EVALUATION OF THE EFFECTIVENESS OF DEVELOPMENT CONTROL IN MINNA METROPOLIS, NIGERIA

BY

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DEPARTMENT OF GEOGRAPHY
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SEPTEMBER, 2016

DECLARATION

I declare that the work in this dissertation entitled **"Evaluation of the Effectiveness of Development Control in Minna Metropolis, Nigeria"**has been carried outby me in the Department of Geography.The information derived from the literature has been duly acknowledged in the text and list of references provided. No part of this dissertation was previously presented for another degree or diploma at any other Institution.

ShekwoagaJohnDAWABA _____ _____
Signature **Date**

CERTIFICATION

This dissertation entitled **"EVALUATION OF THE EFFECTIVENESS OF DEVELOPMENT CONTROL IN MINNA METROPOLIS, NIGERIA"** by ShekwoagaJohn DAWABAmeets the regulations governing the award of the degree of Masters Degree in Remote Sensing and Geographic Information System of the Ahmadu Bello University, and is approved for its contribution to knowledge and literary presentation.

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DEDICATION

This project is dedicated to my mother Mrs. M. R. Dawaba for her interest and value for education and knowledge.

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ABSTRACT

Over the years development control has been a content of urban management world over. It has proven to be the most efficient method of managing the extent and nature of urban growth. However, in Minna metropolis despite the effort of the development control board in managing the growth within the area there are still some violations of development control regulations within the area.As suchthis study aimed at evaluating the effectiveness of development control in Minna metropolis. Geospatial datasuch as Quick bird and Ikonos satellite imagery of 1metre spatial resolution were digitized to assess the level of compliance to development control.Interview was deployed as a method of data collection to examine the factors influencing non compliance and enforcement of development control as well as examine the implications to non compliance to development control regulations within the study area. Findings reveal that 55.1% of the buildings in the study area have encroached into road.The total area coverage of 16.55 hectares has been developed in the area contrary to the layout proposal of 14.44 hectares as at the time of the analysis. Also, findings reveal that there is a sharp decline in the space proposed for public facilities utilities and services in the study area. The study recommends that as a matter of urgency the development control board should be strengthened in terms of funding, capacity building, political will and geospatial techniques be adopted in monitoring and evaluation of the development control activities on timely basis to ensure effective and efficient development control in the metropolis.

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CHAPTER ONE:INTRODUCTION

1.1 Background to the Study

The number of people living in urban centres continues to grow at approximately twice the rate of that in the rural areas and it is expected that the global city population will increase from 2.76 billion in 1995 to 5.34 billion in the year 2025.This will lead to exerting greater pressure on the natural environment than ever before as such increasing the rate of urban sprawl (Ngetich, Opata,Mulongo, 2014). Increasingly, deterioration of the environment is becoming worrisome and as such attention is being focused on the management of the urban environment. However, only few people recognise that the management of the urban environment can only be effective with a sound development control of the structural development in urban centres(Nuhu, Yohana, 2013).

Most of the problems of the urban centres in Nigeria could probably have been prevented if there is effective development control (Sanusi, 2006). For instance, in Hong Kong, evaluating development control activity has brought about improved economy and the physical environment.It has identified major areas of non compliance and addressed them.This could not have been achieved if development control activity was not evaluated over time especially between different landuses (Cherry, 2006). This therefore makes evaluating development control in urban centres important so as to ensure that compliance with physical development regulations are adhered to. Furthermore,the environmental defenders office of South Australia (2011), claimed that the practice of assessing compliance level of development control gave the city a livable, convenient, improved economy which gave rise to aesthetic urban centresthat meet the definition of town planning. This was done by curbing the challenges of implementing the provision of the planning authority's plan for an ideal environment and checkmating the developer

who wishes to undertake unguided activity that may have contravening impact on the environment.

Before and after the emergence of the 1946 Town and country planning ordinance in Nigeria, development control was operational in regions. However, the neglect and non implementation of full planning proposals and development control has made areas that would have been designated as ideal neighbourhood in districts, towns and cities grow haphazardly (Obabori, Obiuwevbi,Olomu, 2007). This trend has been observed in Minna, Niger state of Nigeria.

Development Control stands at the heart of urban development. It is a technical tool for ensuring that all users of urban land exercise some discipline in land development conformingto planning rules and regulations. Analysts such as Sanusi(2006) believe that if development control is sound, it is possible to avoid part of the problems facing urban centres such as, slum, squatter settlements, polluted environment, unregulated and mixed landuses and other environmental nuisance.

Physical planning therefore, entails putting in place a system of controls either to allow for those changes which are in accordance with plans and policies, or to prevent those developments that are not in the plans and policies from taking place (Falade, 2003). Keeble (1969) avers that development control involves regulation of the detailed aspects of development, of which precise guidance cannot be given by the development plan, so as to ensure convenience and safety. In the real sense, the purpose is to allow for orderly environment that will meet the requirements for ideal living. Agbola, (1985) observed that development control is a collection of interrelated para-legal and administrative techniques and instrument designed to safeguard, regulate, conserve and disburse land or part thereof in the interest of the overall community.

In Nigeria, development control took proper effect after the introduction of the Urban and Regional Planning Decree of 1992. This gave rise to the establishment of development control agencies at Federal, State and Local government levels. Also, with the establishment of development control agencies at various levels, there has been some degree of orderliness in some cities where development control is more effective (Ogundele, Odewumi,Aigbe, 2010). Currently, the Abuja development control manual 2007 edition is partially adopted in Niger state as a guide to enforce development control of different physical development in Minna and other urban centres in the state. The use of this manual and the Niger state building bye laws of 2013 in enforcing development control has helped the planning authority in Niger state to enforce compliance to the provision of the master plan and layout plans.

Omole,Akinbamijo, (2012) asserts that development control is primarily used to achieve the objectives of implementing planning strategies,environmental safety and better health.However, effectively assessing its activities has continued to suffer major setbacks due to the challenges attributed to plan implementation.As such, a different approach of assessing development control becomes necessary.

Tremendous efforts have been made in the pursuance of a more organized and orderly arrangement of land uses within Nigerian cities from the colonial era to date. In spite of such efforts, Nigerian cities still portray environmental problems arising from a gross disregard of development control. In recent times, adoption of Remote Sensing (RS) offers cost-effective solutions to city planners and meets data needs for both macro and micro level analysis of land use planning in urban environment management. Geographic Information System (GIS) is used for integration of various data sets to obtain a homogenous composite land development unit which help in identifying the problem areas and suggest conservation measures (Nuhu, Yohana, 2013).

The use of Geospatial technology in mitigating physical planning problems and challenges is thus on the increase and the use of this information driven tools such as GIS, Earth imaging systems/Satellites, Global Positioning System (GPS) and Remote sensing techniques to mitigate these problems has found global application and acceptance (Chigbu, Njike, Daniel, 2013).

Furthermore, Sanusi (2006) opined that Minna, the capital of Niger state is facingincreasing growth and expansion like other Nigerian cities. This physical transformation in Minna necessitated the establishment of Niger State Urban Development Board (NUDB) in 1998 with a view to control physical development in the area and other major towns within the state. Since then, development control has been enforced in Minna by the Board. Although some degrees of success have been recorded, the absence of a well coordinated approach to evaluatedevelopment control activity in the metropolis has resulted in non complianceby many and also led to the contravening of physical development within the metropolis unchecked.

In order to make proper evaluation of the compliance level of development control activities and make adequate recommendations,effective technique is required. Hence, the use of geospatial techniques in evaluating development control activitiesin Minna metropolisto achieve accurate and frequently updated information for planning and development control.

1.2 Statement of the Research Problem

As rural settlements grow and become urban centres, and urban centres become large municipal areas, there is always increased competition in the demand for land. It is therefore pertinent that adequate planning and controlmechanism be put in place to ensure harmonious development and functional efficiency. To achieve this fundamental activity, layouts of various land uses such as residential, commercial, industrial, open spaces and

recreation, circulation and institutional uses among others are undertaken to standardise and control physical development and ensure harmonious growth (Aribigbola 2008).

According to Oyesiku (1997) the forms and patterns of distribution of structures in general to promote the good health, accessibility, convenience and harmonious land use is a function of the rights and methods of dealing with land development. Effective urban land control and management particularly in areas with rapid urban sprawl is imperative to prevent urban land use problems such as slum formation, rising costs of land, accessibility to urban land for housing, incompatible use, flooding, overcrowding and congestion among others. In most cases development takes precedence over planning. This notwithstanding, the process of accretion has been so rapid in most cases that, efforts at spatial re-organization and development control are often left behind. The cumulative effect of this accretion in urban centresis seen in the haphazard distribution of land uses and structures without regard to any planning standards, the attendant problems of congestion, the inaccessibility to some areas, pollution and other forms of environmental degradation becomes inevitable (Abubakari, Romanus, 2011).

Most cities in Nigeria are currently experiencing continuous physical growth and the resultant effect is an increase in the demand of land for various purposes like; commercial, residential, industrial, public and semi public purposes. The course of becoming a developed country has created numerous problems of urban growth management in Nigeria such as imbalance in land use allocation, overcrowding, pollution and loss of natural resources (Okosun, 2010). This scenario therefore has called for the need for physical planning and effective development control mechanisms in order to ensure balance in land use distribution and also to ensure maximum degree of compliance to the provision of the master plan of the cities.Abubakari and Romanus (2011), identify development control as a tool that facilitates appropriate development, recognising its

significance in building and protecting a healthy economy and a sustainable environment. It also examines the potential impact of the proposed development, protects the public interest from inappropriate development and also involves compliance of all procedures, building code and planning standards to ensure that physical development conform to the approved plans.

Minna, like any other Nigerian city is experiencing unprecedented growth in the cityscape in the last two decades (Sanusi, 2006). This growth has resulted to various urban challenges thus, the need for physical development control mechanism in the state. This scenario brought about the creation of Niger State Urban Development Board (NUDB) in order to enforce development control and compliance to physical planning on the side of the developers. The state urban development board has carried out enforcement exercises within Minna metropolis and has recorded some success but problems like; conversion, overdevelopment, encroachment etccan still be observed in the area. There is therefore the need to evaluate development control activities periodically in the area.

Few studies have been conducted in this area of investigation. Cherry (2006), unveiled the various urban problems faced in the city of Hong Kong. The author used the probit or logitstatistical model to find out the decision making criteria in development control process and to examine the extent to which these criteria were covered under some formally written planning policies. Some of the problems revealed in the study include; conversion of land use, land use compatibility, overdevelopment and encroachment. These problems are attributed to improper monitoring of development control activities within the city.

Nuhu, Yohana (2013), analysed the geospatial pattern, problem and prospect of development control in Mubi, Adamawa State. They obtained data from the field and

government agencies and also used Quick Bird satellite imagery. The study revealed that about 53.3 % of the landmass was covered with haphazard development and only 18.7% hectares portrayed planned development in the area. About 3.7 % hectares of layout were distorted while about 1.8 % hectares experienced land use conversion in the metropolis. The research also reveals that factors militating against effective development control in the town were interference by personalities, lack of cooperation by the land owners, scarcity of man power, inadequate equipment and machinery and inadequate funding.

Usman (2013), assessed development control in Kontagora, Niger state, the research reveals multiple problems encountered by the Planning Board like; inadequate skilled manpower, non implementation of the 1992 Nigerian Urban and Regional Planning Law and lack of proper tools for enforcement. The research revealed that the compliance level was low in the town due to the aforementioned factors alongside the low turnout of developers in seeking building plan approval before commencing any physical development. The research did not apply geospatial technique in assessing development control.

Similarly, Njoku (2011) researched on the impact assessment of Kaduna State Urban Planning and Development Authority (KASUPDA) in Kaduna North and South Local Government Areas. The researcher used stratified sampling technique to administer questionnaire for the purpose of collecting data in the study area. The study identified environmental deterioration and urban polarization in the study area. These problems are attributed to improper assessment of physical development which gave rise to violation of planning provisions. Furthermore, descriptive statistical methodwas usedto reveal that only 6.7% of the property developers complied with planning standards and specifications, while 93.3% did not. This scenario is attributed to inadequate manpower,

public awareness, inadequate funding, absence of basic land use instruments and decision guides.

Sanusi (2006), examined the pattern of urban land development with emphasis on the practice of development control in Minna. The study reveals over development of residential plots and the percentageof development approval from town planning authorities by house owners. The researcher used descriptive statistical technique to show that 55% of the developers got building permit while 45% did not. Among the 55% that obtained permit, 42% of developers within a residential area over developed their properties which are not acceptable by planning standard as little space is left for better internal air circulation and security consideration.

Having consulted the studies of Aribigbola, (2008), Oyesiku, (1997), Abubakari and Romanus, (2011), Okosun, (2010), Cherry, (2006), Nuhu and Yohana, (2013), Usman, (2013), Njoku (2011) and Sanusi, (2006) to the best of the researchers' knowledge there is no study on the use of geospatial technique in evaluating the effectiveness of development control in Minna metropolis. This missing gap is the area of study for this research. This research set out to answer the following research questions in the study;

1. What is the compliance level to development control in Minna?
2. What factors influence noncomplianceto development Control activities in Minna Metropolis?
3. What are the implications of non compliance to development control activites?

1.3 Aim and Objectives

The aim of this study is to evaluatethe effectiveness of development control activities in Minna metropolis using Geospatial techniques. To achieve this aim, the specific objectives are to;

i. assess the level of compliance to development control.

ii. examine the factors influencing non compliance and enforcement of development control in Minna metropolis.

iii. examine the implications of non compliance to development control using geospatial technique in the area.

1.4 Scope of the Study

The spatial scope reflects the physical development in four selected layouts i.e. Minna Town Plan (MTP) 17 redesigned for residential use in the year 2000 located in Bosso town along Zungeru road, MTP63 (Atlanta layout)designed the year 1996 located along Mu'azu Muhammad way, MTP95 designed the year 1993 at Tunga and MTP101 designed in the year 2000 adjacent F- layout, all within Minna metropolis which comprises of Bosso and Chanchaga local government areas.The content scope of this study focussed on evaluating the effectiveness of development control activities and compliance with planning standards. The temporal scope of the study covers physical development in the respective layouts as at the year 2015 to give room for full evaluation in the study area.

1.5 Justification of the Study

Urban centres have always been of great concern to policy makers and technocrats. This is because of the role they play in the economic, social and political development of the country. The problems confronting urban centers include housing, transportation, inadequacy of facilities, utilities and services, insecurity and above all physical environmental degradation. Development control measures which is aimed at regulating physical development and settlement with the intention of creating conducive and orderly development of physical structures becomes mandatory to be fully implemented in any fast growing urban centres (Ogundele, *et al*. 2010).

However the system of development control and its effective implementation is much influenced by various forces, which are at work. Firstly, there is the planning authority's plan for an ideal environment. Secondly, there is the developer who wishes to undertake an unguided activity which might have impact on the environment. Tremendous effort have been made in pursuance of a more organized and orderly arrangement of uses within Nigerian cities from colonial era to date. In spite of such tremendous effort in pursuance of a more organized and orderly arrangement of uses within the city, the existing condition of our cities still portray an alarming reality of environmental problems and a gross disregard of development control. In our contemporary era, Remote Sensing (RS) offers cost-effective solutions to city planners' data needs for both macro and micro level analysis of the land use planning and development control leading to urban environment management. While Geographic Information System (GIS) is used for integration of various data sets to obtain a homogenous composite land development unit which help in identifying the problem areas and suggest recommendations measures to be taking (Nuhu and Yohana, 2013).

In Minna, the complexity of urban development is so dramatic that it demands immediate attention in the area of physical planning of the city. The dynamic nature of urban environment necessitates unprecedented growth thus, the high demand of land for various purposes like Commercial, Residential, Public and Semi Public. These developments are monitored by the Niger State Urban Development Board to ensure orderliness and compliance to the Master plan, land use zoning plan and other planning schemes. However, it was observed that with the enforcement of development control by the board, compliance level to planning regulations have not been assessed in Minna which if not given due attention may leave a lot of districts to continue to grow unguided and the challenges to ensure compliance may not be overcome.

CHAPTER TWO:CONCEPTUAL ISSUES AND LITERATURE REVIEW

2.1 Introduction

This chapter discussed various concepts of development control and development control process, Geographical Information System (GIS) and Remote Sensing (RS), factors influencing development control, compliance to development control, implications of non compliance to development control, and the review of relevant literature.

2.2 Conceptual Framework

2.2.1 Development

The term development just like the term planning has so many facets. Generally, development can be seen from the economic, social, political and physical perspectives.Anyebe, (2001) definesdevelopment as a total transformation of a system, thus when used to describe a nation, it implies the transformation of the various aspect of the life of the nation. It further refers to a progression from a lower and often undesirable state to a higher and preferred one. Following this definition, therefore real development involves a structural transformation of the economy, society, polity and culture that permit the self generating potentials of the area therein.

In the context of physical planning, the Nigeria Town and Country Planning Law, 1946 states thatdevelopment is in relation to any land which includes any building or rebuilding operations and any use of the land or any building thereon for a purpose which is different from the purpose for which the land or building was last being used is development (Nigeria Institute of Town Planners, 1991).The Nigerian urban and regional planning decree of 1992:3 defined development as follows: “Carrying out of any building, engineering, mining, or other operation in, on over or under any land, or the making of any environmentally significant change in the use of land or demolition of buildings, including the felling of trees and placing of free standing erection used for the

display of the advertisement of any structure on land*"* (Federal Government of Nigeria, 1992).

The use of land or land development is further extended to cover any land or any shed, tent or other object whether fixed or movable or collapsible, which is not a building. This means that any occupation and a change in use, other than agriculture, may be regarded as development. In a country like Nigeria which is experiencing a rapid rate of urbanisation, it is imperative that development must be planned and controlled (Jibrin, 2013).

2.2.2 Development control

Essentially, development control encompasses some related legal and administrative techniques/instruments designed to safeguard, regulate, conserve and disburse' land or part thereof in line with approved land use plans. Development control therefore regulates the building and or rebuilding in, on or under land (Jibrin 2013).

Sanusi (2006),define development control as enforcement of standards, available regulations and professional expectations in the development of urban land. This definition further explains that professional expectations are the 'expected order' to which a settlement must conform.

The United Kingdom Standard Organization (1964), citedinNjoku,(2011) define development control as theprocess by which a planning authority exercises its statutory duty to control all development in accordance with the provisions of the development plan.

Lawal(2000), citedinAboki(2014),seesdevelopment control as a tool to regulate land sub division using planning standards, i.e. for every development, guidelines and standards are set up for implementation to avoid creating chaotic environment.Groves (2000), conceives development control is the executive arm of the planning process. It is the means whereby policies are implemented and specific land use proposals are brought

to fruition and unlawful development prevented. It enables a local authority to protect residential areas from inappropriate intrusions, reserve land for new industries, maintain a green belt, keep valuable buildings and trees and prevent ugly signs.

Development control also involves environmental, ecological and pollution control. These include the protection and preservation of areas of greenbelt, parks, land, wildlife, water and air. Performance standards thus becomepertinent in preventing pollution in the environment,especially in cities and towns (Jibrin, 2013).

Roberts, (1974) identifies two main technical devices used in the development control process. These are land use zoning and planning standards. Planning standards have two main dimensions;prescriptive and regulatory. The regulatory standards used in development control by planning authorities include those related to residential density, plot ratio, ventilation, car parking control and highway standards among others. The prescriptive standards are built into development control and are used in preparation of the development plans.

2.2.2.1 Process of development control

The process of development control involves a number of stages as explained by Roberts,(1974)(See Fig. 2.1.). Theprocess starts in the first stage with the preparation of a development plan. This is the stage where the government makes a decision as to the preparation ofa development plan for a particular area. After taking the decision, the planning authority is usually instructed to design the plan or give out a contract for plan. The second stage involves the approval of development plan that has been prepared. The approval makes the plan a valid document worthy of implementation. The approval is most often given by the state governor as in the caseof Nigeria.

Programming of the plan and project assignment is the third stage in the process of development control. It involves the programming of plan into projects which are

either private or governmental. In the case of private, such as residential and industrial development, the plots are allocated to individuals or organizations that develop them according to the provisions of the approved plan. The programming of plan by the government involves the making of sequential steps in the implementation of the programmes. For this, the government budgets some money for the implementation of the programmes and projects.

Project assignment is the fourth stage.Thisinvolves the assigning of the projects to operators for further detailing, designing and or tendering the projects as in the case of government. Similarly, the private developer assigns consultants to prepare the project document taking into consideration the development control regulations and the provisions of the plan. The programming of plan and project assignment stage is directly correlated to the next two stages which are the arrangement for development control as well as the recognition of the existing development.

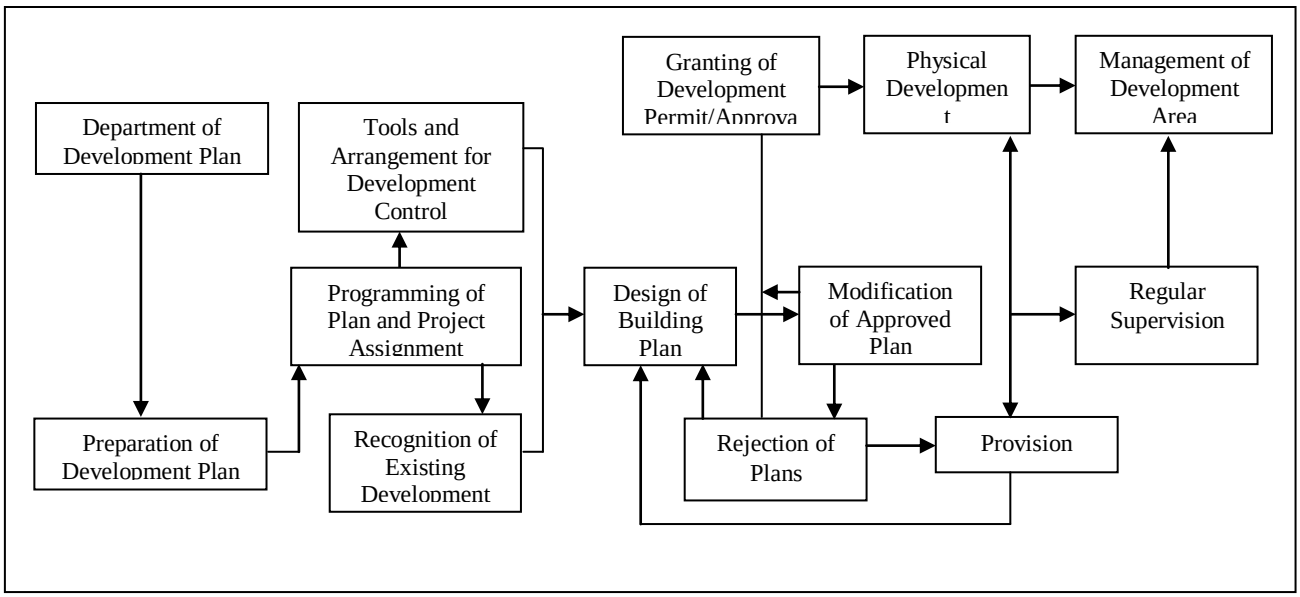


Fig. 2.1: The Process of Development Control
Source: Roberts, (1974)

Design of the building plans is the next step.This involves the designing of building plans with consultants, taking into account the various standards specified by the

building regulations of the planning authority.The granting of development permits and approval of the building plans follows the design of building plans stage. In this stage the plans prepared are accompanied by applications for development permission and usually submitted to the planning authority. The authority scrutinizes the plans and gives approval if they satisfy the development control regulations. With the approval of the authority, the applicant is qualified to commence the physical development of the site. However, with the rejection of the plans, the applicant has to go back to the consultants for the revision and redesigning of the plan in line with the authority's regulations. Likewise, in modifying the approved plan that is being implemented, new development permit is required. Consequently, the subsequent stages of physical development, management of developed area and regular supervision go together simultaneously.There is often regular supervision of development sites by the development control inspectors to ensure strict adherence to the provisions of the approved plans. They also supervise the management of developed areas to ensure that the use of the buildings is in accordance with the approved use. But in a situation where the development or use of land or building goes contrary to the provisions of the development plan, the planning authority enforces control upon detecting the contraventions. This may involve the revision of the physical development plan as a whole or part thereof which is also subject to regular supervision and policing. Thus, the process of development control is a continuous process(Jibrin, 2013).

2.2.3 Remote Sensing and Geographic Information System

Sabins (1997) defined Remote Sensing (RS) as the science of obtaining data/information about the earth's surface without directly being in contact with it, this is done by sensing and recording reflected and emitted energy and processing, analyzing, and applying that information. Similarly, Campbell (1987),definedremote sensing as the

science (and to some extent, art) of acquiring information about the Earth's surface without actually being in contact with it.

Remote sensing application in urban management as a source of spatial information becomes more obvious if sensors measure the spectral characteristics of interest and their variations in time over large areas and providing data input (Nuhu, Yohana, 2013). Remote sensing, especially using space borne sensors offers the advantage of long term (years to decades) temporal and spectral data sets over relatively large regions (local to global scale) and, therefore, of monitoring the (temporal, spectral and spatial) variations of objects on the Earth's surface (Sabins, 1997).

Environmental Space Research Institute (ESRI)(2011) defined Geographic Information System (GIS) as an arrangement of computer hardware, software, and geographic data that people interact with to integrate, analyse, and visualise data, identify relationships, patterns, trends and find solutions to problems. Furthermore, the system is designed to capture, store, manipulate, analyse,update and display studied data and eventually use them for analysis.Estes(1992) stated that Geographic Information Systems (GIS) in addition to remote sensing have contributed significantly in state and government monitoring and forecasting projects. GIS technology can provide resource managers and decision makers with tools for effective and efficient storage and manipulation of remotely sensed information and other spatial and non-spatial information.

In additionESRI (2011) opined that planners require solutions that address day-to-day work needs while also fostering the abilityto effectively predict and respond to chronic urban problems and future market fluctuation. Consequently,thesuccess of planners in combating chronic urban problems is largely determined by their ability toutilize effective tools and planning support systems that allow them to make informed

decisionsbased on actionable intelligence. Today, planners utilize GIS around the world in a variety ofapplications. Dueker (1988), for example, suggests a spatial hierarchy to categoriseurban GIS applications as ‘wide-area’ planning, service dispatching, locationalanalysis, facilities management and engineering design.

2.2.4 Legal Framework for Development Control in Nigeria

According to Omole,Akinbamijo (2012) traditional Nigerian settlements are established around palaces of traditional rulers, thusensuring efficient communal interaction and reducing cost of transportation. The development and control of the totalenvironment are the joint responsibility of the entire community.Ascustomary laws vary from locality to locality, land use patterns differ accordingly. With the passage of time,population increase and human activities have become complex.Control of land and land use also grown beyond thetraditional rulers, chiefs and heads of families resulting to physical development springing up in an haphazard manner.This has necessitated a serious need for a new order in the control of land and land uses. This is the genesis of thedocumented type of laws and legislation.

The land reform issue was the first attempt at organizing the administration and development of land at thegrassroots. According to Jibrin (2013), this was achieved by the enactment of the Local Government Reform of 1976,the law made town and countryplanning a local government affair. Thus state governments established local planning authorities to controldevelopment and initiate planning schemes at the local level. The gains of town and country planning through the local government reform were cut short with the promulgation of the land use decree number 6 of 1978.The decree, designed to curb land speculation, ease the process of land acquisition by government, co-ordinate and formulate tenure modernisation, it also had several effects on the practice of

town and country planning law, encouragingpreparation of planning schemes among others. Unfortunately, this law has many flaws (NITP, 1991).

It was the general belief that the old town and country planning law of 1946 was outdated and ineffective to meetthe present planning requirements. It was against this background that a recommendation was made to thegovernment to review the law and promulgate laws that are applicable nation-wide, taking into consideration thevariation in climate, topography, culture and other variables to suit local needs. It was the outcry of the people,particularly the town planners that led to the promulgation of the new law called - the Nigerian Urban and RegionalPlanning Law, (NURPL) Decree No. 88 of December 15, 1992.

Omole,Akinbamijo (2012)examined the six main parts of the NURPL of 1992. Part one deals with types and levels of physical developmentplan, the administration, composition and function of each of the levels of planning and execution of duties insections 1-26. The second part deals with Development Control. Part 3 deals with 'additional control in special cases that is in sections 64-74. Part four deals with 'acquisition of land and compensation' in sections 75 – 78. Part fivedeals with 'improvement area, rehabilitation, renewal and upgrading' in sections 79-85. Lastly, part six deals with'appeals' from sections 86-92. Going by this decree, Part 6, section 90(1) has repealed the old 1946 Town and CountryPlanning Law. The implication of this is that the old town and country planning law was rendered null and void with the current NURPL.

Development control therefore, can be said to be an integral part of master plan and physical planning in general. A master plan or a structure plan, on its own, cannotachieve its goals without development control. The new Decree recognizes this, and as such, empowers the'Commission', 'the Board' and the Authority to establish a

department known as Development Control Department(Part II, Section 27). Such department shall be a multi-disciplinary department, charged with the responsibility formatters relating to development control and implementation of physical development plans (Section 27, subsection 2.The Control Department at the Federal level (call the Commission), at the state levels, call the "Board" and at the local government level (the 'Authority')all of which have power over the control of development on allland within their respective jurisdiction. The law, by its section29, makes it mandatory for government, and its agencies to obtain approval before commencing any development.The law also(in sections 31 and 34) gives the planning bodies, be it, the Local Authority, State or Federal, the powerto approve with amendment, or delay approval of an application, or if circumstances so required, reject developmentpermit completelyNURPL, (1992).

Very important also is Part II, Section 33, which mandates developers to submit to an appropriate control department adetail environmental impact statement for (a) a residential land in excess of 2 hectares, (b) permission to build orexpand a factory or for the construction of an office building in excessof four floors or 5,000 square meters of alettable space, or (c) permission for a major recreational development. The law also regulates the timing of planningpermit, or development permit, given to a developer.

On issue of 'notices' the Control Department is empowered to serve notice (enforcement notice) to theowners of structures, where a development has commenced without approval. Such enforcement notices could bedirected to the developer to alter, vary, remove or discontinue (stop work order) development. A person, who fails tocomply with the term of an enforcement notice, or disregard a 'stop work order' issued and served pursuant to thisdecree, will be guilty of an offence and liable on conviction to a fine not exceeding 10,000 Naira (Nigeria currency) inthe case of an individual, and in

the case of a corporate body, to a fine not exceeding 50,000 Naira (section 59).Where a developer contravenes the provision of a planning law, the control department shall have the powerrequiring the developer to:

a) prepare and submit his building plan for approval or

b) to carry out such alteration to a building as may be necessary to ensure compliance or to pull down the building or

c) to reinstate the piece of land to the state in which it was prior to the commencement of building (Section 60).

The power under development control in the new dispensation also extend to preservation of existing treesand or planting of new tress by the imposition of necessary condition (Section 72). Also the Control Department isempowered to control outdoor advertisement. In other words, if it appears to the Control Department that the amenityof a part of an area, or an adjoining area, is seriously injured by the condition of a garden, vacant site, or an openland, the Control Department shall serve on the occupier or owner of such land a notice requiring such step forabating an injury, as may be specified in the notice to be taken within such period of time as may be specified(Section 74). The law further stipulates the conditions under which the authority should carry out demolition.According to section 83, demolition shall not be exercised unless:

a) The building falls as far below the standards of other buildings used for habitation in the area or that such building is likely to become a danger to the health of its occupiers or occupiers of adjacent buildings.

b) The building is in such a state of disrepair or is likely to become a danger to public safety and cannot, at a reasonable cost be repaired.

c) Two or more contiguous buildings are badly laid out and so congested that without the demolition of one or more of them. That part of the improvement area cannot be improved

d) It is in connection with the provision of infrastructural facilities of the area.

In addition, Omole,Akinbamijo (2012) stated that planning laws are meant to control the excesses of people concerning the use of land and the general environment.Government has a duty to enforce its planning laws. This is perhaps the reason why the issues of land, particularly indeveloping countries are treated with all seriousness. It istherefore recommended that a type of law that will respect the culture and norms of the people should always be putin place.

2.2.5 Niger State Government Building Bye-Law andApplications for Development Permits

There are specified bye-laws provided by the Niger state government in order to guide developers during the course of development. The bye-laws also provide for certain conditions to be met when applications for development permit are brought to the board by the developer(s). These bye-laws and conditions are contained as follows;

i. A developer intending to carry or embark on any physical development on any land within all urban areas of the State shall apply to the Board for development or planning approval.

ii. No development shall commence or be continued without a development permit obtained from the Board,

iii. The "Board" shall mean Niger State Urban and Regional Planning Development Board.

iv. “Development” shall mean and include any physical structure such as buildings, tents, stalls, kiosks, drains, ditches, construction or erection of any kind etc.

v. Building or Development plans, drawings and details submitted under these regulations shall be prepared, stamped and signed by qualified professional registered to practice with the Board. Such a signatory shall be responsible for the supervision of the relevant aspects of the proposed development throughout its execution. Where he or she is unable for some reasons to continue with the supervision, he or she shall be substituted by another person of the same professional standing registered with the Board.

vi. Building plans shall be on standard size of a minimum of A3 paper, legible, of durable materials and well bounded.

2.2.5.1 Planning requirements

1. Survey Site Plan: Survey site plan shall be prepared and signed by a registered and licensed surveyor and where necessary, the plan shall be contoured.

2. Site Plan:

   i. The site plan shall show the geographical North point, sizes, locations and dimensions of all proposed developments, and their relations to all existing structures and site boundaries. These shall include all roads and access ways, open spaces, sewers, drains, wells, power lines, railway lines, water mains and other features existing or proposed on the site.

   ii. It shall show all existing structures to be demolished and those to be retained, if any on the site.

   iii. It shall show sufficient details to locate the site of the proposal.

   iv. It shall show a drainage scheme of how surface and storm waters from the property and those from the adjoining properties will be drained.

   v. It shall show calculation of built-up area as percentage coverage of the plot.

vi. It must show adequate and feasible setback from the front, rear and the side boundaries of plots with minimum setbacks as shown in Table 2.1.

Table 2.1: Plot Coverage and Setback Requirements for Residential Use

Category of Plot	Maximum Plot Coverage	Minimum Setback in Meters (m).		
		Front	Back	Sides
Low Density	35	8	3.5	6
Medium Density	45	5	3	3
High Density	60	3	2	1.5

Source; Niger State Government (2013)

2.2.5.2 Building Set Backs

i. All domestic buildings of more than two floors shall have setbacks from the rear and side boundaries of an additional 1.50metres for every additional floor above the first floor,

ii. No structure such as porticles, porches, verandah steps etcetera shall project beyond the specified building lines.

iii. Two neighbours may agree to share a common boundary line. Where there is no such agreement, then 1:00 meter setback each should be maintained from the common boundary line.

iv. The setback shall be the distance from the property line (beacons) to the proposed building line. In the case of industrial sites, in addition to the minimum requirements, the setback may be increased depending on the activities taking place within the premises.

v. The Board however, has the right to the use of discretion to increase the allowable setback.

2.2.5.3 Spaces between Buildings

Where there are more than one building structure on a plot such as Boys Quarters, Guest Chalets, Out-houses etcetera when detached from the main building shall be considered as independent structure(s). A minimum of 3:00 metres setback shall be maintained between such building from the main building or any other building.

2.2.5.4 Combining Two or More Plots

It shall be lawful to combine two or more adjoining plots for development as one provided they belong to the same person or group. On such plot, the site planning requirements shall be as for a single plot.

2.2.5.5 Green Area

Not less than 15% of the total plot area shall be left unpaved and shall be devoted to planting as green area.

2.2.5.6 Net Residential Densities

Net population densities in housing areas shall be as set out in Table 2.2.

Table 2.2: Net Residential Densities

Density	No. of persons per hectare	Max. No. of habitable rooms per hectare	Max. No. of Person habitable per room
Low	Up to 75	75	1:00
Medium	76-200	130	2:00
High	201-370	215	2:00

Source; Niger State Government (2013)

2.2.5.7 Commercial Developments

i. Built-up Area Coverage: built-up area coverage of between 40-60% of the total plot space is recommended for building coverage,

ii. Parking Space: adequate parking spaces shall be provided within the plot. On-street parking shall not be allowed.

2.2.5.8 Educational Institutions

An application for the development of an educational institution shall be accompanied with clearance from the Ministry of Education.

2.2.5.9 Hotels, Restaurants and Guest Houses

An application in respect of any of these shall be accompanied by evidence of clearance from Ministry of Commerce and Industry, evidence of compliance with the provision of Hotel licensing law (1983). All design proposals shall comply with standard requirements.

2.2.5.10 Petroleum Industries

i. The minimum area of land required shall be 2,000 square metres with a frontage of not less than 50 metres. There shall be attached a land use proposal.

ii. A minimum setback of 60 metresshall be observed to the centre of any expressway and 30 metres to the centre of any other road.

iii. A minimum of 5.00 metresshall be observed to adjoining uses.

iv. Applications shall be accompanied with Police clearance, Fire Service clearance and Environmental Impact Assessment reports.

v. All other regulations as to enhance safety shall be determined at the discretion of the Board.

2.2.5.11 Petrol Filling Station

Developer shall ensure compliance with the petroleum regulation law of 1974, which include; compliance to setback, plot sizes, accessibility to fire safety requirements etc.

2.2.5.12 Building Heights

The Board may order restriction of heights of buildings proposed to be constructed in certain areas.

2.2.6 Procedure for obtaining development permit

The Department of development control issue out permits before any development could be carried out,(see the workflow of development permit in Fig. 2.2). Developers submit concept drawings/designs of the proposed development in CAD format to the town planning office of the department of development control for town planning assessment. After assessing the design, it is passed for architectural assessment when approved, but if not, the design is sent to SERVICOM help desk for onward e-mailing to the developer's consultant. From the architectural assessment, the design is passed for structural assessment after which it is sent for electrical assessment if approved otherwise it is passed to SERVICOM help desk. After electricalassessment, the design is passed for mechanical assessment if approved but if not; it is also passed to the SERVICOM help desk. After the mechanical assessment, the design is passed for town planning recommendation unit for recommendation if approved; otherwise it is passed to the SERVICOM help desk. From the town planning recommendation, the design is passed for executive approval and final sealing(Niger State Government, 2013).

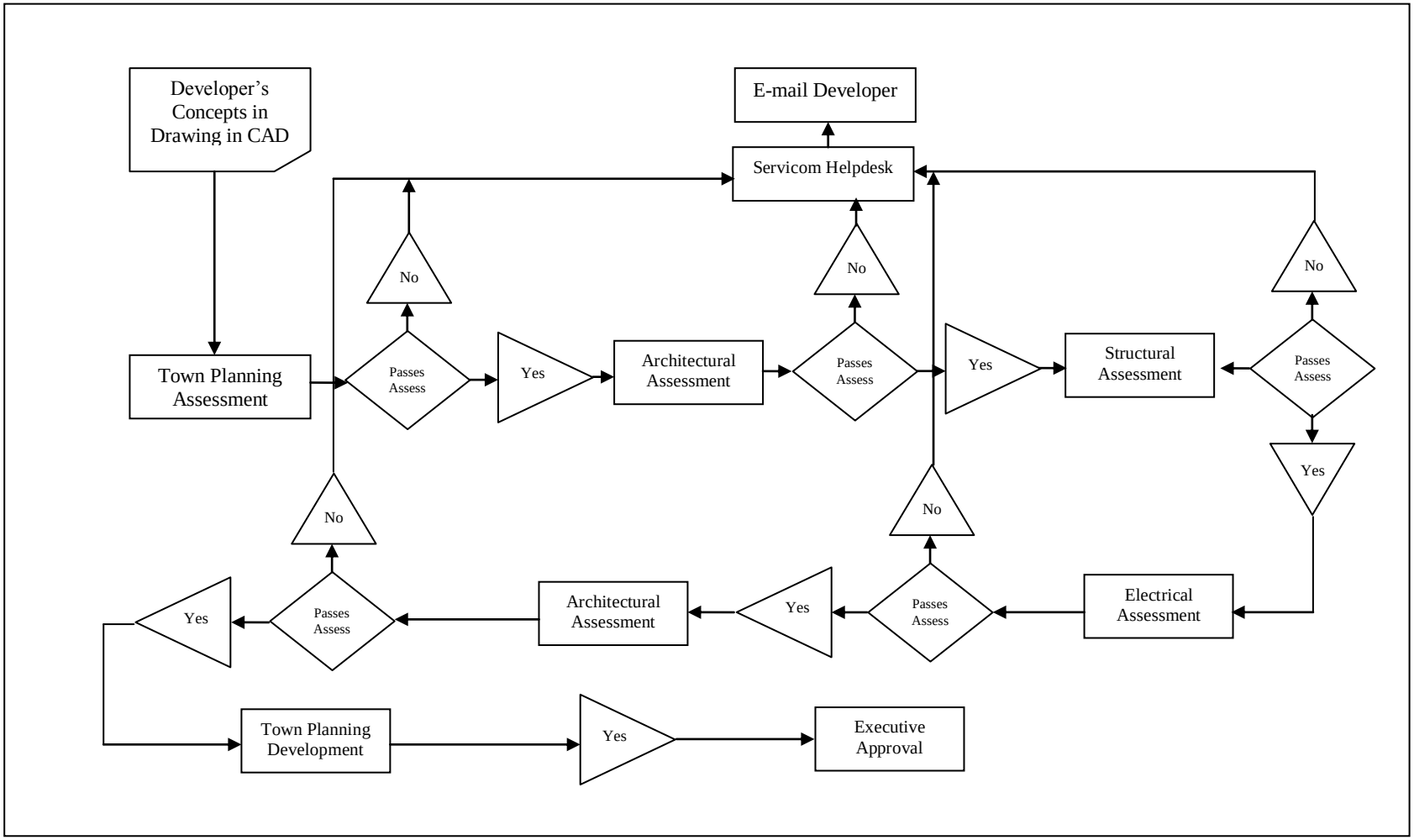


Fig. 2.2: The workflow of development permit
Source: Niger State Government (2013)

2.2.7 Forms of non compliance to development control regulations

Abdul-Rashid, (1986) cited in Jibrin, (2013) identified the various types of non compliance to development control regulations, and defined them in terms of the form or pattern of non compliance.These include:

2.2.7.1 Contravention of Approved Building Plan

The process of building plan approval consists of submission of a set of drawingspecifying the nature and extent of any proposed floor area coverage, according to the provisions of the building plan regulation. It is common for individual to obtain approval from planning authority only to do something else or modify or alter the development in contravention. Sanusi, (2006) buttressed that, depending on the extent of alteration or modification, the development control authority enforces penalty ranging from fee or levy to partial or total clearance or both.

2.2.7.2 Change of Land use

Ogechi, (2000), while assessing the patterns and effects of changes in Abuja master plan sees change of use as "the process that involves the change of an approved building plan by the developer from the approved land use type toan entirely different use without permission from the development control authority". Sanusi, (2006) gave clear example as converting residential use into commercial or even industrial use especially in Kpakungu, Tunga, Maitumbi and Bosso areas of Minna. Sanusi continued, "This act constitutes violation even wheredevelopment exists in residential or commercial area, when such cases are detected levies and betterment fees are collected from the violator".

2.2.7.3 Development on Public Land

All land belongs to the government as provided for by the Nigerian land use Act of1978. In Niger state edict of 1998 provides that any development on land requires prior consent of the government. In practice however, people engage in development without

permission. Olajuyigbe,Rotowa, (2010) revealed that even land earmarked for government projects is sometimes encroached by the public. Developers however, suffer the consequences of his/her action once the government enforces the law by seizing or taking over the land while all developments are cleared.

2.2.7.4 Encroachment on Road Reservation

Physical planning standard provides for road reservationTable 2.3 shows width of road and their respective setback, for instance 45m roadis provided from the centre of the metal portion of the highway for both sides and a minimum of 15m road width for distributor roadswithin residential layout, although the width of the road varies from one urban centre to another.Any encroachments by the public constitute a violation for which a restoration is necessary. The reservation is made with a view to provide for future expansion and also give room to street furniture (Jibrin, 2013).

Table 2.3: Setback from the centre of the road to the building line

Road Hierarchy	**Road Width (metres)**	**Minimum setback (metres)**
Dual carriage	60	30
Distributor	30	15
Collector	15	7.5
Access	10	5
Seasonal stream	Not available	15

Source; Niger state government (2013)

These standard setbacksare provided by the planning department in Niger state which is to be adhered by developers and strictly enforced by the Niger state Urban Development Board (NUDB), these standards vary from one land use zone to another.

2.3 Review of Related Literature

This segment discussed the role of development control in urban managementand reviewed related literatures on the importance of evaluating development control.

2.3.1 Role of development control in urban management

The practice of development control is established by the laws and edicts of town and country planning. In order to facilitate the practice of development control, the following activitiesas revealed by various studies are professionally done;

2.3.1.1 *Regulation for the implementation of planning schemes*

Jibrin, (2013) conceived that layout plans, master plans etc. are prepared to guide the future or immediatedevelopment of planning schemes.The development control authority or department uses the prepared layout plans, master plans, district plans, local plans and action plans to serve as a guide to them to monitor, regulate and control development programmes. The author revealed thatdevelopment control plays the role of regulating implementation of planning schemes because master plan comprises of an analysis of problems and proposals for improvement of already built up areas and development for new areas within the foreseeable future.

Njoku, (2011) identified that the Kaduna state edict number 10 of 1985, among other functions assigned the state urban planning board with responsibilities to prepare, publish and implement planning schemes for each designated urban centre within the state. The author recommended that Kaduna State Urban Planning and Development Control Authority (KASUPDA) should be used as tool in regulating the implementation of planning schemes within Kaduna metropolis.

In Minna the Niger State capital, the town planning department under the Niger State ministry of lands and housing is responsible for the preparation, publishing and implementation of planning schemes. The implementation of these schemes is to be regulated by the Niger Urban Development Board (NUDB) using the edict of 1998 (Niger State Government, 2013).

2.3.1.2 Development and planning permission

Town Planners Registration Council (TOPREC) decree number 3 0f 1988 refers to it asgranting of development permit by the development control departments orauthorities on land use including development in areas without layout; it also includes (the permission of the conversion of land use as long as it satisfies the requirements of planning standards. Both states and federal capital territory use the Nigerian Urban and Regional Planning Law (NURPL) of 1992 for granting permission as contained in section 30 - 36 of the law FCTA, (2011).Also, section 57(1) of the 1990 Act of the Britain town and country planning law provides that, subject to the provisions of that section planning permission is required before carrying out of any development on land.

2.3.1.3 Enforcement of control and planning standards

Sanusi, (2006) stated that in Minna metropolis normally violation of great magnitude renders approval invalid and attracts stringent action as enshrined in the state edict of 1998. In enforcing control in developed areas or existing developments the Nigerian Urban and Regional Planning Law of 1992 section 44(2) provides for the full application of enforcement measures even over developed areas, that is, areas that exist prior to the commencement of the law.

Jibrin, (2013) reveals that as contained in the Abuja development control manual of 2007, enforcement of control is a strong legal tool for ensuring compliance with planning and developmentcontrol measures as prescribed by the existing master plan under implementation, approved sites for development are subjected to regular supervision to ensure conformity. The author revealed that prior to provision of the manual and due to its' ineffective implementation Wuse districts of Abuja had 84% cases of violations.

On the other hand, Under the British system of planning control, to develop without planning permission is not a criminal offence. However, there is a sanction to

ensure that unauthorized development can be prevented. The sanction provided by the law is the enforcement notice machinery contained in part VII of the 1990 Act. Under this machinery, once an enforcement notice takes effect, the development which is unauthorized must cease or be removed. If it is not, then, and only then, is a criminal offence committed of failure to comply with the enforcement notice (Keith, 1997).

Enforcement of planning standard stands at the heart of development control otherwise violating such standards by developers will lead to chaotic urban growth. For example in the study of urban land use Planning, Policies and Management in Akure, Nigeria by Aribigbola (2007) field investigation revealed that most of what was proposed in the land use plan was not implemented. The implication of this finding is unguided physical development characterised by road encroachment, change of land use and over development of plots.

In furtherance of the enforcement of planning standards, the study of Olajuyigbe,Rotowa, (2010) in Ondo state, Nigeria revealed that the role of development control in urban management provides for the adequate and suitable location of spaces for various land uses and activities through enforcement of planning standards and regulations in the preparation of layouts, land use plans for certification and development.

Jonah, (2014) emphasized that "land use regulations are used to protect public interest in the use of private land. The regulation stem from the need to provide public amenities, to increase the efficiency of land use, to limit urban sprawl and unnecessary encroachment into agricultural land, and to achieve economies of scale and least cost production of public service".

2.4 Review of Empirical Studies

Fazal, (2000) used remote sensing to measure the loss of agricultural land to urban expansion in Saharanpur city of India. The study revealed that the loss of agricultural land

to human settlements such as residential, commercial and industrial land use is far more serious inIndiaabout 1.5 million hectares of land (mostly agricultural) went to urbangrowth between the year 1955 to 1985 and a further 800,000 hectares were expectedto be transformed between the year 1985 and 2000.With rapid urbanisation andthe extension of urban areas, combined with continuing populationgrowth, both agricultural scientists and town planners have long expressed concern as to whether India will be able to feed its population.The study revealed that, there are many demands on land resources and many societies cannot balance these conflicting demands. Therefore effective development control and monitoring is important in the management and development of urban areas as well as in enhancing urban management of cities. Evaluation is concerned with questions such as are we doing the right thing? Are we doing this right and what lessons can we learn from the experiences.

Similarly, Adeboyejo,Abolade (2006) while analysing spatial changes in Ogbomosho city using geospatial technique noted that expansions of land uses such as residential and commercial are imbalanced compared to green areas and farmland thereby overwhelming the natural environment and ecosystem. The study revealed that, the strain on the natural resource is compounded by uncontrolled city growth. The authors also revealed that there is 43.99% urban land use from residential to commercial and mixed land uses. Adeboyejo,Abolade viewed the importance of evaluating development control through close monitoring of the northern part of the city to forestall development of slum and squatter settlement. The study recommend that for effective and functional city, data is needed on changes taking place which is vital for development control activities and prevention of imbalanced, haphazard development and its' consequences.

Lekan, (2006) stated that development control is required for urban management and enforcement of planning standards to be effective in order to achieve improved socio-

economic environment, “spatial arrangement of urban land uses for the purpose of creating orderly, economic and functionally efficient and aesthetically pleasing physical environment for living, working, recreation and circulation must be closely monitored”. The methodology adopted involved interview and appraisal of progress reports as well as analysing the activities of urban management in providing the most conducive spatial arrangement of activities for the living, working and recreation of Nigerians. The study revealed that despite the efforts of urban management and development control in Nigeria, the importance of space and environmental standards to the development process and its’ utilization by urban planners to coordinate all development schemes, maximize economic and social returns from these investments have left much to be desired. This has resulted to low implementation of planning schemes in Nigeria and making our neighbourhood fall below global standard.The study recommended that in addition to increase government participation in planning activities, adequate data should be available to planners for planning proposals, implementation and recommendations so that the mistakes of the past can be avoided in the built environment.

Bello, (2011) identified that expanding population, human requirements and economic activities are placing ever increasing pressure on land. The studyemphasised that,evaluating the performance of a process or a system is a prerequisite for improving productivity, efficiency and performance. You cannot improve what you cannot measure or if you cannot measure it, you cannot manage it. The author used the questionnaire and the Abuja master plan to aassess the activities of Abuja Geographic Information System (AGIS) in the Federal Capital Territory, stating that while limited success in implementing land administration reform in the FCT have led to inefficiency, incoherent and poor land management. Lack of assessing planning activities has brought inefficient

and insecure urban environment. Findings reveal that only 17% of good governance in land administration has been achieved by the AGIS.

Following this trend Olatunde, Igbokwe, Olatunde, Adeboboye (2014), view that evaluating development control promotes spatial harmony, ensures spatial coordination and organisation of various land uses in harmony with each other for a balance space creation. The authors examined the application of GIS and remote sensing techniques in land use analysis of Auchi urban centre Edo state, Nigeria. Findings show that there was an imbalance in the land use structure of Auchi whereby some land uses were over represented at the expense of others. The study used both Statistical and geometrical analysis to determine the results. Theresearch indicated that the urban growth and developmentin Auchi has been restricted to the low-lying areas, most especially Usogun, Akpekpe and parts of Igbei andIyekhei quarters. However, there is virtually no master plan for the development of Auchi, no land use zoningscheme is adopted and individual claim to land is still veryhigh. All these provided the framework for the haphazard development of the city. Thus, a good number of the landuse problems in Auchiare caused by lack of proper planning and monitoring/evaluation of development. The research further revealed that land use activities in the study area are un-controlled and the imbalance in land use structure of Auchi isvivid. For instance residential land use account for 56.99 % of the built up area. Others are commercial landuse 2.40%, industrial land use 0.43%, educational land use14.64%, transportation 1.21%, recreation 0.09% and vacant land 1.60%. The study identified the achievement of a balanced land use pattern as an important aspect of effective development control, so that the planned area is well integrated with the overall structure of the larger-community (this is what development control seeks to attain). This is achieved through managing of developed areas as stipulated in section 44(2) of the Nigerian Urban and Regional Planning law, decree No.

88 of 1992 for the full application of development control measures over developed areas, i.e. areas that exist prior to the commencement of the law.

Jibrin, (2013) observed that “in order to ensure spatial harmony master plans must be used to regulate land uses in terms of conformity and development control is a tool that is used to enforce compliance to the stipulated land use codes and zoning regulations of areas. Furthermore, effective monitoring of development control reduce urban management challenges, for example in Wuse district of the FCT the author recognised that “it enhance and facilitates the framework for an effective urban management programme, if the urban areas are well planned and development effectively controlled they will facilitates effective management and planning programmes for realising the visions of urban management goals and objectives”. Findings in the study reveal that effective development control in urban management provides for easy access to developments and to achieve an efficient circulation within the developed areas. The study further revealed that, 70% of the violation to road set setback was recorded in Wuse II while other neighbourhoods had below 50%. The author identified that adequate setback enhances proper circulation when observed. This can effectively be achieved through evaluating development control especially during construction period. Therefore in development control planners must ensure that projects are located as classified in the space allocated for different use in order to achieve efficiency in all facets of urban development.The study recommended that ICTs which include GIS should be adopted in monitoring and surveillance of development control process to promoting spatial harmony in urban management.

Jonah, (2014) used Remote sensing and GIS to examine land use management in Karu, Nasarawa state. The study revealed thatdevelopment control function as a positive tool for effective protection of the urban environment. It also fosters social and economic

safety in urban centres. The result from the analysis revealed that the increase in built up areas resulted from changes in land use/ land cover between the years 1972 to 2012, from 23.1% to 76.9% this is attributed to population increase and the relocation of the Federal Capital Territory (FCT) from Lagos to Abuja in 1991. Findings reveal that with this massive land use/land cover change without regard for development control regulations the resultant effects were haphazard development and encroachment of built up areas into the approved setback of road network and water bodies. The study recommends that Karu Area Planning development Authority should prepare a development strategy to guide the orderly growth and development of the area.

CHAPTER THREE:THE STUDY AREA AND METHODOLOGY

3.1 Introduction

This chapter describes the study area and the method used to collect, analyse and present various data. The chapter contains components of the location and size of the study area. The history and population, existing land uses,climate andtopography. Other components in this chapter include field data collection; type and sources of data, technique of data collection, equipment used, technique of data analysis and procedure of data analysis.

3.2 The Study Area

3.2.1 Location and Size

Minna the capital of Niger state is situated in the North Central geo-political zone of Nigeria. The city is located at the eastern part of the state and lies between Latitudes 9° 33’ - 9° 40’N of the equator and Longitudes 6° 30’ - 6° 36’E of the Greenwich Meridian see Fig. 3.1. Minna metropolis comprises two local government areas i.e. Chanchaga and Bosso, spanning from Maikunkele at the north to Chanchaga at the south. ChanchagaLGA is bordered all round by BossoLGA, while BossoLGA is bordered at the north by ShiroroLGA, at the East by PaikoroLGA, at the South by KatchaLGA and at the west by WushishiLGA. The land area covered by the metropolis is 15,429.77hectares (Maxlock, 1980).

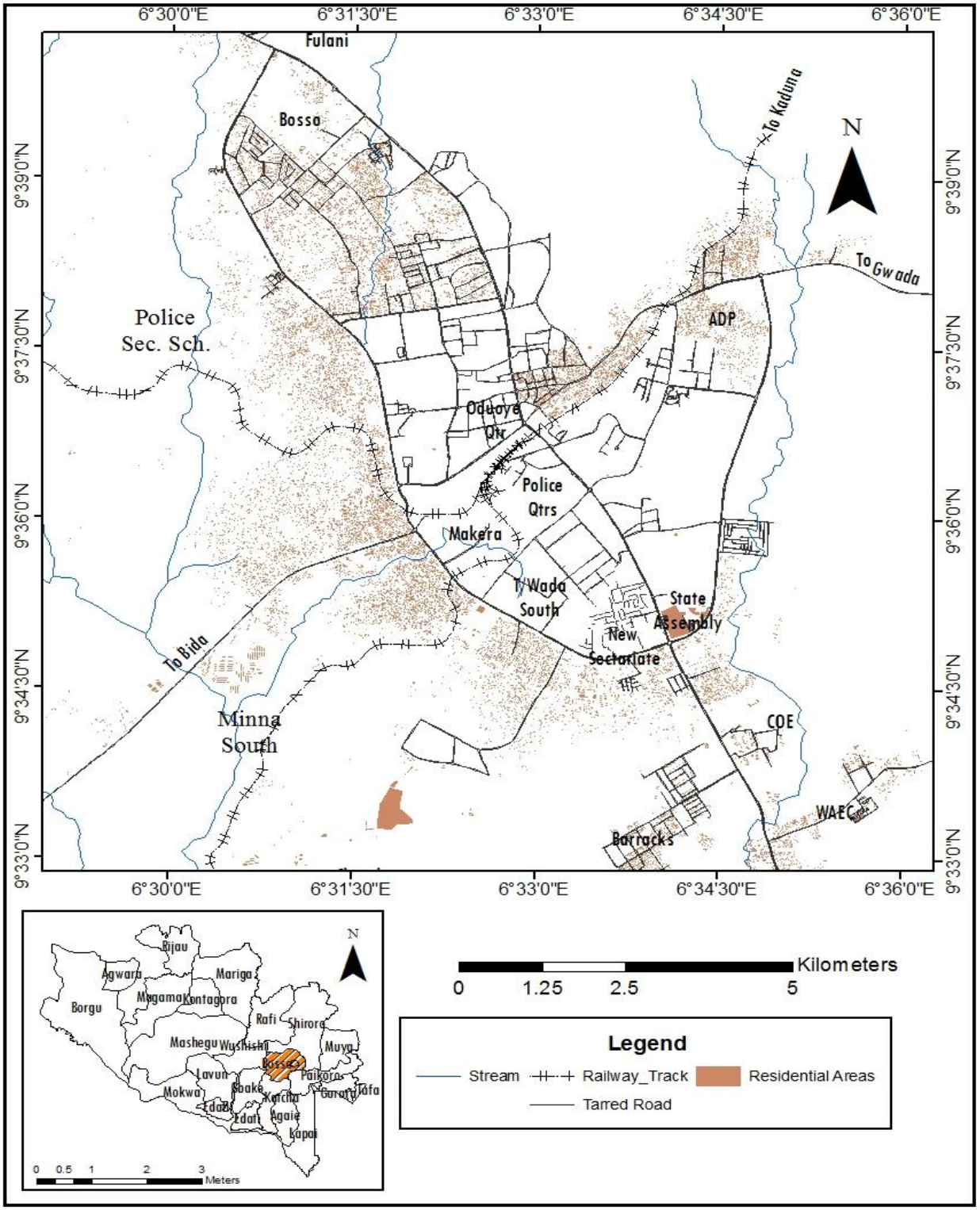


Fig.3.1: Minna Metropolis

Source:Quick Bird 2010

3.2.2 Climate

The town lies within the central region of Nigeria known as the middle belt region that is marked with two major seasons (the rainy and dry season). The raining season is brought aboutby the tropical marine air massi.e. southwest trade wind last between 190-200 days. Mean annual rainfall is 1334mm with August and September recording the highest rainfall of about 300mm average. The average monthly temperature is March at 30°C and the lowest is August of about 22°C.

The dry (harmattan) season is brought about by tropical continental air mass (northeast trade winds) it lasts from October/November to March/April of every year. Protruding and imposing rocks, hills, mountains and flood plains characterize the landform.

3.2.3 Topography

Minna is on a geographical basement of indifferent complex of mainly gneiss and magma. To the northeast of the town a more or less continuous steep outcrop of granite occurs. This outcrop forms the principle physical development constraint on the east side of the town. A major drainage valley flows from the center of the town south-west wards with minor drainage channels feeding into it with storm water run-off from the hills to the east. In places, these streams from large area of flood land. To the south, the land offers reasonable development possibilities but it is curtailed by the Chanchaga River. On the east side, there is a series of hills one of which was built on as the old G.R.A., making use of the excellent breezes the waft over the escarpment, and also has the town water storage built on it (Maxlock 1980).

3.2.4 History and Population

Minna is basically a Gbagyitown and got its name from a ritual performed yearly by its'Gbagyifounders to observe the beginning of the New Year. The word itself in

Gbagyimeans ‘to spread fire’. It came into existence because the Gbagyi’suse to put out every bit of fire in the area, even in all the kitchens in the town, on the last day of every year.On the morning of the New Year, everybody would then take his fire out of the public fire to go and light it again in their respective houses to mark the start of the New Year. This ceremony eventually became synonymous with the town and consequently gave it the present name (Maxlock 1980).

Maxlock continued that, the original name of the settlement on the hill top was Paida and surrounding villages like Dabo, Fadi, Jempina, Tayi, Dnayi, Pasin and Shakwo were all under its domain. Every New Year their inhabitants would all come to get their new fire from the Minna house in Paida.The early settlers and founders of the town lived on the top of the range of hills which lies in the eastern and northern sides of the present Minna. Evidence of early settlement on the hill top remains in the form of dilapidated foundations, broken spots and many Baobab trees that characterize towns in the north. However, before the town becomes the modern city that it now is, it went through four metamorphoses.

Maxlock, (1980) explained the metamorphoses. The first was in 1905 when the construction work of the rail line got to the area. As there was no local labour at that time, the construction workers were Gbagyi, Nupe and Hausa people. The various groups were accommodated in different camps to ensure easy access and to prevent desertion. Then the Gbagyicamp was situated in the present KeterenGwari, while the Nupe’s had their camps at the present Kwangila and the Hausas were at KasuwanZambarnaor Limawa.These camps later became permanent settlements and eventually formed some of the present wards of the town.

In 1908 the second face lift for the town took place when an Alkali (judge) was provided for the camps. A permanent house for the Alkali was built and within the

compound there was provision for a prison. Later, the first contingent of police was introduced.

The third metamorphosis was in 1910 when the Gbagyiinhabitants decided to move from the hill top to settle down on the areas of the present Paida, one of the wards of Minna and thus the abode of the founders of the town.

As the railway workers' camp started developing into permanent settlements and gradually overshadowed the influence of the indigenes, the Minna town council was established (in 1934) comprising distinguished representatives of the various settler tribes. This, however, was short lived and the Gbagyifederation Native Authority was soon formed. By November 1950 a chief for the whole of the new Minna areas, comprising all settlers was enthroned.

Other significant events that took place include the building of the present aerodrome in 1929 as one of the first three aerodromes in Nigeria, the Bosso Dam was constructed in 1949 and served as the sole piped water supply to the town until the late sixties when the Chanchaga water works was built to extract water from the River Chanchaga; and in 1962 the National Electricity Power Authority (then known as the ECN) was established.

The fourth change of status of the town came in February 1976 when it was made the state capital of the newly created Niger state. Since then the Government has been battling hard to give Minna a look befitting of a state capital.

Population census figure shows that in 1953, Minna had a population of 12,810 persons; by 1963 the figure rose to 59,988 persons. In 1991 national census Minna recorded a population of 139, 772 persons. The population was estimated to be about 348,788 in 2006 census (Niger State Bureau of Statistics, 2012). The annual growth rate of Nigeria is 3.2 percent(National Population Commission, 2015). Using the national

growth rate of 3.2%, the projected population for 2015 from 2006 is 477,923. This increase in the population may be attributed to development of the railway and other transport networks, the political activities and development in the period before and after independence together with increased level of economic activities which attracted more people into Minna. The rate of growth in terms of activities and population increased with the creation of Niger state and the adoption of Minna as the State capital.

3.2.5 Existing Landuses

Minna, like every other city in Nigeria has various land uses incorporated in it. These land uses includes; Residential, Commercial, Industrial, Circulation, Public and Recreation land uses (Sanusi, 2006). However, the residential land use covers the largest portion of land than other land uses. The total area covered by each land use is shown in table 3.1;

Table 3.1: Existing land uses and their expected coverage in Minna metropolis

S/NO	LAND USE	AREA (%)	AREA (HECTARE)
1	Residential	52	8,023.48
2	Commercial	15	2,314.47
3	Industrial	2	308.60
4	Circulation	10	1,542.98
5	Public	14	2,160.17
6	Recreation	7	1,08.08
	TOTAL	**100**	**15,429.77**

Source; Ministry of Lands and Housing (2014)

3.3 Methodology

The methodology of this research wasachievedunder the following subheadings;

3.3.1 Reconnaissance survey

Reconnaissance survey of the study area was carried out in order to be conversant with the study area. Discussions were made in the course of the survey with staff of Niger

State Urban Development Board as well as the Town Planning Department of the Ministry of Land and Housing. Relevant information on the challenges and implications of non compliance to development control regulations were collected.

3.3.2 Data types and source

In order to achieve the set objectives of this study, the data required for this research are as follows:

i. Minna master plan (1980) showing the spatial organisation and different land use zone as well as the land cover for each land use in the metropolis.This data was sourced from the Ministry of Land and Housing Minna.

ii. Minna Town Plan (MTP) layout sheet numbers 17 (of the year 2000), 63 (of the year 1996), 95 (of the year 1993) and 101 (of the year 2000) showing details of spatial organisation and land allocation for different use within each layout.This data was sourced from the town planning department, Ministry of Land and Housing Minna and Niger state Urban Development Board.

iii. Coordinates of each layout were obtained using Garmin 76C5X handheld GPS receiver for georeferencing.

iv. Attribute data which include; location of layout, number of residential, commercial, public, green areas and roads. Additional data on road width and set back is captured in order to develop the database.

v. Ikonos satellite image of 2015 with 1m spatial resolution from the Niger state Geographic Information Systems (NIGIS) laboratory Minna.

vi. Data on the implications on the factors influencing non-compliance and enforcement to development control regulation were sourced from interview.

vii. Data on the level of compliance to development control were sourced from questionnaire administered to the residents of the selected layouts.

viii. Materials for literature review were gotten from journals, textbooks, conference proceedings, seminar papers, thesis, dissertations, reports and web references.

3.3.3 Materials used for the study

3.3.3.1 Hardware

i. Hand held Garmin GPS device; this was used for the capture of control points of various areas of interest for the study.

ii. A digital Camera; this was used to capture pictures of some properties within layouts to show conformity or otherwise within various land uses.

iii. Scanner; this was used for scanning hard copy plans and layouts for the study so as to be able to convert them into digital format in ArcGIS environment.

iv. Laptop; this was used to perform all operations and processing

3.3.3.2 Software

i. ArcGIS 10.1; this was used for data processing and analysis.

ii. Microsoft office 2013; this was used for compiling and documentation of the research.

iii. Geographic calculator; this was used to convert coordinate from latitude and longitude to UTM.

3.3.4 Sample Sizeand Sampling Technique

Four layouts were selected to ensure a good geographic spread across the study area. In determining the sample for questionnaire administration in this research, Krejcie Morgan's (1970) method of determining sample size was employed.Eighty (80) copies of questionnairewas used for the study representingtwenty percent (20%) of the sum of 400 plots from the MTPlayout numbers 17(Bosso town) located at the north of the metropolis, 63(Atlanta layout) located at the west of the metropolis, 95 (Tunga area) located at the south of the metropolis and 101(F- Layout area) located at the east of the metropolis. In

selecting the respondents in each layout a combination of random sampling and systematic sampling was also employed. Random sampling was used to select three (3) streets from each layout bringing the total to twelve (12)streets i.e. twenty percent from a total of sixty one (61) streets.Systematic sampling was used in locating respondents Table 3.2 show the method used in selecting respondents.

Table 3.2: Method ofSelecting Respondents

S/N	Number of questionnaire at the interval of 3 houses	Number of questionnaire per street	Number of questionnaire per layout	**total number of questionnaire**
1.	1	7	21	**84**

Source; authors' field survey (2015)

3.3.5 Interview

Interview session was conducted with three (3) management and five (5) technical staff of NUDB as well as two (2) management staff of town planning department of the ministry of lands and housing, Minna.

3.3.6 Techniques of Data Processing

The study acquired varied data types in different formats. The Minna master plan served as the base map showing various land uses of the study area. The areas of interestwere extracted from the land use plan by scanning, georeferencing and digitising using ArcGIS 10.1.

The Minna Town Plan (MTP) layout sheet numbers 17(Bosso), 63(Atlanta layout), 95 (Tunga) and 101 (F- layout) were extracted from the land use plan obtained from the master plan. These layouts were scanned, georeferenced and digitised using ArcGIS 10.1 to delineate areas of interest for the study.Quick Bird imagery of 1m spatial resolution of the year 2010 as well as Ikonos satellite imagery of 1m resolution of 2015 was extracted from full scene. The imagery was masked to delineate areas of interest using ArcGIS 10.1.

3.3.7 Data Analysis and Presentation

Ditigitised maps of various analytically processed data were used to present the outcome of the study. Data from the interview conducted at the respective organisations were analysed using the development control tools i.e. standards, guidelines, legal framework and official gazette of the Niger State Urban Development Board and the results of the findings are presented serially in text format. Data obtained from the questionnaire administered wereanalysedusing Statistical Package for Social Science (SPSS) version 22, the method of percentage format of bar chart and tableswere used to present the results of findings for easy comprehension. This method was employed because of its' simplicity in analysing data and easy differentiation of result according to percentage share of each.

CHAPTER FOUR:PRESENTATION OF RESULTS AND DISCUSSION OF FINDING

4.1 Introduction

This chapter presents the results/findings of the study obtained on the level of compliance to development control, factors that influence non complianceand the implications of non complianceto development control in the study area. The chapter isorganised into three segments. The first segment presents the results obtained on the level of compliance to development control regulation. The second segment presents the results on the factors that influence non compliance to the development control regulation while the third segment providesresults on the implications of non compliance to development control.

4.2 Level of Compliance to Development Control

This section discussed the findings and shows the result on the level of compliance to development control in the study area. The emphasis here is on the aspects of encroachment into road, building density and change in land use.

4.2.1 Encroachment into Road

Analysis of encroachment reveals that the deliberate encroachment of developers into road reservations has resulted to narrow access road. Results show that in all the studied layouts standard right of way measuring minimum of 30metres for distributor roads, 15 metres for collector roads and 10meteres for access road which accommodate bitumen portion, walkway, drainage, utility lines and allow for on-street parking were all encroached. Further analysis revealsthat what was proposed is different from what exists in the study area.Fig. 4.1, Fig 4.2, Fig4.3 and Fig. 4.4 illustrates an overlay analysis of buildings that have encroached into the standard width of the road in the respective study area.

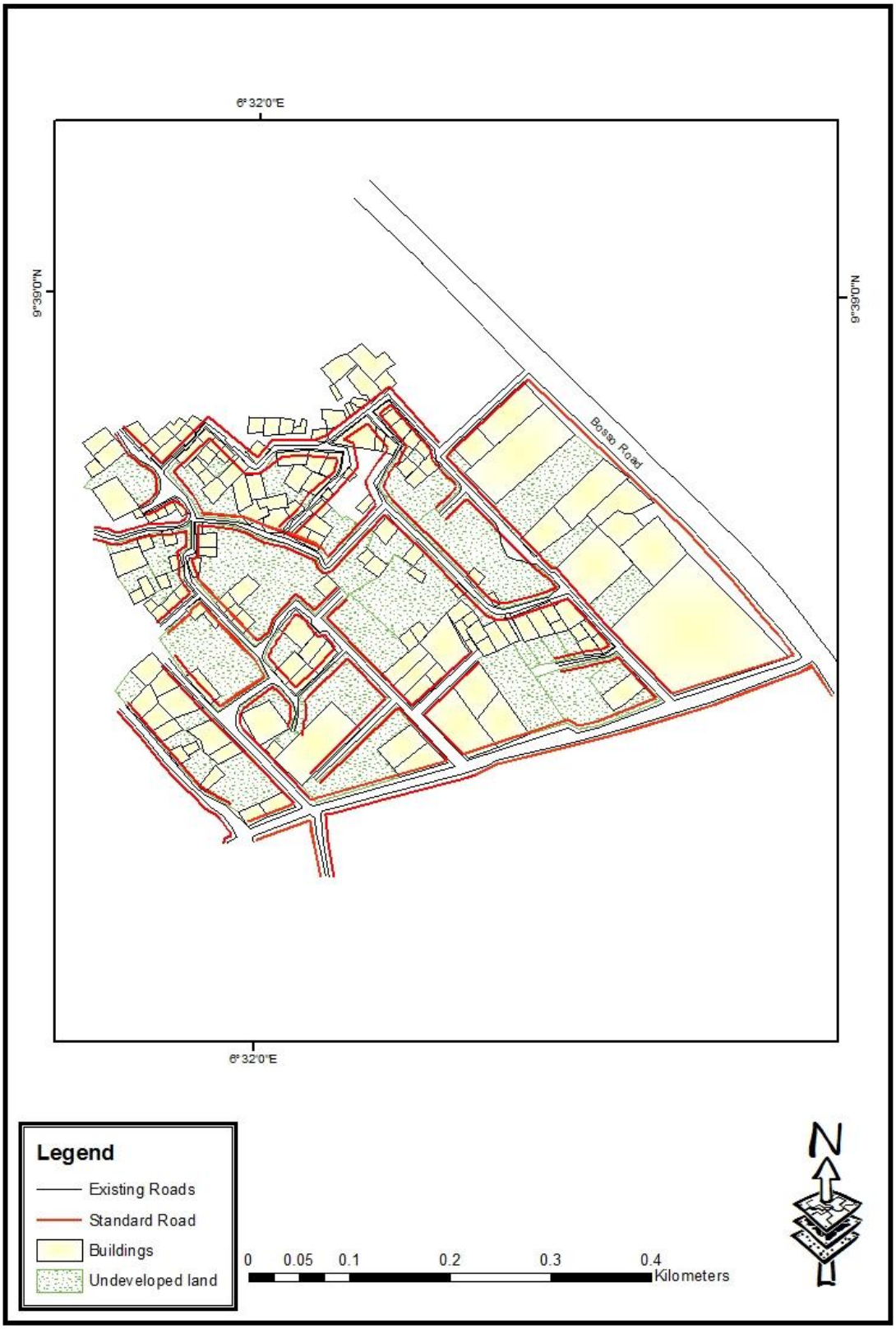


Fig. 4.1: Encroachment at Bosso layout

Source:Author'sGIS analysis, 2015

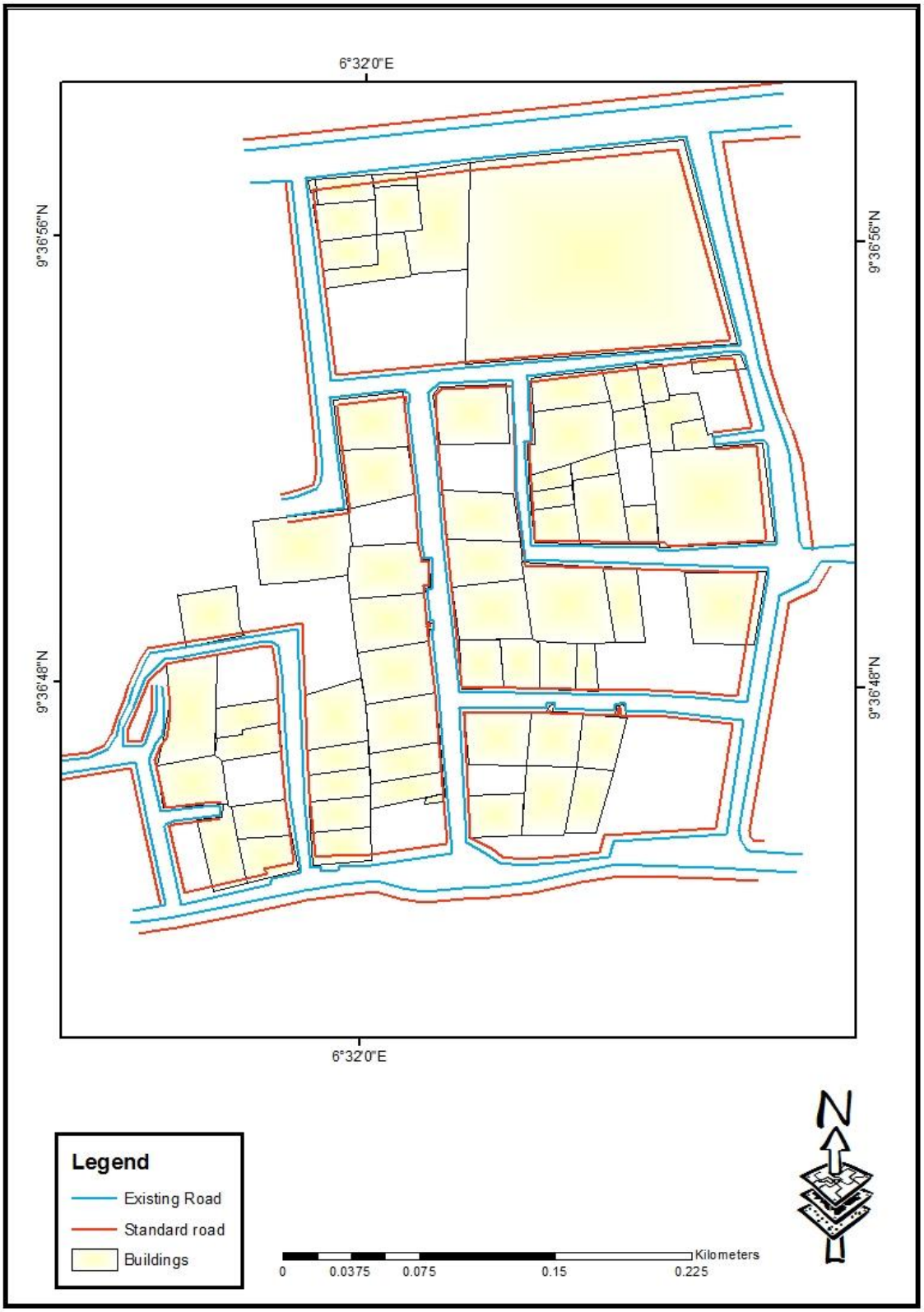


Fig. 4.2: Encroachment at Atlanta layout

Source: Author'sGIS analysis, 2015

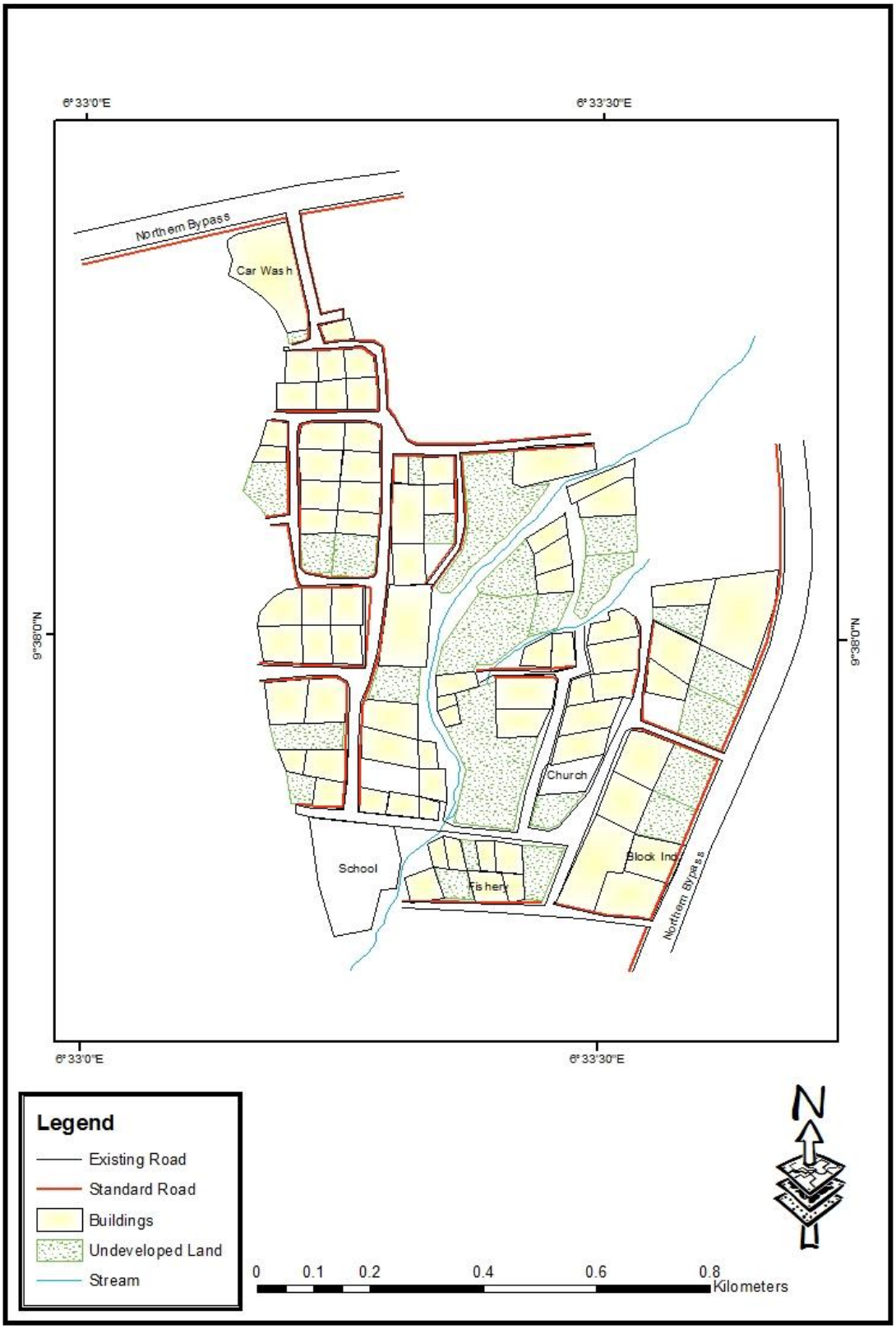


Fig. 4.3: Encroachment at F- layout

Source: Author'sGIS analysis, 2015



Fig. 4.4: Encroachment at Tunga layout

Source: Author'sGIS analysis, 2015

Further analysis on encroachment was carried out to determine the extent of encroachment into road reservation and the results are shown on Table 4.1. The results reveal the number of buildings that encroached into the road in each of the neighbourhood. For example at Bosso98 (sixty one percent) from a total of 161 structures have encroached into the road to an extent of between 0.6m to 7.7m on both sides of the roadwith only63 (thirty nine percent) structures along the building line conforming to development control regulations. Results show that 67.1%, 59% and 27.1% of structures have encroached into road at Atlanta, Tunga and Bosso layouts respectively to an extent of between 0.1m – 6.4m on both sides of the road.

Table 4.1: Encroachment of buildings on road in each of the Neighbourhood

	Number	**(%)**
Bosso		
Complied	63	39
Not complied	98	61
Total	**161**	**100**
Atlanta layout		
Complied	23	32.9
Not complied	47	67.1
Total	**70**	**100**
Tunga		
Complied	54	41
Not complied	77	59
Total	**131**	**100**
F- layout		
Complied	59	72.9
Not complied	22	27.1
Total	**81**	**100**

Source:Author'sGIS analysis, 2015

Table 4.2 shows that in the study area there are 244 (55.1%) structures have encroached into road and 199 (44.9%) structures along the building line out of a total of 443 existing structures in the study area. The result informs this study that there is low compliance level as regards road setback.

Table 4.2: Summary of Encroachment in the Study Area

	Number of buildings	Percentage (%)
Number of structures that encroach into road	244	55.1
Number of structures along building line	199	44.9
Number of buildings in the study area	**443**	**100**

Source:Author'sGIS analysis, 2015

4.2.1.1 Deviation of Road

Further analysis revealsthat there is deviation of the existing road from the proposed road, Fig. 4.5, Fig 4.6, Fig4.7 and Fig. 4.8. Show that what was actually proposed for the neighbourhood(s) is clearly different from what is on ground. For example at Bosso (see fig. 4.5) some roads proposed have been narrowed and in some cases houses are built on road, thereby creating a clear contrast of what was proposed with respect to what exist. The same situation played out at F- layout (see fig. 4.6). This situation is attributed to encroachment of buildings into road reservation.However, deviation from proposed road plan is not as severe at Atlanta (see fig. 4. 7) and Tungalayout(s) (see fig. 4.8).There exist some level of non compliance in the neighbourhoodbut buildings were not erected on road.

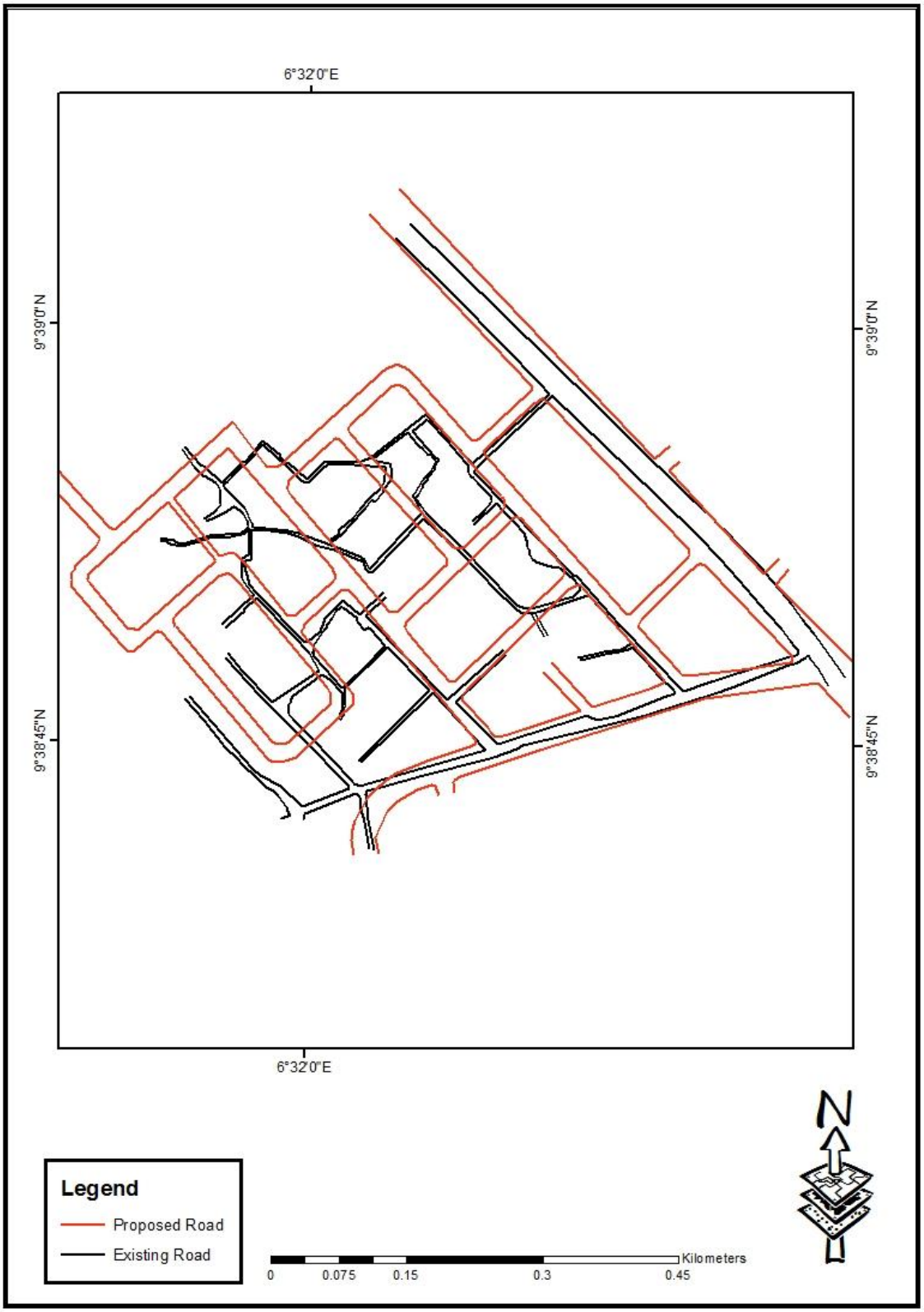


Fig. 4.5: Deviation of existing road from the proposed road at Bosso layout
Source:Author'sGIS analysis, 2015

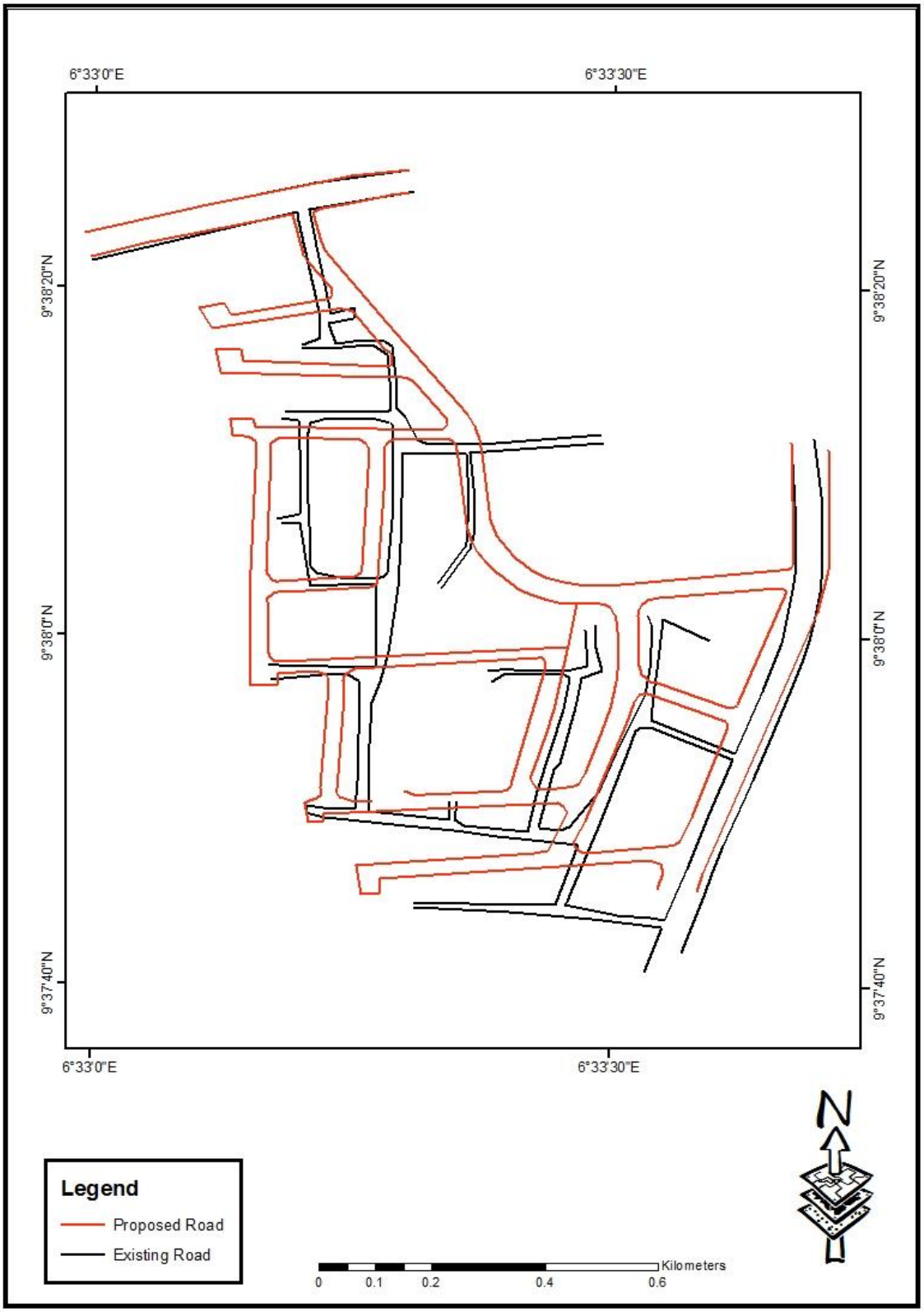


Fig. 4.6: Deviation of existing road from the proposed road at F- layout

Source: Author'sGIS analysis, 2015

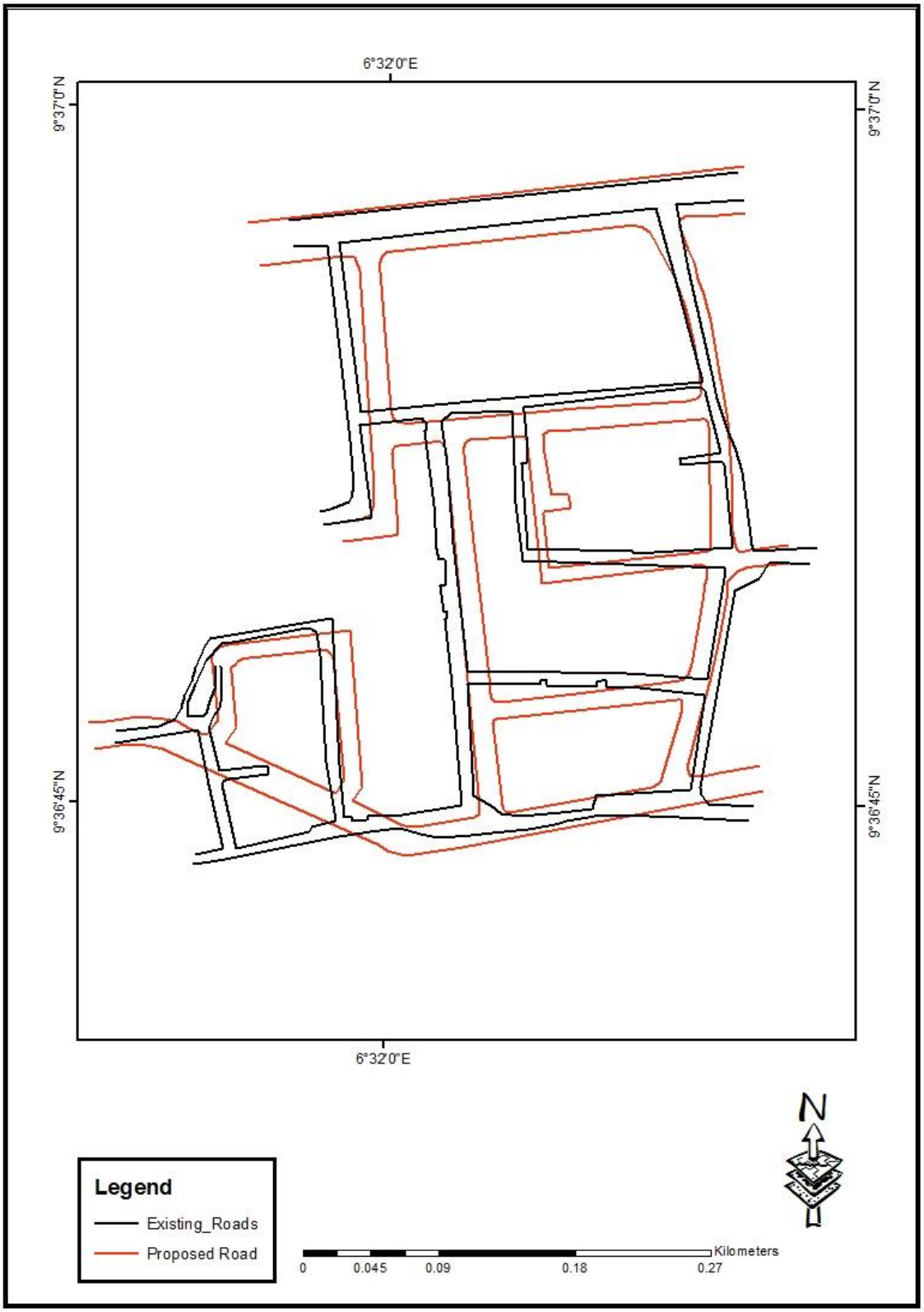


Fig. 4.7: Deviation of existing road from the proposed road at Atlanta layout
Source:Author'sGIS analysis, 2015

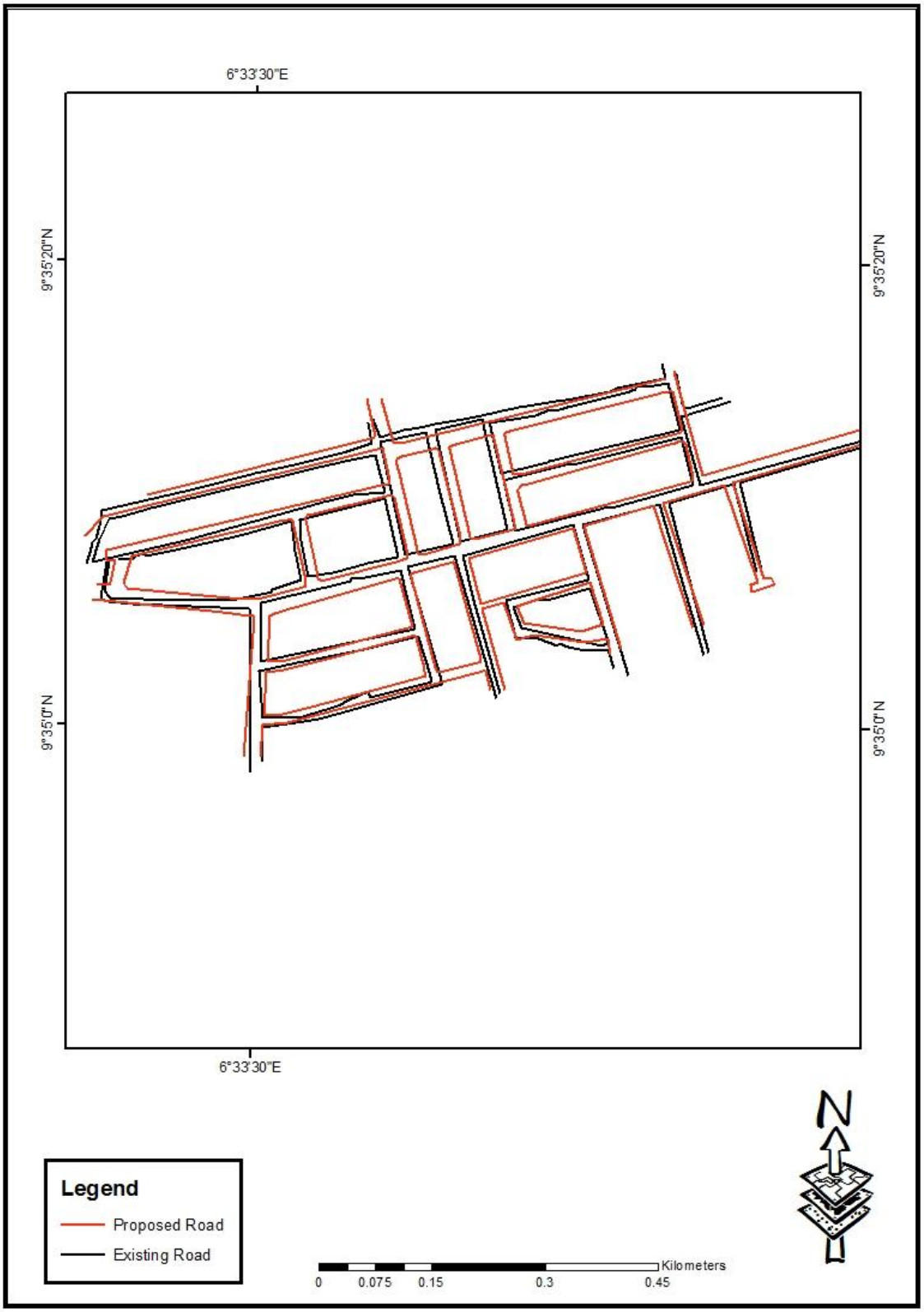


Fig. 4.8: Deviation of existing road from the proposed road at Tunga layout
Source:Author'sGIS analysis, 2015

4.2.1.2 Perception of respondents on deviation from road

Consequently, opinion of the respondents also established that buildings have infringed on roads. Table 4.3 shows the opinion of respondents of how some physical development have infringed on road from the questionnaire administered in the study area.

Table 4.3:Infringement on road among respondents

	Location	Buildings that have infringed on road		Total
		No	Yes	
	F- layout	9	11	20
		11.25%	13.75%	25.0%
	Bosso	6	14	20
		7.50%	17.50%	25.0%
	Atlanta layout	6	14	20
		7.50%	17.50%	25.0%
	Tunga	9	11	20
		11.25%	13.75%	25.0%
Total		**30**	**50**	**80**
		37.50%	**62.50%**	**100.0%**

Source; Researcher's field survey, 2015

Table 4.3 shows that a high number (62.5 percent) of the respondents observed that road has been infringed on in all the layouts. The implication of this perceived situation by the respondents is that the road becomes narrow. For instance the proposed distributor road with 30metres width and collector road with 15width may fall below the standard width of the road hierarchy thereby, depriving the neighbourhood adequate space required for utility lines like; water pipe line, electricity line, drainage and other street furniture. Plate 4.1 shows an existing residential land use at F- layout that has infringed on road of 30m width reducing the road to 22.5m.



Plate 4.1: Existing residential development that has infringed on road at F- layout
Source; Author's field survey, 2015

4.2.2 Building density

Inadequate air circulation is a product of over development of plot based on density and percentage of coverage (Jibrin, 2013).Analysis revealed that there is over development of plots in the study area. Table 4.4 shows the number of buildings in overdeveloped plots and the expected plot coverage according to development control guidelines. For example Bosso layout has development coverage of 5.81 hectares instead of 2.61 hectares going by building density ratio and plot coverage of forty five percent (45%) maximum for medium density as in the case in the study area (see table 2.1).

Table 4.4: Distribution of Overdeveloped Properties within Layouts

S/N	Location	Proposed nos. of plots and area (Ha)	Nos. of Plots developed and area (Ha)	Nos. of bldgs in dense plots and area (Ha)	Expected plot coverage (Ha)
1	**Bosso**	103 {7.38}	66 {5.81}	113 {3.56}	2.61
2	**Atlanta**	54(7.39)	66{4.09}	82 {2.01}	1.8
3	**Tunga**	174(15.68)	118{8.89}	172{4.47}	4.00
4	**F- layout**	105(30.49)	72{13.41}	92{6.51}	6.03
	TOTAL	**436(60.94)**	**322{32.20)**	**459{16.55}**	**14.44**

Source; Author's field survey, 2015

In addition, overdevelopment of plot is due to deviations from the approved building plans where additional structures are erected within the properties to accommodate more house hold members or used for commercial purpose. This is most common at Bosso, Tunga and F- layout. Fig 4.9, Fig. 4.10, Fig. 4.11 and Fig. 4.12 show the overdeveloped/dense buildings especially at Bosso, Tunga, F – layout and Atlanta

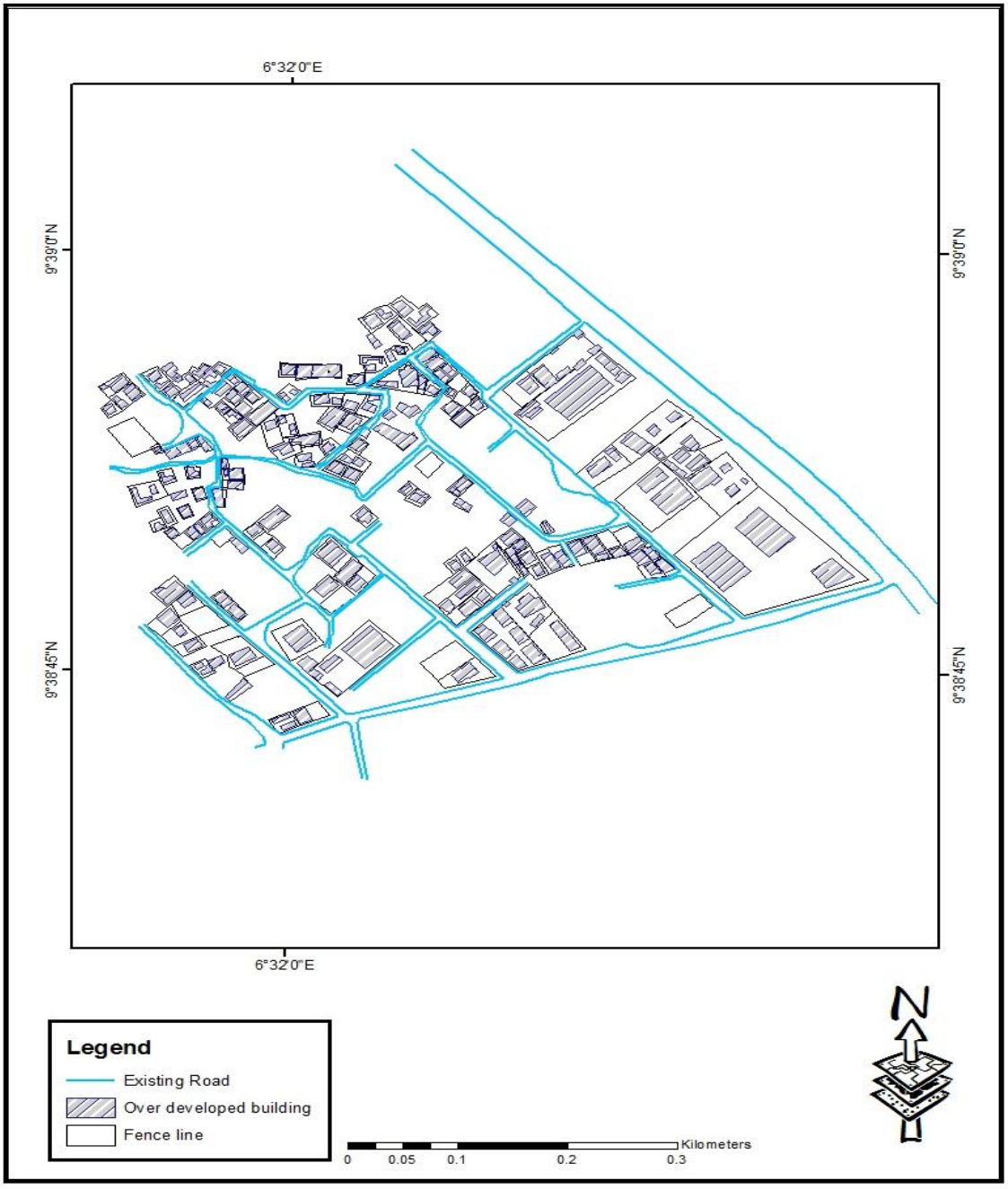


Fig. 4.9: Over Developed Buildings at Bosso
Source:Author'sGIS analysis, 2015

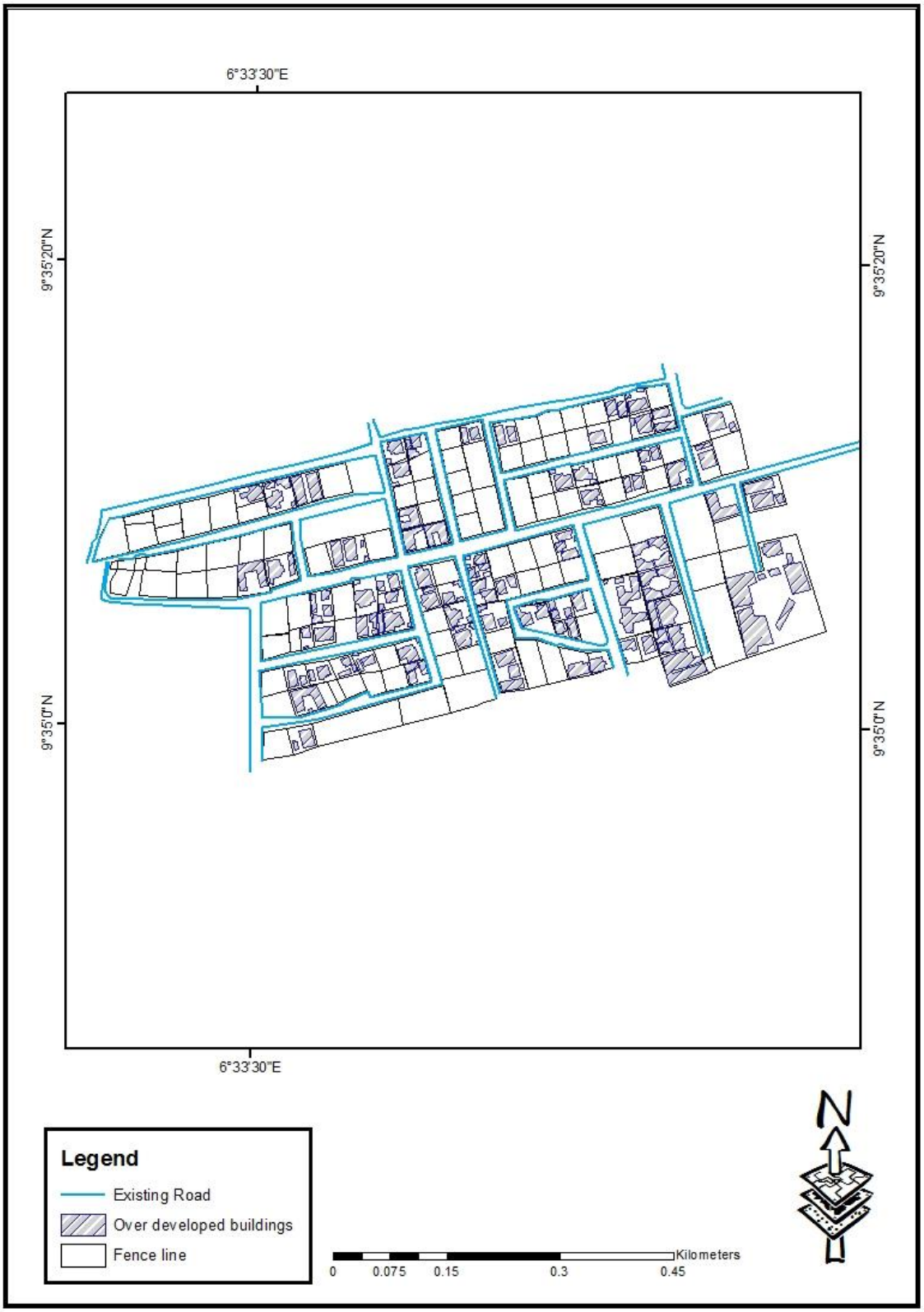


Fig 4.10: Over Developed Buildings at Tunga
Source: Author'sGIS analysis, 2015

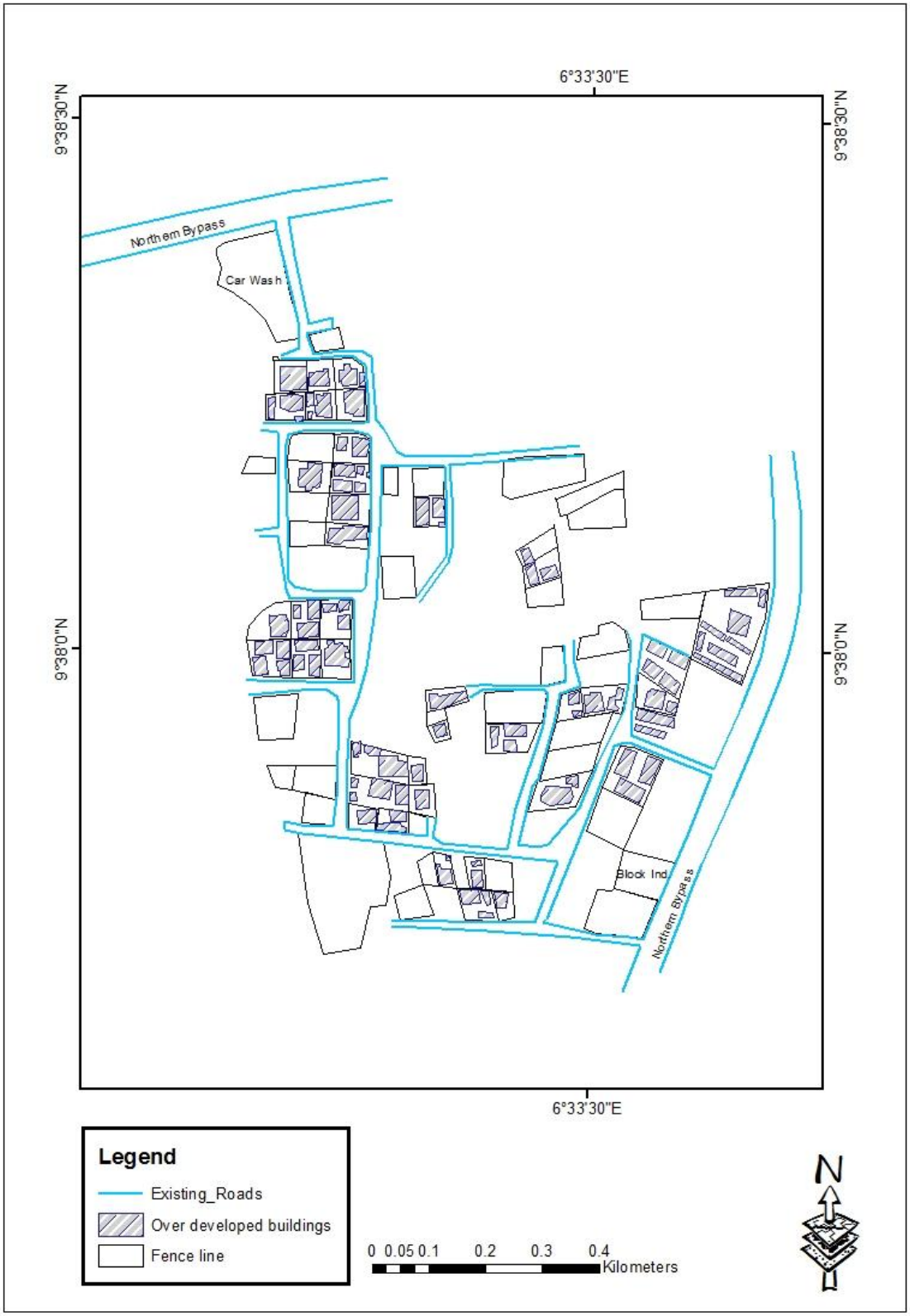


Fig. 4.11: Over Developed Buildings at F-layout

Source; Author'sGIS analysis, 2015

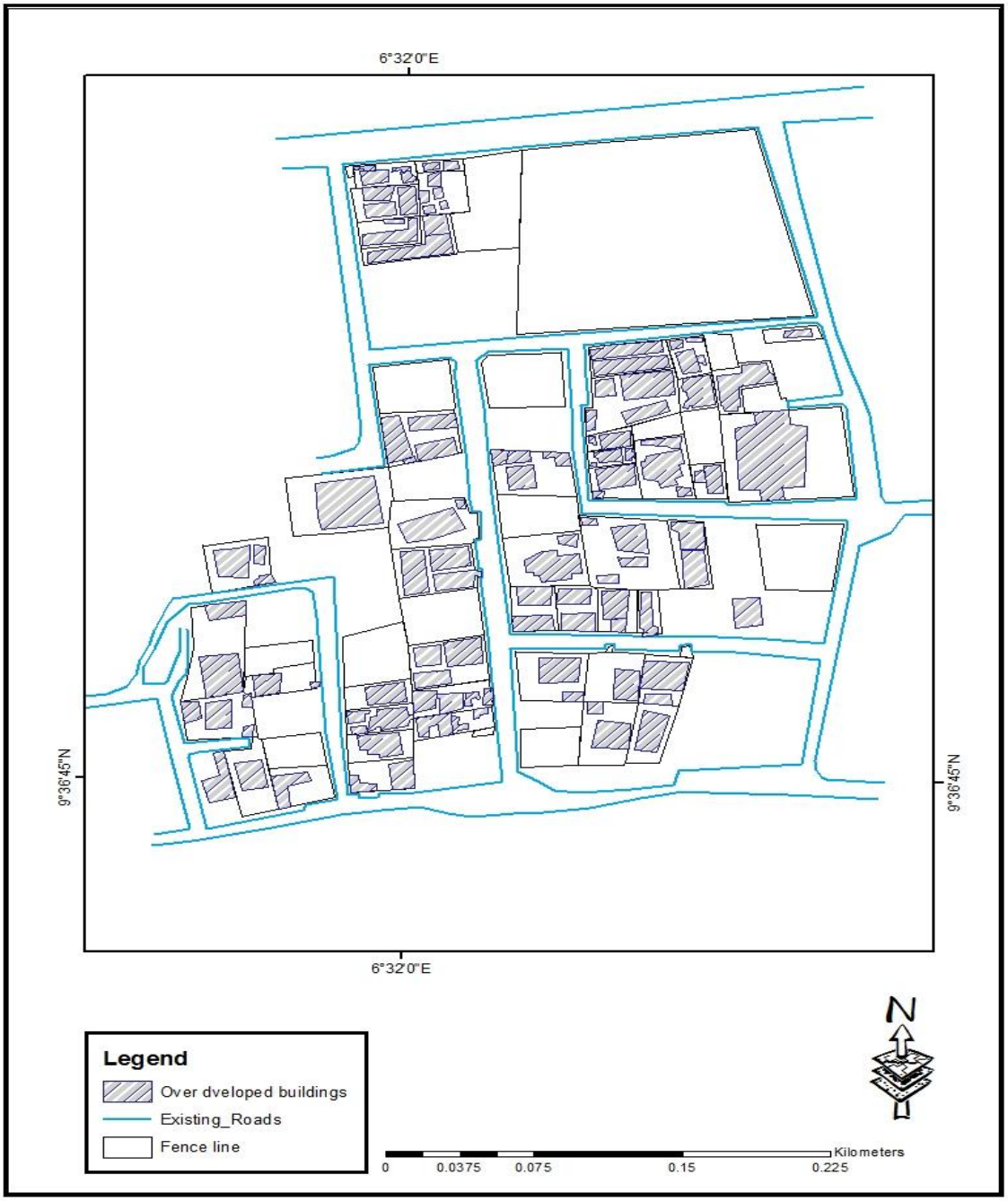


Fig. 4.12: Over Developed Buildings at Atlanta
Source:Author'sGIS analysis, 2015

4.2.2.1 Perception of respondents on building density in the area

Findings reveal that non compliance to development control regulations with regards to building density and plot coverage is attributed to the fact that there are buildings that were not approved by NUDB.Fig.4.13 shows the distribution of developers

that obtained development permit. Survey conducted reveals that there is a high number (76.3 percent) of respondents with building permit and low number (23.8 percent) of the respondents without building permit. However, the percentage of respondents without building permit calls for concern because these developers may have leveraged this to violate development control regulations.

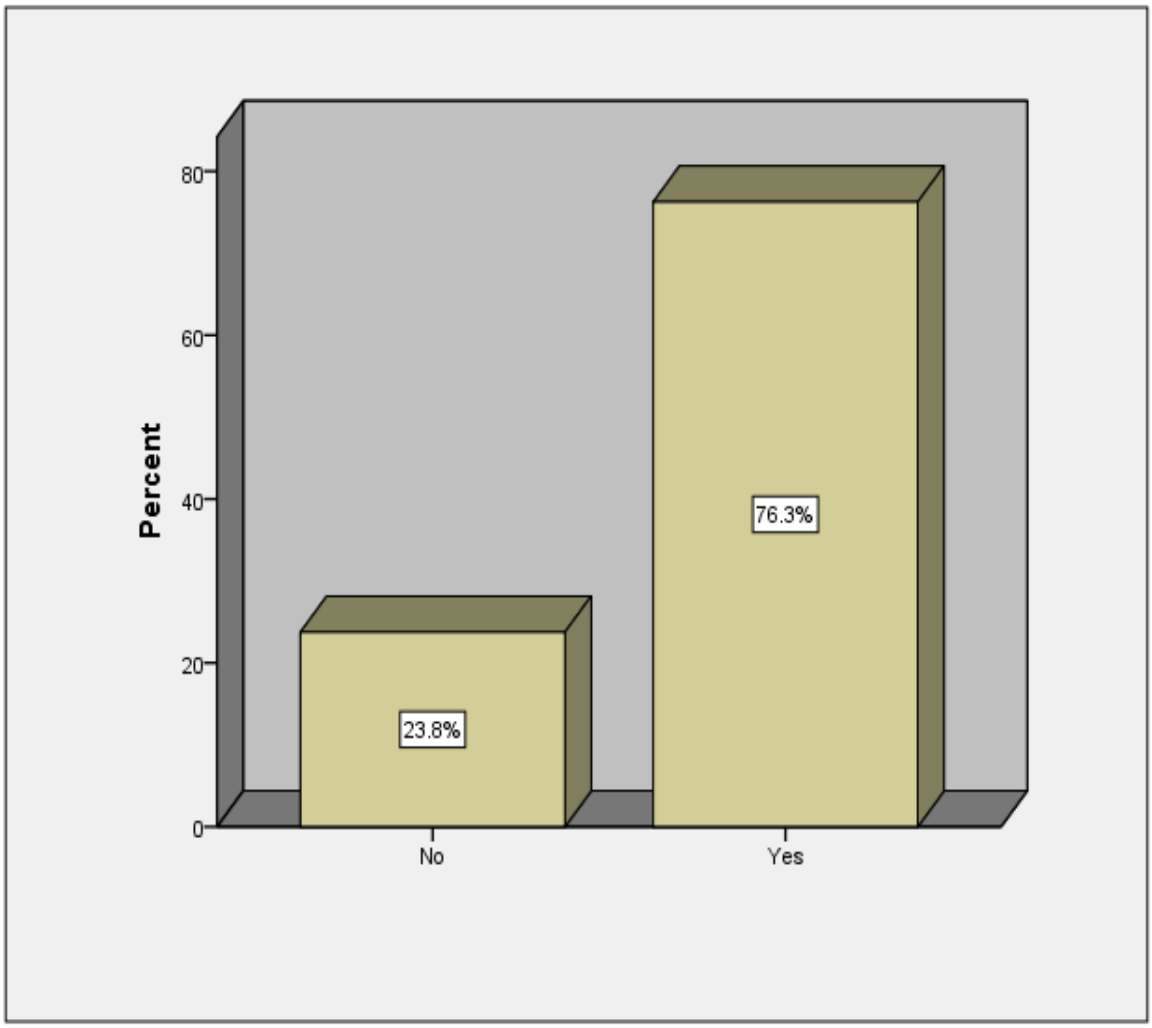


Fig. 4.13: Properties with building permit in the study area

Source; Author's field survey, 2015

It can be inferred that the buildings without permit from the NUDB are not liable to comply with development control regulations. Secondly, respondents attributed this situationto the fact that some people did not acquire their land directly from the government due to the litigation challenge between the government and the natives as is

the case at Bosso were a fraction of the layout was sold to by the natives. The consequence here is that it becomes difficult for them to obtain statutory title from the ministry and subsequently acquire building permit from the NUDB. Other respondents opined that the bureaucratic process of obtaining building permit is cumbersome.

Thirdly, analysis reveals that building density ratio was not adhered to even with buildings that have building permit. Table 4.5 shows that there is an even distribution of adherence to the approved building permit by the respondents in the study area. However, respondent at Bosso and Tunga have the highest number (8.75 and 7.5percent respectively) of respondents who did not comply with the approved building plan. While Atlanta and F- layout have low numbers (5 percent each) of respondents who did not comply with the regulations of development control and their building plan.

Table 4.5: Compliance to the approved building permit

Compliance level		Location				**Total**
		F-layout	Bosso	Atlanta	Tunga	
	No	4	7	4	6	**21**
		5.0%	8.75%	5.0%	7.50%	**26.25%**
	Yes	16	13	16	14	**59**
		20.0%	16.25%	20.0%	17.50%	**73.75%**
Total		20	20	20	20	**80**
		25.0%	25.0%	25.0%	25.0%	**100.0%**

Source; Researcher's field survey, 2015

The level of non compliance infers that; there are potential physical planning problems within the neighbourhoods such as encroachment into road reservation, over development, change of use in the area. This potential physical planning problem was observed bySanusi, (2006) in Minna where clear examples of Kpakungu, Tunga, Maitumbi and Bosso areas of the metropolis were given.

4.2.3 Change in land use

Analysis shows that there changes in land use from the proposal to what is existing in the study area. Fig 4.14shows that at Atlanta there is a change of land use from residential to mixed and public land uses. It is pertinent to note that there was no provision for mixed land uses in the proposed plan however; it is evident that mixed land use exists. Also, commercial land uses such as Market and mini mart have been replaced by mixed land use and school (public) respectively. The plot allocated for residential development in the proposed layout has also been replaced by a church.



Fig 4.14: Changed land uses at Atlanta

Source:Author'sGIS analysis, 2015

Fig 4.15 shows change in land uses at Bosso from what was proposed to other forms of land uses.Analysis reveals that the public land use has the highest conversion rate into other uses. For instance the space allocated for church, clinic, police post and fire

service station has all been converted into residential land uses. Secondly, space reserved for residential development has been converted to public use (church).

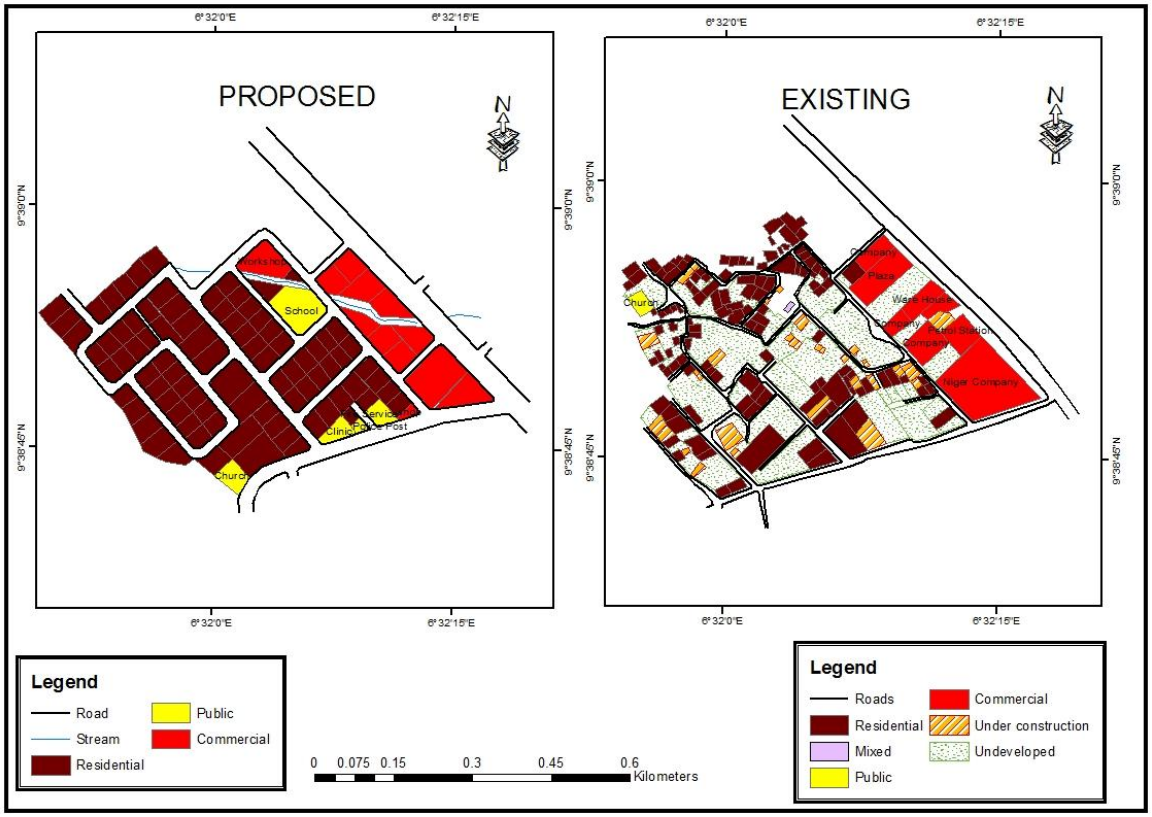


Fig 4.15: Changed land uses at Bosso
Source: Author'sGIS analysis, 2015

Further analysis reveals that at F- layout there is a high level of change of land use from one form to another. For example results shown on Fig 4.16 reveal that space proposed for public land uses such as; police post, church, school, clinic, fire service, parks and refuse dump site were all changed into residential, commercial (carwash) and mixed land uses. Interestingly, the proposed plan did not include agriculture land use however; there exist a fishery in the neighbourhood.

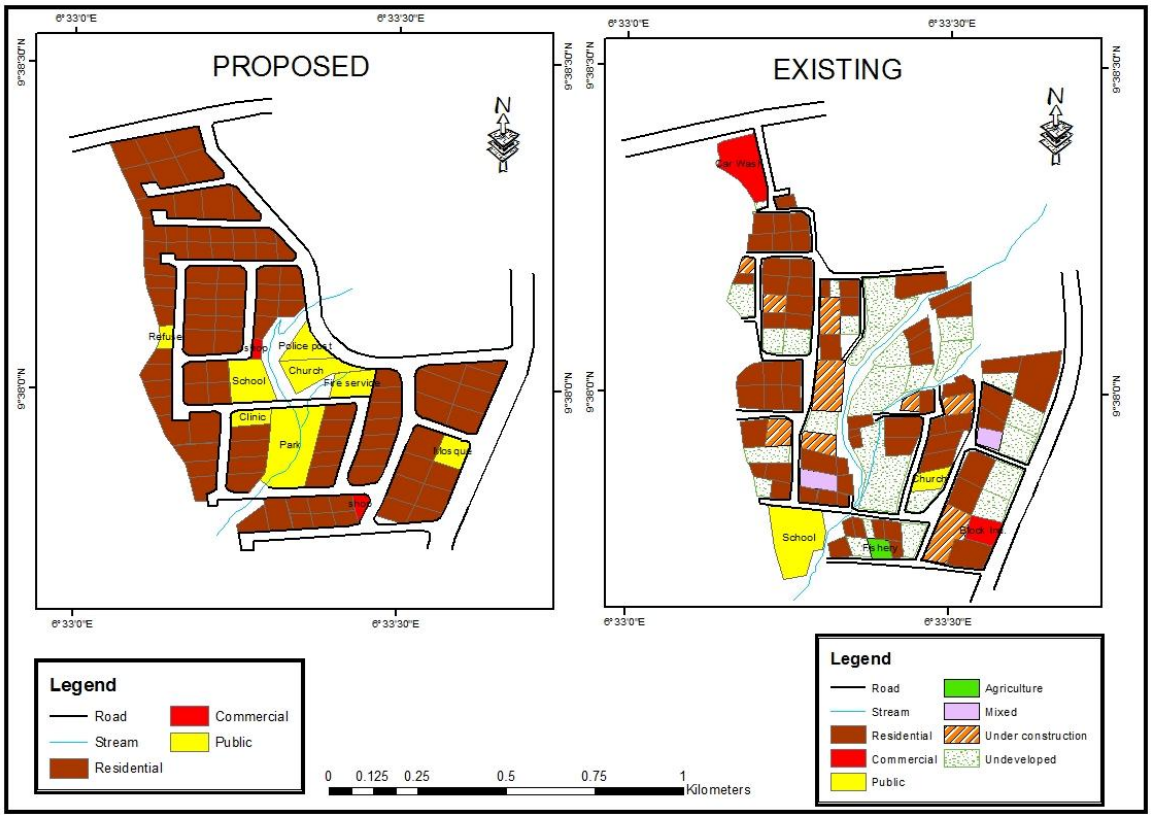


Fig 4.16: Changed land uses at F- layout

Source:Author'sGIS analysis, 2015

Analysis reveals that, at Tunganeighbourhood there is change of land use. Results illustrated on Fig 4.17shows that space for public land uses such as mosque, church and clinics were provided in the proposed plan these land uses do not exist because they have been converted to residential while the space for church is left undeveloped. Findings also reveal that there was no provision for commercial land use in the neighbourhood but there exist some commercial land uses (Hydro hotel, Ajuba hotel and Hotel de Peacock). These commercial developments are as a result of change in land use from residential to their present state of use. Consequently, some residential spaces were converted to mixed land uses giving rise to increase in commercial development (see plate 4.2 and plate 4.3).



Fig 4.17: Changed land uses at F- layout
Source:Author'sGIS analysis, 2015

4.2.3.1 Change in land use by developer

Findings reveal that respondents opined that changes in land use were done by developers either before or after physical development. For instance, Table 4.6 presents the purpose of the land use when development permit was obtained. Majorityof the respondents (87.5%) acquireda residentialland use permit from the NUDB, second on theranking is the public land uses (6.25%) i.e. school, place of worship, while commercial(1.25%) and agricultural (1.25%)land use have the lowest percentage. It is important to note that all the sampled layouts are residential but developers can apply to the Ministry of land and housing for change use permit as far as the proposed use is compatible with the general use in the neighbourhood otherwise such applications are not granted approval. If a developer goes ahead to erect a building contrary to the use granted

or while the application of change of use is still in process, it is considered an illegal development and legal action may be taken against the developer.

Table 4.6: Purpose of obtaining development permit

		Purpose					Total
		Agricultural	Commercial	No Response	Public	Residential	
	F-layout	0	0	0	0	20	20
		0.0%	0.0%	0.0%	0.0%	25.0%	25.0%
	Bosso	0	1	2	1	16	20
		0.0%	1.25%	2.50%	1.25%	20.0%	25.0%
	Atlanta layout	0	0	1	2	17	20
		0.0%	0.0%	1.25%	2.50%	21.25%	25.0%
	Tunga	1	0	0	2	17	20
		1.25%	0.0%	0.0%	2.50%	21.25%	25.0%
Total		**1**	**1**	**3**	**5**	**70**	**80**
		1.25%	**1.25%**	**3.75%**	**6.25%**	**87.5%**	**100.0%**

Source; Author's field survey, 2015

The inference drawn from Table 4.6is that, the high number of land title holders with residential use (87.5 percent) reveals that the study area is actually a residential area. The cumulative public land use of 6.25 percent is at Bosso,Atlanta layout and Tungarespectivelyare captured in the proposed plan of the study area. It is therefore expected that existing physical development in the study area will be predominantly residential land use but there is decline because changes in land use have occurred after development.Table 4.7 shows the distribution of land use within the study area after physical developments have taking place. Finding reveals that most (78.75 percent) of the existing land use are residential, while mixed land use covers 8.75% leaving commercial and public land use with3.75%and agricultural with 1.25%.

Table 4.7: Use of Land after obtaining development permit

Location		Agricultural	Commercial	Mixed	No Response	Public	Residential	Total
	F-Layout	0	1	3	0	1	15	20
		0.0%	1.25%	3.75%	0.0%	1.25%	18.75.%	25.0%
	Bosso	0	0	2	2	0	16	20
		0.0%	0.0%	2.50%	2.50%	0.0%	20.0%	25.0%
	Atlanta layout	1	0	1	1	2	15	20
		1.25%	0.0%	1.25%	1.25%	2.50%	18.75%	25.0%
	Tunga	0	2	1	0	0	17	20
		0.0%	2.50%	1.25%	0.0%	0.0%	21.25%	25.0%
Total		**1**	**3**	**7**	**3**	**3**	**63**	**80**
		1.25%	**3.75%**	**8.75%**	**3.75%**	**3.75%**	**78.75%**	**100.0%**

Source; Author's field survey, 2015

Analysis reveals that, there is a decline in percentage of residential land use as developed i.e. from 87.5 percent to 78.75 percent.The direct implication is that there is an increase in other land use type as compared to the proposed development permit. This means land use has been converted from residential to commercial, public and even mixed land uses which was not proposed in the layout design but exist at Bosso,Tunga and F-layout of the four layouts.Land use conversion is more prevalent at Tungaand F- layouts as shown on Plate4.2 (residential land use converted to commercial i.e. Hotel) andPlate4.3 (residential land use converted to public i.e. school).



Plate 4.2: Commercial property (Hotel) developed on residential land use at Tunga.
Source; Author's field survey, 2015



Plate 4.3: School built on residential plots located at F- Layout residential layout.
Source; Author's field survey, 2015

The direct consequence of this is that there will be a shortfall in housing, increase in incidence of incompatible land use, encroachment and overdevelopment of plot to accommodate the new land use type. This trend was observed in the study of urbanisation and the challenges of development controls in Ghanaby Abubakari and Romanus (2011).These made the authors to emphasize on reducing the level of land use conversion especially within residential neighbourhood.The result is similar to the work of Oriye (2013), where the author gave a practical example in Ado Ekitithat several residential buildings are converted into commercial, medical, educational and other uses without regards to the parameters for agriculture, markets even roads are converted to residential uses.

4.2.3.2 Regularised title deeds

Findings reveal that even though there are changes in land use from residential to other uses like public, commercial and mixed land uses as shown on table 4.7 in the study area.Fig. 4.18 shows that some of the respondents (8.8 percent) had regularised their title deeds from residential land use to commercial and /or public land useso as to conform to the changes made on ground, but most of the respondent (91.3 percent) did not regularise their title deeds.Some of the respondents attribute their failure to regularise their title deeds to the problem of land use compatibility, method of land acquisition and the bureaucratic process of documentation.This is a challenge in Minna as the study conducted by Sanusi, (2006) reveals these amongst other challenges are the issues development control in the metropolis is faced with where residential buildings are converted to commercial and public land uses without regard to development control standards.

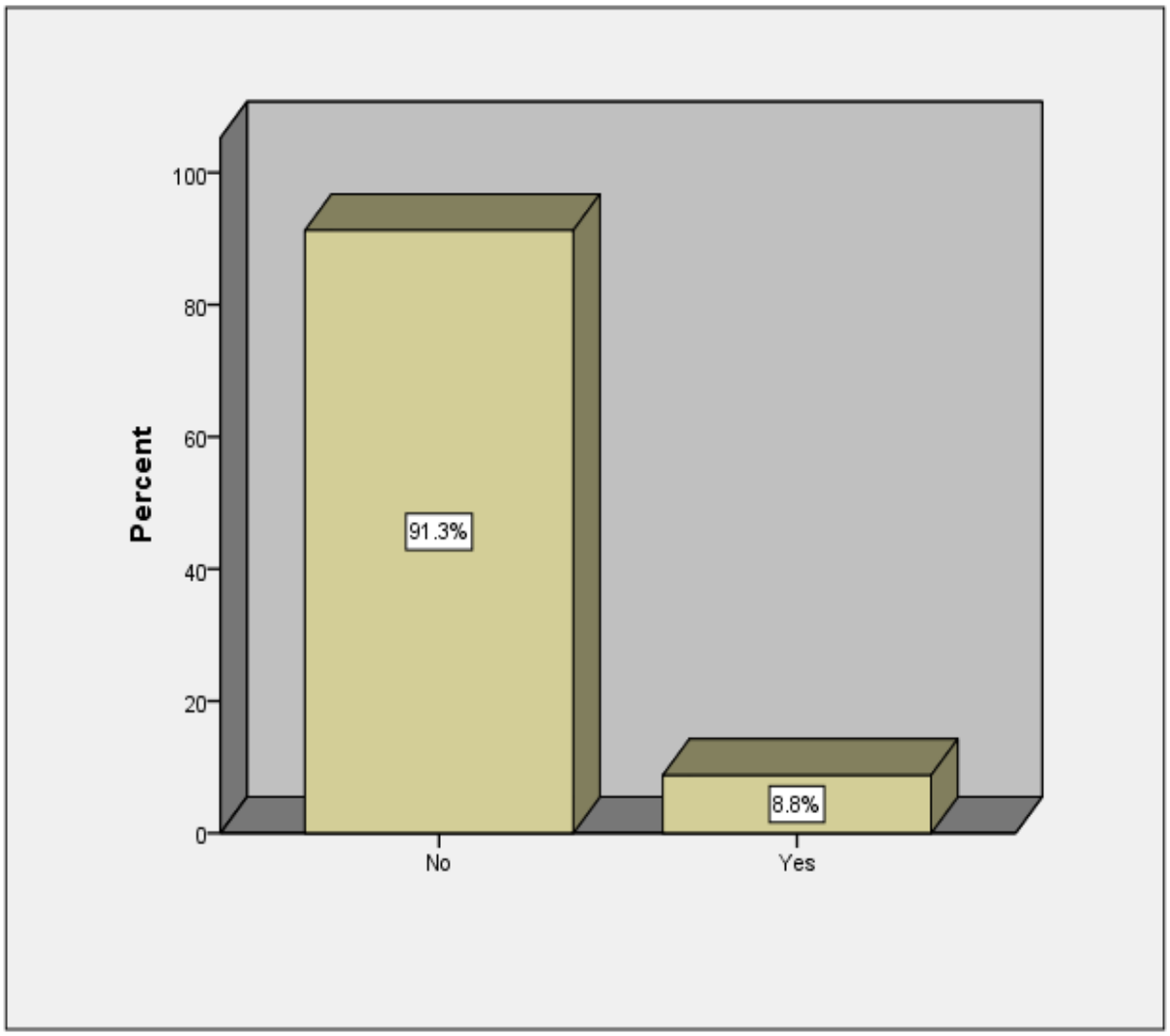


Fig. 4.18: Level of Regularised Title Deed
Source; Authors' field survey, 2015

The inference here is that with a high number of respondents without approval for change of land use, it is obvious that the indiscriminate change of use without following due process is what has given rise to a decline in the space for residential from87.5 percent to 78.75 percent (see table 4.7).

4.3 Factors Influencing Non Compliance and Enforcement of Development Control in Minna Metropolis

This segment discussed the results from the interview session conducted with the personnel of the Ministry of Lands and housing as well as the personnel of the NUDB on the factors that influence non compliance and enforcement of development control.

4.3.1 Inadequate Public Awareness

Interview session with personnel of the board indicates that there is inadequate information dissemination on the part of the government to the developers on the implications of violating development control. For instance,management personnel in the Ministry of Lands and Housingobserved that *"if there is a grass root approach of engaging community leaders in the enlightenment process even areas that are not government layout will be organised and built accordingly"*. This shows that the failure of government and the relevant agencies in informing developers of the implications of non-compliance with development control regulation has become a factor that influences non compliance and enforcement of development control seeing the level of encroachment, overdevelopment and change of land use without seeking due approval from the relevant authorities. According to thetechnical staff of the NUDB some developers claim ignorance of which government agency marks their structure and in some cases do not understand the meaning of the inscription on their structures due to inadequate public awareness on the side of the authorities.

4.3.2 Litigation

The challenge of litigation is one of the major setbacks in enforcing development control in Minna metropolis. There are many cases of dispute between the government and natives over many layouts.This was revealed by the management personnel of the NUDB during the interview. The personnel mentioned *"that there are a lot of instances where the court had to intervene in favour of either the natives or the government after*

development have commenced, and development control can only be effectively enforced in areas where government have absolute control and ownership". Examples of the tussle for ownership between the government and natives in the metropolis are at Bosso,Tunga,Saukakahuta,Chanchaga, Maitumbi and Saukeamongst others. Most of the cause of this problem is attributed to either lack of compensation or inadequate documentation by the government on the compensated areas.

In another development the issue of litigation comes up when there exists double allocation of a plot to more than one person.This was revealed by a staff of the Area Town Planning Office of the Ministry of Land and Housing. When it was reported that, this problem is common to developers who were initially allotted a plot but did not complete documentation and payment for statutory title and in cases where due process was not followed before revocation and reallocation to a new person the problem of litigation becomes inevitable. Either way, litigation hampers the enforcement of development control in the areas of dispute.

4.3.3 Bureaucratic Process of Obtaining Building Permit

Interviewees revealed that there exist difficulties in the process of obtaining building permit for any proposed development in Minna metropolis, thus developers refrain from going through the cumbersome process of seeking approval and undertake unguided development.Discussions with the technical staff of the NUDB reveal that *"this is attributed to the fact that before a building permit is granted the developer must possess a statutory title, this document is however not given by NUDB but by the Ministry of Lands and Housing and the time taken to get such title deed is almost endless"* (this complainis common at Bosso). Secondly, it was revealed thatin cases where correction is to be made, developers on the other hand do not effect corrections on their proposed

buildings plans as at when due to allow for fast approval process.This makes it longer to obtain approval and building permit.

Thirdly, from the questionnaire administered the challenge of change of land use from residential to commercial or otherwise (see Fig. 4.18) gave rise to unapproved change of use.This is also associated with the fact that NUDB does not approve incompatible land use and the developer does not want to go through the cumbersome process of changing the land use which involves several technical and administrative procedure including the consideration of the honourablecommissioner especially where land use zoning and density comes into play. Usually it takes more than a year even when applicants have fulfilled all the requirements. This delay results in various illegal practices as desperate developers are not patient to wait for the long bureaucratic process.

4.3.4 Lack of Coordination between Government Agencies

The absence of effective coordination between the lands, town planning department and the NUDB has also contributed to the challenges of enforcing development control regulations in the metropolis. This factor is influencing non compliance and enforcement of development control, it was revealed duringthe interview with the management personnel of the NUDB. The personnel emphasized that "*the basic coordinating agencies have been operating in isolation without adequate harmony between them. The result is overlap of functions and duplication of roles and responsibilities making development control difficult to comply by developers"*. Furthermore, there is the problem of inadequate information dissemination between the two coordinating bodies, for instance there are areas where there is a change in land use approved by both the lands and town planning departments but this information is not adequately passed to the NUDB. The above named bodies lack coordination and synergy between them, thereby contributing to non compliance of development control. This

results to delay in obtaining development permit and contributes to frustrating prospective developer.

4.3.5 Inadequate Monitoring due to Under Staffing and Inadequate Working Tools

Findings reveal that the inability of the development control authority to adequately monitor physical development within the metropolis is one of the factors influencing non compliance and enforcement of development control (see fig. 4.7). To further buttress this fact, the technical staff of the board observed that; *"If adequate monitoring and enforcement is conducted from the building setting out stage of physical development to the finishing level, then the issue of encroachment into road, adjoining plot and problems of indiscriminate change of land use, over development, building without approval would have been overcome*". Further discussions reveal that the inability of the board to adequately monitor is attributed to shortage of manpower, security and working tools. This therefore makes compliance and enforces of development control regulations difficult.

Table 4.8: Level of monitoring by NUDB

Location	No Response	Not at All	Often	Rarely	Sometimes	**Total**
F- layout	0	0	0	13	7	20
	0.0%	0.0%	0.0%	16.25%	8.75%	25.0%
Bosso	2	2	3	6	7	20
	2.50%	2.50%	3.75%	7.50%	8.75%	25.0%
Atlanta layout	0	1	4	5	10	20
	0.0%	1.25%	5.0%	6.25%	12.50%	25.0%
Tunga	0	0	2	4	14	20
	0.0%	0.0%	2.50%	5.0%	17.50%	25.0%
Total	2	3	9	28	38	**80**
	2.5%	3.75%	11.25%	35.0%	47.50%	**100.0%**

Source; Author's field survey, 2015

The results show that a high number of the responded opined that NUDB monitors development control at Atlanta layout and Tunga. But 35% of the respondent especially at F- layout revealed that NUDB rarely monitor development in the study area.

The inference here is that there is the possibilities of having some neighbourhood considerably aligning to the physical plan standards, while inadequate monitoring by the NUDB will allow the developer undertake unguided development within the neighbourhood thereby violating the standards for physical development.

The NUDBhas the mandate of controlling physical development and enforcement of the provision of the Minna master plan as well as other planning schemes. The mandate is achievable with proper and effective monitoring and enforcement. However, this is dependent on the availability of skilled and unskilled staff alongside working tools like; Inspection trucks, Motorbikes, Bulldozers, contravention notice, paints and brushes, field jackets and other logistics. Findings from the management staff reveal that the NUDB is under staffed to carry out effective routine monitoring and in other cases there are no vehicles to convey staff to the site. This has negatively influenced the level of compliance and enforcement of development control regulations in the study area.

Further analysis from the interview carried out points out that the inability of the government to adequately fund the development control authority has greatly affected the discharge of duty thereby limiting the performance of the NUDB.

Another, factor influencing non compliance according a management personnel of the NUDB is lack of political will and backing by the government to improve on the development control activities, instead the NUDBhas been dragged by huge political interference in the discharge of it's statutory responsibility, in fact the problem of political interference forms bulk of the problem that the NUDB is faced with. Example of such cases in the past were a situation where a politician built a residential property on

somepart of public (school) land use along Mu'azu Muhammad way. Another case is seen at F- layout where a school was allowed to be developed on residential plots (see Plate 4.3).

4.3.6 Corrupt Practices

Enforcement of development control simply restricts physical developers' freedom to build as they wish (Oyesiku, 1997). Findings show that there is therefore reaction of threats and in some cases violent attacks on officers due to numerous problems of litigations and contraventions.This was revealed by the technicalpersonnel of the NUDB in course of the interview where personnel were attacked at SaukaKahuta in the course of discharging their official responsibilities. In the event of an officer falling victim of these actions by erring developers, the board does very little to salvage the situation especially through hazard allowance and other special packages. The absence of good welfare package leaves the staff vulnerable to corrupt tendencies and at the end connive with desperate developers to overlook areas where compliance is not adhered to on the site. This act of compromise greatly influence non compliance and limits enforcement of development control in Minna metropolis.

4.4 Implications of Non Compliance to Development Control in the Study Area

This segment discussed the implications of non compliance to development control. The emphasis here is on those evident implications that are being experienced in the neighbourhood.

4.4.1 Inadequate motor ableroad

Analysis revealed that motorable roads are inadequate in the metropolis, this situation is due to encroachment into access road therebyreducing the width of theaccess roadfrom 10metres to about 4metresespecially at Bosso (see Fig 4.5) and the implication is that it deprives the neighbourhood the required space for walkway, parking, adequate

drainage and utility lines for water and electricity. In addition, the adequate set back of minimum 10metres from the centre of the road (depending on the road hierarchy) to the building line was not achieved in all neighbourhoods. This situation gave rise to high on-street parking, increase in traffic congestion especially during peak periods, accidents and also residential house are left vulnerable.The situation is contrary to the ideal situation portrayed byJibrin, (2013) that effective development control in urban management provides for easy access to developments and to achieve an efficient circulation within the developed areas. Andit has confirmed the conclusion made by Sanusi, (2006) that "Minna appears to exhibit a fair practice of development control, but a deeper examination showed that 70% of the developed area have access roads below planning standards and in some cases house are not accessible by vehicles".

4.4.2 Inadequateand over stretched public facilities, utilities and services

Due to extensive non compliance to development control regulations in the study area the supply of public facilities utilities and services like; standard electricity lines, pipe borne water, drainage, school, health centres and green areas became inadequate and in areas where these facilities are made available they are overstretched. This is the case in the neighbourhoods.This is more to what Oyesiku, (1997) accredited to ineffective urban land control and management particularly in areas with rapid urban sprawl giving rise to urban land use problems such as slum development, rising costs of land, accessibility to urban land for housing, incompatible use, flooding, overcrowding and congestion among others. For example Fig 4.19 show that at Bosso, five (5) public land use plots namely; school, church, police post, clinic and fire service station covering 1.45 hectares were proposed and thirteen (plots) covering 3.62 hectares located along Bosso road were proposed for commercial land use. But as the layout is developed analysis

reveal that only one public land use (church) covering 0.106 hectares exist in the layout and eight (8) commercial land use covering 2.93 hectares currently exist (see table 4.8).

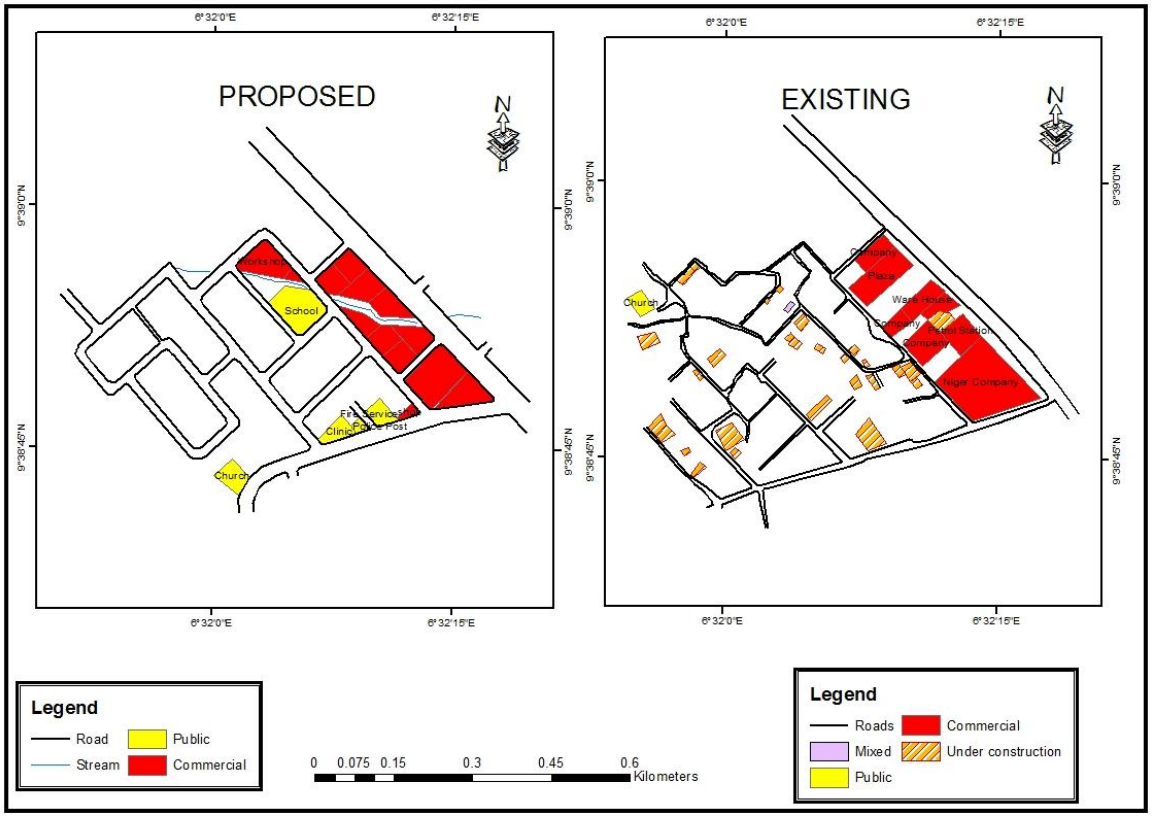


Fig. 4.19: Decline in space for facilities, utilities and services at Bosso
Source:Author'sGIS analysis, 2015

Table 4.8: Decline in space for facilities, utilities and services at Bosso

Land use type	Proposed number	Existing number	Decline rate (%)
Public	5 (1.45ha)	1 (0.106ha)	92.68
Commercial	13(3.62ha)	8 (2.93ha)	19

Source:Author'sGIS analysis, 2015

Similarly, analysis revealsthat there are inadequate space for facilities, utilities and services at F- layout(as shown on Fig. 4.20 and Table 4.9). Eight (8) public land uses namely; mosque, school, clinic, church, refuse dump site, park, police post and fire service station covering 8.7 hectare were proposed and two (2) commercial land use to serve as corner shops covering 0.407 hectares were also proposed. But as the

neighbourhoodappears presently only three (3) public land usecovering 2.953 hectares and two (2) commercial land use covering 2.266 hectares exist.

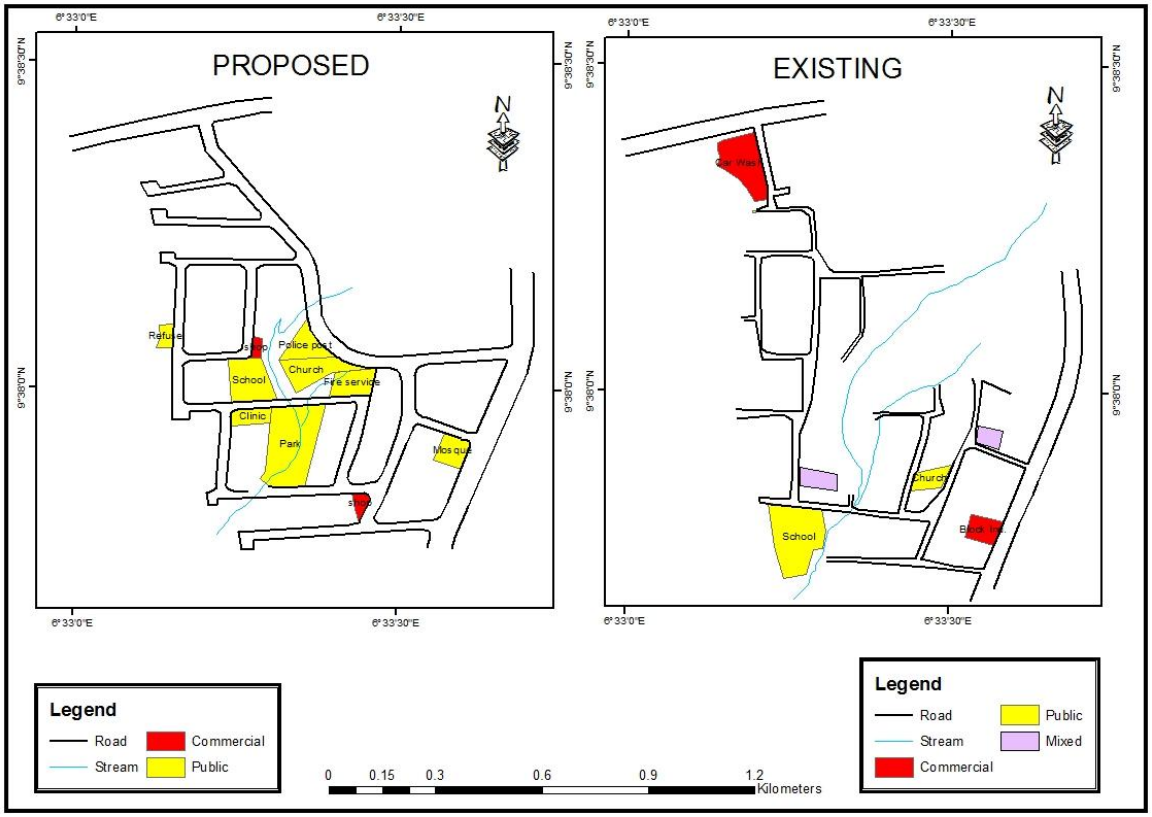


Fig. 4.20: Decline in space for facilities, utilities and services at F- layout
Source; Authors' GIS analysis, 2015

Table 4.9: Decline in space for facilities, utilities and services at F- layout

Land use type	Proposed number	Existing number	Decline or Increaserate (%)
Public	8 (8.7ha)	3 (2.953ha)	66.06 (decline)
Commercial	2(0.407ha)	2 (2.266ha)	82.04 (increase)

Source; Authors' GIS analysis, 2015

The decline in public land use in the two study area infers a shortfall in the availability of public facilities like; school, health centre, recreation area, place of worship resulting to short supply of portable water, primary health centre and school within trekking distance. These are the implications of non compliance to development

control. Interestingly the increase in commercial land use atF- layout (Table 4.9) which is contrary to the proposed plan has resulted to epileptic electricity supply as a result of overloading of the capacity of the existing power supply infrastructure (such as transformers and overhead supply cables). Analysis revealed that there is also lack of drainages especially at Bosso and Atlanta layoutdue to encroachment of buildings into road (see Fig. 4.1,Fig 4.2 and table 4.1). This istermed accretion of problems resulting to non compliance of development control by Abubakari and Romanus,(2011).The authorsreiterated that the process of accretion has been so rapid in most cases that, efforts at spatial re-organization and development control are often left behind thereby giving room for haphazard distribution of land uses and structures without regard to any planning standards.Overall, this results to inaccessibility to some areas, pollution and other forms of environmental degradation.

4.4.3 Overdevelopment and Inadequate Air Circulation within the Building

Oriye,(2013) observedthat inadequate air circulation within building is a consequence of non compliance to building codes and planning standards. This is so because it leads to environmental management difficulties especially in waste management and control of congestion-related diseases.Analysis revealed that there is inadequate movement and circulation space required in most of the developed properties especially at Bosso and Tunga areas (see Table 4.4, Fig 4.10 and Fig. 4.11). This situation might lead to disease outbreak likemeningitis especially during heat period between the months ofFebruary to Marchwhen the temperature reaches above 30°C. Table 4.4 shows the number of buildings in overdeveloped plots and the expected plot coverage if developers adhere to developments control guidelines.

4.4.4 Haphazard development

Results show thatnon compliance with development control regulation in the study area has led to haphazard physical development.In other words development that is arbitrary to the provision of the respective layout plan and is below standard. This is most common at Bosso as shown on fig 4.21.

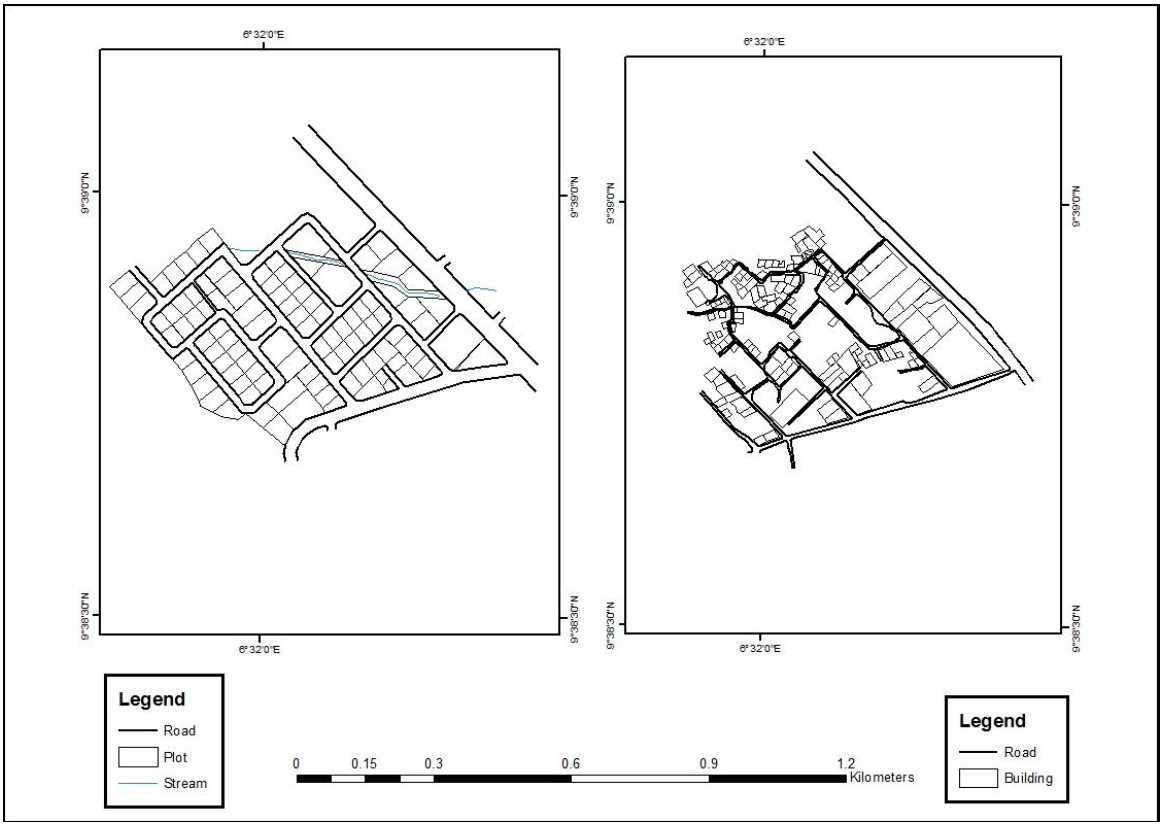


Fig. 4.21: Haphazard Development at Bosso

Source; Authors' GIS analysis, 2015

Some of the reasons for this situation are the ownership tussle. Furthermore, there are instances where a single plot is sub- divided into two and sold to different developers without documentation. Also, some residential and public buildings are on access roads, highthe number of buildings that have encroached into road (see Fig. 4.1 and Table 4.1) which is in contrast to the provision of the plan. The inference here is that this trend has caused further narrowing and reduced number of access roads within the layouts thereby

denying easy access in cases of emergency, overstretched facilities and absence of well defined drainage. This situation further confirms the submission of Sanusi, (2006) about the inaccessibility of some houses in Minna due to violation of development control regulations.

Further analysis reveals that respondents are aware of the implications of violating development control regulations. Results show the level of awareness by respondents on the negative implications of non compliance to development control as presented in Fig. 4.22. Findings reveal that most of the respondents observe road encroachment, over development of plot and inadequate public facilities, utilities and service ranks high. While traffic congestion, vehicular accidents, building collapse and inadequate air circulations are on the low ranks of the negative implications of non compliance to development control regulations.

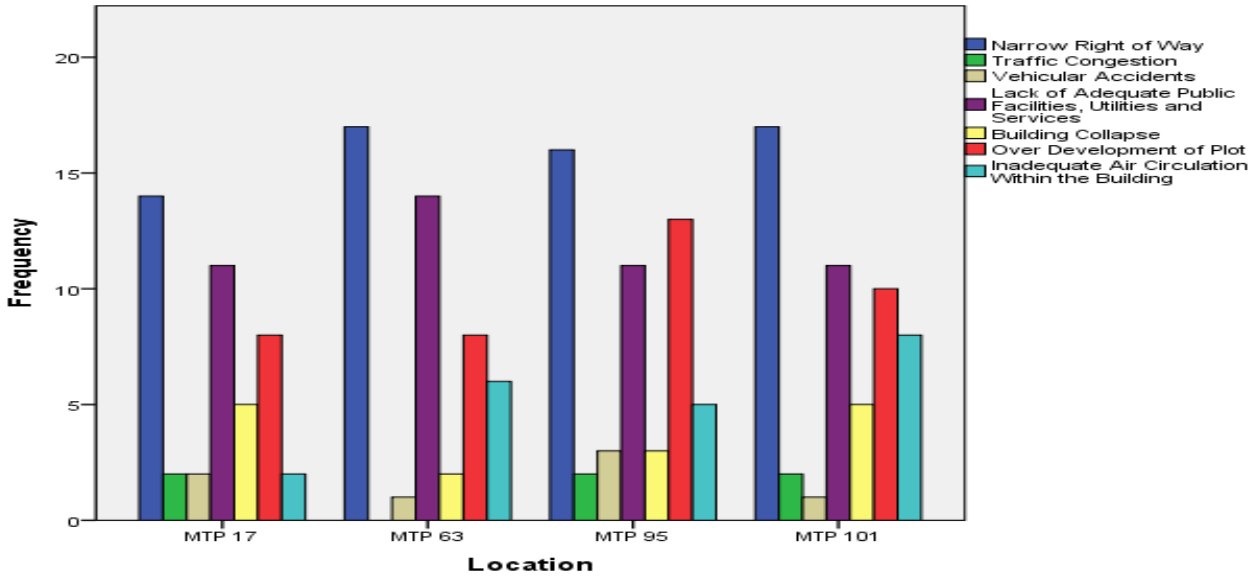


Fig. 4.22: Awareness on the implications of non compliance

Source; Authors' field survey, 2015

This is similar to the findings of Jibrin, (2013) that encroachments by the public constitute a violation for which a restoration is necessary becausethe reservation is made with a view to provide for future expansion and also give room to street furniture.

Generally, there is a high level of awareness among respondents on the negative implications of non compliance to development control regulations. But despite the awareness level violation of development control still persist this can be attributed to the factors that influence non compliance to planning standards.

CHAPTER FIVE:SUMMARY OF FINDINGS, CONCLUSION ANDRECOMMENDATIONS

5.1 Summary of Findings

This study reveals that there is reasonable percentage of non compliance in the Minna metropolis. This is attributed to the fact that a number of land uses were converted to other uses such as public, commercial and mixed land use, these amongst others informed the rate of non compliance in this study. Other observations of non compliance to land use in the various neighbourhood includes; overdevelopment i.e. additional structure outside what was approved by the board and encroachments into road which records 55.1% of the total development in the study area. Compliance to Land uses was determined by comparison of existing land use against the provision in the detailed site development plan. The analysis of data obtained from the study area revealed that there is a high (97.5 %) level of awareness of the NUBD activitiesby the respondents which informs a high number (76.3%) of buildings with approval,but the level of compliance which is 49.9% calls for serious concern.Although a small number(8.8 percent) of the converted land uses were regularised by the Ministry of Lands and Housing, and the building plans were approved by the board, most 91.3% of the converted land uses did not go through the same process due to incompatibility of the land uses to adjoining uses within the neighbourhoods, bureaucratic process of change of land use and pending litigation problems between the customary title holders and the government.

Furthermore, analysis on compliance to building density was conducted using the area coverage of a building with respect to the total area of the plot as the basis of determining density type. The type of density of a residential plot determines the number and type of buildings to be developed and accommodated. Basically there are three types of densities identified; low, medium and high density. In this case all the neighbourhoods

are medium density. The development control regulations stipulates that a low density plot in Minna metropolis should have 35% maximum plot coverage, while the medium density should have 45% maximum plot coverage and the high density should be 60% maximum plot coverage. However, analysis shows that density is abused and could hardly be rectified due to inadequate monitoring, limited access to an already developed property, poor funding, political interference and corrupt tendencies.

Generally, this has given rise to inadequate space for public facilities, utilities and services, indiscriminate change of land use, building without permit, encroachment into road especially the access road, over development of plot and overstretching of the existing public services.

5.2 Conclusion

Physical development in urban areas is a continuum, however if the process of physical development is not adequately guided then the urban environment is prone to various undesirable challenges. Development control seeks to ensure that physical developments in urban centres are within the framework of planning standards. It may be better and more appropriate to evaluate development control activities using geospatial technique in order to improve the practice of development control in our cities and tackle the challenges that come with it.

From the results of the study, it can be concluded that there is high level of awareness of development control activity but the situation on ground does not reflect it. The study discovered that there are a lot of buildings that have violated development control regulation in the following ways; encroachment, over development, building without permit, change of land use without following due process amongst others. The consequences of these are inefficient traffic flow, inadequate space for public facilities, utilities and services, disease outbreak and in some cases building collapse. These are

traceable to lack of funding, inadequate empowerment of the NUDB for monitoring and enforcement, administrative disharmony and bureaucratic process are discovered to be the major reasons for non compliance to development control.

Therefore, development control in Minna metropolis is not very effective, this have left much to be desired.

5.3 Recommendations

Having discussed the findings in this study and their implications, a number of recommendations are herby presented with the hope that they can be considered for implementation.

i. Strengthen Development Control Authority

The existing staff strength of the Board vis-à-vis the responsibility of frequent and effective monitoring and enforcement is low. There is therefore the need for Niger state government to increase the number of professional staff (Town planners, Builders, Architects and Land officers) in the Board thereby, increasing the needed manpower for the rigorous enforcement duty. The staff in the Board also have problem of mobility for their development control activities. It is recommended that additional vehicles be made available to the board so that the staff can visit various sites for routine inspection. Therefore as a matter of necessity since the metropolis is divided into four zones, each zone should have at least two vehicles for monitoring instead of the only three vehicles shared by all the zones. Further investigations reveal poor maintenance of faulty vehicles, this also has to be revisited to ensure that faulty operation vehicles are fixed as at when due, to ensure frequent and effective monitoring before, during and after physical development.

ii. Decentralise the zonal offices within the metropolis

Decentralising the Board into zonal offices at various strategic locations in the metropolis is also a good idea as the case is in Kaduna metropolis, but it has to be doneholistically and carefully to ensure good proper location and synergy between the zonal offices and the Headquarters. This will bring the board closer to the people and reduce the bureaucratic process of obtaining building permit. This process will also allow the development control officers in the different zones to be fully aware of any illegal development and land use change whether legally or illegally.Furthermore, decentralising the Board will automatically enhance synergy between the government, developers and community leaders.

iii. Improve Coordination between Various Agencies of Government

It is observed that there is very low coordination between the various agencies of government and one of the challenges is limited information dissemination. It is recommended that improve coordination between the various agencies of government be made as a matter of urgency especially where land uses are changed and approved, plots are sub divided from one to two or more and in cases where plots are merged from two or more into one plot. This changes should be made known to the town planning department so as to update and reflect them on the layout plan and a copy of the reviewed layout plan be given to the board so that there will be good and effective development control within each neighbourhood.

iv. Review Land use Change Process

Land use change process was identified as one of the major challenges that made most developers deviate from the approved building plan or developed what is contrary to the use allocated to them. The process is cumbersome and has a lengthy bureaucratic procedure. Therefore, it is recommended that the custodian of the consent/land use change department should review this process in order to make it expedient within the

shortest time possible. And where the proposed use is not compatible the applicant should be notified on time.

v. Political will and Backing for the Board

Considering the fact that development control entails continuous effective monitoring and routine inspection alongside proper enforcement, the Board should be given full political backing by the state government to operate professionally without political interference. This will allow the Board to achieve its mandate of enforcing development control in the metropolis without any fear or favour. And in cases of ownership tussle between the government and the natives there will be need for political backing for synergy between the government and the natives in order to resolve their differences in the shortest possible time so that the developer will not be at the receiving end.

vi. Increased Public Awareness

Adequate public awareness on the activities of the Board should be improved on.Proper enlightenment on the negative implications of non compliance and the resultant effects as well as the legal steps to be taken by the Board on defaulters should be done. More so, the benefits of compliance to development control regulations should be made public at regular intervals especially in new developing neighbourhoods, therefore it is recommended that the board improve the level of awareness campaign of all its activities so that any developer intending to violate development control regulation will have a change of mind by so doing the issues are arrested even before they occur.

vii. Adopt Geospatial Technique in Timely Monitoring of Development Control Process

A lot of researchers have established the need for ICT in the overall development control process as is the case in Hong Kong, Malaysia, South Australia and Yola, Nigeria

indicating a combination of both the field and office based monitoring and surveillance process as well as record processing, evaluation and documentation. Therefore the use of geospatial techniques such as remote sensing and GIS and database management system for development control programmes is recommended. The study hereby urges the NUDB to adopt modern geospatial based techniques in evaluating its activities at regular intervals so as to identify areas of non compliance and check them on time. Niger State Geographic Information System (NIGIS) agency should provide the ICT support tools for effective and efficient development control to be achieved using an integrating system for creating, updating and tracking physical developments. The system should also be capable of giving details of development from satellite image within each plot of land to reflect density of developed structures vis-à-vis standards of building codes and development control regulations.

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Appendix I: Research Questionnaire on Evaluation of the Effectiveness of Development Control in Minna Metropolis, Nigeria

AHMADU BELLO UNIVERSITY ZARIA, NIGERIA

DEPARTMENT OF GEOGRAPHY

INTRODUCTION

Dear Sir/Ma,

This questionnaire is designed to collect relevant information for a post graduate research work which seeks to assess compliance level of land developers to development control regulation.

The information supplied will be used mainly for academic endeavor alone and shall be treated as highly confidential.

PERSONAL PROFILE

Location; ……

Name of respondent; ……

Sex; …….

Age; 18 – 39 ( ), 40 – 49 ( ), 50 – 59 ( ), 60 – above ( )

Occupation; ……

Level of education; ……

INSTRUCTION

Please tick in the space provided and/or write clearly for questions that demand your response.

SECTION 1: To what extent does the respondents understands development control regulations in the neighbourhood.

1. Are your aware of the activities of Niger State Urban Development Board?
   Yes ( ) No ( )
2. If "No" in 1 above you may discontinue please.
3. If yes, to what extent? Very well ( ) Fair ( ) very little ( )
4. Does your property have building permit? Yes ( ) No ( )
5. If yes in "4" above, did your adhere to the approved building permit? Yes ( ) No ( )
6. If No in "5" above, why? ……

……

7. If No in "4" above, why? ……
   .....
8. The purpose of your land use as at when it was acquired. Commercial ( ) Residential ( ) Industrial ( ) Agricultural ( ) Public ( ) Others (Specify) ……
9. What is the existing land use of your property is as developed? Commercial ( ) Residential ( ) Industrial ( ) Agricultural ( ) Public ( ) Others (Specify) ……
10. If changed in "9"" above, did you regularize your title deed? Yes ( ) No ( )
11. If No in "10" above, why? …….....
    ……
12. Do you think that there are some buildings in your neighbourhood that has infringed into the Right of Way (ROW)? Yes ( ) No ( )
13. To what extent? 5 - 10metres ( ), 4- 1metres ( ), less than 1 metre ( )

SECTION TWO: Respondents understanding of compliance and implications of non compliance to development control regulations.

1. Are you aware of the impact of violating to development control regulations? Yes ( ) No ( )
2. What do you think are the reasons for non compliance to development control regulations?

   ……
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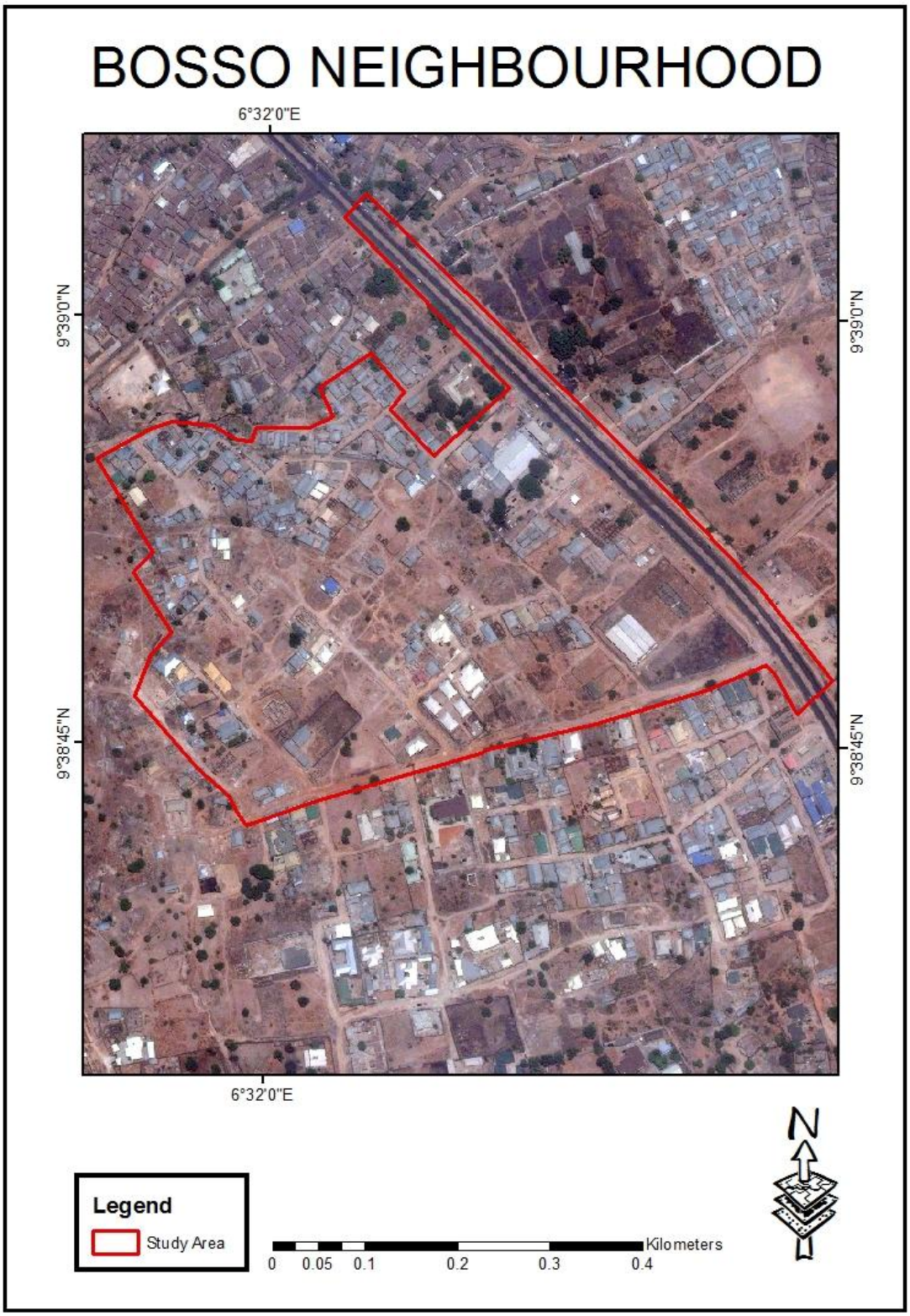
3. The non compliance of development control regulations in your neighbourhood has led to;
    A. Narrow Right of Way ( )
    B. Traffic congestion ( )
    C. Vehicular accidents ( )
    D. Lack of adequate Public Facilities, Utilities and services ( )
    E. Building collapse ( )
    F. Over development of plot ( )
    G. Inadequate air circulation within a building ( )
4. Do you agree that violating development control regulations has negatively impacted to your neighbourhood? Yes ( ) No ( )

SECTION THREE; Respondents assessment of development control

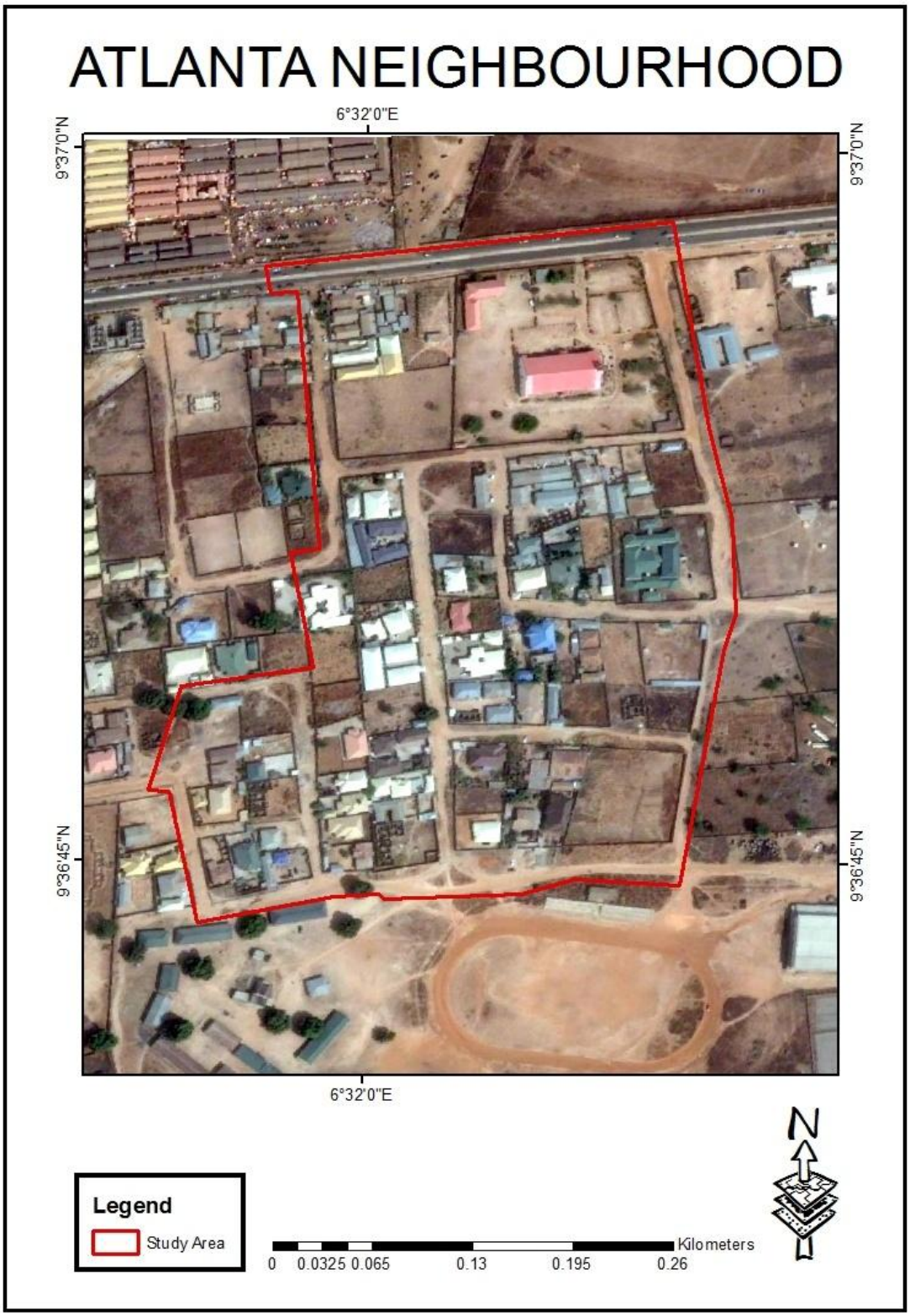
1. How often does development control board visit your neighbourhood for routine inspection before, during and after development? Often ( ) Sometimes ( ) Rarely ( ) Not at all ( )
2. Is development control effectively enforced in your neighborhood? Yes ( ) No ( )
3. If yes in "2" above, to what extent? Satisfactorily ( ) Fair ( ) Poor ( )
4. Do you consider that lack of adequate monitoring and routine inspection is responsible for violating development control regulations? Yes ( ) No ( )
5. Is there a need for a synergy between development control authority, community leaders and developers for adequate compliance to development control regulations? Yes ( ) No ( )
6. If "No" in 5 above, why? …….....
    .....
    .....

Thank you.

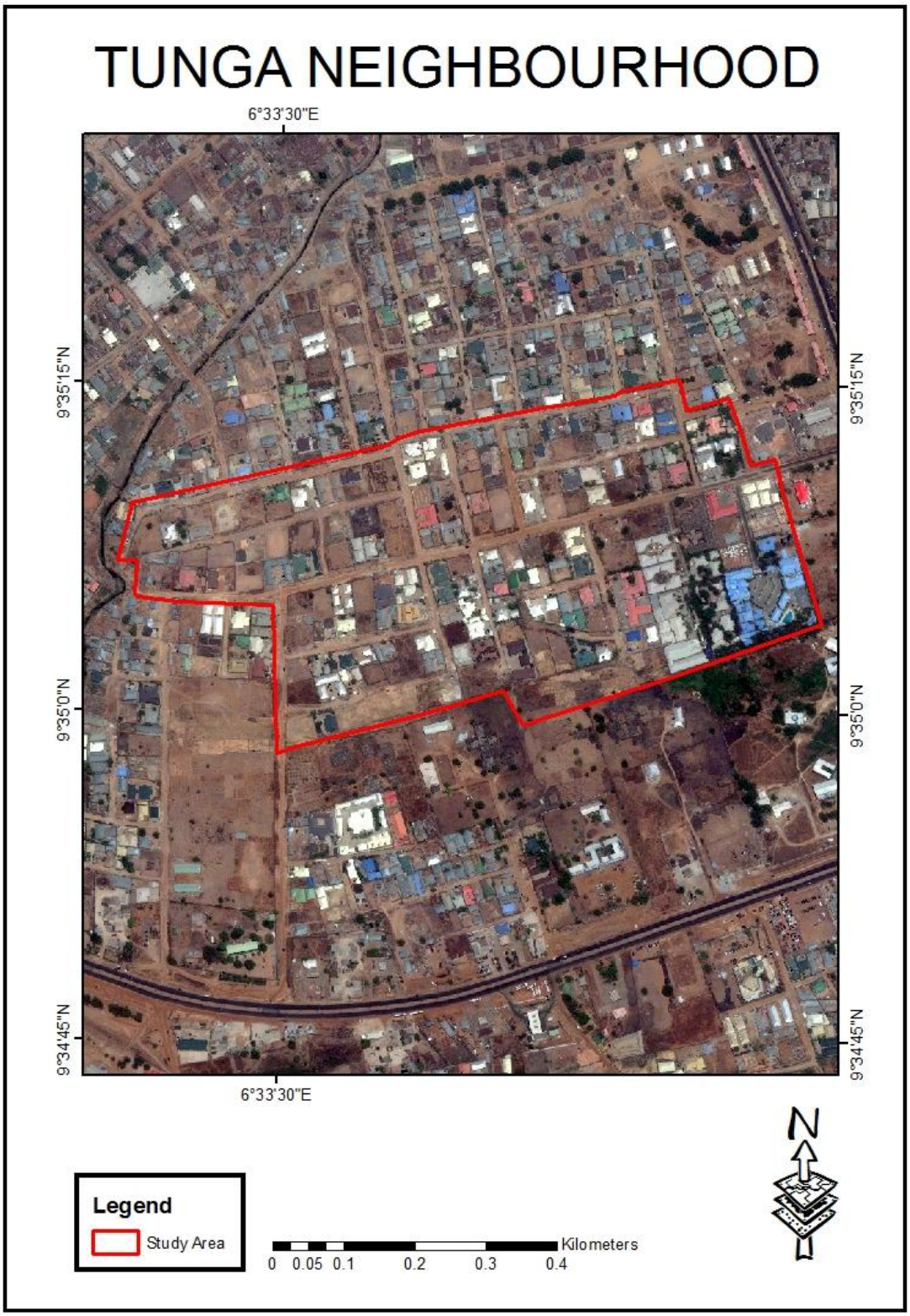
Appendix II: BossoNeighbourhood



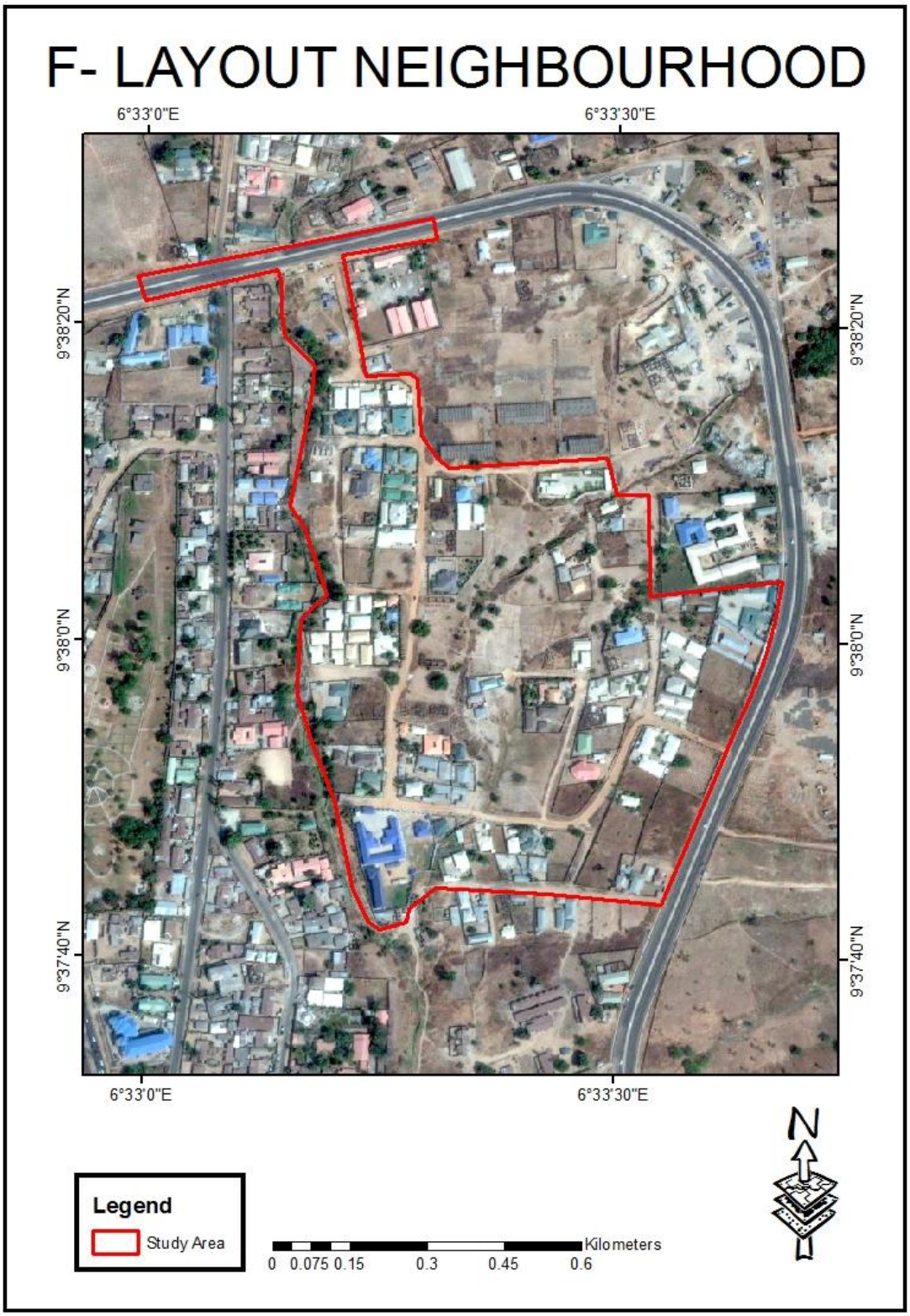
Appendix III : Atlanta Neighbourhood



Appendix IV: TungaNeihbourhood



Appendix V: F-Layout Neighbourhood



Appendix VI: Coordinates of the SelectedStudy Area

MTP 17				
S/N	BEACON NO.	PLOT NO.	EASTING	NORTHING
1	MN5464	92	229663.243	1067309.418
2	MN5418		229573.677	1067133.350
3	MN5517	33	229198.545	1067216.543
4	MN5475	65	229503.654	1067315.678
MTP 63				
S/N	BEACON NO.	PLOT NO.	EASTING	NORTHING
1	MN1262	ECWA CHURCH	229526.688	1063809.797
2	MC8139	NGS22489	229552.365	1063388.997
3	MB8770	44	229306.122	1063525.827
MTP 95				
S/N	BEACON NO.	PLOT NO.	EASTING	NORTHING
1	MC8654	96	232333.996	1060398.394
2	MC8718	127A	232083.024	1060166.880
3	MC8729	119	232089.865	1060139.776
4	MC8414	67		
MTP 101				
S/N	BEACON NO.	PLOT NO.	EASTING	NORTHING
1	MN4305	94	230909.161	1066143.371
2	MN4932	98	239414.000	1063801.000
3	MN4162	14	239586.000	1063557.000