Education Strategy to create awareness on environmental issues;
- Setting up of Mine Reclamation Bond as a financial guarantee against mining companies who defaulted in reclamation obligations in 1999;
- Development of guidelines and standards on air, water and noise by EPA for the regulation of developmental activities in 1999; and

- Provision of Environmental Assessment Regulations, 1999 (L.I. 1652) to promote environmentally sustainable development.

Specifically and of concern to this research is land use planning. In the 18th century, England experienced the first Industrial Revolution, which saw the rise of manufacturing as a dominant propeller of economic growth. That phenomenon was accompanied by a burgeoning population increase, a rapid migration of population from the agricultural regions into cities and the development of the industrial city (Ashworth, 1954).

There arose then the necessity to house workers within the towns. However, the rapid pace of development and the profit motive of the industrialists ensured that the towns developed were poorly designed, lacked basic amenities and there was a lack of concern of the welfare of the workers. Houses were constructed at high densities in areas, which had incompatible land uses, resulting in poor living conditions, the rise of squatter settlements and high mortality rates.

It was at that time that some industrialists attempted to use appropriate regulation and control to manage how development occurred. That later led to the introduction of the Town Planning Act 1909, which was the first planning statute to be enacted. Although it was limited in scope, it provided the pathway for the acceptance of the principle of statutory planning legislation. The Act paved the way for the establishment of present-day statutory planning processes across the world, (Cherry, 1974).

The first land use plan for Tamale was formulated in 1969 for the period 1970 – 1985. This, however, received statutory approval in 1975. The plan,

although now overtaken by the current social, economic and environmental conditions, is still the frame-work, within which developments are carried out (Karbo, 1991). This is because no land use plan has been prepared for the city after the expiration of the 1970 – 1986 plan. Over 125 sector layouts which provide the regulatory mechanism for the siting of actual development have been prepared by the Town and Country Planning Department for nearly all the 24 sectors, that is Sectors 1 to 24. These layouts cover most settlements on the outskirts and fringes of Tamale. In 1990, the Tamale Land Use Project (TLUP) was formulated to:

- Develop a broad framework for planning among decision makers by increasing their participation in the planning process;
- Increase the implementability of plans by incorporating implementation as part of the planning process; and
- Expand the role of planning to include identification and assistance in establishing district resource priorities required to implement plans (Karbo, 1991).

Tamale Metropolis is the fourth largest urban settlement in the country and the largest urban settlement in northern Ghana, with population of 293,881 (GSS, 2005). The manifestation of environmental effects due to Tamale Metropolis being one of the fastest growing cities in Ghana are: lack of car parks as evident in unauthorized parking on the streets; rezoning of amenity open spaces and sites meant for public services for development as residential, commercial or industrial land in contravention of the original planning scheme/layout;

indiscriminate dumping of refuse into open gutters and open spaces and their impact on public health and safety; and indiscriminate defecation due to lack of public places of convenience within neighbourhoods, flooding in areas where houses have been constructed near major drainage channels, flood prone areas and waterways, erosion, siltation of drains, and the general unauthorized developments remain a major problem for the city authorities.

Problem statement

Ghana is rapidly urbanising and is no different from other countries in Sub-Sahara Africa. Recent statistics indicate that 43.8% of Ghana's population in 2000 was urban dwellers, as against 23.1% in 1960. At the current growth rate of 2.7% per annum, the urban population is expected to double in 26 years (GSS, 2005). The process of urbanisation occurs so fast that it overtakes the capacity of planning authorities to deal with the situation and control urban growth. The process brings in its wake environmental problems such as pollution, poor drainage system, flooding, unauthorized development, poor sanitation, poor infrastructure development, with the ultimate effect being urban sprawl.

Thus, the problem of planning and development in Tamale is not the unavailability of layouts but rather the local plan implementation machinery to enforce compliance. The problem that arises therefore is how urban land use plans could be implemented effectively to address the urban environmental problems in Ghanaian cities such as Tamale.

Objectives of the study

The main objective of the study is to examine how land use plans could improve the urban area by reducing environmental degradation in Tamale. Specifically, the study set out to:

- Assesses the extent of public participation in the land use planning and management process;
- Identifies the challenges to the implementation of land use plans in Tamale;
- Evaluate the performance of land use plans in addressing environmental problems; and
- Make appropriate recommendations to policy makers for the implementation of land use plans for sustainable development in the Tamale Metropolis.

Research questions

The research questions to guide the study are:

- What is the level of public participation in the land use planning and management
- What are the challenges in the implementation of land use plans in Tamale?
- To what extent has land use plans affected environmental quality?

Justification of the study

The study is significant because poor physical development is associated with poor infrastructure development and environmental situation (Gyogluu, 2006) and poor environmental conditions results in diarrhoea, malaria, and other

sanitation related diseases. According to the Tamale Metropolitan Assembly (TAMA, 2001), malaria and diarrhoea were the top ranking diseases in the metropolis, which are related to poor infrastructure and environmental condition.

Some amount of work has been done on this subject matter (Khublall and Yuen, 1991; Devas, 1993; FAO, 1995; Davidson, 1996; DENR, 1997; Honachefsky, 2000). Nevertheless, there is still the need for further study to provide insights as to how land use plans could offer a framework for improved urban planning and management for improved environment. It will be of benefit to other local authorities trying to find ways of addressing environmental problems. The study intends to contribute to sound urban environmental conditions. The study also intends to contribute to the growing knowledge of the various issues of urbanization and sustainable development.

Scope of the study

The study covers the Tamale Metropolitan Area in the Northern Region. It looked at the various stakeholders such as the Town and Country Planning Department (TCPD), the Tamale Metropolitan Assembly, the traditional land owners, Parks and Gardens (PG), EPA and the Lands Commission Secretariat (LCS) who are supposed to be involved in the preparation and implementation of urban land use plans, as well as the various laws governing land use planning and environmental management.

Organisation of the study

The study is organised into five chapters. The first chapter deals with the introduction of the study. This includes the background issues of land use planning and how it affects the environment. All other aspects of the study are briefly covered in this chapter. The second chapter is devoted to review of relevant literature. This includes conceptual and theoretical issues on land use planning and management.

The third chapter looks at the research methodology and other issues concerning data collection and methods of analysis employed in the study. Among the specifics here is the study area. This gives an account of the research setting – its location, and socio-economic activities among others. Data from the field is be analysed and discussed to see whether research questions have been answered and whether new findings have been added to existing literature in chapter four. Chapter five deals with the summary, conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

Introduction

Some considerable amount of literature exists on land use planning and management nationally (Karbo 1991b, Osei 2002, Amankwah 2002), and internationally (Chapin and Kaiser 1979, FAO 1995, Nnyaka 1999, Levy 2003). In this chapter, a review of the existing literature and the conceptual framework that guides this study are presented.

Land use planning

According to World Commission on Environment and Development, land use planning is a decision-making process that "facilitates the allocation of land to the uses that provide the greatest sustainable benefits"(WCED, 1987:8). It is based on the socio-economic conditions and expected developments of the population in and around a natural land unit. These are matched through a multiple goal analysis and assessment of the intrinsic value of the various environmental and natural resources of the land unit. The result is an indication of a preferred future land use, or combination of uses. Through a negotiation process with all stakeholders, the outcome is decisions on the concrete allocation of land

for specific uses (or non-uses) through legal and administrative measures, which will lead eventually to implementation of the plan.

An urban area is made up of complementing and conflicting uses and demands that have to be properly managed. This scenario is made worse by the fact that land is a finite resource and the demands on a particular piece of land are many and varied. Chapin and Kaiser (1979) therefore see land use planning as a branch of public policy, which encompasses various disciplines, which seek to order and regulate the use of land in an efficient way. It is viewed as the process of organising the use of land and its resources to best meet the people's needs over time according to the land's capabilities, (Chapin and Kaiser, 1979). According to this definition, every piece of land within an urban environment should have an appropriate use. The definition further relates to the concepts of sustainable development and use of resources and therefore identifies with the principles of Local Agenda 21.

Similarly, the Canadian Institute of Planners offers a definition that, land use planning means the scientific, aesthetic, and orderly disposition of land, resources, facilities and services with a view to securing the physical, economic and social efficiency, health and well-being of urban and rural communities. It is a term used for a branch of social policy which encompasses various disciplines which seek to order and regulate the use of land in an efficient and ethical way.

The essential function of land use planning remains the same whatever term is applied. Land use planning ensures the use of land resources in an organized fashion so that the needs of the present and future generations can be

best addressed. Land use planning has as its basic purpose to ensure that each area of land will be used so as to provide maximum social benefits, especially including food production, without degradation of the land resource. Other writers including Faludi (1973) and Quon (1999) all share the view to the effect that land use planning is about the welfare of the people and sustainable development.

Land use planning at national level

Ideally, there should be machinery for the apportionment and allocation of all land in the country for different uses so that the maximum benefits can be derived from each parcel of land in accordance with clearly defined national priorities and policies. In practice no single body exists for the purpose of discharging this vital function.

Comprehensive land use planning in Ghana is non-existent at the present time (Haldrup, 2003). The existing types of planning in the country consist of National development Planning, Regional Planning and Urban Planning. National planning is mainly concerned with the broad allocation of resources in the various areas of production and achievement in each sector and the mobilization of natural, human and financial resources for meeting these targets, bearing in mind the broad interrelationships between the objectives and requirements of the various sectors (Haldrup, 2003).

The actual use of the land as a basis for the achievement of planning objectives is usually given very little attention (Haldrup, 2003), except in those areas such as agriculture, forestry and game and wild life, which obviously

demand the allocation of the spatial terms. The role of national planning has been played in the past by the Ministry for Finance and Economic Planning; a role being played by the Ministry for Economic Planning and Regional Integration, and the National Development Planning Commission (NDPC). However since the creation of the NDPC in 1994, it has not been able to produce such a national plan with spatial considerations, although this is supposed to fall under its purview.

Land use planning at regional level

Regions require various land uses; protection of farmland, cities, industrial space, transportation hubs and infrastructure, military bases, and wilderness. Regional planning is the science of efficient placement of infrastructure and zoning for the sustainable growth of a region. Regional planning can address region-wide environmental, social, and economic issues, which may necessarily require a regional focus (www.wikipedia.org/wiki/Regional planning, 27/11/06).

A 'region' in planning terms can be administrative or at least partially functional, and is likely to include a network of settlements and character areas. In most European countries, regional and national plans are 'spatial' directing certain levels of development to specific cities and towns in order to support and manage the region depending on specific needs. Specific interventions and solutions will depend entirely on the needs of each region in each country. However, according to Wikipedia (2006), the free encyclopedia, generally speaking, regional planning at the macro level will seek to:

- Resist development in flood plains or along an earthquake faults. These areas may be utilised as parks, or unimproved farmland;
- Designate transportation corridors and considering major new infrastructure;
- Some thought into the various 'role's settlements in the region may play, for example some may be administrative, with others based upon manufacturing or transport;
- Consider designating essential nuisance land uses locations, including waste disposal;
- Designate Green belt land or similar to resist settlement amalgamation and protect the environment;
- Set regional level 'policy' and zoning which encourages a mix of housing values and communities; and
- Consider building codes, zoning laws and policies that encourage the best use of the land.

Urban land use planning

Urban Planning in Ghana is concerned with the development of human settlements (Haldrup, 2003). The preparation of planning schemes and grant of permits for building or development are closely regulated and supervised by the town and Country Planning department. The Cap 84 refers to the activities as physical Planning and this has been maintained by the Local Government Law, Act 462.

Theoretically, the Town Planning Department goes through several stages in the preparation of the planning schemes. Some of the major steps in summary are:

- Establishing the need for a plan;
- Preparation of base maps and study of the existing situation;
- Analysis and synthesis of study findings, projections and estimates;
- Formulation of development objectives and policies;
- Design of draft plans and discussion at departmental vetting session; and
- Submission to relevant agencies and presentation to land owners and the community for comments and contributions.

The final draft proposals are then submitted to the Statutory Planning Committee of the District for consideration and approval by the Statutory Planning Committee and then forwarded to the Head Office of the Department for further processing to the Ministry responsible for Town and Country Planning for statutory affirmation (Osei, 2003)

On receipt of the plans, the Head office (acting as the secretariat for the Minister) vets the plans, publishes and gazettes the plan in the daily newspapers and the Government Gazette and awaits comments from the public for a period of two months. Upon approval by the Minister, the Head Office of the department keeps a copy, another copy is sent to the Lands Commission and the rest are dispatched to the Department in the District for distribution to the relevant agencies for implementation. The plans prepare under the process are sector plans, outline plans and detail subdivision / local planning schemes.

Under the Local Government Law, Act 462, the planning scheme is submitted to the Assembly for approval instead of the Head Office. The Assembly is therefore the approving authority. In this case the plan does not go through the above vetting, publishing and gazetting process. This creates a lot of administrative and legal problems for plan implementation. Under Act 462, enough provisions are not made for discussions and public consultations on the planning scheme (Haldrup, 2003).

Rationale for land use planning

The purposes or reasons for planning or controlling the use of land are varied and many. However, Chapin and Kaiser (1979) identify five basic purposes for land use planning and control as:

- To guide the use of land: to promote orderly development of the township or city. The master plan or structure plan provides the frame-work for the protection of residential, education and industrial sites;
- To curtail the misuse of land: the prevention of slum development, through redevelopment and up-grading scheme;
- To prevent abuse of land: the prevention of illegal sub-division;
- To regulate the non-use or disuse of land: keeping land from development, to prevent speculation on land; and
- To guide the re-use of land for more appropriate purposes.

While the statutory planning systems of different countries differ, the motivation behind the use of government intervention in the use and development

of land is generally similar. It can be summed up as a mechanism to guide how development should occur in a way that is in the interest of the community as a whole. Therefore, development proposals that do not accord with certain planning controls, objectives or design standards can be refused under law. According to Khublall and Yuen (1991), other rationale, which govern the use of statutory, planning in many cities include the following:

- Ensuring fairness in physical development;
- Meeting the minimum standards of public health;
- Ensuring the provision of basic infrastructure and amenities;
- Controlling and managing externalities and their impacts;
- Providing adequate access to public goods, for instance recreational facilities, schools and libraries; and
- Managing the effective functioning of the built environment

Thus, land use plans may be viewed as a developmental control device with the overall goal of preservation and improvement of the environment and other amenities.

Land Use planning and environmental management

Honachefsky (2000) notes the influence that municipal land use planning in the United States has on the quality of the natural environment. Honachefsky (2000) further contends that, the quality of our lives is dependent upon the quality of our environment, which is largely dependent upon the quality of our land use. The fact that the quality of our lives is so dependent upon the quality of our natural environment is not a new theory. This is a doctrine eruditely espoused by

Aldo Leopold in 1933 as he propagated the extension of the social conscience from the people to the land (Honachefsky, 2000)**.** This statement clearly shows that there is a direct relationship between the quality of the environment and the implementation of our land use plans. This will also have a bearing on the quality of the human life. Honachefsky (2000) believes that local land use planning may be more responsible for the resultant quality of our natural environment than all of the state and regional environmental regulations combined. Another use of land is to protect and sustain a country's natural resource. However, increasing population, resource exploitation, hyper-urbanization and industrialization have put much pressure on the biological and physical well-being of the environment.

In the United States for instance, it is reported that long before the 52 state environmental protection agencies sat down to review projects and issue regulatory permits for developments projects, municipal land planners, have been out there, well ahead of them, prescribing, mostly through local zoning ordinances, where residential subdivisions will be placed and at what densities (Honachefsky, 2000). They will also have already determined where and how factories, commercial and office buildings will be located and how much impervious parking lot and roadway will be allowed, as well as where their sanitary sewage and storm water collection systems will be placed and into which waterway they will discharge.

According to the Department of Environment and Natural Resources (DENR) of the Philippines, natural resources have been, and continue to be subjected to numerous, yet conflicting uses. These include forest production (for

wood and other forest products like resin, pulp and paper), food production, human settlements, watershed, tourism/recreation, mineral production, energy production, biodiversity conservation, industrial site, and other economic activities or any combination of the above (DENR, 1997).

Urban planners shape patterns of land use and the built environment in and around cities to solve and prevent challenges of urbanisation, including providing shelter, food and other basic needs of life, protecting and conserving the natural environment and assuring equitable and efficient distribution of community resources, including land (Quon, 1999). Unsustainable land use practices results in land degradation (deforestation, desertification and soil erosion), rural poverty and population pressure on resources (Laing, 1994). Land use planning therefore helps in the orderly development of cities, which as stated earlier on improves the quality of life of the urban dweller.

'Environment' means different things to different people. For some, it means separating the garbage into burnable and non-burnable items. To others it means saving on electricity or using less water. The term 'environment' may be associated with restoring the vitality of tropical rain forests, maintaining biodiversity and arresting desertification. Developing healthy, sustainable and safe communities becomes important to yet others. The environment also means agricultural and industrial production that is sound and 'green' (Srinivas, 1997). All of these views are right in their own way, and are united in its concern for the effects that the environment has on the day-to-day lives of current and future generations.

The concern and problems associated with the environment have placed such issues high on the agenda of many bilateral and multilateral meetings. The Earth Summit of 1992 in Rio de Janeiro managed to highlight and channel efforts in understanding and acting on environmental problems, making it a key issue to be tackled in trade and commerce, in economic and social development, and in science and technology. Subsequent summits and congresses the Social Summit and the Beijing Conference on Women in 1995, the City Summit/Habitat II in 1996, not to mention innumerable regional, national and local meetings all had the larger global environment as a key common denominator in its action plans.

However, of concern to this study is the urban environment. It is helpful therefore, to look at urban environments from three viewpoints: the natural environment, the built environment and the socio-economic environment (http//www.unep.or.jp/ietc/NewApproach/CASE/CASE.doc, 17/06/07). Natural environments are essentially resources, processes and effects related to flora and fauna, human beings, minerals, water, land and air. Built environments are resources, processes and effects related to buildings, housing, roads, railways, electricity, water supply, gas etc. The socio-economic environment includes resources, processes and effects related to human activities, education, health, arts and culture, economic and business activities, heritage – urban lifestyles in general. It is the intersection and overlay of these three dimensions that constitutes an 'urban environment'.

Environmental management is the management of the humankind's interaction with and impact upon the environment (www.wikipedia.org/wiki/

Environmental Management, 27/11/06). Environmental management involves the management of all components of the bio-physical environment, both living (biotic) and non-living (abiotic). This is due to the interconnected and network of relationships amongst all living species and their habitats. The environment also involves the relationships of the human environment, such as the social, cultural and economic environment with the bio-physical environment. Management of activities within tolerable constraints imposed by the environment itself, and with full consideration of ecological factors; management of the enterprise to achieve survival, profitability, growth and social responsibility; essentially preventive rather than retrofitting is at the heart of environmental management. Environmental management is therefore not the conservation of the environment solely for the environment's sake, but rather the conservation of the environment for humankind's sake.

Land use and zoning

Zoning dictates to the landowner for what purposes he or she can use the land and what can be built on that land. Zoning regulates the use of land in areas for residential, commercial, industrial, agricultural or other land use (Dowall and Giles, 1997). Zoning is a means to control urban sprawl, population density, traffic, and other urban problems.

Zoning is a North American term for a system of land use and regulations. The word is derived from the practice of designating permitted uses of land based on mapped zones, which separate one part of a community from another.

Theoretically, its primary purpose is to segregate uses that are thought to be incompatible. In practice however, zoning is used as a permitting system to prevent new development from harming existing residency or business.

Zoning commonly includes regulation of the kinds of activities which will be acceptable on particular parcels of land, such as open space, residential, commerce, industry or agricultural. It also regulates the densities at which those activities can be performed. This ranges from low-density housing such as single family homes to high-density such as tower blocks, the height of buildings, the amount of space structures may occupy, the location of a building on the lot, the proportions of the types of space on a lot, and how much parking must be provided (www.wikipedia.org/wiki/Zoning, 27/11/2006).

The strict zoning as practised for instance in European countries is not applicable to many developing countries. Land in Asian cities is frequently used for other or mixed purposes such as residential and commercial use. With regard to the clustered type of development, whereby working sites and residential areas are planned to be near together, mixed zoning has to be applied. In many developing countries the spontaneous setting of squatter settlement are mixed zoning models, where housing, small-scale industries and agriculture are located near to each other. Zoning codes have evolved over the years as urban planning theory has changed, legal constraints have fluctuated, and political priorities have shifted.

Land-use zoning is considered by some to be an important tool in the treatment of certain social ills, a part of the larger concept of social engineering

and political science. Criticism of zoning is however widespread, and its effectiveness as a tool for positive social change is debatable. The following are some of the criticisms and limitations of land use zoning:

- Circumventions
- Aesthetic criticisms
- **Social criticisms**
- Exclusionary zoning
- Racial zoning
- **Zoning and housing affordability**

Historical perspective of planning in Ghana

Development planning in Ghana was initiated by colonial Governor Sir Gordon Guggisberg with the launch of the Ten-Year Development Plan, 1920 -1930. His goal in his words was to "translate a scheme of vision directly essential to the progress of the people" (Karbo, 2002:6). The plan proposals were heavily infrastructure – inclined with the construction of roads, hospitals, water supplies, schools, housing, and the institution of town planning. The plan was implemented for seven years and stopped with the dismissal of the governor in 1927 on a charge of "opening the eyes of the natives with amazing rapidity" (Karbo, 2002:7).

The colonial period

The Governor Guggisberg period initiated planning at the local level. The planning functions were defined in the Mining Health Areas and Towns Ordinances and performed by Health Boards and the Public Works Department. The establishment of the Department as an essential arm of government was started through the initiative of Lord Swanton, a Colonial resident Minister for West Africa who in 1944 appointed a consultant to prepare planning schemes (land use plans) for major towns of West Africa. Five such schemes were prepared for Accra, Kumasi Sekondi, Takoradi and Tarkwa. A step was taken further to institutionalise the Department with the enactment of the Town and Country Planning Ordinance (Cap 84) in 1945. The ordinance in the main intended to ensure orderly development of land. The Ordinance provided for the:

- Preparation of development plans for any declared planning areas;
- Establishment of a planning board which assesses applications for planning permission and grant approval for development. Where applicable local committees were delegated to perform that function; and
- Delegation of planning powers to Local Authorities by the Minister responsible for town planning.

The planning approach thus represented the master plan concept modelled after the rational comprehensive model and British planning system. The Ordinance, except with minor amendments in 1959, has been in place to date.

The post-independence era

When the country attained independence in 1957, the Convention People's Party (CPP) government under Dr. Kwame Nkrumah drew the Seven-year Development Plan (1964 - 1970) to address economic growth. The main objective of the plan was to accelerate economic development of Ghana through rapid industrialisation. On the advice of Arthur Lewis, a West Indian economist, an Import Substitution Industrialisation Strategy (ISIS) was adopted for the country. The development was also based on socialism in terms of state-led investment. The plan also sought to improve upon road, railways, air, water transport and other infrastructure facilities to enhance rapid industrialisation. The infrastructure component had the highest budget line of 27% of the ¢88 million. It was, however, revised downward to 18% because the previous plan had developed infrastructure beyond the level of economic development of the country.

A noteworthy development at the time was the preparation of the National Physical Development Plan (NPDP) for the period 1963-1970 which was to guide the spatial organisation of economic and social infrastructure. One of the objectives of the plan was to ensure spatial equity and match resources, population and infrastructure.

The NPDP was not implemented as expected, due to lack of political commitment (Gyogluu, 2006), whereas the rapid development drive of the government led to increased urbanisation, poor siting of some industrial projects and duplication of programmes created planning problems. Upon the advice of the Town and Country Planning Department, the government invited the United

Nations Regional Planning Commission to develop an approach that would integrate economic and physical planning in the country.

Land use planning and sustainable development

These days it has become rare to find a policy or planning document that does not refer to the term "sustainability", which makes the concept difficult to define because of interpretations by the various disciplines. In general, sustainability means that human activities do not compromise our essential social and national support systems either now or in the future (Beatley and Manning, 1997). Definitions of sustainable development will therefore take account of the concerns of the present and the future. Two definitions among the many are considered here as they provide an understanding of sustainability and its characteristics.

The first definition, which is generally accepted worldwide, is by the World Commission on Environment and Development, who define it as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987:87). It has two key concepts: the concept of needs, in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.

The second is offered by the International Union for the Conservation of Nature (IUCN) which defines sustainable development as achieving a quality of

life (or standard of living) that can be maintained for many generations because it is: socially desirable, fulfilling people's cultural, material, and spiritual needs in equitable ways; economically viable, paying for itself, with costs not exceeding income; ecologically sustainable, maintaining the long-term viability of supporting ecosystems (IUCN, 1980). The definition lays emphasis on a quality of life or standard of living, which should be maintained for many generations.

The central focus of the definitions is the physical and ecological limits to growth. With regard to natural resources like forests, soils, or ocean fisheries, "sustainability" implies utilising and managing these resources in a way that maintains the capacity for renewal sometimes referred to as "carrying capacity". To social system, "sustainability" means individual and community needs should be achieved in a way that promotes equity both within and between generations. Finally, economic systems or models should satisfy human needs and aspirations in an equitable manner devoid of exploitation and compromising natural and ecological resources. Thus there are three strands or key principles of sustainable development namely: social, economic and environmental.

The definitions contain two issues of relevance to the study. Firstly, they indicate the state of sustainability and the means to reach the desired state of sustainability. The desired state of sustainability is normative and will vary from country to country. The problem is normally the means to achieve the desired level of sustainability that development means that it can be achieved only through an integrated manner as the social, economic and environmental issues have to be considered together.

The research addresses how sustainable urban development can be reached through land use planning and how they can be implemented in a sustainable manner to determine the quality of life of residents of Tamale.

Land use planning laws / regulations

Laws and regulations, which control the development and management of land, are numerous. These include all the land laws and regulation, the planning laws, the building regulations and laws and agencies, which have one thing or the other to do with town development and use of land. The general legal framework that currently regulates planning practice and functions within the country are embodied in the NDPC Act 480 of 1994, NDP System Act 479 of 1994, Local Government Law, Act 462 of 1993 and the Town and Country Planning Ordinance (Cap 84) of 1945.

At the apex of the planning structure is the National Development Planning Commission (NDPC). This was established by Act 479, which consequently established the legal framework for the planning in the country. The functions of the NDPC include the follow:

- Prepare broad national development plans;
- Undertake studies and recommendations on development and socio-economic issues; and
- Make proposals for the development of multi-year rolling plans taking into consideration advantages of the different districts in Ghana.

Complementary to the NDPC Act is the NDPS Act also of 1994, which provides legal framework for planning at the District and local levels. Under the NDP Systems Act, the functions of a District Planning Authority as established under the Local Government Act, 1993 include:

- Initiate and prepare district development plans and settlement structure plans in the manner prescribed by the commission and ensure that the plans prepared with full participation of the local community;
- Carry out studies on development planning matters in the district including studies on economic, social, spatial, environmental, sectoral and human settlement issues and policies; and
- Integrate and ensure that sector and spatial policies, plans, programmes and projects of the district are compatible with each other and with national development objectives.

The Local Government Law, 1993 (Act 462) provides for the formation of District Assemblies and their various functions. Part II, Section 46-69 deal with planning functions and the District Assemblies. It provides for the setting up of District Planning Co-ordinating Units to be responsible for the preparation of District Development Plans. These shall be prepared in conformity with a format to be provided by the NDPC. Development Plans thus prepared shall pass through the Regional Co-ordinating Council to the NDPC. These plans are expected to provide inputs to the latter for the formulation/preparation of the National Development Plans - e.g. Vision 2020. The whole of the S.46-69 on planning

functions does not mention preparation of land use plans or planning schemes even once.

The law does not give mandate to the Planning Committee for such functions. Instead under section 49, which deals with the aspects on physical development, the law states that: "No physical development shall be carried out in a District without prior approval in the form of written permit granted by the District Planning Authority". The procedure and manner for securing a permit, under the sub section 10 of this section shall be prescribed by regulation". In no other section or attachments are these regulations provided. Consequently, varied interpretations have been applied and the practical cases differ from one district to the other. The consequence is that the decentralization law, Act 462 is operating along with centralized Town and Country Planning Ordinance (Cap. 84) of 1945.

For example, Ghana Vision 2020 document, which provided the framework for national development for the next 25 years among other issues, lamented the poor state of human settlements planning in the country when it noted the lack of consistent forward planning, failure to prepare and systematically review and update structure plan, lack of effective development control and the absence of coherent policies on urban land use over the past two decades have led to the unacceptable low level of social and economic amenities.

The land use planning laws and regulations operating in Ghana, mentioned earlier, have a lot of shortcomings and setbacks, which do not make them effective. The main law for land use planning, Cap 84 is outmoded and archaic and cannot respond to the rapidly changing dynamics of human settlement

growth and development (Haldrup, 2003). The law was promulgated for centralized planning and could therefore not be used effectively for the Government policy of decentralization which has been initiated in 1993 through the Local Government law, Act 462 (1993.) Act 462 does not prescribe modalities and mechanism for the land use planning from the national level through the regional level to the local/ district levels. The NDPC law, which was promulgated in 1994, does not also provide for land use planning but rather concentrated on development planning without making provision on how spatial planning should be operated and integrated to compel institutions and departments working in land use management and development to work together.

The legal/regulatory framework of land use planning and management in Ghana is summed up as: "Under the Local Government Act, (Act 462) the District Assembly is an autonomous body. The multi-disciplinary Planning Committee chaired by the Chief Executive and acting through the Assembly approves a plan for implementation within its jurisdiction. The Town Planning Officer, in compliance with the Ordinance (of 1945) submits this to the Head Office of the Town Planning which rejects the plan after vetting. Will the Chief Executive comply with the directives of the head office of Town Planning?" (Osei, 2003:3-4).

Conceptual framework

The framework is based on the caused and effect relationship resulting from a core problem. The framework identifies the core problem as ineffective implementation of land use plans with immediate and remote causes. The present

machinery for implementation and enforcement of planning decisions is very weak and fraught with all sorts of frustrations, to both the developer and the planning authorities. Not only are the Town Planning Ordinance and Council bye-laws outmoded, but the Building Inspectorate Division of the Works Department of the Assembly is ill –equipped to perform this task. Some of the staff and other public officials who are strategically involved in the implementation and enforcement process subvert and underline the process.

As Figure 1 shows, the remote causes are inadequate policy on human settlement and ineffective land management system. The immediate causes of the problem include: inadequate logistics/resources; ineffective land tenure system; inadequate public participation; weak coordination among stakeholders; ineffective legislative framework; and no linkage between plan preparation and implementation.

From the problem analysis in Figure 1, the problem immediately leads to; long delay in issuing building/development permit; mutilation of development schemes/layouts; unauthorised development; lack of access roads and lanes in residential neighbourhoods; poor drainage system; and poor sanitation. This situation if not resolved will further lead to; low property values and economic activities; poor infrastructure; indiscriminate waste disposal; conflict over land as well as diseases and poor health. Ultimately, the problem and its effect, whether immediate or remote, lead to urban sprawl with all the attendant consequences.

The study therefore sought to empirically find out whether there is a linkage between plan preparation and implementation or not; weak coordination

among stakeholders; ineffective land tenure system; and inadequate logistics/ resources bring about ineffective implementation of land use plans. This made it possible to establish whether there are unauthorised developments; lack of access roads and lanes in residential neighbourhoods; poor drainage system; indiscriminate waste disposal and poor sanitation in the study area.

PROBLEM ANALYSIS

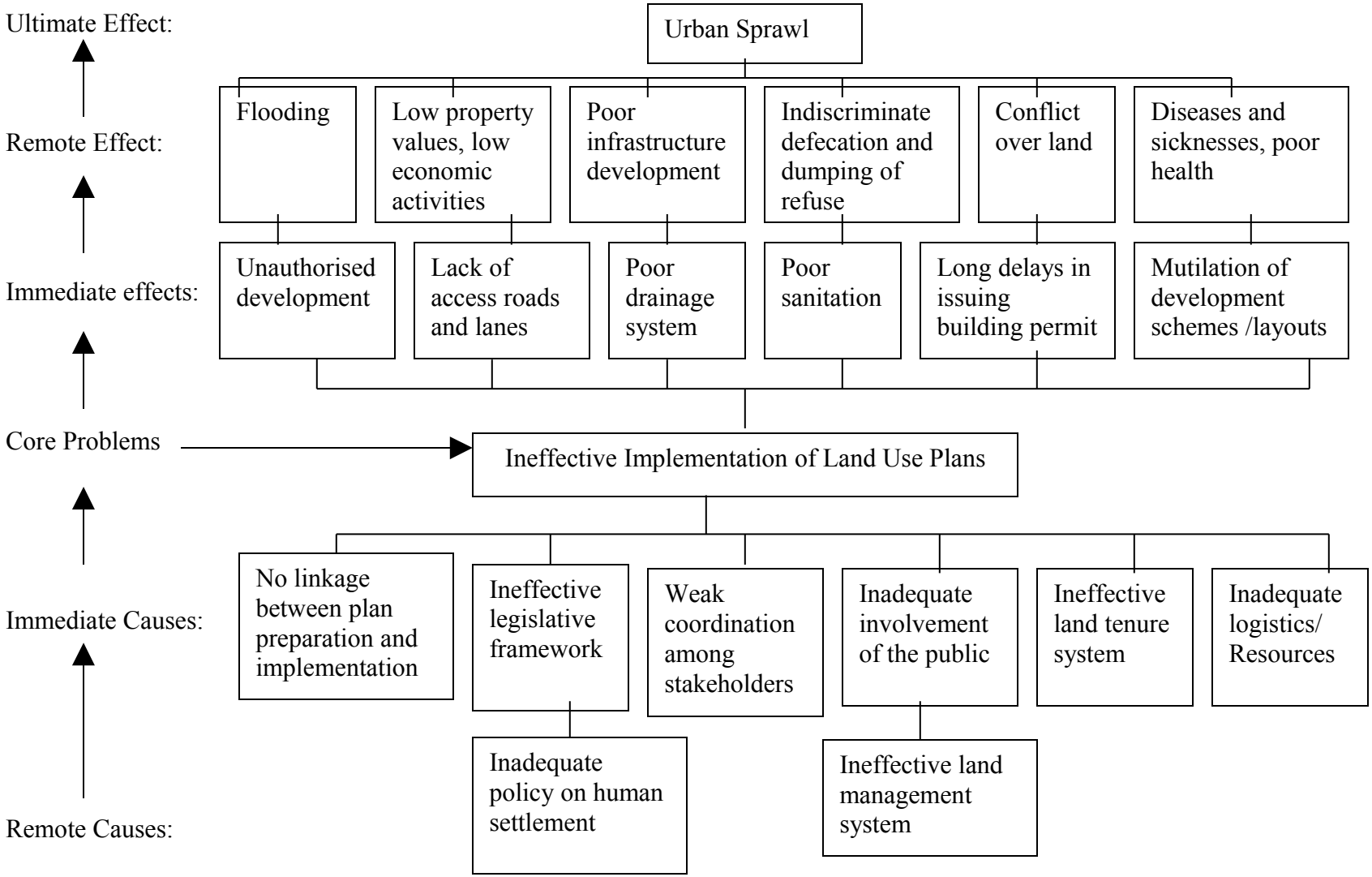

Figure 1: Problem Analysis

Source: Author's

CHAPTER THREE

METHODOLOGY

Introduction

This section presents the methods employed in the collection and analysis of data for the study. It involved the collection and analysis of qualitative and quantitative data from institutions and organizations as well as the general public. The rest of the chapter focuses on the study area, target population, sampling procedure, sources of data, data collection techniques and data processing and analysis.

Study area

The Tamale Metropolis is the regional capital of the Northern Region. It occupies an area of about 922 sq km. This represents 1.3% of the total land area of the Northern Region. It shares borders with Savelugu – Nanton District to the North, Tolon – Kumbungu District to the North – West, Central Gonja and West Gonja districts to the South and West respectively.

The metropolis is approximately 180 metres above sea level. The topography is generally rolling with some shallow valleys and some isolated hills, which do not inhibit physical development. As a result of its location within the Guinea Savannah Belt, the metropolis experiences one rainy season starting from April/ May to September/ October with a mean rainfall of 1100mm with only 95 days of intense rainfall. The dry season is usually from November to March which is influenced by North-Easterly (Harmattan) winds while the rainy season is influenced by the moist South-Westerly winds. Maximum day temperatures range

from 33^0C to 39^0C while mean night temperature range from 22^0C to 25^0C. Mean annual day sunshine is approximately 7.5 hours.

The climatic conditions have, to a greater extent, influenced the vegetation of the area. Apart from the preserved natural colonies of vegetation such as fetish groves, forest reserves and community woodlots, the whole municipality is within the Guinea Savannah Belt exhibiting tall grasses interspersed with drought resistant trees such as dawadawa, nim, sheanut and mahogany. During the rains the municipality becomes green making the vegetation more luxuriant. In the dry season, water becomes scarce as a result of poor vegetation cover, run-off and evapo-transpiration. The grasses dry up and the accompanying bush fires destroy the soil nutrients and also expose the soil to serious erosion.

The Tamale Metropolis is underlined by sandstone, mudstone and shale, which over time have been weathered to different degrees. The main soil types that have resulted from the above natural phenomenon include sand, clay and laterite. These soil types are inadequately protected resulting in serious erosion during the rains. The main source of water for the metropolis is the Nawuni Dam, pumped and treated at Dalun Water works for distribution. There are community dams at Lamashegu, Vittin, Buipela, Sakpala, Fuo, Kalpohin, Kasalgu for various uses, especially during the dry season. The Metropolis has one land fill site located at Ghalahi, about 8km from the central business district, where solid waste is disposed. Large refuse containers have been placed at few designations in some neighbourhoods for the collection of solid waste by the metropolitan assembly and private waste management companies. Public toilets have been provided in a

few neighbourhoods as well. There is one major forest reserve in the metropolis located at Sinsabgi-gbini. There are other plantations which include the Water Works Plantation, Kogni fuel wood plantation and the Ministry of Food and Agriculture area fuel wood plantation.

According to the Ghana Statistical Service (2005), the metropolis has a population of 293,881 and intercensal growth rate of 3.5% per annum. This is far higher than the national and regional rates of 2.7% and 2.8% respectively. The metropolis has an urban population of 67.1% and a population density of 318.6 persons per square kilometre. This is about 12 times higher than the regional average density of 25.9 persons per square kilometre. There exist vast differences between the densities of the rural and urban areas. This is an indication of influx to urban Tamale with its resultant urban land use and environmental management problems. The metropolis therefore serves as a good case study area being the largest urban setting in Northern Ghana.

Study population

All adults aged 18 years and above who are land users (lessees) and all governmental agencies, non-governmental organizations (NGOs) and community leaders involved in land use planning and management responsibilities constituted the population of the study.

Sampling procedure

Krejcie and Morgan (1970) offer a table for estimating sample size from a given population. Accordingly, a population of 75, 000 should have a sample size of 331 and a population of 1,000,000 should have a sample size of 335. Therefore, the total population of 117,448 should have a sample size of between 331 and 335. Given the available time and resources and the need for greater accuracy a total of 150 respondents were selected for the study.

The Metropolis was zoned into five: the Central, Northern, Southern, Eastern and Western Zones. The Central Zone comprises the Mossi Zongo, Tishiegu and its environs is the Central Business District area where most of the commercial activities such as banking, trading and transportation are operating. The lands in these areas are purely state owned. The Southern Zone (Lamashegu and its environs) is located to the southern part of the Metropolis. The area also houses the industrial estate of the metropolis. The Northern Zone comprising Gumani and Kanvilli neighbourhoods is located on the main Tamale – Bolgatanga road to the north of the metropolis. This area has a number of both international and national non-governmental organisations such as Oxfarm, Catholic Relief Services (CRS), Amasaachina, and the Institute for Policy Alternatives. There are also some major hotels such as Gariba Lodge and Bigiza Hotel. The Eastern Zone comprises the Vittin and Kukuo neighbourhoods and is located to the east. This zone is comparatively less populated. A housing estate developed by the State Housing Company is located in the area. Finally, the Western Zone comprising Nyohini and Sagnerigu occupies the west of the Metropolis with a number of

educational and first class residential facilities. Each of these demarcated zones presents its own unique characteristics for the study.

Table 1 shows the household numbers in each of the five zones. The proportional sampling method was used to draw the sample sizes from the households in each of the five zones. A proportion of 0.0078 was taken from each of the zone to give a total sample size of 150 households for the study.

Table 1: Household sample

Zone	Households	Sample Size
Northern	5,985	47
Southern	4,712	37
Central	4,075	32
Western	3,438	27
Eastern	891	7
Total	19,101	150

Source: Ghana Statistical Service, 2000

The simple random sampling method was used to select heads of households who are eighteen years old or more and have gone through the land acquisition and development process. A list of the houses in each of the five zones was obtained from the Office of the Administrator of Stool Lands and the lottery

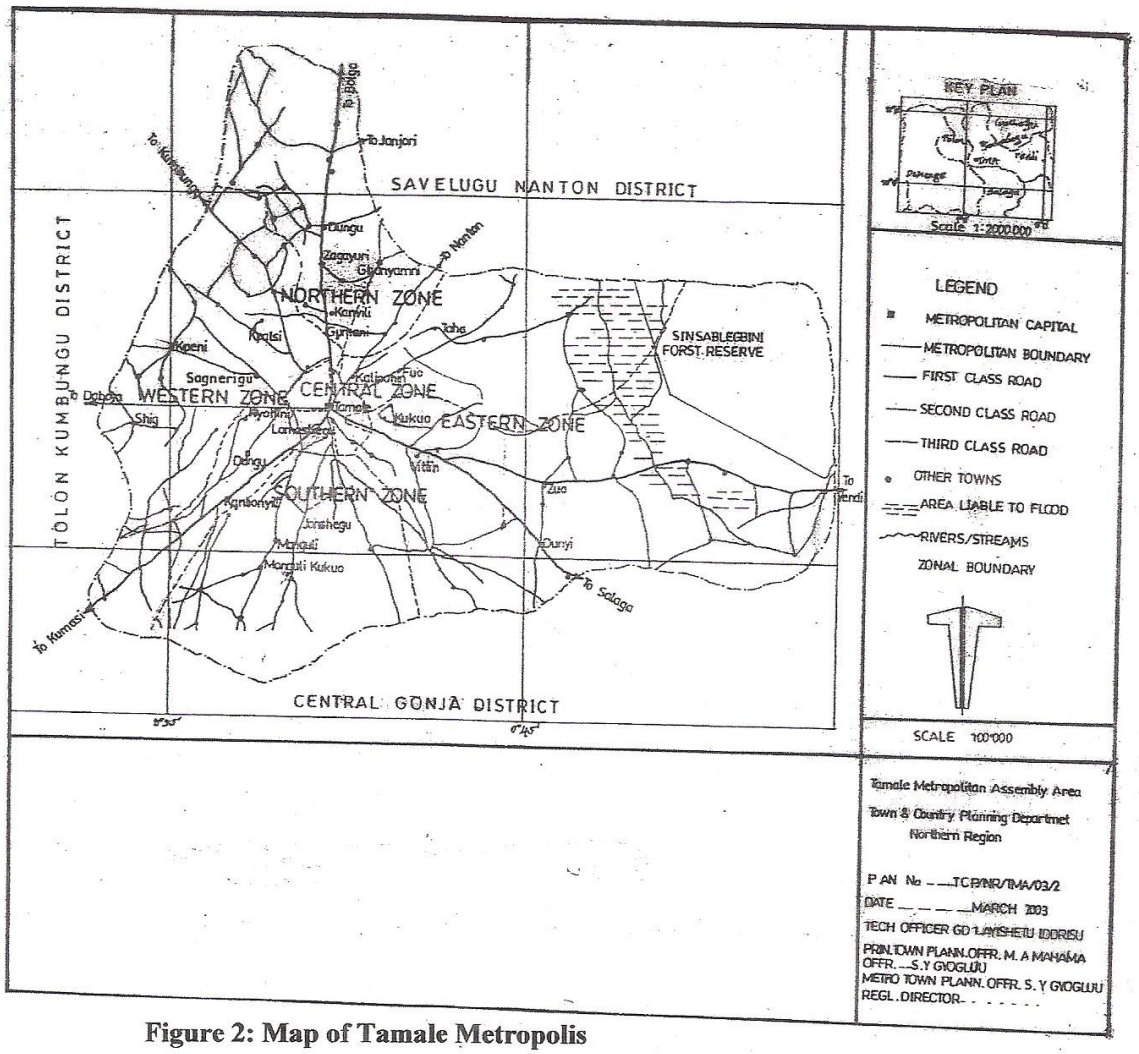

Figure 2: Map of Tamale Metropolis

Source: Town and Country Planning Department, Tamale

Figure 2: Map of Tamale Metropolis

Source: Town and Country Planning Department, Tamale

method used to select the houses. If a selected household head was not available and could not be reached, that house was replaced by another through the same method. However, only one household was interviewed in each house.

Purposive sampling was however used to select the seven institutions. This is because they are directly involved in the land management and development process and were relevant to this research. The institutions selected for interviews were: the Tamale Metropolitan Assembly (TAMA), the Environmental Protection Agency, the Town and Country Planning Department, the Lands Commission and the Department for Parks and Gardens, Office of the Administrator of Stool Lands and the Gulkpegu Divisional Council.

The TAMA was selected because it is the planning authority responsible for issuing development/building permits in the metropolis. As a planning authority, it is responsible for the implementation of land use plans for the metropolis. Challenges involved in the planning process could be explained better by the Assembly. It was on this that TAMA was selected. The Metropolitan Engineer who is the head of the Assembly's Works Department was interviewed because all physical developments, including development control within the Metropolis come under the supervision of the Department.

The Town and Country Planning Department was also selected because it plays a coordinating role to ensure that all stakeholders play their roles in the land use planning process. The Department actually prepares the planning schemes for the Metropolis and serves as secretary to the Tamale Statutory Planning Committee. The Metropolitan Director of Town Planning was interviewed because he is directly in charge of the preparation of land use plans for the Metropolis.

The Department of Parks and Gardens was selected for interview because it is responsible for environmental landscape development and management of urban parks and open spaces. The Regional Director was interviewed because he directly supervises all the activities of the Department in the Metropolis. The Lands Commission was also selected because the Commission is responsible for managing all government lands as well as the processing of all leases and registration for prospective developers. The Principal Lands Inspector was interviewed because the officer is in charge of land inspection to determine the suitability or otherwise for the intended purpose for which title is being sought.

Adverse environmental effects could possibly develop as a result of the implementation of land use plan. Since the EPA is a decentralised government agency that works together with the TAMA to protect the environment, it became necessary to talk to EPA. The Deputy Regional Director was interviewed because he represents the Agency on the Assembly's Sub–Committee on the built environment.

According to Kassanga and Kotey (1991), about 80% of land in Ghana is owned by the customary authority. Their input in the land use planning process can not be ignored. The Gulkpegu Divisional Council was therefore selected because it is the most organised in terms of land management. It has established Customary Land Secretariat where records on land transactions within the divisional area are maintained. It also controls a bigger proportion of the land area

in the Metropolis. The head of the Gulpegu Land Secretariat who also doubles as the secretary to the Gulkpe Na was interviewed.

Types and sources of data

Data for the study was obtained from both primary and secondary sources. Direct responses from landlords from the sampled population and interviews with relevant institutions constituted the major source of the primary data. Data from existing literature, official government statistics and from the files of government agencies were used to augment the available primary data. Both qualitative and quantitative data were collected and analysed.

Data collection techniques

Survey and observation were the major techniques of data collection methods. The survey involved the administration of limited questionnaires to the public due to time and resource constraints. It also involved the use of interview schedules, especially for the illiterate respondents. This technique offered the respondents the opportunity to express themselves as much as possible because most of the questions were open-ended. The technique also made it possible for questions to be explained very well to respondents for the right reactions to be obtained. A period of eight days was used for the entire field work which involved four interviewers, the researcher and three assistants. The administration of the questionnaires and the interview schedule was carried out mostly in the evenings when respondents returned from their places of work.

Interview guides for five selected institutions was used. The interview was used in order to give a thorough understanding of the problem under study. The technique also made it possible for questions to be explained in details to respondents for the right reaction to be gained. The two way communication between the interviewers and the respondents made it possible for the administration of the interview schedule to closely observe both explicit and implicit expressions of the respondents. Observation was also used in the data collection. It involved the application of detailed first – hand observation of behaviours and nature of developments in the study area. This made it possible to obtain in-depth information and pictures to be taken.

Data processing and analysis

The data gathered from the fields of study was edited to ensure that all interview schedules were properly completed and that they contained accurate information. The data were then coded and inputted into the computer. Statistical Product and Service Solution (SPSS) version 15.0 software was used to run and analyse the data and presented in the form of frequency distribution tables as well as other relevant statistical forms. The basic descriptive statistics used were relevant because they served as the basis for making appropriate inferences from the findings of the study.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This chapter presents the analyses of the data collected for the study. The data was gathered from different sources; the communities, the Tamale Metropolitan Assembly, the Town and Country Planning Department, Parks and Gardens, Lands Commission Secretariat, the Traditional Authorities, and the Environmental Protection Agency. Each of these had a different interview schedule.

The conceptual framework formed the basis for the collection of data on issues such as the linkage between plan preparation and implementation; land tenure system; encroachment and unauthorised developments; coordination among stakeholders; participation and; the legislative framework which governs land use planning and management in the country. These issues have been analysed and discussed in this section.

The analysis are used to examine how land use plans could improve the urban environment in the study area and make appropriate recommendations for effective implementation of land use plans. The respondents' age, occupation and educational levels were investigated since such information is very vital in understanding the key objectives of the study. A description of the socio-economic characteristics of the respondents is therefore presented in the next sub - section.

Socio – economic characteristics of respondents

The respondents' age, sex, occupation and level of educational attainment were probed into as such information is very vital in the understanding of the study.

Age distribution of respondents

The ages of respondents were at least 18 years old. More than 38% of the respondents were more than 55 years old and this was also the modal age group. Over 10 percent (12.2%) of the respondents covered in the Northern Zone were within the age group of 55 years and more. This is because most respondents here are public servants who are able to build their own houses either at or just before retirement due to the generally low income levels in the service.

Less than 4% were below 25 years. Table 2 gives a clear picture of the ages of the respondents. Out of the total of 131 respondents, 94 household heads (71.8%) were males while 37 representing 28.2% were females.

Educational background of respondents

It is assumed that the educational background of respondents would influence their level of appreciation of land management and administration issues, especially with regard to land policy. In that regard, an attempt was made to assess the level of education of the respondents and how they appreciate land use planning in the study area. About 28.2% of the 131 respondents had been to

the tertiary level with majority of them coming from the Northern Zone. This is because the area is being inhabited mostly by public servants such as teachers and other governmental organisations and Non-Governmental Organizations (NGOs) workers in the area. Only 10 respondents, representing 7.6% did not have any formal education as shown in Table 3.

Table 2: Age distribution of respondents

Zone	Age Group							
	Less or equal to 19	20 - 29	30 – 39	40 - 49	50 -59	More or equal to 60	Total	Percentage
Central	1	3	6	4	6	7	27	20.6
Southern	0	3	9	5	5	9	31	23.7
Northern	0	2	10	9	13	8	42	32.1
Eastern	0	1	1	2	2	1	7	5.3
Western	0	1	2	10	4	7	24	18.3
Total	1	10	28	30	30	32	131	100.0
Percentage	0.8	7.6	21.4	22.9	22.9	24.4		

Source: Fieldwork, 2007

Occupation of respondents

From Table 4, it is clear that more than one – third of the respondents (36.6%) were self – employed with the highest number occurring in the Central Zone. This is not surprising since the central area houses the Central Business District (CBD) because the central area which is the Central Business District

(CBD) and the Zongo areas which are occupied by the indigenes and the locals, who are mostly traders. Also, more than one – quarter (28.2%) of the respondents were public servants with as many as 19 respondents from the Northern Zone because mostly of the public and servants who are migrants live in this neighbourhood. However, about 3% of the respondents were out of employment.

Public participation in land use planning

People live with the results of land use management every day of their lives and depend on it to provide certainty and protect their amenity. Community consultation is therefore essential and it should be at all stages in the planning process if it is to achieve the intended desire. The extent of public participation was therefore one of the issues that the study sought to explore.

The first specific objective of the study was to assess the extent of public participation in land use planning and management process. An assessment of the knowledge of existence of community land use plans was made. This was because such knowledge will inform people regarding the type and nature of development permissible on any parcel of land with regard to the zoning regulation. From the survey, 82 respondents, representing 62.6% of the total number interviewed acknowledged they were aware that their communities have a development layout, while 37.4% said they did not know.

Table 3: Educational background

Table 3: Educational background

Zone	Educational Level									Total	Percentage
	Tertiary	Post Secondary	Secondary/ SSS	Technical Institute	JSS	Middle	Primary	Arabic school	Non formal		
Central	5	3	9	1	0	4	2	2	2	28	21.4
Southern	3	6	11	2	1	2	1	2	3	31	23.7
Northern	18	7	1	3	0	8	0	2	2	42	32.1
Eastern	3	1	0	1	0	0	0	1	1	7	5.3
Western	8	7	3	0	0	3	0	1	2	24	18.3
Total	37	24	24	7	1	17	3	8	10	131	
Percentage	28.2	18.3	18.3	5.3	0.8	13.0	2.3	6.1	7.6		100.0

Source: Fieldwork, 2007.

Table 4: Occupation of respondents

Zone	Occupation							Total	Percentage
	Self Employed	Public Servant	Private Company	Non – Governmental Organisation	Religious Leader	Pensioner	Unemployed		
Central	17	3	1	2	1	2	1	27	21.4
Southern	10	8	4	3	2	2	2	31	23.7
Northern	9	19	3	5	4	1	1	42	32.1
Eastern	1	1	2	1	2	0	0	7	5.3
Western	11	6	4	2	1	0	0	24	18.3
Total	48	37	14	13	10	5	4	131	
Percentage	36.6	28.2	10.7	9.9	7.6	3.8	3.1		100.0

Source: Fieldwork, 2007.

Almost 70 percent (69%) of the respondents said they were not involved in the preparation of development layouts for the communities, while 19.8% were not sure whether they were involved or not. Only 10.7% said the process is

participatory. About 25 percent of the respondents who said they were not involved in the planning process were from the Northern Zone. This may be attributed to the nature of physical development and personal experiences. It could also be as a result of the high response rate in the Zone. Many of the people who responded that they were involved came from the Western Zone. This could be due to the fact that this area has some of the first class residential facilities as well as some educational facilities. The residents here appear to know their rights and responsibilities (see Table 5 for details).

Table 5: Public involvement in land use planning

Zone	Response			Total	Percentage
	Yes	No	Don't Know		
Central	2	20	5	27	21.4
Southern	3	21	7	31	23.7
Northern	3	31	8	42	32.1
Eastern	1	4	2	7	5.3
Western	5	15	4	24	18.3
Totals	14	91	26	131	100.0
Percentage	10.7	69.5	19.8		

Source: Fieldwork, 2007

Table 6 depicts the opinions of the respondents as to whether the public should be involved or not in land use planning and management. The majority (71%) of the respondents said the public should be involved in all decisions

relating to the type and nature of development in their communities. However, 15.3% said there was no need for public participation in this process.

Some of the reasons for public participation are that: it would enable them assist in plan implementation (30.4%); their needs and interest would be incorporated into the final plan (24.4%). The details of the responses are shown in Table 7.

Two main reasons were advanced by those who believe the public should not participate in land use planning. These are lack of technical skills and that it was not feasible.

Table 6: Respondents view about public participation in land use planning

Zone	Response			Total	Percentage
	Yes	No	Don't Know		
Central	18	5	4	27	21.4
Southern	25	2	4	31	23.7
Northern	26	9	7	42	32.1
Eastern	5	1	1	7	5.3
Western	19	3	2	24	18.3
Total	93	20	18	131	100.0
Percentage	71.0	15.3	13.7		

Source: Fieldwork, 2007

Table 7: Reasons for Public Participation

Table 7: Reasons for public participation

Zone	Reasons							
	To help in the implementation	So that their needs and interest are considered in the final plan	Affected directly/ indirectly	It will promote transparency among all stakeholders of land use planning	To enable them appreciate different land use types	To prevent conflicts	Total	Percentage
Central	9	4	7	5	1	0	26	19.3
Southern	16	8	11	6	3	1	45	33.3
Northern	13	11	6	5	4	1	40	29.6
Eastern	2	3	3	2	0	0	10	7.4
Western	1	7	2	0	1	3	14	10.4
Total	41	33	29	18	9	5	*135	
Percentage	30.4	24.4	21.5	13.3	6.7	3.7		100.0

* The number exceeded the sample size of 131 because of multiple responses.

Source: Fieldwork, 2007.

Role of communities in land use planning and management

It was important to find out what the communities themselves can do to ensure that land use plans that have been approved by the Tamale Statutory

Planning Authority are not mutilated but fully implemented. It is possible that the people might have their own ways of ensuring that these plans see the light of day. The views of the respondents expressed on the subject are presented in Table 8. From Table 8, 28.1% of the respondents suggested collaboration between communities and government agencies responsible for the preparation and implementation of land use plans. The greater part of this suggestion came from residents in the Southern and Northern Zones. This could be that even though this is the industrial hub of the Metropolis where most of the small scale industries are located, they do not really see the collaboration between land users and implementing agencies in respect of development control.

Other measures suggested by the respondents include public education on land use and management for the public; formation of community land use development monitoring team and holding public officials accountable for their actions and inaction with regard to land use management.

Challenges to the implementation of land use plans in Tamale

With the availability of over 126 schemes in the Metropolis, it was necessary to look at the local plan implementation machinery especially the challenges faced in the process of plan implementation which is the second specific objective of the study.

Table 8: Role of Communities in Land Use Planning

Table 8: Role of communities in land use planning and management

Zone	Reasons							Total	Percentage
	Collaboration between community and government agencies	Public education on land use and management	Formation of community land use development team	Hold public officials accountable	Enforce existing laws	Resist any unauthorised development	Community should employ land guards		
Central	5	10	8	11	3	2	0	39	26.7
Southern	18	8	9	6	1	3	1	46	31.5
Northern	15	4	6	6	4	0	0	35	24.0
Eastern	2	2	1	1	2	0	1	9	6.2
Western	1	9	4	1	2	0	0	17	11.6
Total	41	33	28	25	12	5	2	*146	
Percentage	28.1	22.6	19.2	17.1	8.2	3.4	1.4		100.0

* The number exceeded the sample size of 131 because of multiple responses.

Source: Fieldwork, 2007.

Land tenure

The nature of land ownership and management is very important in determining the nature of development of any community. It is the general believe

that government owned areas are better planned and managed than the customary owned areas.

However, according to Kasanga and Kotey (1991), traditional land owners own about 80% of the lands in Ghana. Armed with this information, the sources of land acquisition were investigated. The various sources from which respondents acquired their land to develop their properties are presented in Table 9.

Table 9: Sources of land acquisition

Zone	Source					
	Chiefs	Private Individuals	Lands Commission	Town Planning Department	Total	Percentage
Central	0	8	19	0	27	20.6
Southern	26	2	1	2	31	23.7
Northern	34	5	1	2	42	32.1
Eastern	4	2	1	0	7	5.3
Western	16	6	1	1	24	18.3
Total	80	23	23	5	131	100.0
Percentage	61.0	17.6	17.6	3.8		

Source: Fieldwork, 2007

It is clear from Table 9 that 61% of the respondents acquired their land from the traditional land owners and 17.6% acquired their lands from the Lands Commission (Central Government). Out of the total of 23 respondents who

acquired their land from the Lands Commission, as many as 19 (14.5%) came from the Central Zone. This could be so because lands in the central zone are mostly state/government land. This explains why none of the respondents in this area acquired their lands from the chiefs.

A total of 34 respondents, which represent 26% of the total respondents and 42.5% of all those who acquired then land form chiefs were in the Northern Zone. This is because the whole area is owned by the traditional authorities and also because there was a high response rate of about one-third (32.1%) of the total respondents. It also emerged that 17.6% of the respondents acquired land from individuals who had earlier acquired it from either the chiefs or the Lands Commission.

Land use planning laws / legislations

The general legal framework that currently regulates planning practice and functions within the country are embodied in the NDPC Act 480 of 1994, NDP System Act of 1994, Local Government Law, Act 462 of 1993, the Town and Country Planning Ordinance (Cap 84) of 1945, and the National Building Regulation, LI 1652 of 1999. The Local Government Law states that "Every person shall, before constructing a building or other structure or undertaking any work, obtain a permit from the District Planning Authority which shall contain such conditions as the District Planning Authority may consider necessary".

Over 63% of the total respondents did not know of any law relating to land use and development in Ghana. About 16% mentioned the Town and Country Planning Ordinance, 19945 (Cap 84). The details are presented in Table 10.

An assessment of the need to acquire a permit before the development of any piece of land was made. The majority of the respondents (58%) interviewed said they did not know the processes for acquiring development permit. However, 60.3% of the 131 respondents said they have permits for their buildings and 39.9% did not have any building/development permits. This situation appears contradictory and may be attributed to the use of middlemen for the acquisition of the permits or may not have the permit anyway.

One of the fundamental defects identified by the National Land Policy of 1999 is the fact that land administration in Ghana is characterized by reliance on inadequate and outmoded legislation. There are too many laws, gaps and overlaps in the laws, inconsistency with the constitution and policy changes, and duplication of provisions dealing with the same issues in different laws (Kotey, 2004). It was therefore necessary to investigate whether laws affecting land use and development are effective.

A total of 86 respondents, representing 65.6% were of the opinion that the laws and regulations were not effective, only 11.3% said the laws are effective and 23.1% did not know. Those who said the laws were not effective called for the review of the existing laws to make them punitive enough to deter people from flouting them. In that regard, 55.7% of the respondents advocated for the

promulgation of new legislation on land use planning and management. The main reason for this position is to simplify procedure for land development.

Challenges identified by Tamale Metropolitan Assembly

The Works Department was not in existence until 2001. The Department has only two staff, the head and one building inspector in charge of the Building Inspectorate Division. Lack of personnel is one of the major problems faced by the Assembly. Besides, the few that are there lack the requisite training to in order to function effectively. Another important problem is inadequate logistics. The building inspector has no official vehicle which will enable him go round to inspect and enforce development controls. They lack computers and other logistical support to carry out their duties.

Political interference was also identified as a problem. The Local Government Law, Act 462, 1993 gives the District/Metropolitan Chief Executive the power to authorise the demolition of any unauthorised structure before this could be carried out. However, for political expediency this power is not being exercised. The public therefore do not see anything wrong with developing without the appropriate permits. This has therefore contributed to the level of unauthorised developments in the Metropolis. Additionally, corruption in the land sector agencies makes the enforcement of laws on land use even more difficult if not impossible.

Table 10: Land Use Planning and Development Legislation

Table 10: Land use planning and development legislation

Zone	Legislation						Total	Percentage
	Don't Know	Town & Country planning Ordinance	Local Government Law	Environmental Protection Agency Law	National Building Regulation L.I 1630	National Development Planning Commission Act		
Central	16	3	2	2	0	0	23	16.9
Southern	32	3	4	3	1	0	43	31.6
Northern	25	6	3	1	1	2	38	27.9
Eastern	6	3	1		0	0	10	7.4
Western	7	7	3	2	2	1	22	16.2
Total	86	22	13	8	4	3	*136	
Percentage	63.2	16.2	9.6	5.9	2.9	2.2		100.0

* The number exceeded the sample size of 131 because of multiple responses.

Source: Fieldwork, 2007.

According to the Tamale Metropolitan Engineer, the TAMA does not have copies of the approved layouts for the city. This notwithstanding the fact that it is the assembly, through the Tamale Statutory Planning Committee, that approves the plans prepared by the Town and Country Planning Department for the Assembly. The officer could not tell of a single plan that has been implemented to the letter, as approved. It was therefore established that there is no linkage between plan preparation and its implementation. The Town planning Department on one hand does the preparation of the plans and keep them. The Assembly have no copies to enforce development control on the ground.

According to the Engineer, because of the ineffectiveness of the laws, and other reasons enumerated above, the Assembly has not been able to prosecute anybody for unauthorised development or for the degradation of the environment. This is not healthy for a fast growing city like Tamale.

Assessing the performance of land use planning

With management of the environment as one of the objectives of land use planning, it is expected that local plans will help reduce urban environmental problems to the barest minimum. That is however not the case, at least as far as cities in Ghana are concerned. The study therefore sought to assess how land use plan have performed in addressing environmental issues in the Tamale Metropolis.

Nature of physical development

The nature of physical development enhances the aesthetic beauty and the pleasantness of a community. Similarly, if the development is haphazard, it becomes unpleasant and pose health and safety risk. A pleasant community is therefore a factor in determining the success or otherwise of land use planning in ensuring environmental quality. The views of respondents were therefore sought as to whether the nature of development in the neighbourhood currently reflects a planned neighbourhood or otherwise. Over 70 percent (71.2%) of the respondents, said they did not think their neighbourhoods were planned, 28.8% think their neighbourhood are well planned and developed. Several reasons were given by the respondents who said their communities do not reflect planned neighbourhoods. More than a third (36.9%) mentioned haphazard and unauthorized developments as their reason with the highest complain coming from the Northern Zone because of lack of development control and indiscriminate sale of land by the chiefs as shown in Table 11. Encroachment on public lands accounted for the second highest reason (23.0%) with the highest incidence also occurring at the Northern Zone for similar reasons stated above. Other reasons include buildings on access roads, no open spaces and sanitary areas (see Table 11).

Encroachment on land amounts to an abuse (Chapin and Kaiser, 1979). There was therefore the need to investigate what kinds of encroachments, if any, which impacts negatively on the physical development in the study area. A total of 57 respondents, representing 43.5% said they know of a public land that has

been encroached upon within the neighbourhood. Out of this number 29.8% mentioned refuse dump sites with most of the respondents coming from the Northern and the Southern Zones respectively. This could be attributed to the fact that the land in the Northern and Southern zones are being managed by the traditional authorities.

It is therefore easy for the chiefs to sell public use areas without regard to the reasons why they were set aside. This might explain why incidences of encroachment in these two zones are higher than the others. Some of the encroached areas include access roads, recreational areas and school lands. (See Table 12).

The following are some direct responses from the people interviewed on encroachment in the study area.

- "At choggu Hill Top, a site earmarked for a market was sold for petrol filling station";
- "A site close to the University for Development Studies (UDS) central administration junction for a public toilet has been developed into a residential building by a private individual";
- "At Sagani/Ward 'K', a church has been built on a toilet site and therefore the area has no public toilet";
- "An area was earmarked for the construction of a market centre but was sold to a private individual and when he came and dug the foundation and laid concrete and put up about two courses, the community people came out and demolished the structure";

Table 11: Reasons why developments do not reflect planned neighbourhood

Zone	Reasons							Total	Percentage
	Haphazard Development	Encroachment on public use areas	All necessary facilities and public uses provided	No. sanitary areas	Buildings are located on access roads	Other suburbs are better planned	No open spaces		
Central	10	4	2	4	3	2	3	28	23.0
Southern	9	7	1	3	2	3	1	26	21.3
Northern	19	13	2	5	3	2	1	45	36.9
Eastern	4	3	1	0	2	0	1	11	9.0
Western	3	1	7	0	1	0	0	12	9.8
Total	45	28	13	12	11	7	6	*122	
Percentage	36.9	23.0	10.7	9.8	9.0	5.7	4.9		100.0

* The number exceeded the 81 because of multiple responses.

Source: Fieldwork, 2007.

- "A football field for the Gumani Methodist Primary School has been developed by a private person into a residential property";
- "An open space at SSNIT Flats has been given to a high ranking person and a private school and a mosque have been built on the site and part of the remaining turned into a refuse dump".
- "Parts of Sakasaka Primary School land have been encroached upon by private houses";
- "Part of a land for Kaladan Evangelical Presbyterian School has been encroached upon by private individuals"; and
- "At Nyanshegu, there is a mosque which has been built on an access road";

Plates 1 and 2 show encroachments at SSNIT Flats and Gumani Methodist Primary School in pictures, respectively.

Plate 1: Encroachment on open space at Fuo SSNIT Flats

Source: Field work (2007)

Table 12: Encroachments on public use areas

Zone	Reasons						Total	Percentage
	Refuse Dump site	Access Roads	Play Grounds	Public Toilet Sites	School Lands	Open Spaces		
Central	3	2	1	1	1	0	8	14.0
Southern	5	4	3	2	1	1	16	28.1
Northern	7	5	2	3	2	1	20	35.1
Eastern	0	2	2	2	2	1	9	15.8
Western	2	1	1	0	0	0	4	7.0
Total	17	14	9	8	6	3	*57	
Percentage	29.8	24.6	15.8	14.0	10.5	5.3		100.0

- The number fell short of the sample size because only those who had knowledge of an encroachment in the Metropolis responded to this question.

Source: Fieldwork, 2007.

Plate 2: Encroachment on a school land at Gumani

Source: Field work (2007)

Environmental problems and their causes

According to Honachefsky (2000), land use planning may be more responsible for the resultant quality of our natural environment than all of the state and regional regulations combined. Some land uses such as open spaces are required to create healthy communities in terms of air quality, supply of water, soil control, control of plant and animal population and access to recreation, while others such as grinding mills cause nuisance and pollution and need to be in the right location in order to create a healthy living environment.

Some land uses are harmful to our health and need to be placed in areas where they can be controlled. There is the need for adequate space between properties to make provision for fire fighting equipment, ambulance services and

for storm water for the safety of communities. It is expected that a good land use plan effectively implemented should produce a healthy and safe community. The survey therefore sought to find out some of the environmental problems in the study area, notwithstanding the existence of over 120 layouts for the city.

The nature of environmental problems identified in TMA is presented in Table 13. Poor sanitation is a major environmental issue in the communities, accounting for 25.1% of the total respondents. This results from indiscriminate dumping of refuse and defecation, stagnant waters, animal droppings and chocked drains and pollution. Haphazard development also account for about one-fifth of the respondents (19.5%). The Northern Zone recorded the highest (32.1%) of all these environmental problems because the whole of the Gumani section of the zone is a low lying area with poor drainage system. Flooding is therefore common in he neighbourhood which also results in other problems such as poor sanitation and erosion. It is significant to observe that 5 respondents, representing 2.1% said there were no environmental problems.

Environmental issues have historically been included in the preparation of planning schemes. Planners are now focusing on ensuring the ability of the environment to provide the necessary services to sustain development. Some of the environmental issues considered in the preparation of planning schemes include health; safety; convenience; general welfare; efficiency and economy; aesthetic; amenity and; conservation. As indicated earlier in the conceptual framework (see figure 1), haphazard developments, lack of access roads, poor sanitation, poor drainage system and flooding are all effects of ineffective

implementation of land use plans. The reason for the prevalence of these problems in the Tamale Metropolis could only be attributed to poor implementation of land use plans.

The study also sought to find out the causes of the problems outlined in Table 13. The responses of the causes of these problems are presented in Table 14. Inadequate sanitary facilities, land speculation, corruption among public officials were some of the causes of environmental problems. The Northern zone recorded the highest of the problems as shown in Table 13. This was followed by the Southern zone which also recorded a high response rate compared to the other zones. These two zones are controlled by the traditional authorities where development control is comparatively weak.

Sites earmarked for the construction of places of convenience, refuse collection points and open spaces have all been sold out by the traditional land owners without due regard to the present and future land development need of their subjects or communities. This has deprived communities of such services because of inadequate sanitary facilities and hence poor sanitary conditions. Some public officials who have the responsibility of enforcing development controls are themselves corrupt. Implementation of land use plans is therefore ineffective.

Offensive land uses

The presence of land uses which could be described as offensive and for that matter nuisance in especially, residential area defeats the purpose of ensuring pleasantness of the community; free flow of traffic; ensuring the safety and

Table 13: Nature of environmental problems

Zone	Nature									Total	Percentage
	Poor Sanitation	Haphazard development	Poor drainage system	Noise pollution	Air pollution	Soil erosion	No open spaces	flooding	Don't Know		
Central	12	10	9	12	6	4	2	2	3	60	20.9
Southern	24	15	8	10	4	4	5	0	1	71	24.7
Northern	18	16	27	9	4	3	4	11	0	92	32.1
Eastern	8	8	5	3	2	2	1	1	0	30	10.5
Western	10	7	2	2	5	4	2	0	2	34	11.8
Total	72	56	51	36	21	17	14	14	5	*287	
Percentage	25.1	19.5	17.8	12.5	7.3	5.9	4.9	4.9	2.1		100.0

* The number exceeded the sample size of 131 because of multiple responses.

Source: Fieldwork, 2007.

Table 14: Causes of environmental problems

Zone	Causes									Total	Percentage
	Inadequate sanitary facilities	Land speculation	Haphazard development	Siting of industries in residential areas	Lack of drains	Ineffective laws	General indiscipline among residence	Corruption among public officials	Animals rearing in residential areas		
Central	7	5	5	4	3	7	3	2	1	37	15.0
Southern	10	8	10	9	6	8	6	7	2	66	26.7
Northern	14	12	7	9	13	3	3	3	4	68	27.5
Eastern	4	2	2	3	1	4	4	3	2	25	10.1
Western	9	11	8	7	7	3	4	0	2	51	20.7
Total	44	38	32	32	30	25	20	15	11	*247	
Percentage	17.8	15.4	13.0	13.0	12.1	10.1	8.1	6.1	4.4		100.0

* The number exceeded the sample size of 131 because of multiple responses.

Source: Fieldwork, 2007.

health of community members; and providing environmental services in terms of improving the quality of water supply, air quality, soil control and access to recreation facilities. Some land uses such as animal husbandry, fitting shops and drinking bars fall under agricultural, light industrial and entertainment land use respectively. According to the Metropolitan Town Planning Officer, grinding mills are however supposed to be sited at market places. It is therefore expected that these uses are provided for in the plan. Location of these uses in areas other than the land use zoning of the community may be offensive.

Efforts were therefore made to investigate whether there were offensive land uses. The presence of grinding mills which makes a lot of noise, thus creating noise pollution was identified by about a quarter of the total respondents (24.4%) offensive. The high incidences of these offensive land uses occurred at the Northern Zone. (See Table 15 for details).

From Table 15, about one – third of the respondents (30.1%) suggested the provision of infrastructural facilities in the neighbourhoods as the solution to the problems with most of them reporting from the Northern Zone. This is because of poor drainage system, insanitary conditions and lack of recreational facilities within the neighbourhood.

Public education, addressing corruption in public land sector agencies and strict enforcement of relevant laws are some other suggested solutions to solving environmental degradation in the study area.

Table 15: Offensive land uses

Offensive use	Zone					No. of Responses	Percentage
	A	B	C	D	E		
Grinding Mill	5	9	16	4	6	40	24.4
Animal Rearing	4	11	15	3	5	38	23.2
Beer Bar Operation	5	4	13	5	3	30	18.3
Mechanic/fitting Shop	2	6	9	4	8	29	17.7
Churches/Mosques	7	3	3	2	1	16	9.7
Charcoal Selling	4	1	3	1	2	11	6.7
Total	27	34	59	19	25	*164	100.00

* The number exceeded the total sample size of 131 because of multiple responses.

Source: Fieldwork, 2007

Assessment of land use planning

It was also necessary to investigate how respondents see land use planning and management in general in the study area. The responses on that subject are presented in Table 16. A total of 63 respondents, representing 48.1% of the total number of people interviewed are of the opinion that land use in Tamale is unsatisfactory with most of the complain coming from Northern, Southern and Central Zones respectively. One can infer that issues such as haphazard development, flooding, lack of open spaces, lack of access roads, insanitary conditions, land speculations and erosion are higher in these neighbourhoods than the others.

Table 16: Assessing land use planning in environmental management

Zone	Assessment					Total	Percentage
	Very good	Good	Fair	Not satisfactory	Don't know		
Central	2	1	8	14	2	27	20.6
Southern	0	2	8	18	3	31	23.7
Northern	0	3	9	25	5	42	32.1
Eastern	0	2	1	3	1	7	5.3
Western	1	14	6	3	0	24	18.3
Total	3	22	32	63	11	131	100.0
Percentage	2.3	16.8	24.4	48.1	8.4		

Source: Fieldwork, 2007

The study also sought to find out ways of making land use planning and management effective (see Table 17). The results revealed that in order to have effective land use management, there is the need for land reforms. More than a third of the respondents (35.8%) called for land reforms, while almost 20 percent (18%) percent called for the enforcement of existing laws on land management. It is significant to know that over 8.1% called for measures to address corruption within the public land sector agencies.

The customary land owners

There are two different regimes of land ownership in the Metropolis. These comprise the customary/traditional land ownership and state management.

In the customary or traditional system, prospective developers acquire land for development through private treaty with the chiefs who are the custodians of customary lands.

The study found that the customary land owners initiate and finance land use plans in the metropolis instead of the Assembly. This therefore means that they are directly involved in plan preparation. Most of these customary land owners who are chiefs are illiterates and operate through personal secretaries. These secretaries are able to capitalise on the ignorance of the chiefs and with the connivance of unqualified planners and surveyors prepare schemes. The plots are then allocated to unsuspecting developers without the approval of the planning authority.

A typical example is Koblimagu, where developers can not obtain title to their lands because all the lands have been allocated even though the lay out was not approved. It also came out that the chiefs do not keep records of lands allocated. Double allocation of the same piece of land can therefore not be ruled out. This information was provided by the secretary to the Gulkpe Na who doubles as the head of the Gulkpegu Customary Land Secretariat.

Environmental Protection Agency (EPA)

According to the Deputy Regional Director, EPA is a decentralized organization that works together with the Metropolitan Assembly's sub-committee on the built environment (Statutory Planning Committee). Quarterly statutory planning meetings bring various stake holders,

Table 17: making land use planning effective

Zone	Ways								
	Land reforms needed	Need to enforce Laws	Provide needed logistics for agencies	Involve all stakeholders in the planning process	Bar chiefs from selling land	Address corruption in land sector agencies	Public education on land use and development	Total	Percentage
Central	18	13	5	6	5	2	1	50	25.3
Southern	14	8	9	3	3	1	1	43	21.7
Northern	21	9	7	6	6	8	6	63	31.8
Eastern	3	1	1	2	0	1	2	10	5.0
Western	15	5	6	1	2	0	3	32	16.2
Total	71	36	28	18	16	16	13	*198	
Percentage	35.8	18.2	14.1	9.1	8.1	8.1	6.6		100.0

* The number exceeded the sample size of 131 because of multiple responses.

Source: Fieldwork, 2007.

including EPA together to discuss various development layouts and to finalize land use plans for implementation. EPA plays a crucial role in mitigating the adverse environmental effects of most development schemes within the metropolis at the preparatory phase of such schemes. The study established that the EPA is involved in the preparation of the plans and plays a key role in the following ways, among others:

- Advises on any adverse environmental impacts that could possibly develop as a result of the implementation of the proposed planning scheme or layout;
- Suggests mitigation measures and to ensure that such measures are duly implemented;
- Identifies and facilitates discussions that border on environmental protection in accordance with laid down regulations;
- Provides technical inputs for consideration during the implementation of development schemes; and
- Ensures that environmental considerations are made key during the implementation of layouts and schemes.

According to the deputy director, EPA plays these roles for three principal reasons:

- Firstly, the presence of environment resources (both renewable and non renewable) are greatly affected by new development schemes. Clearing and tampering with fragile environmental resources affects land stability and results in environmental resources degradation;

- Secondly, most planning and development schemes lead to increase in population and therefore the upsurge of pollution and environmental sanitation problems; and
- Thirdly, most development schemes do not take cognizance of sensitive environmental areas, thereby directly disrupting aesthetic value and other bio – geochemical cycles influencing the perfect functioning of the environment.

The study revealed that even though the EPA is involved in the plan preparation as a member of the statutory planning committee, it is not involved in the implementation. It came out at Malshegu that, a suburb in the metropolis, a sacred grove and its environs, which are an environmentally sensitive area, have been encroached upon by developers. Indeed the bigger area of Malshegu sacred grove has been rezoned and sold to private people for residential accommodation. Concerns raised by EPA were not addressed.

Parks and Gardens

According to the Regional Director, the Department is responsible for the preservation and conservation of areas of outstanding natural beauty, the development and management of natural environments such as botanical gardens. The Department of Parks and Gardens is responsible for environmental landscape development and management of urban parks and demarcated open spaces to serve as agents for the production of oxygen. These areas will therefore serve in

their natural capacity as the lungs of the city in the provision of fresh air to counteract the atmospheric air pollution of the urban areas.

According to the officer, the Department of Parks and Gardens has never been involved in the preparation of planning schemes for the metropolis. The department has never been part of the statutory planning committee in the deliberation on matters relating to land use and environmental management. The department is not also involved in the implementation of the schemes.

Town and Country Planning Department (TCPD)

The TCPD plays a supervisory and monitoring, coordinating role to ensure that all stakeholders play their role. It was found that it is the department which prepares the development schemes as well as processes all development applications for approval or otherwise by the Statutory planning committee. The Metropolis has been divided into 24 sectors and a total of 126 schemes have so far been prepared by the department.

Public participation in plan preparation used to be very effective and it involved all stakeholders especially the chiefs and community members. Good examples are Kukuo, Jisonayili and Gumani where consultation was broad base. However, since 1997 consultation has been limited to the chiefs and their elders with the belief that they also consult with the public. It was revealed that sometimes, the plans are prepared from the office based on the base maps.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

The study investigated the implementation of land use plans in the Tamale Metropolis and recommended appropriate measures to prevent or control them. All adults aged 18 years and above constituted the targeted population for the study. In all, five zones comprising of several communities were randomly selected for the study and the method used was a multi – stage sampling. A total of 131 respondents and six institutions were interviewed using questionnaires and interview guides.

Summary

The major findings of the study can be summarized as follows:

- Public participation in land use planning and management process is very low even though the public is a key stakeholder in the planning process. The general public is very much interested in the plan preparation, which according to them will enable them play a role in the implementation; conflict prevention; transparency and accountability; and appreciate the essence of land use planning and management. Community consultation and participation is a core principle of the Local Agenda 21 programs by

the World Commission on Environment and Development because many of the problems being addressed has their roots in local activities. The mandate given to local governments is to see to the actualisation of these principles.

- There were numerous challenges that confront the implementation of land use plans in the metropolis. These include inadequate logistics by key stakeholders, especially the building inspectorate division of the works department in terms of transportation and other equipments. There is also inadequate staffing at the assembly as there is only one building inspector in charge of the whole metropolis. Plan preparation is not link with plan implementation as the assembly rarely provide funds in their budget for such purpose. These challenges were not peculiar to only the Tamale Metropolitan Assembly, other institutions like the TCPD, Parks and Gardens are also confronted with similar challenges.
- The study found that there is lack of coordination and cooperation among all the major stake holders, (that is, the TCPD, the assembly, Parks and Gardens, the customary land owners and the public) in the preparation and, more importantly, implementation of the plans in the metropolis. The chiefs and the public are accusing the land sector agencies of corruption and the agencies are also accusing the chiefs and one another of the same offence. Since there are interrelated functions among these stakeholders in the management of land, development control is virtually absent. Land abuse and for that matter environmental degradation is common.

- The majority of the people did not know of laws on land use planning and management, especially those in the Northern and Southern Zones. Ignorant of the law, it is said, is no excuse. This makes it difficult for people to do the right thing as prescribed by law. The fact that majority the said they obtained permits before development means that they did this through agents who may themselves not know of the law and its requirement for compliance. The developer therefore loses out on the education aspect of the nature of their development and its impact on the urban environment. This creates an implementation challenge for the city authorities.
- The majority of developers in the Metropolis acquired their lands from the chiefs who are the traditional land owners except the Central Zone where lands were acquired from the Lands Commission. Those from the Lands Commission were mostly state or government lands. There were however some other people who had obtained land from other sources included individual speculators. According to Kasanga and Kotey (1991), about 80% of lands in Ghana are owned by traditional authorities. This makes the customary authorities very important players in land use planning and management. Their management practices are however inhibition to the implementation of the local plans.
- The nature of physical developments and the environmental issues confronting the city authorities did not reflect a well functioning land use planning system. This was because of haphazard and unauthorised

developments; lack of open spaces and inadequate sanitary sites; and encroachments on public use areas. These were more prevalent in the Northern Zone followed by the Southern Zone. Some of the encroached areas include roads, schools, refuse dump site, play grounds, public toilet sites and markets. This finding is at variance with the rationale for land use planning according to Khublall and Yuen (1991).

- Land use planning and management is generally not satisfactory. Offensive land uses like animal rearing, grinding mills, drinking bar operators, charcoal sellers, mechanic/fitting shops, and churches/mosques, among others at residential areas are not acceptable. These things has resulted in environmental problems such as poor sanitation, pollution, poor drainage, soil erosion, lack of access roads, haphazard development, flooding, lack of open spaces and play grounds, etc. the aesthetics aspect of the city is therefore missing. The Northern Zone recorded the highest of these problems. These problems were caused by factors such as inadequate sanitary facilities, land speculation, corruption among public officials, building without permit and siting of industrial activities in residential areas. The rationale for land use planning as a mechanism to guide physical development in a way that is in the interest of the community as postulated by Khublall and Yuen (1991) has been defeated. To the extent that Land use planning in the Metropolis coupled with the numerous environmental problems means it has not affected the quality of the environment positively.

Conclusions

The study established that despite the fact that the majority of the people were literates (at least SSS/Secondary), knowledge on the procedures and processes for land use planning and management, especially the legal regulatory framework was very limited. This has limited the general public to actively participate in the planning process, from preparation to implementation.

Lack of cooperation and coordination among the various key stakeholders, including the customary land owners in land use planning and management; and inadequate logistical support including personnel by the implementing agencies, especially the metropolitan assembly to monitor and enforce development control in line with approved development schemes have contributed to the unacceptably high level of unauthorised developments within the study area. The high level of unauthorised developments has contributed to the numerous environmental problems in the city. Land use planning as a tool has therefore not been effective for managing the urban environment, especially in the areas of aesthetics, health and safety.

Recommendations

Based on the findings and conclusions the following recommendations are submitted:

- All stakeholders should collaborate and coordinate their activities to ensure a successful land use planning (TAMA, the Communities, TCPD, PG, LC, Survey Department, Chiefs, EPA, NGOs, etc).

- The assembly should as a matter of urgency, employ qualified personnel as building inspectors to augment the very bad state of staffing at the assembly. The Metropolitan Assembly and the other stakeholders should provide adequate logistics in terms of vehicles and motor bikes in order to ensure development control especially in the newly developing areas and more importantly in the Northern and Southern zones.
- There is the need to enact a new human settlement law to replace the existing Town and Country Planning Ordinance, and support the existing laws and legislations on planning. The new legislation should be designed to address the following concerns, among others: review the physiological basis of physical development planning; and to consider human settlements planning as a cross cutting development activity that considers concerns for social and economic development. Guidelines should also be developed for local/district land use plans. Provisions in Act 462 that deal with the demolition of structures that are not in conformity with development plans for the area are too cumbersome and should be reviewed.
- In order to bring sanity into the land development process and make judicious use of land, it is very important to involve the Chiefs by giving them education and awareness in land matters. The education should include the include land registration and titling procedures, planning schemes and approval processes, demarcation and surveying of planning schemes, land management and land information systems.

- The Metropolitan Assembly must assert itself as the planning authority in the city. The Assembly should be more committed than it is now. There is the urgent need to carry public education on the processes for land development in the study area, especially in the Northern and Southern zones. This should focus on the procedure for land acquisition and documentation, the essence of land use planning, procedure for obtaining development/building permit and good environmental management practices including tree planting in the residential areas. The education should also focus on the relevant laws on land management in general and specifically on land use planning and management. This should be jointly carried out by the land sector agencies, the Metropolitan Assembly and EPA.
- There is the need to support the on – going land reforms such as the one under the Ghana Land Administration Project in line with the recommendation of the National Land Policy of 1999. This would mean developing the capacities public land sector agencies to deliver effective and efficient services to the public; review all laws and regulations on land use and management and harmonise them together with customary laws to make them effective and responsive to the need of current and future demand.
- The TMA must acquire areas of public use when a new local plan is approved before land disposition commences. These areas must be

protected as well to prevent the landowners from rezoning these public use areas into other uses and subsequently sell them to private developers.

REFERENCES

Amankwah, E.O. (2002). Development of Land Banks as a Means of achieving Orderly and Sustainable Development. A Paper presented at the annual seminar of the General Practice Division of the Ghana Institution of Surveyors on 19th September, 2002

Ashworth, W**.** (1954). *The Genesis of Modern Town Planning*. London: Routledge and Kegan Paul Ltd.

Beatley, T. and Manning, K. (1997). *The Study of Place: Planning for Environment, Economy and Community*. Washington D.C: Island Press:

Chapin F.S. Jr. and Kaiser E. J. (1979). *Urban Land Use Planning*. Third Edition. Chicago: University of Illinois Press.

Cherry G. (1974). *The Evolution of British Town Planning.* London: Leonard Hill.

Davidson, F. (1996). Planning Performance Requirement for Sustainable Development. Habitat International. 20(3). September, 1996.

Department of Environment and Natural Resources (DENR, 1997*). Integrated_ Environmental Management Programme: Guidebook on sustainable Land Use Planning and Management.* Philippines. Vols. 1-6.

Devas, N. (1993). Evolving Approaches. In: Devas N. and Rakodi, C. (eds). Managing Fast Growing Cities: New Approaches to Urban Planning in the Developing World. Harlow: Longman.

Dowall, D. and Giles C. (1997). Urban Land Policies for the Uninitiated. Economic and Social Commission for Asia and the Pacific (ESCAP).

Faludi, A. (1973). *Planning Theory.* London: Pergamon.

Faludi, A. (2002). *The Making of the European Spatial Development Perspective.* London: Routledge.

FAO, (1995). Planning for Sustainable Use of Land Resources: Towards a New Approach. Land and Water Development Division. FAO Land and Water Bullet 2. Rome, Italy.

Ghana Statistical Service. (2005). 2000 Population and Housing Census. Population Data Analysis Reports. Vol.1. 241 pages.

Gyogluu, S.Y. (2006). Infrastructure Delivery in Rapidly Urbanising Communal Lands: Case Studies in Ghana. Cape Peninsula University of Technology, Cape Town.

Haldrup, K. (2003). Ghana Land Administration Project: Land Use Planning and Management Subcomponent. Nordic Development Fund Project Appraisal Report. Ministry of Lands and Forestry.

Honachefsky, W. B. (2000). *Ecologically Based Municipal Land Use Planning.* New York: CRC Press.

International Soil Reference and Information Centre, (ISRIC, 1990). *World Map of the Status of Human Induced Soil Degradation: An Explanatory Note.* Wageningen.

International Union for the Conservation of Nature and Natural Resources (IUCN, 1980). The World Conservation Strategy.

Karbo E. P. (1991). Tamale Land Use Project: An Outline Report presented to the Tamale Municipal Assembly, Tamale. June, 1991.

Karbo E.P. (1991). An Overview of Current Land Use Planning and Development Procedures. November, 1991

Karbo, E. P. (2002).The Development of Town and Country (Urban) Planning System in Ghana. Module1. Ghana Institute of Management and Public Administration: Accra. 17 Pages.

Kasanga, K. and Kotey, N.A. (1991). Land Management in Ghana: Building on Tradition and Modernity. International Institute for Environment and Development (IIED), London.

Khublall N. and Yuen B. (1991). *Development Control and Planning Law in Singapore.* Singapore: Longman Singapore Publishers.

Kotey, N. A. (2004). Ghana Land Administration Project: Legislative and Judicial Review. Draft Final Report.

Krejcie, R. V. and Morgan, D. W. (1970). *Determining Sample Size for Research Activities.* Educational and Psychological Measurement.

Laing, E. (Ed) (1994). Ghana Environmental Action Plan. Volume 2. Technical Background Papers by the Six Working Groups. Environmental Protection Council, Accra.

Levy, M. J. (2003). *Contemporary Urban Planning*. Sixth Edition. New Jersey: Upper Saddle River .

Ministry of Lands and Forestry (MLF, 1999). National Land Policy. Accra: Assembly Press.

National Development Planning and Systems Acts, 1994, Acts 479 and 480. Accra: Assembly Press.

Nnyaka, T. (1999) Land Use Planning Practice and Public Ownership Policy in Tanzania. Habitat International. 23(1). March 1999.

Osei, D.K. (2003). Development Permit Processing: Current Legal Position and Actual Practice. A Paper Delivered at the Annual Seminar of the General Practice Division of the Ghana Institution of Surveyors, Accra.

Quon, S. (1999). Planning for Urban Agriculture: A Review of Tools and Strategies for Urban Planners. IDRC, City Feeding People Report Series, Report No. 28.

Republic of Ghana. (1993). Local Government Law, 1993, Act 462. Accra: Assembly Press:

Srinivas, H. (1997). Information Systems in Urban Environmental Management: Roles for the Internet. A paper presented at the Second International Symposium on Urban Planning and Environment on Strategies and Methods for Improving Environmental Quality in Compact Cities. Groningen, the Netherlands.

Tamale Metropolitan Assembly. (2001). Medium Term Development Plan (2002 – 2004).

Town and Country Planning Ordinance, 1945. (Cap. 84).

UNEP. (1999). Global Environment Outlook - 2000. United Nations Environment Programme. Earthscan Publications: London.

UNEP. (2000). United Nations Environment Programme News Release, 00/81

Wikipedia, (2006). http://en.www.wikipedia.org/wiki/Environmental _ Management, Wikimedia Foundation, Inc. (assessed on 27/11/06)

Wikipedia, (2006). http://en.www.wikipedia.org/wiki/Regional_Planning. Wikimedia Foundation, Inc. (assessed on 27/11/06)

Wikipedia, (2006). http://en.www.wikipedia.org/wiki/Land Use _Planning. Wikimedia Foundation, Inc. (assessed on 27/11/06)

Wikipedia (2006). http://en.www.wikipedia.org/wiki/Zonning. Wikipedia Foundation, Inc. (assessed on 27/11/06

World Commission on Environment and Development (WCED, 1987). *Our Common Future*. Oxford: Oxford University Press.

APPENDIX 1

QUESTIONNAIRE FOR THE STUDY ON LAND USE PLANNING AS A TOOL FOR ENVIRONMENTAL MANAGEMENT IN THE TAMALE METROPOLIS

Suburb of interview…….

Name of respondent ……

House No. of Respondent……

Date and time of interview……..

Name of Interviewer..…….....

Introduction

I am called ……. and would like to ask you some questions which will help the Metropolitan Assembly and other Governmental agencies adopt strategies to improve upon land use planning and the environmental situation in the Metropolis. We are interviewing a sample of landlords and the general public and your contribution will be very important for the exercise. It is indeed a study for a Master's Degree programme and the information you provide will be treated as confidential for the purpose of the study only. I will not take much of your time as just some 25 minutes will be enough. Thank you.

Socio – economic characteristics of respondents

1. Age……...

    a) 18 – 24

    b) 25 – 34

    c) 35 – 44

    d) 45 – 54

    e) 55 and above

2. Sex: (a) Male (b) Female

3. Marital Status:

    (a) married

    (b) single

    (c) widowed

    (d) divorced

    (e) separated

    (f) Others (specify) …….....……

4. Level of Educational attainment:

    (a) No formal education

    (b) Primary

    (c) Middle

    (d) Arabic Education

    (e) J.S.S.

    (f) Secondary/SSS

    (g) Post Secondary (specify) …….

(h) Tertiary

(i) Others (specify) ……...……

5. Respondent's occupation:

(a) Public servant

(b) Self employed

(c) Private company

(d) Non-governmental organisation

(e) Other (specify) ……

Preparation of land use plans

6. Do you know if your neighbourhood has a planning scheme? (a) Yes (b) No……...
7. Do you know how development schemes are prepared? (a) Yes (b) No…...
8. Which lead agency is responsible for the preparation of land use plans for the TAMA?
9. Do you know whether the local people/general public is/are involved in the preparation of development schemes in TAMA? (a) Yes (b) No ...……
10. If yes, to what extent are they involved?
11. If no, why?
12. Do you think the local people/general public should be involved in the preparation of the development schemes? (a) Yes (b) No ……
13. Give reasons for your answer above: ……
14. What do you think should go into a land use plan/layout of a neighbourhood?

Implementation of land use plans

15. Do you think the nature of development in the neighbourhood currently reflects the original development scheme of the area? (a) Yes (b) No. ...….
16. How do you know?……
17. What is the reason for the disparity (if any) between the plan and the development on the ground?
18. If the answer to Question 15 is no, what should be done to ensure that development schemes are implemented?
19. What should be done by the communities to ensure successful land use plans implementation in Tamale?

Development permit

20. Do you know the agency responsible for granting development permit in TAMA? Give details:
21. From whom did you acquire the land?
22. Do you know the processes for acquiring a development permit? (a) Yes (b) No ……...
23. If yes to Question 22, does your building have a permit? (a) Yes (b) No…….
24. Which agencies are responsible for the implementation of land use plans in TAMA? State:

Environmental issues

25. Do you know of any area within the neighbourhood which was earmarked for public use (such as road, public toilet, play ground, open space) where a private house/building has been built on? (a) Yes (b) No. Give details?
26. What are some of the environmental problems in your neighbourhood?
27. What are the causes of these problems?
28. Which of them could have been prevented if the land use plan had been strictly adhered to?
29. What can be done to address these problems?
27. Are there any offensive land uses like piggery, grinding mills, indiscriminate dumping of waste in the neighbourhood? (a) Yes (b) No. If yes, give details:

Land use legislation

28. Do you know of any law on land use planning in Ghana? (a) Yes (b) No
29. If yes mention it/them:
30. Are these laws effective? (a) Yes (b) No.
31. Do we need a new law/legislation on land use? (a) Yes (b) No ……...
32. Give reasons:
33. What is your overall assessment of the nature of development in TAMA?

    a) Excellent
    b) Very Good
    c) Good
    d) Fair

e) Not Satisfactory

f) Do not know

34. What do you think should be done to make land use plans more effective?

35. General comments (if any):

APPENDIX 2

INTERVIEW GUIDE FOR TAMALE METROPOLITAN ASSEMBLY (TAMA)

Name of respondent……...…….

Position/ Grade ……...

Does the Assembly have a Master Plan for the TAMA? (a) Yes (b) No ……..……

If yes to Question No.1 above when was it formulated and for what period? ……..

How many land use plans have been fully implemented and why? ……

What are the challenges in the implementation of these plans? ……...

Does the Assembly have a building inspectorate and enforcement unit? ……

Is it adequately resourced in terms of logistics, staffing, etc? ……..

How often does the assembly organise Statutory Planning Committee meetings in a year?

Do you know of any law(s) governing land use planning in Ghana? ….……..

Does the Assembly have by-laws in place to ensure development control? ……

How effective have been these by-laws? ……..

Are there activities that are supposed to be at the industrial area and yet found at residential or commercial areas? ...……

What is the Assembly's opinion on such activities (e.g. bicycle repairs near Gariba Lodge at Naa Luuro Estates)? ……..…….

What do you suggest should be done to make the laws(s) more effective? .....

What are the environmental problems that you know in TAMA? ……

Could any of the above mentioned environmental problems been resolved through the land use plans/development schemes? ...…….

How successful have you been in enforcing compliance? Give reasons...……

What are the challenges faced by the Assembly in the performance of its role as the development authority, especially in development control? ……..

Is there a linkage between plan preparation and implementation? Explain further:

Suggest ways to improve upon the preparation of land use plans to make it more effective in TAMA……

Suggest ways to improve upon the implementation of land use plans to achieve its desired impact in TAMA

APPENDIX 3

INTERVIEW GUIDE FOR TOWN AND COUNTRY PLANNING DEPARTMENT (TCPD)

Position/Grade…….

Why do we have to plan the use of land?.....

When was the first physical development (land use) plan for TAMA formulated, if any, and for what period?.....

How many sectors are there in the TAMA? …….

How many development schemes/layouts have been prepared by the Department for the TAMA? …….

How many of them have been fully implemented and why? ……

Outline the process in the preparation of land use plans in TAMA……...

Can the process be described as participatory? …….……

Suggest ways to improve upon the preparation of land use plans in order to achieve the desired impact in TAMA ……...

What role does the TCPD play in the implementation of land use plans/ development schemes in TAMA? ……. ……..

Is there a linkage between plan preparation and implementation?

How does the delay in obtaining development and building permits affects the implementation of development schemes?.....

Suggest ways to improve upon the implementation of land use plans to achieve its desired impact in TAMA……...

How would you describe the legal framework of land use planning in the Country?

What are the challenges faced by the Department in the discharge of its duties in development control?.....

How would you describe the institutional framework/arrangement of the Department with respect to its role in planning, implementation and the management of the various human settlements? ……..

How would you describe the collaboration between TCPD and other agencies such as the Tamale Metropolitan Assembly, EPA, Parks and Gardens, Lands Commission, and the traditional land owners in the implementation of development schemes un TAMA? ……

How often do you organise the Statutory Planning Committee meetings?

How many applications for development permits do you receive in a year and how many of them are approved?

How does the delay in obtaining development and building permits affects the environment?

What environmental issues (if any) do you take into consideration in the preparation of land use plans in TAMA and why?

Looking at the current state of development in TAMA vis-à-vis the development layouts, to what extent would you say the environment aspect of the plans have been achieved and why?

What are the factors that are negatively affecting land use planning in TAMA?

What factors contribute to the delays in issuing of development permit?

How does the land tenure system affect (positively or negatively) the preparation and implementation of land use plans in TAMA?

How would you describe the activities of informal industrial activities such as metal fabrication, mechanical/bicycle repairs, carpentry, etc with respect to zoning in TAMA?

General comments (if any)

APPENDIX 4

INTERVIEW GUIDE FOR TRADITIONAL AUTHORITIES

Date of interview ……..……...

Name of Traditional Area …….……...…….

Do you represent the TA on any statutory committee, Board, commission, etc?

Who allocates land in your TA for development purpose?

Who initiates the preparation of development schemes within your area?

Who finances the development schemes?

Who prepares the schemes?

What role do you play in the protection of the environment such as sacred grooves, water courses, etc?

What are the challenges of land acquisition in your TA?

What efforts are you making as a traditional authority to ensure effective implementation of land use plans?

What are some of the traditional ways you used to adopt to protect the environment as traditional land owners?

What ways are you protecting the environment today being the custodians and beneficiaries of the land?

General comments (if any)

APPENDIX 5

INTERVIEW GUIDE FOR THE LANDS COMMISSION SECRETARIAT

Date of interview ……

Position/Grade…….

How does one acquire land for development in TAMA?

What are the challenges of land acquisition in TAMA?

How does access to land affect land use planning?

How does security of title to land affects land use planning?

To what extent does the land tenure system (management regime) affect the implementation of development schemes in TAMA?

How do land litigations affect the implementation of development schemes?

What role does the Lands Commission play in development control?

What are the challenges faced by the Commission in its role in development and land use plans implementation

Suggest ways of improving land use planning and development control in the TAMA

General comments (if any):

APPENDIX 6

INTERVIEW GUIDE FOR PARKS AND GARDENS

Date of interview ……

Position/Grade…….

What are the functions and responsibilities of Parks and Gardens?

What is your relationship with other public agencies such as the TAMA, TCPD, etc.?

What role does your department play in terms of physical planning in the TAMA?

Has there been any area earmarked by your department for beautification, protection and other purposes for which the user was changed later without your concern? ……

General comments (if any):

APPENDIX 7

INTERVIEW GUIDE FOR THE ENVIRONMENTAL PROTECTION AGENCY (EPA)

Date of interview ……...……

Position/Grade……

What are the functions of the EPA?

What relationship exists between land use planning and the environment?

What role does the Environmental Protection Agency (EPA) play in the preparation of development schemes in the Metropolis?

What role does the Environmental Protection Agency (EPA) play in the implementation of development of these schemes in the Metropolis?

Is there any area within Tamale that was earmarked by EPA as environmentally sensitive area but which private development has taken place without your consent?

What did you do in that case?

What is the effect of such development on the environment?

In what way can the development schemes prevent environmental problems?

In what ways (if any) can land use plans improve the quality of the urban environment? Explain further ……..

General comments (if any):