IMPACT OF LAND USE CONVERSION ON SOCIO-ECONOMIC DEVELOPMENT IN SULEJA, NIGERIA

BY

SALEH, AWWAL SUBADA
M.SUD/CHSUD/2018/7926

CENTRE FOR HUMAN SETTLEMENTS AND URBAN DEVELOPMENT,
FEDERAL UNIVERSITY OF TECHNOLOGY MINNA

OCTOBER, 2021

ABSTRACT

This study have been undertaken to examine the impact of land use conversion on the socio-economic development in Suleja, Niger State, Nigeria. The problems associated with land use conversion in Suleja ranges from traffic congestion leading to lack of parking space, to shortage of residential accommodation resulting from incessant land use conversion from residential to commercial use. Other challenges are pollution emanating from high traffic, overstretched infrastructures like power, water, roads, drainage, and other problems such as inaccessibility and lack of open space. Data were collected on the factors of land use conversion, the socio-economic benefits of land use conversion and the challenges resulting from land use conversion in the town. The research use stratified and systematic random sampling methods with a total of 300 questionnaires administered on the household in the selected 3 wards out of 10 wards in the town. Also, physical observation was undertaken and pictures of the variables under investigation taken. The study reveal that residential to commercial land use is the major conversion type constituting over 50 percent of total land use conversion. And that economic gain, increase in land value, increase in rent and other factors play a great role in bringing about the menace of land use conversion in the study area. Based on the findings of the study, sustainable solutions such as urban renewal programme aimed at phasing out all commercial activities that are not in conformity with planning specifications, re-planning of the area, creation of commercial hub, empowerment of the inhabitants and sanction of illegal conversion were proffered among others. This will aid and lead to having an environment that is convenience, functional, economic and aesthetic for living and working.

TABLE OF CONTENT

Content		Pages
Title Page		i
Declaration		ii
Certification		iii
Dedication		iv
Acknowledgements		v
Abstract		vi
Tables of Content		vii
List of Tables		xi
List of Figures		xii
List of Plates		xiii
CHAPTER ONE		
1.0	**INTRODUCTION**	**1**
1.1	Background to Study	1
1.2	Statement of Research Problem	5
1.3	Research Question	6
1.4	Aim and Objectives	7
1.5	Scope of the Study	7
1.6	Justification/Significance of the Study	8
1.7	Study Area	9
1.7.1	Location	9
1.7.2	Economic Activities	9
1.7.3	Topography	11
CHAPTER TWO		
2.0	**LITERATURE REVIEW**	**13**

2.1 Land Defined 13

2.2 Urbanization and Land Use 14

2.3 Concept of Land Use 15

2.4 Conceptualizing Land Use Conversion 16

2.5 Types of Land Use Conversion 18

2.6 Causes of Land Use Conversion 18

2.7 Drivers of Land Use Conversion 19

2.8 Impact of Land Use Conversion 20

2.9 Land use Conversion Implication 22

2.10 Problems Associated With Urban Land Use Conversion in Nigeria 23

2.10.1 Increase Economic Growth and Decline 23

2.10.2 Increasing Commercialization of Agriculture, Land Degradation, Expanded and Shifting Opportunities for Labour Migration 23

2.10.3 Another Problem is Deforestation 24

2.11 Solution to land use conversion problems 24

2.11.1 Land Management Framework 24

2.11.2 Appropriateness of the Policy Measures 24

2.11.3 Coordination of policy measures 25

2.11.4 Availability of Information 25

2.11.5 Allocation of Adequate Resources 25

2.11.6 Administrative System 26

2.12 Land Use Reform in Nigeria 26

2.13 The Theories of Land Use Change in Nigeria 30

CHAPTER THREE

3.0 METHODOLOGY 32

3.1 Reconnaissance Survey 32

3.2 Types of Data 32

3.3 Sources of Data 33

3.3.1 Primary Data Source 33

3.3.2 Secondary Data Source 34

3.4 Sample Frame and Sample Size 34

3.5 Sampling Technique and Procedure 35

3.6 Modes of Data Analysis 35

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION 37

4.1 Introduction 37

4.2 Factors Responsible for Land Use Conversion 52

4.2.1 Economic Gains 53

4.2.2 Land Value 54

4.2.3 Increase in Rent 54

4.2.4 Inadequate Land Use Policy 54

4.2.5 Other Factors 55

4.3 Challenges Facing the Inhabitants as a Result of Land Use Conversion 55

4.3.1 Traffic Congestion 55

4.3.2 Shortage of Residential Accommodation 56

4.3.3 Pollution 57

4.3.4 Overstretched Facilities 57

4.3.5 Other Challenges 57

4.4 Benefits Gained From Building Conversion 57

4.4.1 Increase in Property Value 58

4.4.2 Increase Income 58

4.4.3 No Benefits 59

4.4.4 Other Benefits 59

4.5 The Role and Constraints of Niger State Urban Development Board (NUDB) in Tackling Land Use Conversion in Suleja 59

4.5.1 Conversion without Approval 59

4.5.2 Contravention 60

4.5.3 Weak Enforcement 60

4.5.4 Political Force 60

4.5.5 Attitude of the Public 60

4.5.6 Corruption 61

4.6 Summary Findings 61

CHAPTER FIVE

5.0 CONCLUSION AND RECOMMENDATION 64

5.1 Conclusion 64

5.2 Recommendations 65

Reference 67

Appendix 73

LIST OF TABLES

Table		Pages
4.1	Distribution of Respondents Based on Age Group	37

LIST OF FIGURES

Figure		Pages
1.1	Map of Nigeria indicating the study area	12
4.1	Marital Status of the respondents	38
4.2	Distribution of Respondents Based on Level of Education	39
4.3	Distribution of Respondents Based on House Hold Size	40
4.4	Distribution of Respondents Based On Occupation	40
4.5	Distribution of Respondents Based on Income per Month	41
4.6	Distribution of Respondent Based on How Long He / She Have Lived in the Area	42
4.7	Distribution of Respondents Based on Place of Work	43
4.8	Distribution of Respondents Based On Why He / She Choose to Reside in the Study Area	44
4.9	Distribution of respondent based on House Ownership	44
4.10	Distribution of Respondents Based on Present Use of Building	45
4.11	Distribution of Respondents Based on the Original Use of Building	47
4.12	Distribution of Respondents Based on Types of Land Use Conversion	48
4.13	Distribution of Respondents Based on Factors Responsible for Conversion	53
4.14	Distribution of Respondents Based On Challenges Resulting From Land Use Conversion	55
4.15	Distribution of Respondents Based on Benefits Derived from Building Conversion	58

LIST OF PLATES

Plate		Pages
I	School fence converted to commercial activities	47
II	Conversion of public space to commercial activities; Fire Service office being overshadowed by commercial use	48
III	Recreational land use converted to commercial use; a case of park and Garden Suleja	50
IV	An ongoing conversion along Suleja-Minna road	51
V	Total building conversion with consequence on the traffic in the town	52
VI	Vehicular and human traffic as a result of building conversion and on Street parking	56

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to Study

Land is one of the basic factor of production and the foundation of all forms of human activities. It is important for human activities and virtually all activities revolve around land such as residential, agriculture, natural resources among others. In economics, land constitute one of the three major factors of production (along with labour and capital) and an important input for housing and food production (Wu, et al. 2008). Land and its resources is required by human to meet there social, material, spiritual and cultural needs. Human needs land for various purpose including provision of food, clothing, shelter, and heat; for producing a large variety of goods and services for their own use or market exchange; for easy movement around and goods transportation; for recreation and leisure; for aesthetic pleasure; for achieving social status and prestige; for spiritual satisfaction; and sovereignty and territory (Briassoulis 2011).

Land and resources is the basic element to the sustenance of the universe. There is therefore, the need for adequate planning and control of land in order to ensure a functional, harmonious, and efficient use of land in the city. In order to achieve the fundamental and acceptable activity on land, the city is made into layout and various use of land such as residential, commercial, circulation, industrial, space and recreation and institutional among others (Enisan and Aluko, 2015). This uses are made to meet the need of various requirement of land in an urban area as well as the provision of facilities.

As the population of urban centers continues to increase, the demand for land is also on the increase and these give rise to competition among the various uses of land which in turn results to land use conversion. Aguilar and Ward (2003) revealed that rapid

uranization have resulted not only to an increasing demand for urban land, most especially for housing, but also for other divergent urban uses. Given the impact of urbanization, significant changes have emerged in land use. The existing built-up area is expanding and the cultivated land have been decreasing, with the consequencies on people's daily lives (Zhanq, 2016). Moreover, as the city population keeps increasing and become more urbanized, the Town Planner role becomes more critical as more challenges in cities sprang up. Hence the process of urbanization has been in the forefront of land use conversion and the drivers of economic, social, as well as physical changes in cities and the world in general (Thuo, 2010). In order to meet up with the socio-economic challenges that result from urbanization a lot of businesses have sprung up in the city centers. These businesses are taking over the residential land use and dwindling the urban space in the cities as a result of the competition of the uses. Thus, as the cities grow in size and the urban area becomes more populated, there will be increased competition for land for difference uses.

Land use is the science and art of space use arrangement involving the location and allocation of urban and rural land as grouped into Residential, Industrial, Commercial, Recreational (open space) for the purpose of creating physical environment that is orderly, economically, functionally efficient and aesthetically pleasing for living, working, recreation and circulation (Obateru, 2005). Land use can either be mixed that is a situation where a building is put into varieties of uses like residential mixed with commercial or residential and industrial uses mixed together. Due to competition between the different land uses, the land is given out to the one that is ready to pay the highest amount. Therefore land owners in this regard only look at the economic benefit they stand to gain without taking into consideration the aftermath effect of the land use conversion. This in turn have led to physical redevelopment of the land in the form of change of use

of land. This scenario down play the socio-economic growth in the cities development which cannot be overemphasized as land use play an important role in determining the value of land and the various uses that land is put into (Peter, Fateye, Oloke and Praise, 2018). Thus, land use play a significant role in shaping and development of the land as it help to overshadowed the issues of haphazard development, uncontrolled growth, deteriorating environmental quality, loss of prime agricultural land, as well as wildlife habitat among others.

Land use conversion is a process of assigning the uses of land to its highest and best use. Precisely, land use conversion happen when a particular land is converted from the use it was originally assigned due to economic rents, highest and best use and other urbanization factors (Farinmade, 2010). This happen when there is change or conversion of land use in a particular land to the uses other than which it was originally slated for due to some factors. Land use conversion can occur through the direct and indirect impacts of human activities to derived essential resources. Landuse conversion is a complex process which occur as a result of the mutual interactions between environmental and social factors at different spatial and temporal scales (Valbuena *et al*. 2008; Rindfuss *et al*. 2004).

Land use conversion occurs majorly in two forms: conversion from one use to another and the modification of certain type of land uses. While conversion from one use to another is concerned with changes in the mix pattern of land uses, the modification involves changes in the land particularly from underutilization to enhanced exploitation. Adebayo (2009) opined that a change in land use does not always leads to positive impacts on economic growth. Land uses have been converted from their initial use to other uses depending on the availability of space and the intention of use. The land use conversions have socio-economic, physical and environmental implication on the inhabitants.

Land use conversion is essential for economic development and social progress as it promote a lot of economic and social benefits, though it come at cost. Land use change affects environmental degradation and is seen as the driving force for socio-economic changes in the cities. Also it has substantially aided in the deforestation of vegetation cover, alteration of urban development, agriculture and human activities. Such alteration of the land, impact on important ecosystem processes and services, that result into wide-range and long–term consequence. The continued land use conversion of buildings from lower to highest and best uses resulting from human activities leads to competition for scarce land in urban centers. (Olurin, 2010). As such, land is given to those who are willing to pay highest sum to occupy. Thus land use conversion in urban centers in Nigeria is essentially economic and it is majorly carried out to maximize profit (Oduwaye, 2008). In Nigeria, there are evidence of building conversion in major cities to commercial land use(Onyebueke, 2000; Jinadu, 2005; Sule, 2008).

Many drivers are associated with land use conversion, such as economic, social, biophysical, environmental as well as technological factors that result to land use changes (Beilin et al., 2014). These drivers that lead to the conversion may be known as demographic change, industrial development, agricultural expansion, urbanization, global market force and climatic change like drought and rainfall variability, and they involves interrelationship between institutional or cultural impacts. These drivers have resulted to land use conversion by shortchanging one type of land use with others. This in turn has inevitably altered the pattern, structure, as well as the function of the natural landscape with the consequence on the global environment. In particular, the socio-economic factors are more peculiar compare physical drivers of these processes (Yirsaw et al., 2017). Lambin et al., (2006) stated that, it is very important to have an understanding of the drivers of land use conversion as it may aid in the spatial

implications as well as quality of the environment, the economic and the wellbeing of the people which in turn result to sustainable development. Wu et al., (2012) says that, one of the vital point of sustainable land development is quantitative evaluation approach to the effects of land use conversion on environmental quality and the socio-economic impact of the inhabitants.

Uncoordinated land use conversion can at the long run affects the city structure and constitutes nuisance and impede on the effective functions of both human and the environment in the various neighborhoods of Suleja. Therefore, this study will address issues relating to the socio-economic impact of land use conversion of Suleja metropolis and offers sustainable solutions that will guarantee for developments that meets the needs of present generation and future needs as well.

1.2 Statement of the Research Problem

The rapid urbanization of Suleja town has given rise to more land demand for various uses. This increased in land demand which is fixed in nature, have resulted to competition and proliferation of conflicts of interests between various land uses types (Majiri, 2008). The study area has witnessed competition between residential, industrial, commercial, and other uses, for taking over of particular area. This competition among the various land uses in urban center like Suleja has resulted to land use conversion particularly residential to commercial uses. According to Farinmade (2019), residential buildings have continued to witness change of uses from lower to higher rank in other to derived maximum use. Commercial land use is becoming one of the notable features of the study area owing to change in the use of land.

Although, the contributions of commercial activities to the development of urban centers cannot be over emphasized through the creation of jobs and contribution to the growth of

the economy, its activities pose a serious challenge to land use and the city plan if left unchecked. These challenges are occasioned by the fact that commercial sectors most often generates land use problems, such as incompatible land uses, building alteration and values (Adedoyin, 2019).

The haphazard location of land use types without clear differentiation of uses and the subsequent conversion of land use has created some challenges in the study area. Thus, uncoordinated land use conversion has different consequences on the quality of the urban environment, the inhabitants and by extension on the functional urban growth. This conversion in turn constitute nuisance and gradually impedes on the effective functions of humans and the environment. The resultant effects are the negative social and economic impact on the inhabitants in form of traffic congestion, pollution, overcrowding, inaccessibility, lack of open space among others.

These impacts emanating from land use conversion in Suleja which are mostly unplanned and uncoordinated have more harmful consequences than good. Thus, the trend of land use conversion in Suleja from residential to commercial purposes could have the capacity to negatively affect the vicinity and uncoordinated land use, thereby destroying the environment and in turn pose a threat to the inhabitants as well as the Town Planners/City Managers.

1.3 Research Questions

It will attempt to provide answers to the following questions:

i. What are the factors that have necessitated the land use conversion of Suleja?

ii. How has the inhabitants coped with economic and social challenges that have been posed by land use conversion in the study Suleja?

iii. What are the implications of land use conversion in the town?

1.4 Aim and Objectives

The aim of the study is to assess the impact of land use conversion on social and economic development of the inhabitants of Suleja with a view to finding sustainable solution that will guarantee for functional, economic, aesthetic and healthy environment for leaving and working.

The objectives are to:

i. determine the factors that leads to land use conversion in Suleja

ii. determine the socio-economic benefits of land use conversion

iii. identify the challenges that are posed by land use conversion

1.5 Scope of the Study

This research is designed to examine the impact of land use conversion on socio-economic development of Suleja, Niger State. The town is located in Niger State and is about 65km from Abuja. The study area has witnessed changes in the socio-economic status since 1976 when the then Federal Government decided to earmark Abuja as the new capital city. Suleja town was used then to provide accommodation to the workers who were involved in the development of Abuja city. Since then, the town has continued to witness rapid influx of people, businesses and other land use elements that have today culminated into disequilibrium between demand and supply of land and subsequently to land use conversion. The study will attempt to characterise land use conversion in Suleja town, examine the drivers that have contributed to land use conversion, assess the socio-economic impacts of the land use conversion, the challenges and offers sustainable solutions to land use conversion.

Therefore, this study will only be limited to three (3) out of ten (10) Wards that constitute Suleja Local Government Area. These districts comprise of Hashimi A, Bagama, Hashimi B, in Suleja town. These selected districts have continued to absorb the influx of people and their businesses, and have continued to witness more land use conversion.

1.6 Justification/Significance of the Study

The relevance of this study will be based on the negative impacts that land use conversion poses on the socio-economic life of inhabitants of Suleja town. There have been continued rise in the population of Suleja which is a satellite town to Abuja. This continued growth of the town has brought about demand for land for various uses. And the availability of land in Suleja is constrained by its topography, especially the hills and rock outcrops, roads and valleys. Given this situation of inadequate land availability and space and with the increase in competition for land, have resulted in the conversion of one land use to another in the town. The land use situation in the study area have been chaotic and made worse by the ineffective use of master plan to regulate the activities of the different uses.

Previous study by Galadima (2015) on the "Assessment of environmental effects of land use conversion in Minna, Niger State" revealed that traffic congestion, shortage of residential accommodation and inadequate infrastructure were the main problems resulting from land use conversion in Minna. Also, in their study of "Spatio-temporal analysis of land use and land cover change in Suleja Area, Niger State", Ejaro and Abdullahi (2013) revealed that there is decline in vegetation cover in Suleja due to more demand for building land and other activities which have in turn led to environmental degradation, biodiversity loss as well as infrastructural load. While the two studies focused on the environmental effects of land use conversion and land use/ land cover change respectively, more or precise focus on the socio-economic effects of land use conversion on the inhabitants of Suleja metropolis has been left out. Also the time gap

that these studies where carried out call for the further investigations of the implication of land use conversion because a lot of changes and new problems would have sprang up.

In the light of the above, it is imperative to have a proper investigation of the issues of land use conversion, and the socio-economic impacts thereof. Therefore, this research will identify the areas of land use conversion, the socio-economic impacts and the challenges. The information derived from the study will assist policy makers, town planners and city mangers in tackling the issue of land use conversion particularly the economic and social menace.

Finally, and in line with Goal II of the Sustainable Development Goals of making cities inclusive, safe, resilient and sustainable, this study will be further justified by the fact that an investigation into land use conversion will enable people in the city to advance socially and economically and thereby promote Sustainable Development.

1.7 Study Area

1.7.1 Location of Suleja

Suleja town in Niger State is the study area. The town which is the Local Government Headquarters is located near the boundary between Niger State and the Federal Capital Territory Abuja in the North Central region of Nigeria. It lies between latitude 9º6'13.8'' and 9º17'49.35'' north of the equator and longitude 7º6'58.6' and 7º12'18.41' east of Greenwich Meridians (Ejaro and Abdullahi, 2013). The LGA is only 110km south-east of the State Capital Minna and bounded by the Federal Capital City of Abuja at the west which is just about 65km away.

Suleja have been witnessing a phenomenal growth of population as a result of natural increase and immigration into the town (from 108,561 in 1991 to 216,578 in 2006; NPC, 2006). This growth have in turned culminated into land demand for various uses ranging

from construction and engineering works to social and economic as well as commercial uses leading to urban growth. This increase can be witnessed in built up areas that have been on the steady rise. The large mixture of people in Suleja can be explained by the rapid population growth and expansion. Population expansion in the town can be likened to its proximity to the Federal Capital City of Abuja. The official population figure for Suleja LGA is 216, 578 people (NPC, 2006), with an area of 136.33 sq km (Ejaro and Abdullahi, 2013). The rapid population growth of the town have given rise to more demand for land which in turn is limited due to the topography. The implication is the land use conversion in the town due the competitiveness with its resultant consequence on the inhabitants

1.7.2 Economic Activities

Suleja is a town with wide range of commercial activities spread almost all over the town. The major areas of these activities includes IBB modern Market road, the central commercial area abutting around Morocco road, the Minna-Suleja road, Dawaki road, Hassan Dalhatu road and Jubilee road which have predominantly witnessed land use conversion. The development and expansion of the town have given rise to more land demand mostly for commercial purpose. These high of land which is not readily available have resulted to conversion of existing buildings from residential to commercial with consequences on the socio-economic wellbeing of the inhabitants. Aside of being the economic hub where residence of FCT, Kogi and Nasarawa states patronise for commercial purpose on daily basis, Suleja is the “New York and Silicon valley” of Niger State where it is no second to any city in the entire state including the capital city Minna, through employment creation and generation of Internal Generated Revenue (IGR) to the state (Umar, 2021). And considering the large volume of economic activities taking place in the town, it will not be farfetched to refer to Suleja as a “beehive” of commercial

activities in Niger State (Saleh, 2008). Hence this trend of wide spread of commercial activities in the town has led to lots of residential buildings being converted to commercial use in the town.

1.7.3 Topography

Suleja is located on a relatively high level above the ground with over 366m or 1200 feet above sea level, and also lies on the physiographic unit known as central highland. It has a fairly rugged topography of urban landscape which are frequented by occurrence of inselbergs. Suleja has a steep slope valley with huge rock of granite and folded mountain. In addition, the town has many small streams and gorges. According to Max Lock (1988) the natural expansion in the town is constraint by granite outcrops which have resulted in the physical development on the rocky part of the town. The long ranges of hills ridges in the western part of the town have restricted the town development in that direction. Slopes in certain areas of the developed town are up to 30% and this in turn limits the availability of land. Thus, the topography of the town have play a role in the land use conversion since there is a constraint in the expansion, and the only readily available option is the uncoordinated conversion in the study area.

The study area Suleja Local Government Area is shown on figure 1.1.

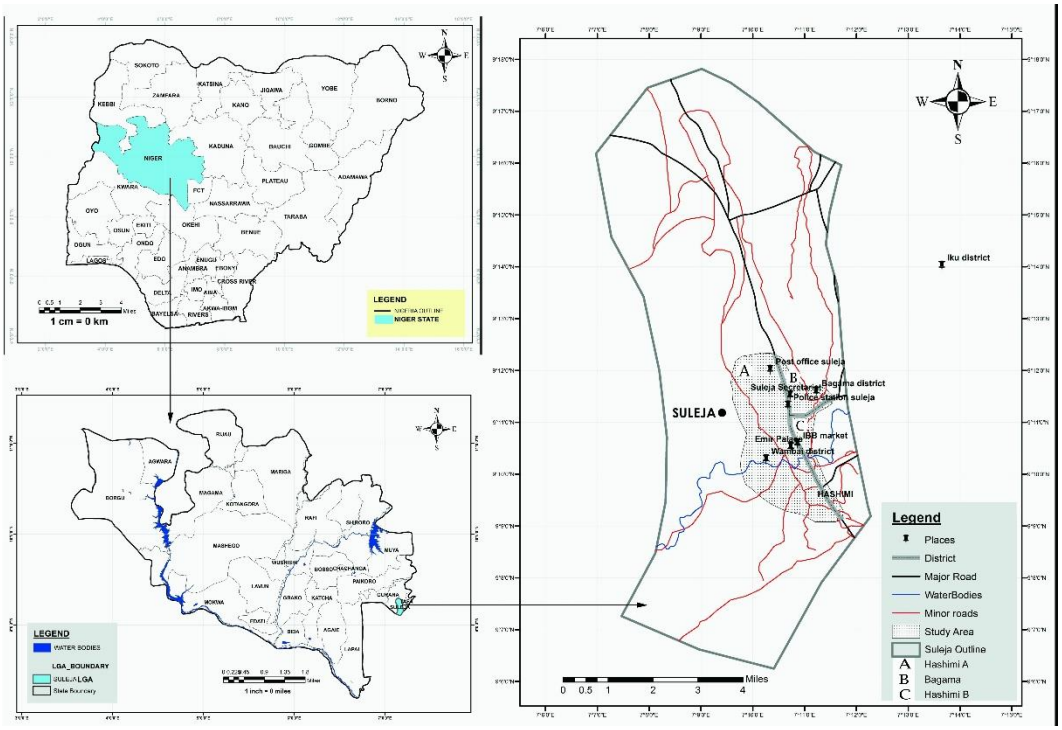

Figure 1.1: Map of Nigeria Indicating the Study Area
Source: Adapted from Google and modified by the author, 2021

CHAPTER TWO

LITERATURE REVIEW

2.0 CONCEPTUAL FRAMEWORK

2.1 Concept of Land

Land and its resources is the basically the main sustenance of our universe. The socio-economic, physical, and economic importance of land use in the development of our urban areas is very important that land intrinsic value is seen with the numerous uses that land is put into use (Peter et al., 2018). Early studies by WCED (1987) summarize the meaning of land as simply the human employment of land. Turner et al (1995) sees land as man's manipulation of biophysical attributes of the manner and purpose of the land. Peter et al., (2018) further categorized land broadly into rural and urban land. The rural are seen as those lands for agricultural purpose and that are mostly governed by local public authority i.e. the local government, while urban are those land that fall under our urban geographical environment.

It is well known that land is the most significant development element and land play host to all human activities. The continue daily decrease in quantum of available developable land as result of intensity of activities of human and increase in population which in turn raise the value of land particularly in urban centres. According to Adepoju and Adepoju (2016) economic or ground rent raises the value of urban land. Location superiority is sole responsible for economic rent in cities and the city land solely function as furnish area where to erect structures. All land in cities goes to the highest bidder as any utility can compete for any location with aim of maximizing economy as well as convenience of time and accessibility. Land resources have continue to be mount pressure over the years despite the international aim of enhancing land management. In order to curb the forces of market mechanism, the arrangement and activities in land are specified into

residential, commercial, industrial, institutional, recreational, and religious, among others (Adepoju and Adepoju 2016).

2.2 Urbanization and Land Use

Urbanization have a close relationship with growth of urban centre and the urbanization itself. However, urbanization is process of population increase of the world, nation or regions who lives in urban areas (Falade, 2003 in Ogundele, Jegede & Osamade, 2011). More recently, industrial activities and developments, have increase the population concentration in urban areas. The so-called urbanization have led to depopulation of rural areas as well as the abandonment of intensive farming and marginal lands that are hitherto rich for agricultural use (Ellis and Pontius, 2006).

The degree to which land is put into use may be influence by the rapid urban growth, likewise the manner and rate of urban expansion on various types of land use is determine by the configuration of an area (Oriye, 2012). As more people get attracted to a particular places, competition might set on various use that land will put to use which will gradually leads to urban growth in such geographical area (Ogundele et. al. 2011). According to Olatubara (2004), the land use pattern and uses of land are usually determine mutually.

According to Enisa and Aluko (2015), continuous urbanization bring with it the urban problems including pollution, crime, poor environmental sanitation, unemployment and overcrowding among others as a result of pressure orchestrated on land. Various studies have shown that Nigeria urban centres are confronted with rapid population growth and development that have affected land use conversion**.** The fourth Global Environmental outlook (2007) enumerated economic development, the burgeoning population and the global market as an unprecedented land use conversion changes. Globalization and urbanization have intensify pressure on land system compelling the operation on land

demand and expansion. Nigeria urban centres are occupy over 40% population in varying sizes (Olotua & Babadoye 2009). The consequences of these population dwelling in urban centres have resulted overcrowding, problem of housing shortage and inadequacies of living areas. As such Mustard (2012) concludes that with the increase in the global population over the next century by over 50%, and the likely increase in the standard of living there will be pressure to further convert land use in the cities.

2.3 Concept of Land Use

Oriye (2012) defines Land Use simply as "the use to which a piece of land is put". Verburg et al (2004) also define land use as the interconnectivity between behavior of human and other factors like land demand, land capacity, social and economic, ecosystem relation and technology. According to FAO land use entails the function and purpose for which the population put land into used. Briassoulis (2011) stated that land use connotes the activities of human that relate directly to land, using of its resources and the impact thereof. In a given spatial area and level land use is explain through specifying the particular land use pattern mix as well as the physical features extent of the area. Factors such as environmental, socio-political, economic and legal among others have over the years been dynamic (Adepoju and Adepoju, 2016). Wubie et al (2016) divulge that land use is dynamic since the nature and pattern of urban environment is interdependence and complex. Hence, in order to overcome the issues of deteriorating environmental quality, haphazard and uncontrolled development, important wetland destruction, loss of prime agricultural land as well as loss of habitat wildlife and fishes, the knowledge of land use is very pertinent for nation planning(Enisa and Aluko, 2015)..

Since the coming of man into the earth, there has been a dramatic change in the land use as a result of advancement in technological development which created emerging demand for more land use (Obateru, 2005). The variety of forms created emanate from forces

which prevailed during the successive periods of history. The fabric of city consists of building texture among other feature that all together create the city character and embody the memory of the city. The system of the city represents a cluster of complementary activities within the residential, commercial, industrial, institutional and recreational land uses, which enhances the urban socio-economic sector (Omuta, 2006). This cities existence is based upon the standard satisfaction derived socially, economically and politically by the mutual interaction which is facilitated by the access to the various land use (Ayo-Odifiri, 2017).

2.4 Conceptualizing Land Use Conversion

Land use conversion otherwise known as land use change implies the allocating the land uses to its highest and best use. In real estate, the subjective analysis of property owner, estate developer, estate surveyor and valuers do not determine the highest and best uses of a particular landed property, instead the competitive interaction of market where the property is situated shaped it (Adepoju and adepoju 2016). Ejaro and Abdullahi (2013) indicated that conversion of land use may involve either intensifying the existing land use like conversion from light industry to heavy industry or change in use like from agricultural land use to residential land use.

Land use conversion in town planning could be defined as the consistent conversion of land use from its original use to another use which tends to change or overshadowed the former use over a period of time. According to Galadima (2015) this conversion is mostly carried out in areas that are built up. The American law encyclopaedia described conversion as the physical invasion or trespass and entails the nuisance interference on used quiet enjoyment of land. Total land use conversion mean the conversion in area such that the particular land use that is being converted cannot longer sustained itself in the area within the built up area (Geoghegan and Irwin 1997). Land use conversions is as a

result of interaction of consequences of factors and actors (Bakker and Van Doorn, 2009). These conversions consequences around the world and most especially in the developing countries have been become a disaster in their metropolis.

The understanding of the interaction between the human and environment in land use changes brought about by the dual role of human activity contributing to the causes and experiencing the effects of global change processes. This need therefore, tend to be more imperative as conversion in land use become more rapid. It is against this backdrop that Hertel et al (2009) concludes as a result of insatiable nature of man in relation to land, changes in the physical use of land will continue so as to achieve optimal use (highest and best use). For example, from economic perspective the competitive nature of land us will make the land owners to behave rationally by converting low land use demand so that to achieve economic advantage of land use in property market.

In his study and using Nairobi in Kenya, Thuo (2010) indicated that land use conversion consist of mix of various complex issues such as economic, social, environmental and cultural feed loops. Land conversion is also shaped by the adjustment rooted in customary ways which is driven by lots of cultural, economic, and social change and also includes shift from collective kin-based behaviour to more individualistic behaviour. Nairobi fringes is affected by the changing economic, cultural, social, economic, environmental circumstances due to conversion of land as well as the market forces. However, the people have decided not to resort fate but have rather taken rather evolves various local or human level to as response to enable them still co-habit in the area. These have however, breed an environment for further conversion of land use thereby giving room for further land use conversion in areas that were not converted because the area have been made favourable for residential use and in return jeopardise the agricultural use (Thuo, 2010).

2.5 Types of land Use Conversion

Land use conversions are majorly in two types: the change in use from one form to another and the modification of certain land uses types. (Peter, 2018). Adebayo (2009) contend that not all land use conversion always yield positive benefits on economic development. Verburg et al (2004) gives the positive benefits of land use conversion such as property enhancement value, increase in land use supply for other uses, complimentary land use as well as better improvement of the entire community via encouragement of cooperative efforts. The negative impacts of land use conversion therefore include overcrowding, vicinity ill health, weakness in securing the immediate surrounding and extant infrastructure stress have been documented as negative consequences.

2.6 Causes of Land Use Conversion

Ejaro and Abdullahi (2013) grouped the causes of land use conversion into two and include; Proximate (Direct or Local) causes and Underlying (Indirect or Root) causes. Direct or Local causes of land use change explain how land cover and ecosystem are modified by humans' e.g. farms, household, communities etc. Indirect or root causes originate from regional (Districts, Provinces, or country) and they tend to be complex as a result of the interactions both political, social, economic, technological, demographic, biophysical and cultural element. Similarly, Enisa & Aluko (2015) also divided the causes of land use conversion into direct and indirect cause; direct causes include clearance of land for agriculture and economic uses, non-sustainable fashion of wood fuel harvesting, animal overgrazing that involves shortened, growth in population which in turn generate high demand urban fuel (ie charcoal) and food coming from rural and semi-rural areas. Common land ownership is the significant causes of land use conversion. In common ownership of property each user tends to maximize their self-interest without regards to the consequence of their action on the other users as well as cost of consumption the users.

Failure to properly develop market is an argument linked with the common property. Also, Eric et al. (2007) identifies the main causes of change in land use to include among others economic and technological factors, natural variability, institutional factors demographic factors, cultural factors as well as globalization.

Government policies in terms of ineffective market control, and control of use of land are just some of the complex choices of policies that can indirectly cause conversion of land use. Global awareness of the crisis concerning the conservation of biodiversity is now acknowledged following The United Nations Conference on Environment and Development (UNCED) held in June 1992 in Rio de Janeiro, Brazil acknowledge the creation of global awareness to the issues of biodiversity conservation. The conference aimed to recognise the indigenous people role and the local inhabitants in management of environment and development in biodiversity conservation as well as sustainability of natural resources. Natural resources has now been inextricably tied to the economic fortune of most developing nations particularly in relation with the quality, quantity as well as sustainable use of water, soil, forestry and agricultural product.

The complex interdependence of these resources and the limited appreciation to them as well as overexploitation and misuse have resulted to the depletion of the renewable resources.

2.7 Drivers of Land Use Conversion

Lambin and Geist (2006) stated that there is need to provide information that is needful and relating to spatial implications and environmental quality configuration, climate, economic as well as citizen well-being so that to better understand the factors responsible land use conversion pattern which will guarantee for the present and the future need. Ojikpong et al (2016) revealed that economic and other factors motivates people the

change in use of from residential to commercial building use. He further stated that though converting building to commercial purpose may generate some income to the owner but with the present laisser faire behaviour of uncoordinated building conversion without recourse to planning permission and specification poses a serious problems to residential availability and the immediate environment of the inhabitants. In identifying the Socio-economic drivers of land use change, Yirsaw et al (2017) itemise growth in population as well as economic development, urbanization, industrialization and subsequent land expansion as the main socio-economic drivers of land use conversion. Driving factors such as population density, government development policies and economic development were identified by Du et al. (2014) in their work at Jiangsu province, China. Similarly Bello and Arowosegbe (2014) point out that urbanization and ineffective legal framework as the growing impediments of land use change stressing that the factors contributes significantly to the poor structure of economic and degradation of environment. Thus, Turner, Kate and Clark (1990) revealed that while the impact resulting from land use change consequence, the factors as well as the causes are the drivers of change.

2.8 Impact of Land Use Conversion

Land use conversion have been seen as the pervasive social and economic driving force of land use changes and environmental degradation. The earth landscape have been altered by the human activities such urban development, deforestation and agriculture. As a result of the consequences of such land disturbance the important with wide range and long-time implication (Wu, 2008). However, land use conversion do come at a cost. Conversion of agricultural land use to urban development reduce the availability of land for food as well as timber production. The quality of land resource and the future of agricultural productivity is reduced due to desertification, soil erosion, salinization and other associated degradation of soil through intensive agriculture and deforestation

(Lubowski et al. 2006). One of the noticeable consequences of land use conversion according Peter et al. (2018) include distortion of landscape, arbitrary land or rental value and urban infrastructure pressure among others.

The conversion and modification of land use can be seen in two ways: the positive and negative effects viewed from economic, social and physical perspective. As a result, conversion of commercial to residential the negative consequences have been traffic congestion, residential housing shortage, insecurity and vices. This in turn bring about disparities in cost of residential accommodation, and also reduction in the quality of the environment like air pollution and noise pollution that is tied to this development (Ayo-Odifiri, 2017)**.** On the other hand Wu, (2008) also grouped land use conversion impact into two: that is the socio-economic and environmental impacts. The socio-economic impact of land use conversion result in reduction in farmland which is needed for the economic wellbeing of local agricultural economies which in turn affects the lives of the individuals as well as the ways in which society is organized, loss of identity, segregation of income and disparities in economic among the communities. It also lead to increase in the prices of housing thereby making housing less affordable to middle and low-income households. Again Wu (2008) further revealed that environmental problems such as water pollution, air pollution and loss of wildlife habitat are linked to urban development. The environmental impacts of land use conversion like nutrients content in urban runoff, sediment as well as toxic contaminants result not only to water pollution but also in large stream flow variation and temperature. Other environmental impacts of land use conversion as identify by Galadima (2016) are the destruction of ozone layer through the release of oxide by the activities of agriculture and the modification of local and regional hydrology. Furthermore, the main fundamental requirement of human population and

most government is the future supply of long-term supply and food production (Pontius and Chen, 2006).

In Minna, Nigeria, Jinadu (2005) observed posited that the gradual conversion of existing residential houses to commercial uses which in turn have a many implications for housing stock survival. This trend have a negative implication in the reduction of residential accommodation as well as room in the urban centres. He revealed three dimensions of shortage of accommodation that impact on the building conversion and replacement in his study area. These dimension include; the phenomenon of "shop/room use" by which a shops is used in the day time for commercial purpose but later is use as sleeping area at night and the second the high room occupancy ratio of about 4-7 persons in a room resulting in the overcrowding of the building. As a result of inadequate and accommodation shortage in Minna, the low income city dwellers particularly the new households largely migrate out of the core city.

Such trend of this migration was also observed Agukoronye and Nwankwo (2002). They revealed that as a result the low-income earners are compel to relocate and formed squatter settlement within or outside around the city. The dislocation is involuntary, unlike in the advanced countries. The migrants are forced to move as a result of circumstances. Jinadu also stated that there is gradual destruction of the city cultural heritage due to demolition and building replacement.

2.9 Land use conversion implication

According to Enisan and Aluko (2015) Land use has many socio-economic gains, but not without substantial cost to the environment. While most environmental externalities are not figured into land use decisions, the economic cost are. These environmental "externalities" bring bout differences between private and social costs for some land uses,

resulting to an inefficient allocation of land. For example, the cost generated by the developer of a projects on the environment as well as cost of infrastructure are not usually bear them. Farmland create an open space area as well as agricultural commodities. While the farmer may not be compensated for the open space they created, but they are paid for the commodities they produce. Thus, market prices of farmlands may be below their social values. Such "market failures" bring about efforts in private conservation and public planning of land use and regulation. The role of non-profit organization and private trust in land conservation cannot be overemphasized. For example, over one million acres of best farms and ranch land in America by American Farmland Trust has been protected. Also, more than 117 million acres of important ecological lands have been protected by Nature Conservancy. Moreover, there is doubt about the crowd of private conservation efforts and effort of public complement.

2.10 Problems Associated With Urban Land Use Conversion in Nigeria

2.10.1 Increase Economic Growth and Decline

The continued rise in the as well as the growth and decline of the main the economic stronghold of Nigeria have pose a serious problems for the populace. This in a long run affects the people of way of life ranging their pattern of activities. This change has raised concern about resources sustainability (resource management) and change in land use of countries.

2.10.2 Increasing Commercialization of Agriculture, Land Degradation, Expanded and Shifting Opportunities for Labour Migration

Process of land use change and resource management in Nigeria has become a threat with many constraint due to degradation, agriculture commercialization and expanded shifting of opportunities. Factors such as the local people unfavourable changing conditions as

well as the effects resulting from economies greatly affects the land use resource management.

2.10.3 Another problem is deforestation

That is the cutting or over-harvesting of trees indiscriminately for lumber or pulp, or land clearing for ranching, agriculture, construction, or other human activities. This is pose a problem land use change (Enisan and Aluko, 2015)

2.11 Solution to land use conversion problems

2.11.1 Land Management Framework

Land policies involves the establishment of framework for management of land which is important factor for successful formulation and implementation of policies. The administration of land is done by government agencies, ministries, autonomous and semi-autonomous government departments with each monitoring the specific management of land. Among the main aspect that are monitored by the agencies are public lands, land right distribution, planning and development control, monitoring of market process, fiscal matters and technical standards (Enisan and Aluko, 2015).

2.11.2 Appropriateness of the Policy Measures

Given the divergence in countries and urban areas in terms of economic, social, political and historical backgrounds. Land policy measures is determined by the effectiveness and appropriateness of measures of policies within the context of these backgrounds. As Dunkerley (1983) remarked that varied development of social system and ethics is reflected on wide control variety systems. Consequently one city is appropriate and works to the best public advantage and cannot generally be transferred similarly to another city even within same country. The inability to achieve a policy objectives is hinder by land policies that are inappropriate and counterproductive. Inappropriate land policies in many

developing countries, are generally the seen as the main contributors to inability to have adequate land supply in our cities. For example, the World Bank reported that land use regulations and control measures is a complete failure in most of the countries (McAuslan, 1985).

2.11.3 Coordination of policy measures

The is achievement of the policy objective is affected by vast array of policy measures which are conflicting and interrelated as well as the land use policies counterproductive and interrelationship that is created (Enisan and Aluko, 2015).

2.11.4 Availability of Information

The prerequisite for effective most measures of land policy is the availability of adequate land information. Information is the positive control measure in an effort to policies. Therefore, information is required on existing land use, development density as well as ownership together with precise information on characteristics of soil, location and capacity of existing utilities among others need to be recorded. The essential information required for planning include that of economic and social features of the population as well as the activities. Adequate availability of information is helps to determine land ownership control, the control and regulation of land use and the development of an effective system of taxation. Lack of information also affects the acquisition of land for public purpose. The effective control of development as well as the effective taxation system in many developing countries on ownership of land is the major problem that is hindered by lack of information (McAuslan, 1985).

2.11.5 Allocation of Adequate Resources

Enisan and Aluko (2015) stated that large scale public sector intervention in land market requires the urban land policy implementation programmes with large financial resources.

In other to fund land-assembly programmes, implement land use plan, make provision for infrastructure and services and ensure the availability of adequate institutional framework such as manpower and sufficient operating equipment, financial resources are required. Hence, the implementation of land policy measure is affected by the ability of the public sector produce the required resources.

2.11.6 Administrative System

Land policy is affected by the level of harmony between the divergent tiers of government in the policy measures application as well as the administrative and political framework that the measures operate the outcome in the implementation (Enisan and Aluko, 2015). Thus, effective implementation of land policy measures is likely hampered by the conflicts between different tiers of government.

2.12 Land Use Reform in Nigeria

Land reform can also be referred to as land replenishment. Land reform simply implies improvement and reorganization of land and it resources when considered to be ineffective, faulty or unjust in other improve and increase it productivity and exploitation for people benefits generally. The scholars and some politician in the country usually embark on land reform in Nigeria because it is a huge task. Land reform in Nigeria is a concept that is view as a social security function given that many people believe that it is only land they have to fall back in their villages after they all things have failed for them so that they can raise crops and sustain themselves. Land use policy and ownership should note that people hold land in such high esteem and their access to is seen as part of their life and any move to take back land from them will be met with strong resistance. The study was therefore premise on to examine the land tenure and land reform issues in Nigeria (Enisan and Aluko, 2015).

Nigeria is seen as the populated country in the whole of African with a population of over 130 million spread across the land area of about 932,000 square kilometers. Over 100 cities in Nigeria have a population that qualify them for urban centers. According to World Gazetteer (2005), Nigeria cities such as Kano, Ibadan and Lagos are among the world top one hundred largest resulting to more pressure on the land and high urban dynamics. The rapid urbanization rate have put pressure on land with consequences on urban problems such as pollution, poor environmental sanitation, unemployment, overcrowding and crime among others.

So many studies have shown that Nigerian cities are faced with urbanization and development which in turn have resulted to change in the land use. The drivers and the impacts of change in land use are the two central and interrelated issues and the goal of land use change analysis. While the impacts are the consequences of the change, the drivers of the change are the causes and processes that result from change (Kate, Turner and Clark, 1990). Attention and publicity have been drawn more on the impact of land use change compare to the drivers because the impact are what people felt. The drivers have in most instances not be appreciated. Likewise and despite that there are socio-economic and environmental changes, the socio-economic changes seem to be more subtle, long-term and subjected to more influences, complex and less visible and verifiable factors than the environmental impacts. However, both the economic and environmental impacts .are interrelated in many ways.

The economic impacts maybe seen to be caused by the environmental impacts and the economic impacts accentuate the environmental impacts resulting in land use change successive rounds. A typical example is a peasant extracting fuel wood, while the same time degrades the vegetation cover. This extraction and vegetation degradation due to fuel wood have little or no consideration for future fuel wood extraction and will further

impoverished the local people by expending more energy as well as resources in going further to search for fuel wood in the forest and thereby resulting in more damage to the forest resources (Adesina and Amamoo, 1994; Warren et al 1991).

In examining land reform in Nigeria, a lot of difficulties has witnesses in the sense of opening inequalities of traditional and tripartite land ownership and also the different implications to land and the explanation of change in land use in the range of socio-geographical context in Nigeria. Land tenure system is an example of such problems. Existing literature has expressed the concern by scholars (Fabiyi 1974; Famoriyo 1977; Gandonu 1977; Okpala 1980) on Nigeria traditional land tenure system problems. Example of such problems is land tenure system. The examples of the scholars regarding to the problems of land tenure could be interpreted based on the duplicity of land ownership with consequent excessive cost of transaction, land fragmentation into uneconomic sized tracts, and land inalienability which lead land to be part of the physical capital but not a part of financial capital.

The need to ensure access to equitable productive opportunities on the land and security of such access once benefited lead to mandatory land reform measures. Absence of land taxes have led to wide scale speculative buying of large expanse of communal which have reached a crescendo and have exacerbated the situation. This lands is mostly purchase by non-farmers who are wealthy and keep the land idle waiting for the prices of land to rise, at the detriment of food production decline (Fabiyi, 1974). The land speculative purchasers who have prior knowledge of government intention to project development in the area then demand for high compensation from the government which may make the government to shift the development because of the prohibited amount of compensation they demanded (Famoriyo, Fabiyi & Gandonu, 1977). In some cases the claims and counter claims of a disputed site proposed for development coupled with the

with injunction from courts as well as attendant lawsuit have prevented the land development and make such land unavailable for development.

The discussion above on changes and inconveniencies have "led to the questioning of the importance of equity of traditional relationships and established institutions of land and have given moral sanction to demand for change". In the third National Development Plan 1975-1980, the military administration viewed the problems posed by the acquisition of land for project development as thus "with regard to acquisition of land for federal project, it is now clear that the burden is too great for any single ministry if it has to perform its other functions.

The most important single factor which have virtually been put forward by all public agencies is the difficulties in acquisition of land "which frustrated the implementation of a number of their project". The military administration also commented on the individual land ownership and speculation and stated that "furthermore individual ownership of land and speculation in urban land has led to considerable increase in the price of land. The application of the principle of equivalence in valuation of land have also accentuated this trend. Furthermore, the activities of fraudsters in transaction of land couple with continued legal tussle on the title of ownership altogether have hindered development of housing with consequences and significant escalation of rented accommodation prices. Thus, the prohibited prices of land for development in Nigeria urban centers, have resulted into difficulties in land acquisition for project development and building purposes for individual particularly the low and the middle income groups and small business concern.

2.13 The Theories of Land Use Change in Nigeria

The nature of Nigeria urban environment are likely spontaneous of planned and this makes them different in their development (Babalola, 2009). There are advantages and disadvantages of the differences between traditional unplanned and contemporary modern cities which affect the quality of urban life. While the growth of unplanned settlements is from the micro to macro scale, reverse is the case in planned settlements and this has resulted to lack of hierarchical organization among different levels and also connections loss between them (Oduwaye and Enisan, 2011). The basic point made clear by the presentation of theories of land use change is that each theory focuses on a particular aspect of the subject. Each theorization tradition focuses more or less on a given spatial and temporal level which explain, to a considerable extent, the nature of and the significance placed on the components of the system studied.

At initial levels, theorizing is usually more concrete and gives (or aspires to give) more realistic accounts of the agents, context and change mechanisms. At higher levels, theorizing is more abstract and obtaining from theory to the real world is not always simple and focused. Similarly, the land and land use is conceptualized differently, while some conceptualization is more realistic, others are abstract and "space-neutral". While other theories only give indistinguishable indications, some theories specify the patterns land use that culminated in the change process. The latter are associated usually with a state of equilibrium while the former make no such assumption considering change of land use as a continuous, rarely equilibrating process.

The drivers of change in land use is important in the identification of the role of theorization tradition which is critical. While some theories placed emphasis on economic, some others emphasized on socio-political, and some on the environmental determinants of change in land use. Although the influence of the "mother discipline"

remains vital in most cases, the current trend is more towards the integrated theoretical schematic. The varied explanation of theories of land use change and direct reference to the mechanisms of change is dependent on the basis of their epistemological. Hence, very few theories have filtered down to models of land use change as a result of the justification and their present forms (Oduwaye and Enisan, 2011).

CHAPTER THREE

3.0 METHODOLOGY

3.1 Reconnaissance Survey

A reconnaissance survey was carried out in order to get the general impression of the study area, and to identify areas with preponderance of land use conversion. The researcher went round the districts that constitutes Suleja town. In all, there are ten (10) wards in the Suleja Local Government Area, and based on the survey, three (3) wards with the most prominent land use conversion were identified using such indicators as intensity of the conversion, the new and re-developments springing up in those areas as well as the socio-economic characteristics of the areas. The three (3) wards selected are Hashimi A, Hashimi B, and Bagama.

3.2 Types of Data

In order to achieve the aim and objectives of the study, the following data were acquired for this study:

a) Data with respect to socio-economic characteristics of the inhabitants such as income, occupation, educational attainment, among others.
b) Problems the inhabitants are facing as a result of the land use conversion activities in the area.
c) The factors that have led to land use conversion
d) The economic and social benefits (if any) of land use conversion to the people.
e) Data on the common land use conversion of the study area.
f) Data on the ownership of buildings (either owner-occupier, rent, purchase, lease)

3.3 Sources of Data

3.3.1 Primary Data Source

Primary data is data that is collected directly from the main sources. The primary data source was collected directly by the researcher from the field through survey. This study was carried out through administration of structured questionnaires, personal interview with the staff of Niger State Urban development Board Suleja as well as the Suleja Local Government planning unit, and direct personal observation and participation with the aid of on the spot photograph. It covers three (3) selected wards of Hashimi A, Hashimi B and Bagama. The questionnaires were designed to cover social and economic impacts of land use conversion. More importantly, it address the aim and objectives of the research in question. Thus, the primary data sources can be discussed below

a. **Questionnaires**: this involves the administration of questionnaires to some selected respondent in the study area. The questionnaires was structured to encompass age, income, occupation, age, educational attainment as well as the to get the view of the respondents on the factors, benefits and challenges of land use conversion.
b. **Oral Interview**: it entails physical interview of the inhabitants of the Suleja particularly the staff of Niger State Urban Development board, Suleja Zonal Office and the Suleja Local Government Planning unit to get there view on the incessant land use conversion and the role they play.
c. **Personal Observation**: this will enable the researcher to get the impression of the study area and identify areas with preponderance of land use conversion as well as get photograph some of the conversion and the variable under discuss.

3.3.2 Secondary Data Source

Secondary data is data that have already been collected through primary source and made readily available for researchers to use. The secondary data was sourced from published and unpublished materials like research works, articles and the Suleja Master Plan. Also, data from documented materials such as National Population Commission (NPC) and Niger State Urban Development Board as well as Suleja Local Government Council were used.

3.4 Sample Frame and Sample Size

The sample frame was drawn from the total population of Suleja using the 2006 NPC figure which was put at 216,578. Then the Slovin formula was utilized to derive the sample size as given below:

n= N/1+N(e)2

Where n= total sample

N=population size

e= margin on error

Applying the formula thus:

n= 216578/1+216578(06)2

= 216578/1+216578(0.0036)

= 216578/780.6808

n= 300

3.5 Sampling Technique and Procedure

The official population of Suleja according to last National Population Census of 2006 was estimated at 216,578 people (NPC, 2006). The sample of household in the study area was selected using stratified and systematic random sampling technique respectively. The selected wards were used as stratum of the sub-population and questionnaires were be administered randomly in the wards. The household sample was drawn randomly to allow for a degree of representation. Then, the population of the selected areas was reduced to manageable size through the use of systematic random sampling techniques of the sample size. This simply enable the researcher to obtain proportional representation of the population of the sample within the areas. The choice of systematic random sampling provide the probability of selecting every item in the population. This is in line with Morenikeji (2006) who remarked that this technique give the equal chance of selecting the "n" unit out of the N being drawn from the sample. In this case, the questionnaire were administered in each of the 5^{th} house after count of four (4) houses. Information was sought from households on both quantifiable and non-quantifiable aspects of land use conversion.

However, a total of 300 questionnaires were administered randomly in the three (3) selected districts of Hashimi A, Hashimi B and Bagama. Since the population is not evenly distributed in the three (3) selected districts and given the magnitude of the conversion in each of the districts of the study area, 120 household were sampled in Hashimi A ward, while 100 and 80 households were sampled respectively in Bagama and Hashimi B wards giving a total of 300 questionnaires altogether.

3.6 Modes of Data Analysis

The data collected was analyzed using descriptive and inferential statistics. The descriptive statistics include tables, figures, charts and photographs. To measure socio-

economic characteristics of the inhabitants, descriptive statistics was employed to describe the characteristics of the variables. On the other hand, inferential statistics method was used to examine the relationship between factors and impacts of the land use conversion and the determinant of the change of use in relation to the pattern and character of the emerging land use. This methodological approach was employed by Ayo-Odifiri (2017), to investigate the planning implications for changing the use of residential Buildings in Auchi, Nigeria. Thus, relevant data collected was analyzed using a software referred to as Statistical Package for Social Sciences (SPSS) in order to obtain accurate value.

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION

4.1 Introduction

This chapter discuss the findings and result of the impact of land use conversion on socio-economic development of Suleja, Niger State. The discussion is based on the aim and objectives of the study. It attempt to discuss such variables as the original and present use of the building in the study area, the type of land use conversion and level of land use conversion. Other variables discuss include the factors responsible for land use conversion, the challenges as well as the benefits the inhabitants of the study area have derive from land use conversion. A total of 300 questionnaire were administered out of which 292 were returned, and therefore formed the basis for this data analysis.

The distribution of respondents on sex indicates that 134 or 45.9% and 158 or 54.1% of the respondents are male and female respectively. This implies that the percentage of respondent comprising of female were more than that of male. However the respondents based on age group is presented of the table below

Table 4.1: Distribution of Respondents Based on Age Group

AGE	NO OF RESPONDENT	PERCENTAGE
20-30 years	76	26%
31-41 years	122	41.8%
41-50 years	69	23.6%
50 and above years	25	8.6%
Total	**292**	**100%**

Source: Author's field survey

The table 4.1 indicates that the percentage of respondents of those between the age group or 20-20 years is 26%, those between 31-40 years us 41.8% while those between 41-50 years us 23.6% and those between 51 and above is 8.6%. This however means that majority of the inhabitants interviewed fall within the age group of 31-40years. This age bracket between 31-40 is believe to be the matured age and as such they are likely to provide more accurate information that the study requires.

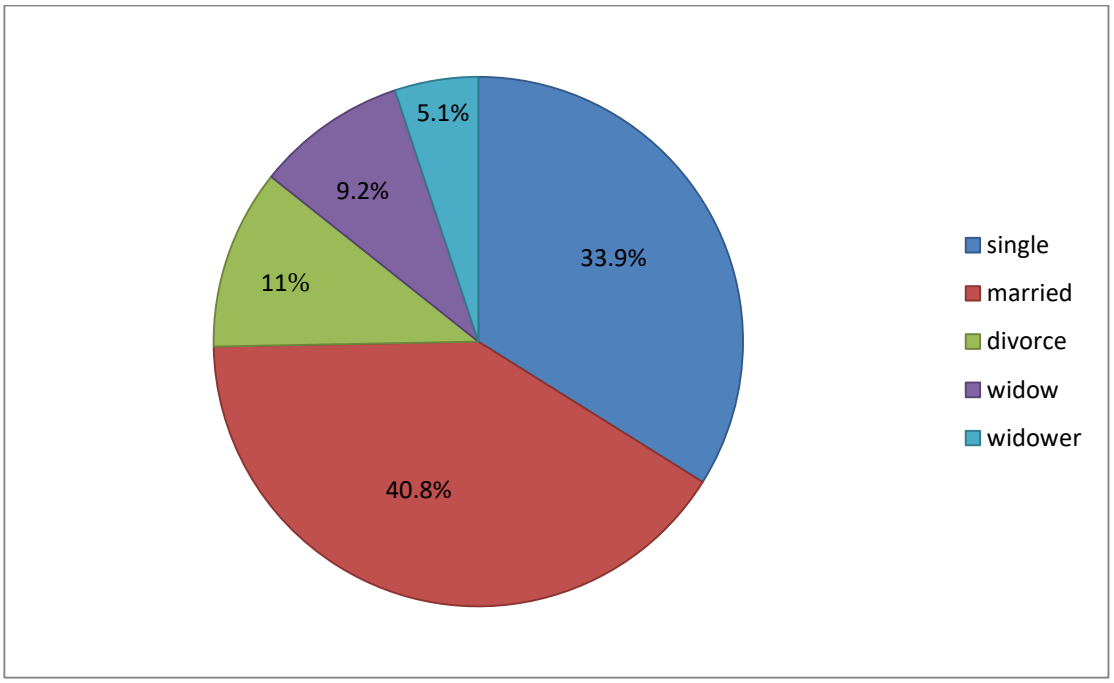

Figure 4.1 Marital Status of Respondents
Source: Author's field survey 2021

The total of respondents of those that are single is 99 or 33.9% that or married is 119 or 40.8% and divorce is 32 or 11%. Widows constitute 27 or 9.2% and widowers is 15 or 5.1%. As such majority of the respondents interviewed were married. This will give more credence to the research as the married are more likely to give the researcher accurate information as it relates to land use conversion.

However, on the level of education a presented on table 4 below, the total respondents that have non-formal education is 38 or 13%, that of primary is 28 or 9.6% and 80 or

27.4% include persons with secondary education. Tertiary education level is made up of 127 or 43.5% of the respondent while 19 or 6.5% of the respondent constitute other level of education such Islamic knowledge. The high number of respondents who have tertiary education level really made the administration questionnaire less difficult as they could easily read, interpreted and respond appropriately to the questionnaire

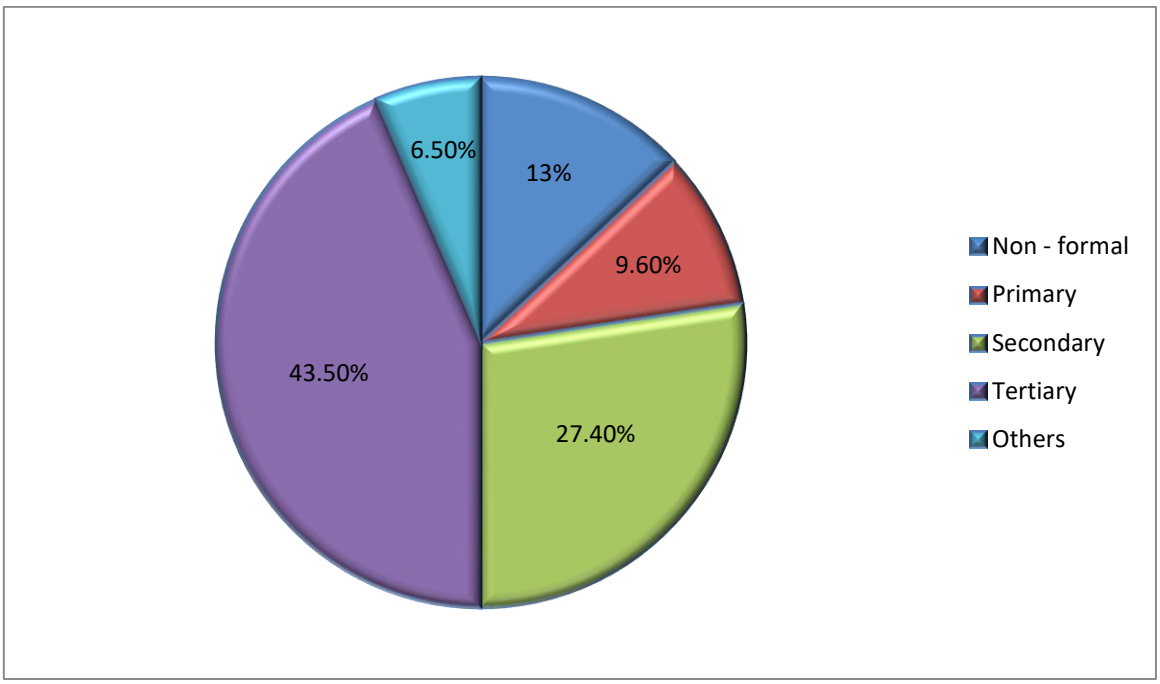

Figure 4.2: Distribution of Respondents Based on Level of Education
Source: Author's field survey 2021

The predominant house hold size of the respondents were between the range of 3-5 constituting 135 46.2% of the total persons interviewed. This is an indication that the inhabitants in the study area have an average family size. The household size range between 1-2 interviewed were 64 or 21.9%, while 61 or 20.9% were within the household range of 6-8. A total 32 or 11% of the household size fall within the range of 9 and above. Though the inhabitant have a relatively average household size the pressure of the city will make them to leave the area, which in turn result tom land use conversion. Figure 4.3 below shows the house hold size of the respondents

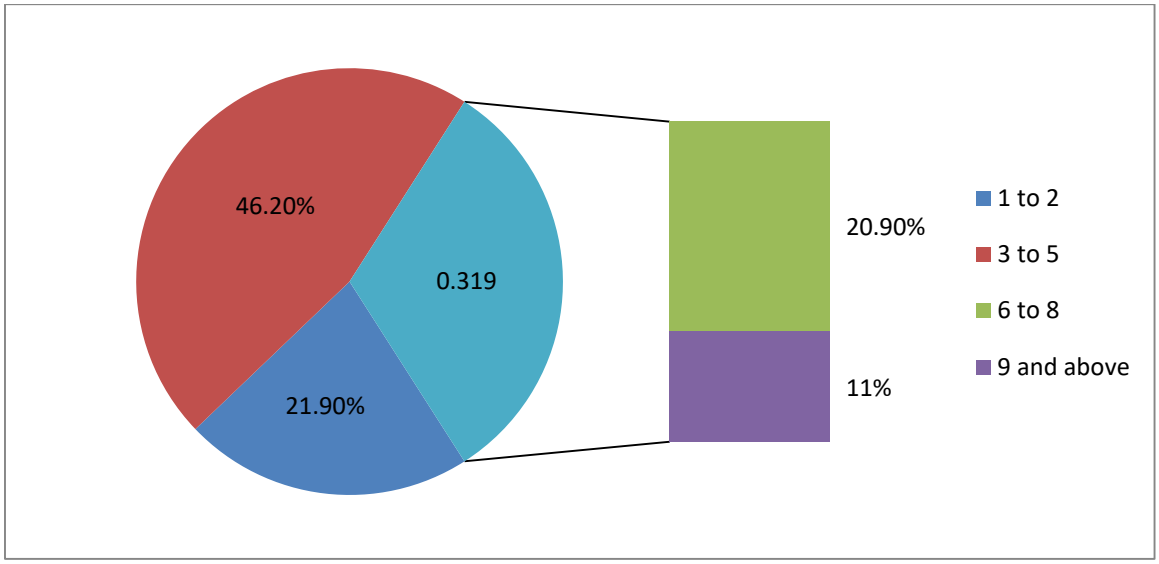

Figure 4.3: Distribution of Respondents Based on House Hold Size
Source: Author's field survey 2021

Figure 4.4 below indicates that the total respondents engage in farming is 79 or 27% of the 292 questionnaires returned, public servant constitute 22.9% or 67 persons, trading is 72 or 24.7% while self-employed is 55 or 18.8% and others which includes house wives, company workers and those with no jobs constitute 19 or 6.6% of the respondents. This shows that farming, trading and public servants form larger numbers of those interviewed.

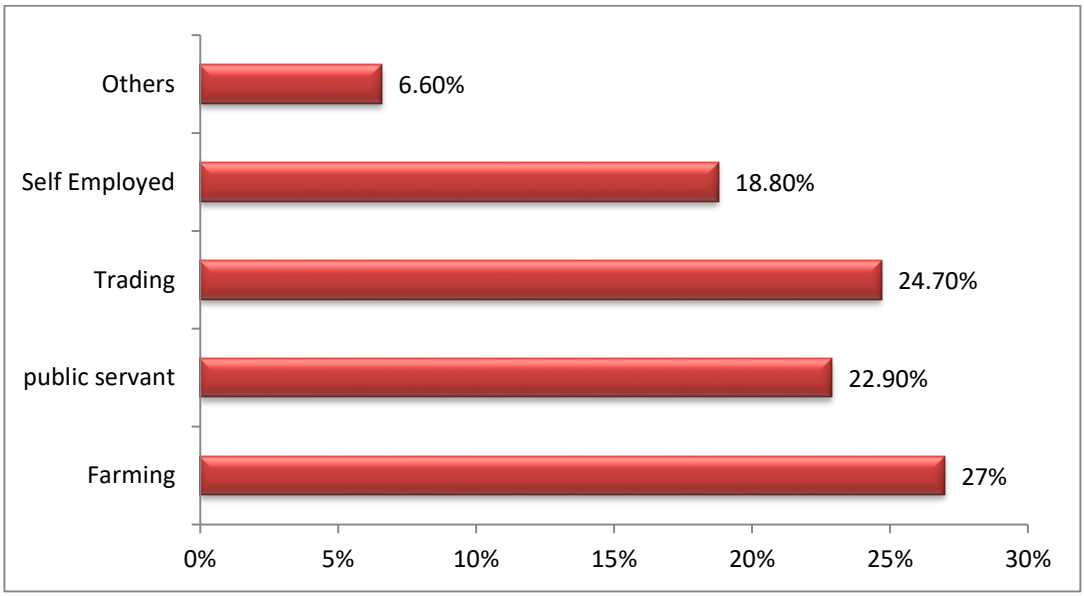

Figure 4.4 Distribution of Respondents Based On Occupation
Source: Author's field survey 2021

On the basis of income distribution of respondents table 4.5 below shows the response

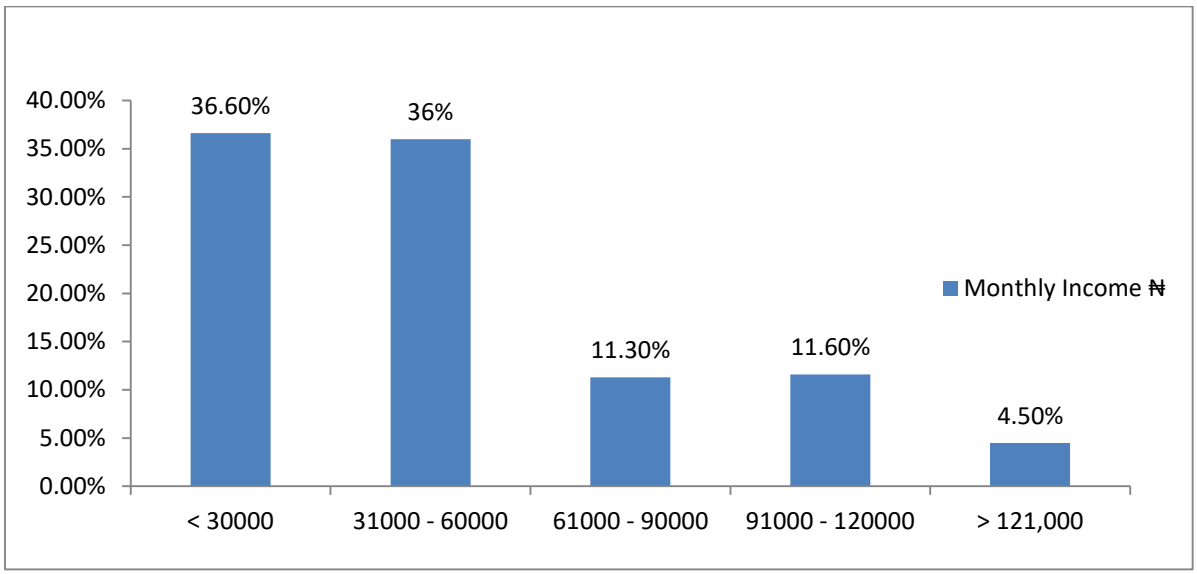

Figure 4.5 Distribution of Respondents Based on Income per Month
Source: Author's field survey 2021

The monthly income ranges of the respondents falls between less than N30, 000 and N31, 000 – N60, 000 constituting 107 or 36.6% and 105 or 36% respectively. Those with income range between N61, 000 – N90, 000 were 33 or 11.3%, 34 or 11.6% of the inhabitants have an income range between N91, 000 – 120,000, while those with income above N120, 000 were 13 or 4.5% of the respondents. This shows that a sizeable number of the respondents still earn below the national minimum wage of N30, 000 and this could explain why most of land use conversion is prevalent in the study area with its resultant consequent on the inhabitants.

The total respondents who are origin of Suleja are 148 or 50.7% out of the total number 292, while 144 or 49.3% are inhabitants from other places as shown on figure above. It can be deduce that about 51% of those interviewed are not originally from Suleja but might have reside to engage in one form of occupation or another. Also this influx of persons into the town who are not origin, have continue to influence land use conversion as they jostle to earn a living.

However on the numbers of years the respondents have lived in the study area 30 or 10.3%, 32 or 11%, 48 or 16.4% have lived in the area for less than 5years, 6-10years and 11-15 years respectively. While 107 or 36.6% of the inhabitants and 75 or 25.7% have lived in the area for 16-20 years and 20 and above years respectively. This implies that larger part of the population interviewed consisting of 107 out of total of 292 persons interviewed constitute more person that have lived more years in the areas. The 75 or 25.7% of the response are those who have been there for over 20 years, implying that the areas that are being converted are done by the owners of the building due to the factors that are discuss herein

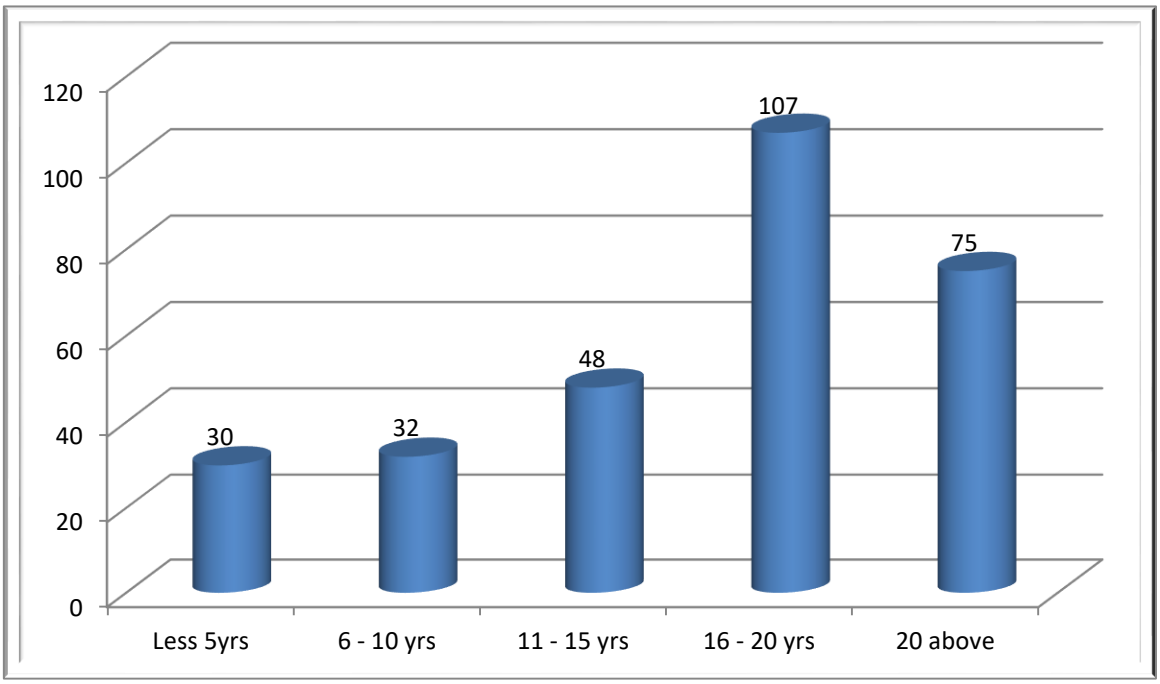

Figure 4.6: Distribution of Respondent Based on How Long He / She Have Lived in the Area

Source: Author's field survey 2021

According to figure 4.8 below, the place of work of the respondents indicates that 139 or 47.6% of the respondent works in Suleja, while those who work in Abuja constitutes 127 or 43.5% of the populace. The remaining 26 0r 8.9% of the respondents work in other places other than Suleja nor Abuja. It can be deduce that many of the respondents work in Abuja but choose to reside in Suleja which might be tie down to either proximity (since

Suleja is not far from the capital city) and or because they enjoy the relative cheap accommodation compare to Abuja as well as relative cheap living conditions in the town. The other large number or 137 inhabitants interviewed live and either work in Suleja or conduct their business in the area mostly in the converted buildings of the study area

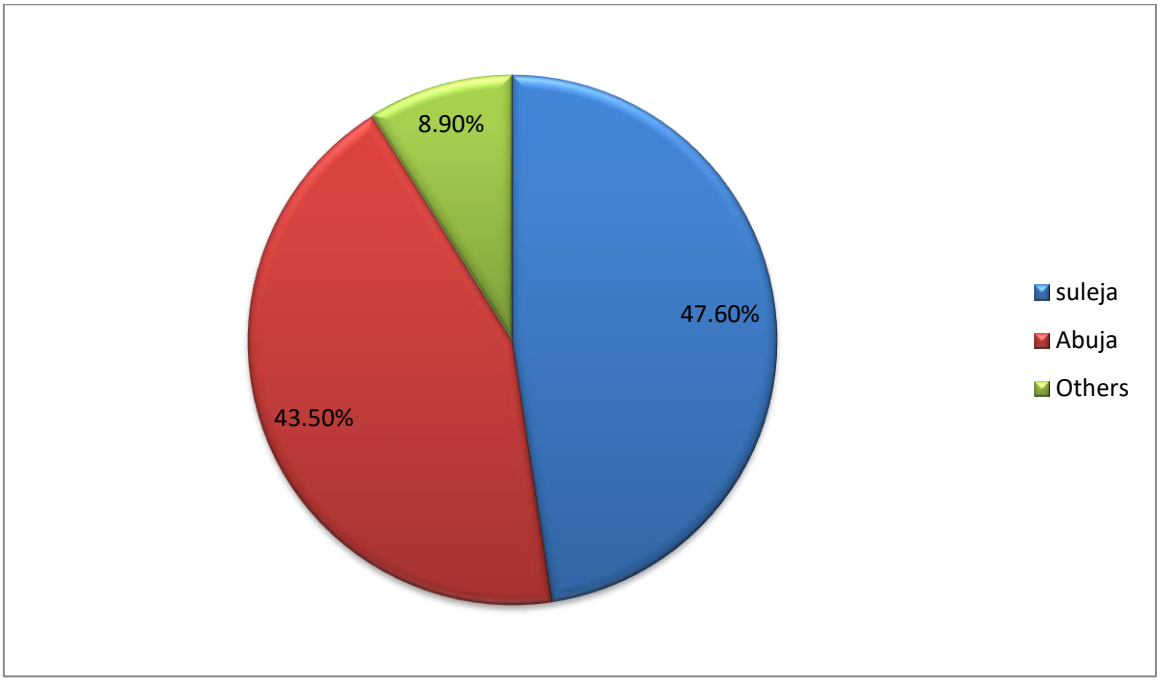

Figure 4.7: Distribution of Respondents Based on Place of Work
Source: Author's field survey 2021

However out of the total number of 292 respondent about 111 or 38% decide to reside in the study area due to the proximity to their place of work and business. A large chunk of Suleja inhabitant's work in Abuja due to its nearnest and cheap accommodation and relative cheap living conditions. On the other hand, the respondent who choose to reside in the area due to cheap accommodation is 74 or 25.3% while 49 or 16.8% of the respondent reside in the area due to their businesses. About 58 or 19.9% respondents reside in study area due to other reason other than the one itemized here. They are possibly inhabitants that were born in the area and they own the houses they are living.

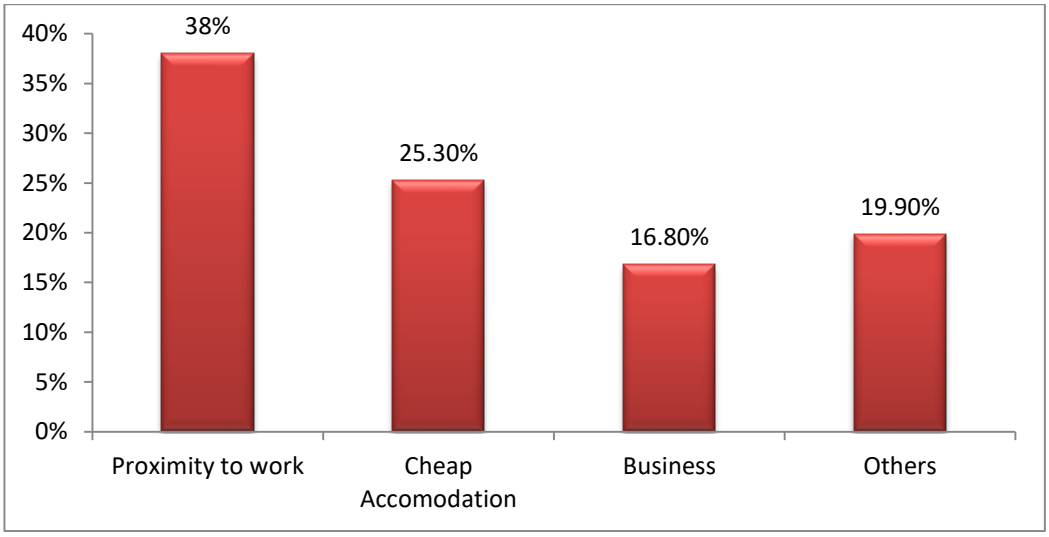

Figure 4.8: Distribution of Respondents Based On Why He / She Choose To Reside in the Study Area

Source: Author's field survey 2021

The figure below shows the response on house ownership in the study area.

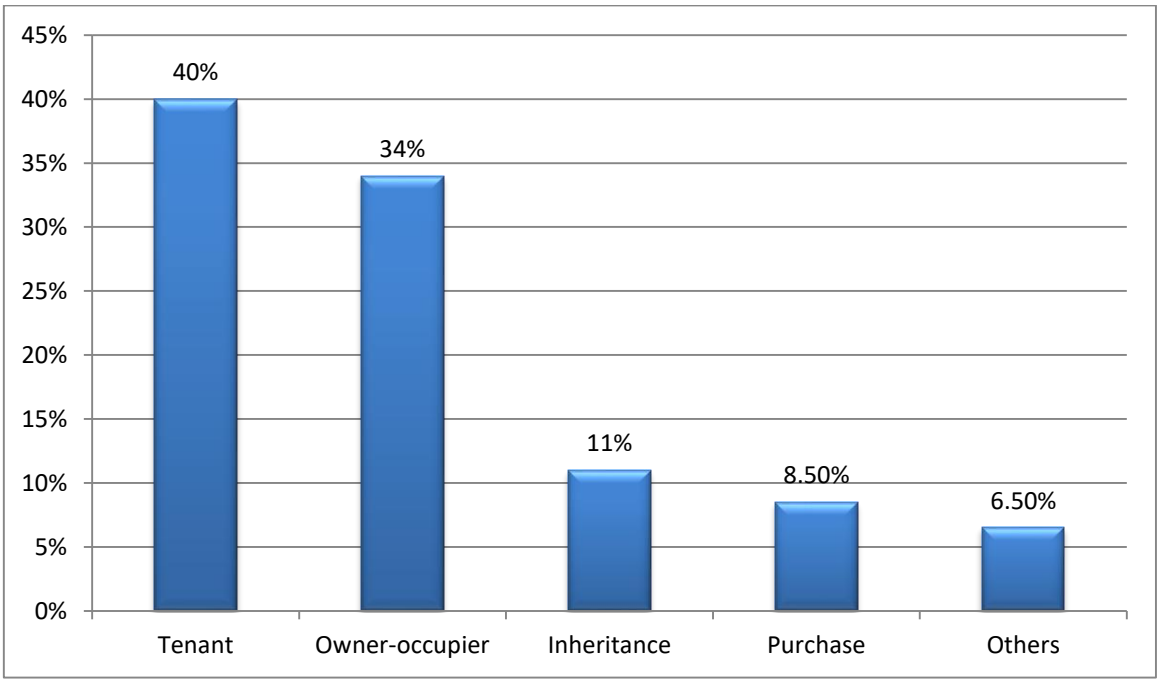

Figure 4.9: Distribution of Respondents Based on House Ownership

Source: Author's field survey 2021

Figure 4.10 indicate that majority of the respondents in the area constituting 117 or 40% are tenant apartment; 99 or 34% are owner occupier, while 32 or 11% inherit their houses. About 25 or 8.5% and 19 or 6.5 in the area got their houses through purchase and other means respectively. The area under study constitute core city of Suleja as such majority of inhabitants that occupies the area are tenants due to cheap accommodation or nearness to the place of their business. Most of the houses purchases in the area have been totally converted into commercial hubs in the study area. Also the owner occupier have partly converted their building for commercial activities as well as residential. The next table below shows the present use of the buildings in the study area.

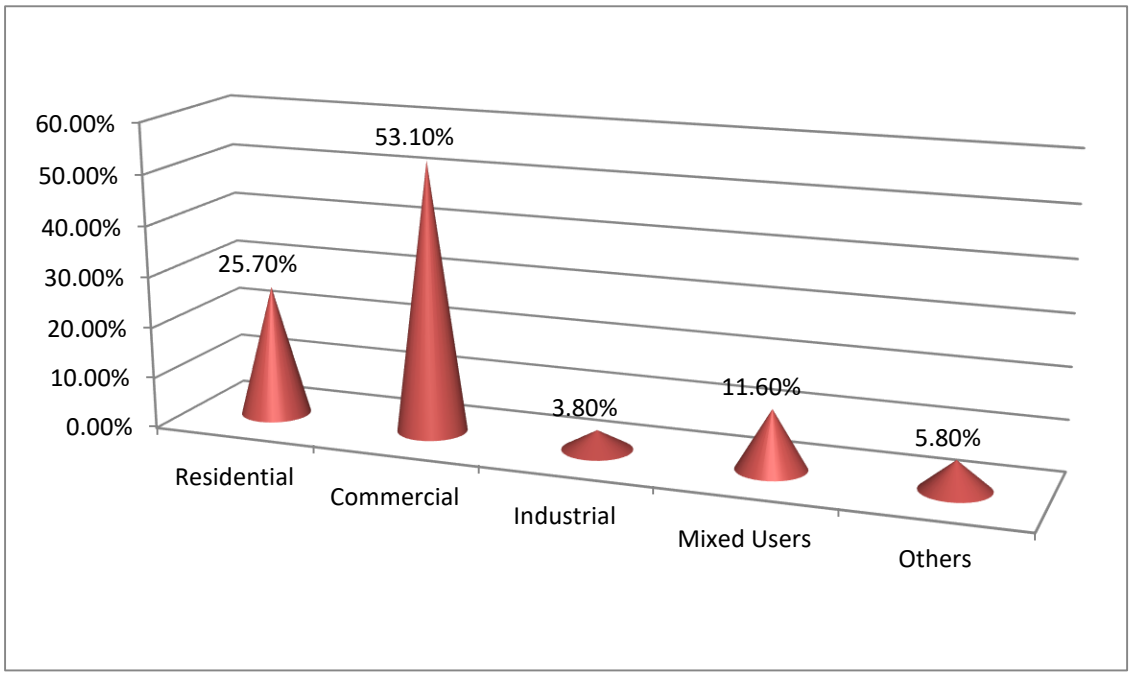

Figure 4.10: Distribution of Respondents Based on Present Use of Building
Source: Author's field survey 2021

Out of the total number of 292 respondent on the present use of the building 75 or 25.70 is residential, while commercial is 155 or 53.1% and 11 or 3.8% is industrial. Mixed uses and others are 34 or 11.6% and 17 or 5.8% respectively. It can be seen that commercial activities is the predominant present use of most of the buildings in the area. This commercial activities are spread on the major roads abutting the study area

especially Suleja-Minna road to emirs junction, morocco road, Hassan Dallatu road and Dawaki road that this study was conducted. This spread of commercial activities have in turn impede the area with its resultant effects on the inhabitants, such as traffic issues, pollution, shortage of accommodation, over stretched buildings that are discussed herein.

However figure 4.12 shows that out of the total of 292 respondents on the original use of the building about 151 or 51.7%, 72 or 24.6% and 24 or 8.2% have residential, commercial and industrial land use as their original use of their buildings in the area respectively. Also 18 or 6.2% and 11 or 3.8% as well as 16 or 5.5% responded that education, recreation and other land uses where the original use of the buildings respectively. This indicate that residential use were predominant land use in the study area with less commercial activities as shown on figure 4.12. The continuous conversion of land use from residential to commercial over the years have given rise to the commercial land use taken over the major land use in the area. The land use conversion have not also spare educational land use and recreational land use as most of the facilities are surrounded by commercial activities. In fact most part of public land use have been converted to commercial activities in the area that apart from sign board that will indicate there presence in the study area, it will be difficult to identify their existence in the area. Of course, there is need for both the community and Government to arrest the chaotic situation of land use conversion in Suleja given the resultants consequences on the inhabitants and the environment in general. Failure to do this will further worsen the shortage of residential accommodation as well as traffic congestion presently being witnessed in the study area.

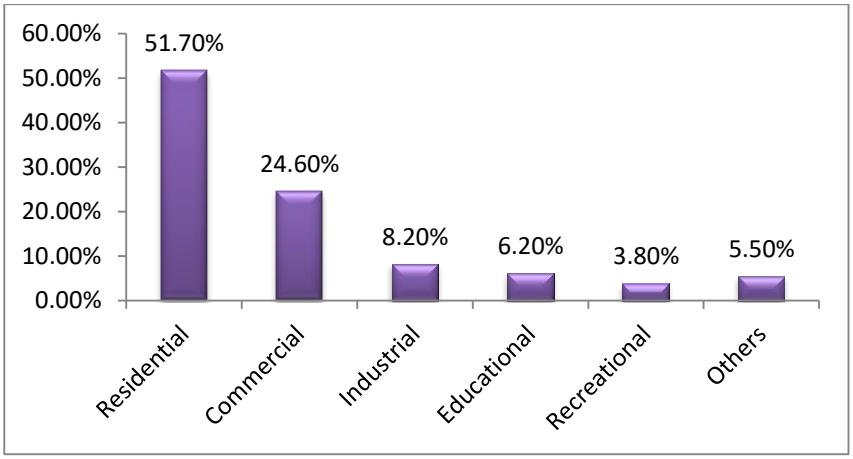

Figure 4.11: Distribution of Respondents Based on the Original Use of Building

Source: Author's field survey 2021

Plate 1: School fence converted to commercial activities

Source: author's field survey, 2021

Plate II: Conversion of public space to commercial activities; Fire service office being overshadowed by commercial use.
Source: Author's field survey, 2021

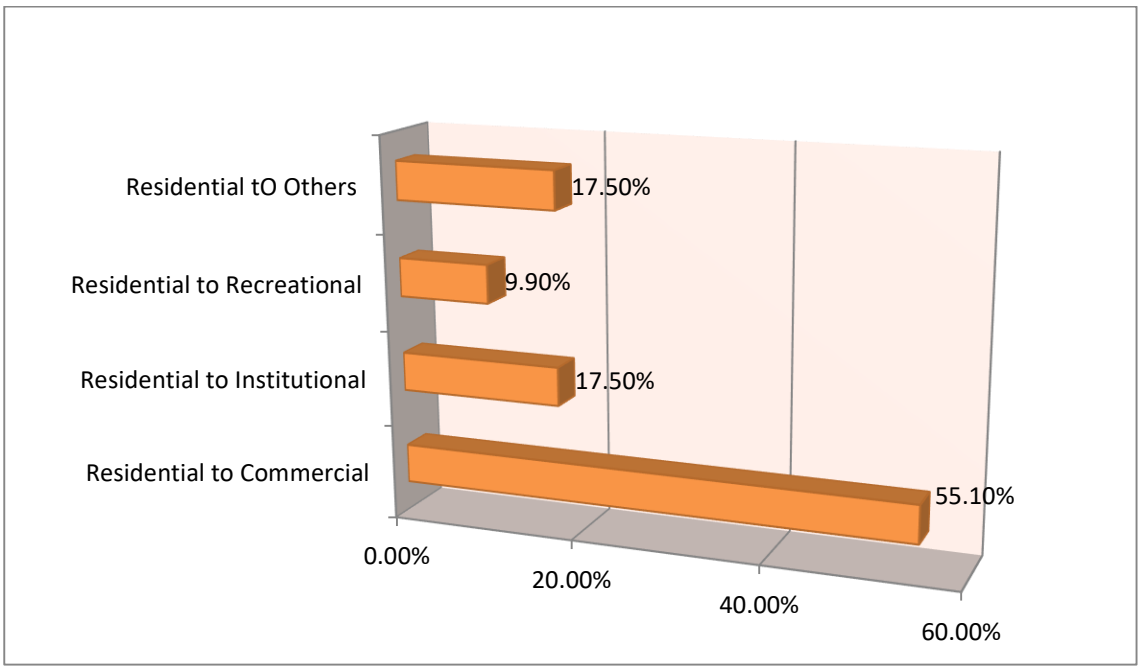

Figure 4.12: Distribution of Respondents Based on Types of Land Use Conversion
Source: Author's field survey 2021

According figure 4.13, residential to commercial land use is 161 or 55.1%, residential to institutional is 51 or 17.1%, and while residential to recreational has 29 or 9.9% and residential to other land use is 51 or 17.5% respectively. Due to high percentage of land use conversion from residential to commercial in Suleja consisting of over 50% of the respondents, and which did not adhere to town planning lines, many problems have emerged. Of course there are economic benefits tie to the conversion such as more money to the owner and increase in house rent and land value but the consequences outweighed the benefits. This is evidence on the present situation in the town particularly traffic congestion, pollution and infrastructural overloads. These are problems that the inhabitant have to live with daily. Also the conversion from residential to commercial land use have short change other land uses in the area, like taken over of recreation area, impede on schools land and lack of space for good ventilation. All these issues have health implication as well as social ills like crime, illness and delinquencies among others that bedeviled the area at present.

Plate III: Recreational land use converted to commercial use; a case of park and garden suleja.

Source: Author's field survey, 2021

The respondent on the level of land use conversion indicates that 139 or 47.6% respondents are of the opinion that there is partial conversion, while 153 or 52.4% said the conversion is total. It is evidence that most of the areas in the selected study were bought over and have either been partially or totally converted from residential to commercial. Virtually all the plazas and new building along Suleja-Minna road in the core city, morocco road and one way are houses that were demolished and converted to commercial use. While the remaining houses along the various roads are partially converted. Therefore houses along the various roads are typically commercial while the inner houses is either residential or use for social activities.

Plate IV: An ongoing conversion along Suleja-Minna road.
Source: Author's field survey, 2021.

Plate V: Total building conversion with consequence on the traffic in the town.
Source: Author's field survey, 2021

4.2: Factors Responsible for Land Use Conversion

Land use conversion especially from residential to commercial do not just happen. There are factors that necessitate the conversion, most especially when it is done without recourse to planning guidelines and specifications. This give rise to problems like inaccessibility, congestion, inadequate residential houses in the areas. However, factors such as the economic gain that people derived from conversion influence land use conversion. Also the need to maximize rent and land value contribute as well. Thus, the factors found to be responsible for land use conversion from residential to commercial are presented in the figure 4.15 below.

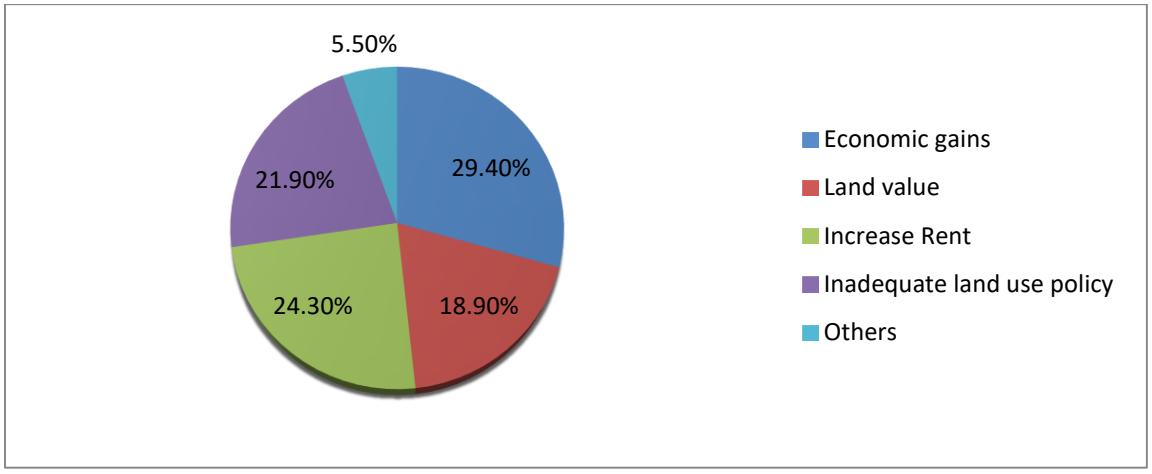

Figure 4.13: Distribution of Respondents Based on Factors Responsible for Conversion

Source: Author's field survey 2021

The purpose of this is to find out the factors responsible for land use conversion from residential to commercial in Suleja and to see if the factors have any relationships with the economic development of the inhabitants of the area.

4.2.1 Economic Gains

Suleja is one of the most thriving town in commercial activities in the entire Niger state. This is evident on the spread of commercial activities and small factories on the major and minor roads in the town. This commercial activities require space to operate and the people are willing to pay high amount to acquire space for their businesses. The inhabitants have leverage on the high demand of land and residential building for commercial activities to give out there property either for rent or sale which in turn yield economic gain for them. The consequence is the conversion of the residential land use to commercial land use so as to benefit economically. The table indicates that out of the total of 292 respondents in the area, 86 or 29.4% attributed land use conversion to economic gains. According to them converting residential use to commercial purpose have provided them more income (i.e economic gain) and have also promote the economic development of the town

4.2.2 Land value

Out of the total of 292 respondents 55 or 18.9% are of the opinion that increase in land value is another factor responsible for building conversion. They believe that conversion of land in the study area have raise the value of land as demand continue to increases. This is evidence in the cost of acquiring property in the core city of the town because most of the properties are being acquired for commercial purpose. Hence land use conversion have led to increase in land value which in turn means economic development to the owner, the local and state government as well.

4.2.3 Increase in Rent

This is believe by many respondents (i.e 71 or 24.3%) to be second major factor that have contributed to land use conversion in Suleja. The residential house in the area is given to the highest bidder who are the commercial users because more money is realize through them. This in turn comes at the detriment of the residential use, and thus, these have led to shortage of residential housing in the town.

4.2.4 Inadequate Land Use Policy

Ineffective land use policy is another factor that have contributed to incessant land use conversion in the town, as conversion takes place without conformity to planning guide. About 64 or 21.9% of the respondents believe that inadequate land use policy is contributing to land conversion in the study area. The commercial land use spread along the study area did not have parking space for their customers and these have resulted to congestion in such area. Hence the need for effective planning regulation by identifying those area and making correction were necessary.

4.2.5 Other Factors

This constitute smaller percentage of 5.5% or 16 respondents. They are of the view that other factors are responsible for residential to commercial land use conversion in Suleja. These other factors includes but not limited the need of the inhabitants to move away from core area for fresher air which make them to sell out there houses. And the sold houses are totally converted for commercial usage.

However, the possible challenges of land use conversion from residential to commercial are presented on the figure below:

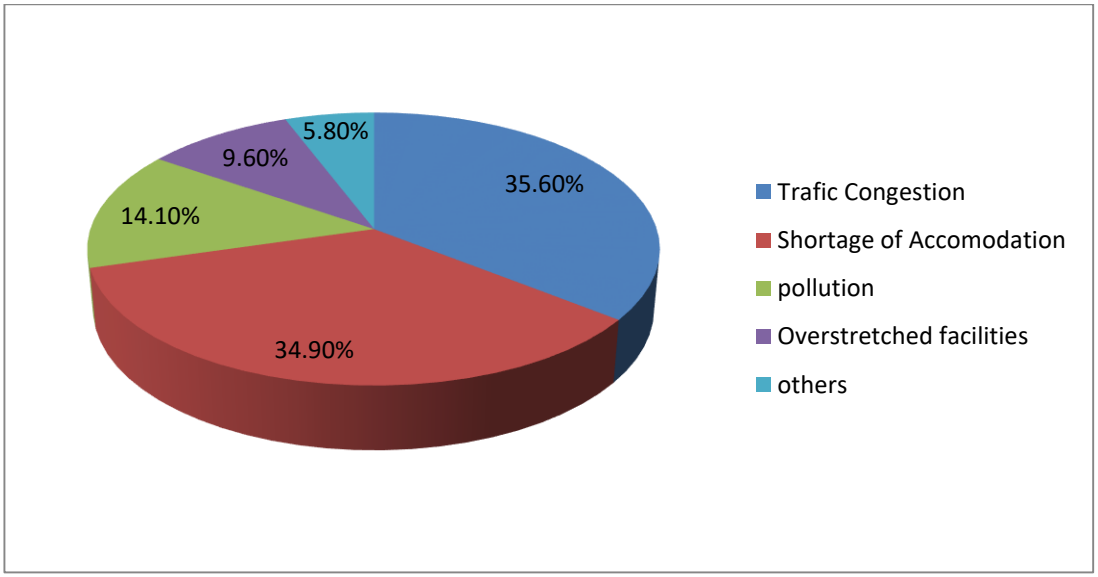

Figure 4.14: Distribution of Respondents Based On Challenges Resulting From Land Use Conversion

Source: Author's field survey 2021

4.3 Challenges Facing the Inhabitants as a Result of Land Use Conversion

4.3.1 Traffic Congestion

Out of the total of 292 respondents 104 or 35.6% are of the opinion that traffic congestion is the most prominent challenges they are facing due to land use conversion in the area. The land use conversion arising from residential to commercial have given rise to chaotic traffic congestion in the town. This is due to the fact that the commercial places have no provision for parking space as such vehicles are parked along the street. The situation is

also aggravated by displays of goods on part of the motorable road. Infact, in places like Minna-Suleja road, morocco road, one way among others both vehicular and human traffic is pathetic that government needs to intervene. There is therefore, serious need for the government through its agencies as well as community to curb the traffic situation in the town in order to avoid the physical and health implication of the inhabitants.

Plate VI: Vehicular and human traffic as a result of building conversion and on street parking.
Source: Author's field survey, 2021

4.3.2 Shortage of Residential Accommodation

Also this is the next second major challenges of land use conversion making up 102 or 34.9% of the respondents. The residential houses in the area are giving up for commercial activities due to the gain the inhabitants wish to get from the conversion. This is becoming a serious issue as people have to move outskirt of the town to escape the busy nature of the town while commercial use takes over the study area. If this situation is not address, some people may end up without accommodation in the area, and this situation will further compound the housing shortage that is being witness globally.

4.3.3 Pollution

About 41 or 14.1% of the respondents are of the opinion that pollution is one of the challenge facing the inhabitants as a result of land use conversion. The noise and mission from traffic or vehicles commuting the study area was identify as the challenges. Others challenges include waste dumps in the area as well as the waste water which have bad odors in the area. Also pollution from some light industries and crafts like leather companies and recycling resulting from conversion pose challenges to the inhabitants

4.3.4 Overstretched Facilities

Facilities such as power, water, roads, drainage among others are being over burden due to more demand and more people in the area. This is the opinion shared by 28 or 9.6% of the respondents. They believe that conversion of buildings come with more demand for facilities, and that such facilities are overstretched and worn out.

4.3.5 Other Challenges

About 5.8%or 17 of the respondents are also of the view that other challenges such as taking over of accessible road in the area, lack of open space are also some challenges they have experience in the study area.

4.4 Benefits Gained From Building Conversion

Despite the negative impact of land use conversion, there are benefits that are derived as a result of the conversion. Conversion from residential to commercial land use comes with some gains as the property in the area add value, as well as increase the income of the inhabitants. The following are benefits that are derived from land use conversion in Suleja town.

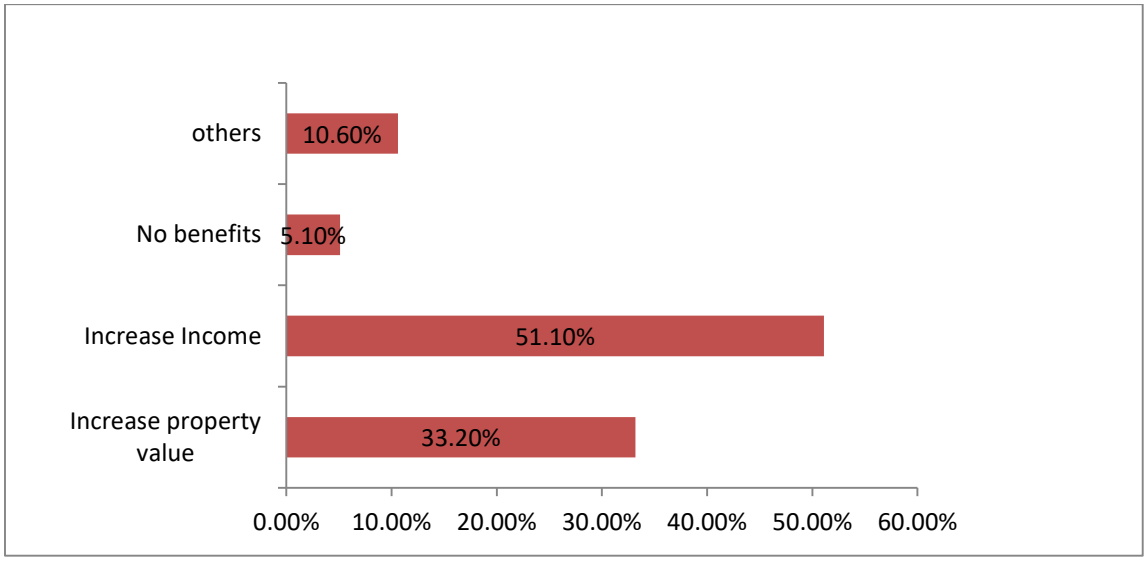

Figure 4.15: Distribution of Respondents Based on Benefits Derived from Building conversion

Source: Author's field survey 2021

4.4.1 Increase in Property Value

A Total 97 or 33.2% of the respondents are of the opinion that land use conversion from residential to commercial have led to increase in value of the properties.

This can be seen with the high value properties in study area have attracted as people are ready to rent at high cost or either buy and convert them. This of course is beneficial to the owners, hence, they make gains from the conversion and otherwise.

4.4.2 Increase Income

Most the respondents constituting 149 or 51.1% said that the major benefits derived from land use conversion in the study area is increase in come of the owner. This is due to the fact that residential land use conversion to commercial brings income and in turn improve the life of the owners. Some revealed that the conversion have added to their income from the one they are earning while still residing in the study area.

4.4.3 No Benefits

A small number of about 15 or 5.1% are of the opinion that there has been no benefits derived from land use conversion in the study area. This implies that they have not personally benefited because they are not the owner of the properties and as such cannot tell 0f any benefits from the conversion.

4.4.4 Other Benefits

Some respondents comprising of 31 or 10% revealed that other benefits such as creation of job opportunities in the area are being benefits by the inhabitants. This is because the conversion of residential to commercial land use will require personal that will work and hence this is an added advantage to the inhabitants.

4.5: The Role and Constraints of Niger State Urban Development Board (NUDB) in Tackling Land Use Conversion in Suleja

From the oral interview granted to me by the zonal town planning officer NUDB Suleja, Mallam Habibu, the role and constraints can be summaries thus:

The role played by NUDB includes giving building approval to land development in the Suleja town, ensure that the various set backs are adhered to, also see that the total land occupancy percentage is also adhered to, mark and demolished when necessary any development that contravene planning guidelines and ensures that public buildings and space are not encroached among others.

The constraints includes the following

4.5.1 Conversion without Approval

There are lots of land use conversion in the study area without approval from NUDB as the owners sometimes claim that the study area is within local jurisdiction and as such not subjected to development control activities. According to the NUDB zonal officer

most of the development do not come for approval except when they are faced with land dispute that they may come for the office to seek for approval. While some even claim they do not know the NUDB office in Suleja when they are visited by the field staff in their site.

4.5.2 Contravention

While the Certificate of Occupancy (C of O) is granted to the developer stating the purpose and the kind of development for the area, some developer engage in change of use without recourse to what the site was approved for in the C of O. They do this without going for change of deed that will grant them permit for the conversion. In this case a site approve for a sizeable shopping malls are converted to plazas or even to fuelling station and this generate a lot of problems.

4.5.3 Weak Enforcement

The land use conversion in Suleja town is further constraints by lack of effective land use control as a result lack of interest of Government. For any land use conversion measures to be effective, it have to be back by government, failure of which enforcement may not succeed.

4.5.4 Political Force

According to zonal officer, the continue interference of political class in the activities NUDB aim at combating land use conversion have hinder their effective functioning. As such the field workers are compel to withdraw or ignore some anomalies as the order come from the above.

4.5.5 Attitude of the Public

That is using coercive force and manhandling of field workers by preventing them from enforcing the activities of land use conversion has contributed as well. Also, the issue of

passive force where ongoing conversion are issued a “stop-work-order” but the building will still continue mostly at night so as to evade the NUDB official. This issues have also constraints the control of illegal land use conversion the town.

4.5.6 Corruption

The use of monetary force, and the taking bribe by the official. Also, sometimes the official are induced by money to compromise their oversight function, with the resultant effect on the proliferation of land use conversion.

Thus, the zonal officer revealed that efforts are on the way to control, mark and demolished when necessary those conversion that are done without approval and planning specifications.

4.6 Summary Findings

The following finding are apparent from the study that have be undertaking so far:

a) The inhabitants are fairly educated and are composed of an average family size of 3 to 5 (fig 4.3). They are engaged in various occupation ranging from farming, trading as well as into public service with an average monthly income of about N30, 000 as shown on fig 4.4 and 4.5 respectively. The settlement is mixed and most of them have reside in the area for 20 years and above while some have been there since birth.
b) Most of the respondents work and reside in Suleja consisting of 47.6% while majority works in Abuja and other place owing to either proximately to their place of work or relative cheap accommodation as well as the ease of doing business as indicated on fig 4.7.

c) Tenants constitute large part of the inhabitant made up of 40% who are engage in commercial activities, while the owner occupier which is 34% still resides in the area in a mixed uses buildings.

d) Some residential houses have been totally demolished and converted to plazas as shown on plate V.

e) Commercial land use is the dominant present use in the area and it constitute over 50% of total land use in Suleja

f) The residential land use is gradually being subdued by the commercial use most especially in areas like morocco road, Suleja- Minna road (plate IV), Hassan Dallatu road and one-way road leading to the market.

g) Public space as well as open space have been overtaken by commercial activities which have jeopardize the conducive atmosphere of the inhabitations. Institution such as schools, health facilities, public place are hardly notice in the area as a result of crowded commercial activities. In fact some school fences and other public buildings are surrounded by shops and plaza that one will hardly recognised their existence in the area. A clear examples is shown on plates I, II and III.

h) Residential to commercial land use constitute 55.1% (fig 4.12) of land use conversion in the town, and most of these conversion are without approval as confirmed by the NUDB officer.

i) Total land use conversion is common in the area constituting more than 52% of the land conversion level, while partial conversion is less with about 48% of the conversion.

j) Economic gains and increased in rent are the major factors responsible for land use conversion in the area representing 29.4 % and 24.3% respectively and these

have yielded economic development of the inhabitants and Government too, as more revenue is generated through the conversion. See fig 4.13.

k) Ineffective land use policies have aggravated land use conversion and the personnel's involve in development control activities have also aided in illegal land use conversion and created more challenges.

l) Inadequate parking space in the converted areas, have resulted to on-street parking with consequences on chaotic traffic congestion. Also display of goods on the road have aggregated congestion in the town. A clear example is presented on plate VI.

m) There is shortage of residential accommodation in the study area as more residential building are being converted to commercial use.

n) Noise and air pollution is being witnessed in the study area due to vehicular activities, and the increase commercial activities in the area.

o) The inhabitants have benefited from the conversion through increase in their income and also appreciation of their property value, shown on fig 4.15. Though the consequences far outweighed the benefits that are derived from land use conversion which is shown on fig 4.14.

There is therefore, an urgent need in the area to checkmate these activities of land use conversion in order to avert the problems of traffic congestion, shortage of accommodation as well as pollution threat.

CHAPTER FIVE

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

Although, some studies have been conducted on the impact of land use conversion using different variables and with particular references to different study area. This study carried out in Suleja using socio-economic impact of land use conversion particularly the residential to commercial conversion have shown that there have been continued land use conversion in the town. And that factors such as economic gains, increase in land value, increase in rent, inadequate land use policy and others have contributed to the activities of land use conversion in the town. The research have shown that there are more of negative impact of land use conversion than the positive impact in the study area. And if the conversion is left unchecked the situation will become more chaotic with consequences on the inhabitants and the environment in general.

There is therefore, the need for Government as well as the community leaders to own up to the continued land use conversion in the study area. This can be achieved through effective development control of activities relating to land use conversion in the town. Also the community can contribute by reporting to appropriate authorities any land use conversion in the area that they deem inimical to the area.

It is pertinent here to point out that the impact of residential to commercial land use conversion may varies from places to places and as such this study calls for further investigation of these socio-economic land use conversion variables and others. However, its hope that this research will aid to solve some of the problems associated with social and economic impact of land use conversion so as to ensure a sustainable development of

Suleja town that is commensurate with convenience, functional, economic and aesthetic environment for living and working.

.5.2 Recommendations

From the foregoing situation in Suleja town on the issue of land use conversion from residential to commercial, it will be pertinent to proffer solution to the trends so as to safeguard the inhabitants and the environment for sustainable urban development to be achieved. Therefore, the following sustainable recommendations are offered in order to curb the situation in Suleja.

a) Regulation of commercial activities in the area through appropriate laws. This can be achieved through urban renewal programme, by phasing out all the commercial activities along the major road that are not in conformity with planning specifications.
b) Commercial activities attached to public area, including schools and health facilities shown on plates 1,2 and 3 should be removed and taskforce inaugurated to checkmate any future violation.
c) Discourage selling of houses in the area to avert further conversion of residential buildings. This can be achieved through collaborative effort of both the community and the Government.
d) Total building conversion should be monitored by town planning to ensure that such development conform with specification and other uses of land in the area
e) Empowerment of the inhabitants with grants, job opportunity and social amenities will discourage the inhabitants from further conversion of their houses. Since the major reasons given for converting their houses is economic gain and increase rent.

f) Development in every part of Suleja should be monitored and approved by town planners as this will checkmate illegal conversion in the area. And those with approval should be compel to give setbacks and adequate parking space to avert congestion. Those without adequate setback should be sanctioned.

g) On-street parking should be monitored and the offenders should be punished to reduce traffic congestion, indicated on plate VI. This can be achieved through the collaborative efforts of Road Safety Officers, Vehicle Inspection Office (VIO) and traffic warden including the police.

h) Those who display goods on part of road should be evicted and any efforts to further display such goods on road should be prohibited while violators should be punished. The ministry of environment as well as NUDB can play a vital role in achieving this.

i) Furthermore, there is the need for proper re-planning of the study area through adequate development control measures to guard against conversion of residential to commercial land use so as to provide for accessibility and space for other activities in the areas.

j) The control of incessant land use conversion should be collaborated between local and state Government as well as the community leaders through its various ministries that are in charge of controlling the land use conversion.

k) By extension the Federal Government can assist to curtail the activities of land use conversion through provision of facilities in the town, since Suleja is a satellite town to Abuja and part of the land use conversion activities is as a result of inhabitants who reside in Suleja but work in Abuja.

l) Finally, the creation of new ultra-modern commercial site should be ear-marked and people encourage to do their business in the new site. This will reduce the

pressure that is being exerted in the study area and curtail its menace of land use conversion in Suleja.

REFERENCES

Adebayo, M. A., (2009). Impact of Urban Land Use Change on Property Values in Metropolitan Lagos. *The Social Science*, 4(1), Pp 111-117

Adedoyin, A. (2019). Socio-Economic Implications of Urban Growth on Land Use Pattern in Akure. *Retrieved From* *http://www.academia.edu/10041-590/socio-economic_implications_of_urban_growth_on_landuse_pattern_of_Akure.* 11/01/2020

Adepoju, A. S. and Adepoju A. G. (2016). Dimension of Land Use Conversion in Ado-Ekiti Metropolis. *International Journal of Computational Engineering Research (IJCER).* 6(2), Pp. 12-21

Adesina, F.A. and Amamoo, O.F. (1994). Land cover Characterization with SPOT Satelite Imagery in the Forest Areas of Nigeria. The *Nigeria Geographical Journal, new Series1, Pp70-90.*

Agbola, T. (2004). Land Use Planning in Reading in Urban and Regional Planning. Ibadan, Macmillan Nigeria Publishers, 165-186

Aguilar, A. and Ward, P (2003). Globalization, Regional Development and Mega City Expansion in Latin America: Analysis of Mexico City's Peri-Urban Hinterland. *Cities*, 20(1).

Agukoronye O.C & Nwankwo, S.O. (2002). Converting Tenements to Flats in Nigerian Cities: lessons from Enugu. *Journal of Faculty of Environmental studies of the University of Nigeria Nsukka. 2(1.)*

Aminu, Z., Yakubu, M., Mohammed, A.A., and Kumar, N. (2013.) Impact of land use on soil Quality in Suleja, Niger State, Nigeria. *Indian Journal of Life Sciences 292 Pp1-7*

Ayo-Odifirin, O. S., Eqenti, C. Bada, A. O. and Okosun, S. E. (2017). The planning Implications for Changing the Use of Residential Buildings in Auchi, Nigeria. *Applied Science Reports, 19(2),* Pp73-80

Ayotamuno, A. Hobo, A. E., and Owei, O. B. (2010). The Impact of Land Use Conversion on a Residential District of Portharcout, Nigeria. *Environment and Urbanization, 22,* Pp 259.265

Babalola, M. (2009). Citues and Urban Planning in Africa: Where did we go wrong? Paper Presented at Monthly meeting of Nigeria Institute of Town Planners (NITP), Lagos State Chapter, Ikeja, Lagos.

Bakker, U. and Van D. (2009). Economics and the Land Use-Environment Link. In Yearbook of Environmental Economics, University Press

Beilin, R., Lindborg, R., Stenseke, M., Pereira, H. M., Liausa's, A., Slatmo, E., Corqueira, Y., et. al. (2014). Analyzing How Drivers of Agriculture Land Abandonment

Affect Biodiversity Using Case Studies From Scandinavia, Iberia and Oceania. *Land Use Policy, 36,* Pp 60-72

Bello, I.K. and Arowosegbe, O.S. (2014). Factors Affecting Land use Change on Poverty Value in Nigeria. *Journal of research in Economcs and International Finance, 3(4) Pp 79-82.*

Briassoulis, H. (2011). Factors Influencing Land Use and Land Cover Change. *Land Use, Landcover and Soil Science (1).*

Du, X., Jin, X., Yang, X. and Zhou, Y. (2014). Spatial Pattern of Land use change and its Driving Force in Jiangsu Province. *International Journal of Environmental Research and Public Health, 11 Pp3215-3232*

Dunkerley, H.B. and Whitehead, C. (eds) (1983). Urban Land Policy: Issues and Opportunities. Oxford University press, Oxford

Ejaro, S. P. and Abdullahi, U. (2013). Spatio-Temporar Analysis of Land Use and Land Cover Change in Suleja Local Government Area, Niger State, Nigeria. *Journal of Environmental and Earth Science 3(9), Pp 72-83*

Ellis, I. and Pontius C. (2006). The effect of disaggregating land use categories in cellular automata during model calibration and forecasting. *Computers, Environment and Urban Systems 30(1): 78-101.* *http://www.DEFRA.gov.uk/science/Project_Data/Docu*

Enisan, G. and Aluko, E. (2015). Process of Urban Land Use in Nigeria. *International Journal of Education and Research. 3(8), Pp 87-10*

Enisan, G. and Oduwaye, A. (2011). Effects of Global Economy on Spatial Structure of Lagos, Nigeria. Proceedings Real Corp 2011: Change for Stability: Lifecycle of Cities and Regions. Tagunsband site.

Eric, L., Helmut, J.G., and Erle, E., (2007). "Causes of land-use and land cover Change". In Encyclopedia of earth. Eds Cutler J. Cleveland Washington, D.C.: Environmental information coalition, National Council for Science and Environment

Fabiyi, Y.L.(1974). Land Administration in Nigeria: Case Study of Implementation of Land use Decree (Act) in Ogun, Ondo and Oyo States of Nigeria. Agricultural Administration, 17(1), Pp21-31.

Famoriyo, A.O., Fabiyi, Y.L. and Gandonu, A. (1977). Problems posed by Land Tenure in Nigeria Agriculture NISER. University of Ibadan.

Famariyo, A. (2007). Land Tenure and Agricultural Development. Jamoe Enterprises, Nigeria

Farinmade, A. (2010). Land Use Conversion in Surulere Local Government Area, Lagos, Nigeria. *Urban and Regional Planning Review Journal 2(1&2), Pp 187-196.*

Farinmade,A.(2019).Land Use Mix in the Classified Residential Area of Lagos Metropolis, Nigeria. *Unilag Journal of Humanities 4(1), Pp 155-164.*

Galadima, M., Abdulazeez, H., Abdullahi, H. (2015). Assessment of Environmental Effects of Land Use Conversion in Minna, Niger State, Nigeria. *Nigerian Journal of Technological Research 10(1).*

Geoghegan, J. and Irwin, E. G. (1997). Theory, Data, Methods: Developing Spatially Explicit Economic Models of Land use Change. *Agriculture, Ecosystems & Environment 85, 1, Pp 7–24*

Hartel, T., Rose, S. and Tol, R. (2009). Economics Analysis of Land use in Global Climate Change Policy. Routledge Publishing, P98.

Ifatimehin, O.O. and Ufua, M. E. (2006). Application of Geographical Information System to Urban and Vegetation Studies in Lokoja. *The Zaria Geographers, 17(1), Pp 28-36*

Jinadu, A.M. (2005). The Impact of Building Succession and use conversion on Housing Stock in the core areas of Minna, Niger State. Paper presented at the NITP Conference Owerri, Pp 36-43.

Lambin, E. F., Turner, B. L., Grist, H. J., Agbola, S.B. Angelson, A. and Bruce, W.J. et al (2001). The causes of Land Use and Land Cover Change: Moving beyond the Myths. *Global Environmental Change, 11, Pp 261-269*

Lambin, E. F. and Geist, H. J. (2006). Land Use and Land Cover Changes: Local Processes and Global Impact. Springer Berling.

Long, H., Heiliq, G. K., Xiubin, L., and Zhang, M. (2007). Socio-economic Development and Landscape: Analysis of Rural Housing Land Transition in the Transact of the Yangtze River, China. *Land Use Policy, 24, Pp. 142-153*

Loures, L. C. (2019). Introductory Chapter: Land Use Planning and Land Use Changes as Catalyst of Sustainable Development. Intechopen. *Retrieved from https://www.intechopen.com/books/land_use_assessing_the_future/introductory_chapter_land_use_planning_and_land_cover_changes_as_catalyst_of_sustainable_development. 22/02/2020*

Lubowski, R.N., Vesterby, M., Bu- choltz, S., Baez, A., and Roberts, M.J. (2006). Major uses of Land in the United States, 2002. *Economic Information Bulletin No. (EIB-14)*

Majiri, O. B. (2008). Homelessness in Nigeria, The Growing Scourge. *Retrieved on 17/01/2020.* *https://www.Nigeria.com/homelessness_in_Nigeria.the_growing_scourge*.

Mark, P. (2011). Environmental Change in Lesotho: An Analysis of the Causes and Consequences of Land use Change in the Lower Region. Springer, Dordrecht.

Max-Locks Group (1988). Suleja Master Plan: Draft Final Report 1988-2006

Morenikeji, W. (2006). Research and Analytical Methods for Social Scientists and Planners and Environmentalists. Jos University Press Limited, Jos, Nigeria

Mc Auslan, P. (1985). Urban Land and Shelter for the Poor. An Earthscan Paperback.

Muryatono, N., Tongato, A., Yusdiyanto, S., PAsaribu, S. H and Anggranie, J. (2017).

Land Conversion and Economic Development in Jawa Barat Province: Trade off or Synergy? *10p Conference Series: Earth and Environmental Science, 54*

Mustard, J.F., Defries, R.S., Fisher T., and Moran, M. (2012). Land use and Land Cover Change Pathways and Impacts: In Gutman, G., et al. (Pds), *Land Change Science. Remote Sensing and Digital Image Processing.* 6, Springer Dordrecht.

Ogundele T. A. and Jegede A. O. (2011). Environmental Influence of Flooding on Urban Growth and Development of Ado Ekiti Nigeria. *Canada Studies in Sociology of Science, 2(2) Pp 88-93*.

Olotuah, A. O. and Bobadoye, S. A. (2009). Sustainable Housing Provision for the Urban Poor: A Review of Public Sector Intervention in Nigeria. *The Built & Human Environment Review, 2, 51 - 63*

Omuta, E.D. (2006). The Built Environment: Its Dimensions, Status, Challenges and Prospects. *A Paper presented at the National Environmental Conference, School of Environmental Studies, Federal Polytechnic Auchi, Nigeria.*

Obateru, O. I. (2005). Basic Elements of physical Planning; Penthouse Publications Ibadan, Nigeria

Oduwaye, L. (2008). Planning Implications of the Ethnic Structure of Residential Areas in Lagos. Asian Journal of Social Science, 4(8), Pp. 87 – 96

Ojikpong, B. E., Agbor, E. A., and Emri, S. I. (2016). The Effects of Building Use Conversion on Residential Accommodation in Calabar, Cross River State, Nigeria. *International Journal of Science and Environment, 5(3), Pp. 1445-1462.*

Okpala, C. (1981). Residential Mobility in Nigeria: an Explanatory Analysis. NISER Monograph Series, 18, Ibadan

Olatubara, C.O. and Agbola, S.B. (2004). Land use Planning; in Agbola S.B (eds.) Elements of Urban and Regional Planning, Ibadan. Macmillan Nigeria Publishers Ltd.

Olurin, T. (2010). Residential Land Use Planning: in Agbola, T., Egunjobi, L., and Olatubara, C. O. (ed). Housing Development and Management, P 509

Oriye, O. (2012). Urban Expansion and Urban Land Use in Ado Ekiti, Nigeria. A*merican Journal of Research Communication.* 1(3), Pp. 128-139.

Peter, N. J., Fateye, O. B., Oloke, O. and Praise, I. (2018). Changing Urban Land Use and Neighborhood Quality. Evidence from Federal Capital Territory (FCT) Abuja,

Nigeria. *Internal Journal of Civil Engineering and technology. (IJCIET) 9(11), Pp.23-26.*

Pontius, R.G. and Chen, H. (2006). Land Change Modeling with GEOMOD. Clark University, Worcester, USA.

Rindfuss, C. L. (2004). Land Use Change Analysis in the Zhujiang Delta of China Using Satelite Remote Sensing GIS and Stochastic Modeling. *Journal of Environmental Management 64, Pp. 273-284*

Saleh, A.S. (2008). Impact of Urbanization on Physical Environment: A Case Study of Suleja Town, Niger State. Unpublished Undergraduate Research, Department of Urban and Regional Planning, Federal University of Technology Minna, Niger State.

Suleja Master Plan. (1988-2006). Draft Final Report. Niger State Government of Nigeria, Ministry of Works Transport and Housing. Town Planning Division

Turner, B. L., Skole, D., Sanderson, S., Fisher, G., Fresco, L. and Leemans, R. (1995). Land use and land cover Change. *Science and Research Plan. International Geosphere and Biosphere Programme.*

Turner, B.L., Clark, C., Kates, R.W., Richards, J.F., Mathew, J.T. and Meyer, W.B. (1990). The Earth as transformed by Human Action: Global and Regional Changes in the Biosphere Over the Past 300 years. Cambridge University Press.

Thuo, A.D.M., (2010). Community and Social Response to Land Use Transformation in Nairobi Rural-Urban Fringe, Kenya. *Journal of Field Action, 1*

Toh, F. A., Angwafo, T. E., Ndam, L. M., and Antoine, M. Z. (2018). The Socio-Economic Impact of Land Use and Cover Change on the inhabitants of Mount Bambouto Caldera of Western Highland of Cameroon. *ARS Journal, 7(1).*

Umar, Y.I. (2021). Why Suleja Deserves a Medical University. *Daily Trust Newspaper. https://dailytrust/why-Suleja-deserves-a-medical-university.*

Valbuena, O., Sivaramakrishna, K. C., Biplab, D. and Mahesh, N. B. (2008). Urbanization in India: Basic Services and People's Participation. Concept Publishing Company, P.2

Verburg, H.P., Ritsema, R.J., Denijs, T.C.N., Disjsf, M.J. and Schot, E. (2004). Determinants of Land use Change Patterns in the Wetter Lands. *Environmental and Plannng, Planning and Design, 31, Pp125-150.*

Wang, Z., Cai, J., and Banqing, L., (2016). The Impact of Land Use Change on Residents Living in Yangzhou City of Jiangsu Province, China. *Sustainability, MDPI, Open Access Journal 8(10), Pp. 1-17*

Warren, D.M. (1991). Using Indigenous Knowledge in Agricultural Development. The World Bank, Washington DC, Pp1-7.

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

Wubie, A.M. and Nicolas, D.M. (2016). Patterns, Causes and Consequences of Land use/cover Dynamics in the Gumara Watershed of Lake Basin, North Western Ethiopia. Environmental System Research, 5(8), Pp1-12.

Wu, J. (2008). Land Use Changes: Economic, Social and Environmental Impact. Choice Magazine. Agriculture and Applied Economics Association, 4th Quarter.

Wu, Y. K. and Zhang, H. (2012). Land Use Dynamics, Built-up, Land Expansion Patterns and Driving Forces. Analysis of the Fast-Growing Hangzhou Metroplitan Area, Eastern China 1978-2008. *Applied Geography, 34, Pp. 137-145*

Yirsaw, E., Wu, W., Temesgen, H. and Bekele, B. (2017). Social-Economic Drivers of Spatio-Temporal Land Use/Land Cover Changes in Rapidly Growing Urbanizing Areas of China, the Su-xi-Chang Region. Applied and Environmental Research, 15(4), Pp. 809-827

APPENDIX

FEDERAL UNIVERSITY OF TECHONOLOGY MINNA, NIGER STATE
CENTRE FOR HUMAN SETTLEMENTS AND URBAN DEVELOPMENT
SUSTAINABLE URBAN DEVELOPMENT
QUESTIONNAIRE

TOPIC: IMPACT OF LAND USE CONVERSION ON SOCIO-ECONOMIC DEVELOPMENT OF SULEJA, NIGER STATE

Dear Sir/Ma,

I am kindly seeking for your assistance to honestly and sincerely respond to this questionnaire. You are assured that every response made will be strongly treated with confidence only for the purpose of this research.

Thank you.

Tick in the boxes provided and briefly comment where necessary.

Name of Wards/ Districts: ……

a) Sex: Male [ ] Female [ ]
b) Age: 20-30years [ ] 31-40years [ ] 41-50years [ ] 51 and Above [ ]
c) Marital Status: Single [ ] Married [ ] Divorced [ ] Widow [ ] Widower [ ]
d) Level of Education: Non-formal [ ] Primary [ ] Secondary [ ] Tertiary [ ] Others (*Specify)* …….
e) Household Size: 1 – 2 [ ] 3 – 5 [ ] 6 – 8 [ ] 9 and above [ ]
f) Occupation: Farming [ ] Public Servant [ ] Trading [ ] Self Employed [ ] others (*Specify):* ……..
g) Income Per Month: less than ₦30,000 [ ] ₦31,000 – ₦60,000 [ ] ₦61,000 – ₦90,000 [ ] ₦91,000 – ₦120,000 [ ] ₦121,000 and Above [ ]
h) Place of Origin: Suleja [ ] Elsewhere [ ]

i) How long have you lived in this area? Less than 5 years [ ] 6 – 10years [ ] 11 – 15 years [ ] 16 – 20years [ ] 21years and above [ ]
j) Where is your place of work? Suleja [ ] Abuja [ ] Others *(Specify)* [ ]
k) Why did you choose to reside here? Proximity to work [ ] Cheap accommodation [ ]

Business [ ] Others (*Specify)* …….

l) Ownership of the house: Tenant Apartment [ ] Owner-occupier [ ] Inheritance [ ] Purchase [ ] others *(Specify)* ……

m) The present use of the building: Residential [ ] Commercial [ ] Industrial [ ] Mixed use [ ] others *(Specify)* ……

n) Original Use of the Building: Residential [ ] Commercial [ ] Industrial [ ] Educational [ ] Recreational [ ] Others (*Specify)* ……

o) Types of Land Use Conversion in the area: Residential – Commercial [ ] Residential - Institutional [ ] Residential - Recreational [ ] Residential – Others [ ]

p) Level of Land Use Conversion: Partial Conversion [ ] Total Conversion [ ]

q) What factors are responsible for conversion? Economic gains [ ] the land value [ ] Increase in rent [ ] Inadequate land use policy [ ] others (*Specify)* ……

r) What challenges are you facing as a result of the conversion? Traffic Congestion [ ] Shortage of residential Accommodation [ ] Pollution [ ] Overstretched facilities [ ] others (*Specify)* ……..

s) What benefits have you gained from the conversion: Increased Property Value [ ] Increased Income [ ] No benefits [ ] others *(Specify)* ……