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Assessment of Land Use Conversion Purpose in Minna Metropolis

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Land use conversion is a growing urban challenge to planners in the world particularly in developing countries such as Nigeria. Most land and residential buildings in Minna have experienced and still experiencing conversion from the initial purpose of acquisition to evolving usages. The study aimed at identifying the purpose of converting urban land use in Minna metropolis over a period of 10 years (2008-2018). The study investigated variables which includes nature of land use conversion, factors that informed land use conversion and implication of land use conversion on the environment. A total number of 200 questionnaires were administered to respondents that were randomly selected from neighborhoods in Western bye-pass, Eastern bye-pass and Bosso Road in Minna Metropolis. All the questionnaires were returned amounting to 100% response rate. The study revealed that majority of the respondents never acquired their lands from the government hence converting their lands without adhering to approval procedure for formal planning permit. Most respondents considered the procedure to be too demanding and time consuming. It was revealed that the selected areas have undergone significant level of land use conversion from residential use to commercial/mixed use, leading to problems of indiscriminate disposal of waste and traffic congestion amongst others. The study recommends the need for Government regulatory authorities and planners to come up with careful urban planning measures which ensure that lands are allocated for various purposes and penalties be meted out to defaulting developers. Land use conversion application procedure should also be made flexible for developers. Proper monitoring of urban growth by relevant authorities will ensure sustainable physical development and regulate changes in land use.

Keywords: Land uses, Physical development, Planning Authority, Urban growth and Use conversion.

Introduction

Since the inception of human existence, the demand for land to be used for various purposes has been part of many activities of man. This in turn has determined the land use structure and pattern of settlement development. The issue of change in land use and land cover has been in existence since human being moved from harvesting of goods from wild and progressed into production of goods for satisfying daily necessities (Turner *et al*., 1990). Since that era, natural vegetation has gradually been converted into agricultural land for production of crops, grazing of animals/livestock as well as habitation and other land use types (Turner *et al*., 1990). Most times, lands acquired are not used for the purpose it was meant to serve as the years passes. The bothering question remains as thus: 'what informs or determines conversion of land use?' From a broad perspective, the construction of a new building can be said to be a conversion in use of the land because the building is for a purpose which is different from the purpose for which the land was last used (Yuri, 2009).

The presence and nature of the informal activities constitute illegal conversion of land use, and its uncontrolled approach can be an antagonistic mechanism of the land use of an area, (Samat, *et al.* 2011). Most

often, residential areas are susceptible to land use conversion due to characteristic of the neighborhoods, accessibility, renting/business factors and government policy (Yuri, 2009). The land use conversion or change process in Nigeria is greatly dependent on the land holdings and the socio-economic capacities of urban residents (Oluseyi, 2006). In other words, the landowner may decide to leave the land at its current circumstances or develop the land by changing the land usage or sell it. The options vary with the preferences of different land owners. Land use conversion is a common phenomenon in city development process, which can happen within and or outside the city.

Due to fast increase of the population globally, subsequent land prerequisite for farming and urbanization as well as important amount of forest has since been undergoing conversion into anthropogenic area and for other uses. (Turner *et al.,* 1990 & Ouedraogo *et al.,* 2010). Some areas in Minna metropolis are experiencing rehabilitation in the form of vertical development where some residential bungalows are being converted for uses such as offices, hotels, Religious activities and recreational centres, commercial activities and mixed used as well as conversion of open plots to business activities.

These conversions usually result in consequences that bring about imbalance in the urban setting and environmental issues if not properly addressed. The situation indeed called for investigation about the real determinants of these trends in Minna; hence the need for a study that look into the peculiarities of the factors affecting conversion of land and the extent to which these factors differ among the neighborhoods found in the study area. The study aimed to identify the purpose of conversion and planning implications of urban land use in Minna metropolis over a period of 10 years (2008-2018). This was achieved by investigating land use characteristics and the nature of conversion over the period under review.

The study focused on the activities of land use conversion with particular reference to residential, commercial, and institutional usage with emphasis on selected Neighborhoods around Western bye-pass, Eastern bye-pass and Bosso Road areas of Minna metropolis respectively.

Literature Review

Musa *et al.* (2016) opined that land use of any particular region is an outcome of both natural and socio-economic factors and their utilization by man in time and space. They further buttressed that scarcity of land can be traced to immense agricultural and demographic presence.

Another similar study conducted by Adepoju and Adepoju (2016) which focused on dimension of land use conversion in Ekiti State, revealed that conversion of land is encouraged by the economic potential derivable from land use and the transformation, neglecting the fact that any conversion of such are contrary to the development plan. It was also observed that land and buildings may not cease to be converted into needed usage due to the presence of several human activities competing for scarce land. The problem of solving additional land requirements would have been easier if each land use could be expanded without encroaching upon the land meant specifically for other purposes (Olurin, 2010; Adegoke, 2010). The driving forces of land cover and land use conversion can be globally mapped in two groups (Laurent *et al*., 2013). The forces can be grouped into direct factors such as socio-economic activities, population growth as well as Natural Ecological factors related to the ecosystem and the indirect factors which is related to the policy or decision taken at Local, National and Regional levels respectively (Laurent *et al*., 2013).

Research Methodology

The study adopted the use of primary and secondary data acquired through questionnaire survey, observation and archival data (Niger State Urban Development Board and Niger State Ministry of Lands and Survey both in

Minna). Simple random sampling was employed leading to the administration of 200 questionnaires to respondents in the study areas. All the questionnaires were returned amounting to 100% response rate. The research measured what was purported to be measured which means that the research focused mainly on the issue of land use conversion purpose**.** Findings were analyzed according to results generated from the variables and indicators in Table 1 below.

Results and Discussion

Mode of land acquisition

Table 2 revealed that the bulk of the respondents which made up of (60%) acquired their land from the Natives. Others got their plots of land directly from the state Government layouts and inheritance respectively.

Factors responsible for land use conversion

Table 3 below gives information about why lands in the study area were converted. Majority of the people investigated agreed to have converted their lands due to the following factors.

Economic factors

It was observed that most buildings along transport route have in greater percentage used their corridors or frontage for commercial activities, offices amongst others. In addition, open and vacant lands meant for further development are now grounds for carpentry workshop and also found to be used as mechanic workshop along the roads in the study area. This practice itself is a process of invasion which could lead to succession if not properly checked over time.

Increase in population

Population of Minna metropolis has been increasing over time. This increase over time interpret itself in the form of an increase in the level of family demand, an increase in the total demand for housing, accessibility, utilities and services. Therefore, to meet these needs, open spaces and vacant lands were converted to residential, commercial grounds and other uses. Some residential homes were also converted to commercial and public uses amongst others.

Table 1: Research variables and indicators

Variables	Indicators
Nature of land use conversion	Initial and present purpose of land use
Factors that informs land use conversion	Economic, Population, Social, Property acquisition factors amongst others.
Planning Implication of land use conversion	Environmental hazards evolving from waste disposal, and traffic congestion.

Table 2: Land Acquisition

Land acquisition	Number of Respondents	Percentage (%)
State	32	16%
Native	120	60%
Inheritance	48	24%
Total	200	100%

Table 3: Factors Influencing Land Use Conversion

Factors responsible	Respondents	Percentage (%)
Economic	67	33
Population	29	14.5
Social	37	18.5
Property acquisition	23	11.5
Public interest	44	20.0
Total	200	100%

Personal interest

The master plan of Minna has been a guide for development within the metropolis. Minna as far as the master plan is concerned was expected to be mostly a residential area but owners of properties have decided to neglect this fact thus subjecting their properties to other uses such as commercial, public and semipublic amongst others. All these have resulted into haphazard development.

Social factors

Social factor is also one of the reasons discovered as a determinant factor for conversion. It was observed that people converted open and vacant lands into centers for social development e.g., residential buildings been converted to religious buildings, recreational centres amongst others.

Nature of land use conversion in Minna over the period of ten (10) years

This section covers the discussion regarding the nature of land use conversion purpose in Minna. Table 4 below shows the distribution of land use over the years under review. In addition, the study also investigated the pattern of land use conversion in 2018 within the sampled area. The results contained in table 4 explained the number of properties converted and their percentages.

Residential to commercial land uses

According to the above source, conversion from residential to commercial land use is one of the major patterns of conversion of land use that occur in the study area over time. Between 2008 and 2018, as shown in the table 4 above, conversions of different kinds occurred in the study area. A total of 590 properties with (38%) were conversions from Residential to Commercial uses in 2008 to 2013. While a total number of 995 which is 35% represented the number of property converted from residential to commercial and mixed used between 2014-2018. See plate 1 below for example.

Table 4: Nature of land use conversion

Pattern	2008-2013		2014-2018	
	Numbers of property converted	percentage	Numbers of property converted	percentage
Residential to commercial/mixed use	590	38.0	995	35.8
Open/Vacant space to Commercial	102	6.7	429	15.4
Commercial to residential	0	0	9	0.3
Open/vacant space to residential	651	41.9	938	33.7
Residential to public/semi public	100	6.4	176	6.3
Open space to public/semi public	110	7.1	231	8.3
Total	1553	100	2778	100

Source: Niger State Ministry of Lands and Survey, Minna

Plate I: Residential Building Converted to mixed use in Ketaren Gwari Road, Minna.

Open/vacant space to commercial land uses

Conversion of open/vacant spaces to commercial land uses is also another major pattern of land use conversion which has occurred over time in Minna. From the table 4 above, 651 properties were converted from open/vacant space to commercial land use between 2008 and 2013. In addition, between 2014 and 2018, conversion occurred and 938 properties represented the number of conversions from open/vacant space to commercial land uses.

Commercial to residential land uses

From 2008 to 2013, 0.0% there was no recorded case of land use conversions from commercial to residential in the areas as captured in the table. However, between 2014 and 2018, a total number of 9 properties were converted from commercial land use to residential uses which gave 0.3%

Open/vacant space to residential land uses

Conversion from open/vacant space to residential land use has really been one of the bulks of all the land conversions in Minna metropolis. From the table, it was revealed that 651 properties converted to residential uses between 2008 and 2013 were formerly open/vacant space. Between 2014 and 2018, 938 conversions were from open/vacant space to residential uses.

Residential to public and semipublic land uses

Between 2008 and 2013, 100 Properties were converted from residential to public and semipublic uses. While from 2014 to 2018, 176 properties were conversions from residential to public and semipublic uses. See plate II below for example

Plate II: Residential building converted to public use Tunga, Minna.

Conversion of open/vacant space to public and semipublic land uses

Conversion from open/vacant space to public and semipublic uses was 110 between 2008 and 2013. While 231 properties represent the conversion between 2014 and 2018. Table 5 below contains information about mode of land conversion in the study area within the period of 2018 captured by the study sample. The information was obtained from the sampled area investigated. The study revealed that conversion from residential to commercial land use having 37.5% and open space conversion to residential with a percentage of 32.5% were found dominant among the people in the study area in the year 2018. Furthermore, 30 people who made 15% agreed to have used an open space for commercial activities while only 3 persons who were made up of 1.3% converted commercial lands to residential use in the year under review. 5% of people sampled also converted Residential land use to public/semipublic land use and 8.5% converted Open space to public/semi-public in the study area.

Planning implication of land use conversion purpose

Samson *et al.* (2006) revealed that the consequences of land use conversion started from distortion of the approved master plan to giving room to illegal developments such as the conversion of designated open space into refuse dumps and other unsavory uses, while garages and some residential flats have been converted to business premises. This submission agrees to some of the research findings explained here. Shop owners among the respondents agreed to be guilty of disposing their wastes indiscriminately. Some of the respondents admitted that they do deposit wastes behind their shops while others agreed they collect them and wait for rain to fall so they can dump the waste into water drainage to be flushed away by rain water leading to environmental pollution. It was also discovered that land use conversion generates traffic congestion in the study area due to encroachment of commercial activities on the right of way. This is common in areas with open plots converted to commercial use, street markets and also common among those occupiers of building converted to commercial uses along the road. No provision for vehicle parks hence on street parking becomes inevitable.

Number of general applications for development control/planning permit

Table 5: Mode of conversion in the sampled area

Mode of conversion of properties in 2018	Numbers of converted properties	Percentage (%)
Residential to commercial	75	37.5
Open space to commercial	30	15
Commercial to residential	3	1.5
Open space to residential	65	32.5
Residential to public/semi public	10	5
Open space to public/semi public	17	8.5
Total	200	100%

Table 6: Planning permit

S/N	Year	No. of Application	No. of Approval	Reg. by Use				Approved by use			
				Res	Com	Pub	Others	Res	Com	Pub	Others
1	2018	156	18	80	50	11	15	8	6	2	2
2	2017	269	128	159	77	15	18	57	48	2	21
3	2016	242	67	148	67	5	22	27	24	2	14
4	2015	250	87	162	56	9	23	52	25	5	5
5	2014	297	86	201	53	22	19	53	12	8	13
6	2013	313	63	208	62	27	14	35	13	5	10
7	2012	287	62	203	46	24	14	36	14	3	9
8	2011	437	83	368	44	21	4	41	21	9	12
9	2010	378	32	313	30	33	5	15	7	3	7
10	2009	471	105	397	29	35	10	55	29	6	15
11	2008	487	167	267	30	14	9	97	30	12	28

Source: Niger State Urban Development Board, 2018

This analysis revealed that large numbers of applications were received but only limited numbers of the application were approved for planning permit approval. Result from this study also revealed that 67.5% of the developers in the study area do not obtain planning permit. The following result in table 7 explains the reason given by the respondents about why they embarked on land use conversion without approval.

The study revealed that majority of the respondents in the study area never considered undergoing the formal process of land conversion which involves obtaining of approval from the planning authorities with various steps and procedures. Conversion was mostly carried out informally because the procedure was majorly considered to be too demanding and time consuming.

Table 7: Reasons for not obtaining permit before conversion of land

Reasons	Respondents	Percentage (%)
Not necessary	22	12
Procedure too demanding / Time consuming	146	73
Others	30	15
Total	200	100%

Conclusion and Recommendations

The study area has undergone a substantial level of land use conversion basically from residential use to commercial use with attended problems of indiscriminate disposal of waste and traffic congestion amongst others. In addition, the study discovered that respondents also faulted their failure to obtain conversion approval on difficulties in the processes involved. Majority of the respondents considered the processes to be too demanding and time consuming. The practice of informal conversion of land for various reasons, particularly the spread of commercial activities around residential building, will on the long run affect the aesthetic image of the study area if not addressed. The study recommends the need for proper monitoring of urban growth, physical development and trends of changes in land use. Procedure for land development or conversion purpose should be made flexible. Government regulatory authorities and planners should come up with careful urban planning which ensures that lands are allocated for various purposes and penalties meted to developers who violate the law. To achieve this, several other stake holders should be involved in land use conversion process. The state which plays a dominant role in this case should seek for decision making that is all inclusive. This will involve consultation with the locals or the natives.

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