African Journal of Environment and Natural Science Research
ISSN: 2689-9434
Volume 3, Issue 6, 2020 (pp. 54-61)
www.abjournals.org

LAND USE CONVERSION AND ITS IMPLICATION ON THE ENVIRONMENT IN LAFIA, NASARAWA STATE

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ABSTRACT: *The study was aimed on land use conversion and its implication on Lafia environment with the purpose of examining the characteristics as it affects the original design of the master plan of Lafia. Data were collected from respondents; a total of 400 people were sampled using questionnaires administration by employing systematic sampling method. Data retrieved was analysed using the SPSS (D. 20) to determine the significance differences between the land uses conversions in the study area. From the analysis, most of the land conversion is from agricultural and residential to commercial. Residential/commercial and only insignificance proportion of the land conversion in Lafia is outside major land conversion. Therefore, public awareness and campaign on environmental implication as well as socio – economic of land conversion should be vigorously stressed. The study recommended the creation of buffer zone on green belts which will help to increase the ecological services to the people.*

KEYWORDS: Land use, Conversion, Buffer Zone, Property Ownership

INTRODUCTION

Almost all human activities require land and these range from large scale industrial complex, traditional market to the roadside cobbler's shop all require land in varying dimension (Agboola, 2004). On the surface of the land, beneath it and managing above or are all traces of human activities which go a long way to say that land is perhaps the single most important element in development and mankind's most basic natural resources. Because of the diverse needs of different human activities with respect to location and area coverage and the temporal dynamism of the attributes and need of these activities, there is often intense competition for land. However, land is practically limited in supply and the awareness of land as an irreplaceable finite resource has made its use and management to require extreme care (Agboola, 2004).

Development of many cities starts from the center as the benefit of inner-city location attract several land uses towards the city centre. This has significantly influenced land use in urban centres. There is a serious change in land use caused by several human activities competing for scarce land in urban centres (Saleh et al, 2014). The user who is prepared to pay the highest

sum for a site is likely to eventually occupy it. Such individual will be able to successfully edge out other potential users. By this operation, sites in the urban area will tend to be used for that purpose for which the user makes the highest net gain. This would result in the highest net gain from alternative uses of the site. This would result in the highest and best use for that land. This scenario has made changes in land use, as part of urban growth inevitable land and buildings will continue to witness conversion of use from a lower order to a higher one in order to attain optimal use.

The intensity of land use changes in response to world population growth and its consequences for the quantity of life, the environment, global climate and world peace obligate in – depth studies of these transformation.

(Oludayo, 2011). For over 3 decades out on these changes, example the international Geosphere – Biosphere project (JGBP, 1988) and land use cover change (LUCC) program (Mersserli, 1997).

These projects have indicated the need to construct an updated and accurate database concerning these changes, their meaning, their pace and factors prompting their appearance (Mather, 1989). This goal has become more urgent as a result of the cumulative effects of inaccurate data on the ability to forest the consequences of current trends (Meyer and Turner, 1994).

Lafia over the years have witnessed the rapid invasion of residential properties by commercial activities with its attendant implications on the quality of environment as well as the cost of living among the residents of the areas. Sometimes some properties which were initially designated as residential were converted to commercial purpose or mixed-use sole aim of maximizing profit. Most of the literature on land use conversion focus mainly on the drivers as well as the socio – economic implication on land use conversion as observed by (Mabagunje, 1995) Abegude and Ebihikhalu, 2008 & Hamnet, 1991, 2003, Smith 1979, Hughes, 2010, Mishra et al …, 2013) and Kelly, 1998. The study examines the characteristic land use conversion in Lafia by determine evidences of Land use conversion and the platform of land use conversion.

METHODOLOGY

Lafia is serving as an administrative and commercial hub of Nasarawa State. It officially became the Capital of Nasarawa State on 1st Oct, 1996. At the 2006 census, Lafia had a population of 330,712 persons, making it the most populated local government in Nasarawa State. However, Lafia had witnessed a huge influx of people into Lafia either for work (Civil servants), schools (students) with the establishment of 4 tertiary institutions since it was made state capital. This has led to the emergence of satellite towns such as Bukan – Sidi, Ombi I and II, Shabu and Maraba Akunza.

The research design employed the use of qualitative and quantitative data. Using this method, data were collected from a representation sample of a population and the results obtained were used to describe the characteristics of the members of the target group.

Jackson, (2009) descriptive research is used to obtain information concerning the current status of the phenomena to describe what exist with respect to variables or condition in a situation. The main purpose of this types of research is to describe the data and characteristics about what is being studied. The idea behind this type of research design is relevant to this study because urbanization pattern and urban development in association to land use change conversion and the environmental implication on the land conversion. Data were collected from residents of Ombi I & II and Shabu. These two areas based on examination of Lafia Master plan (fig. 1) were large amount of land use conversion has occurred.

Also, people perception about land use conversion, reason for conversion, date of conversion and period of conversion were also investigated among types of data required for this study. Data was obtained directly from the field with regards to respondents. Perception of land use conversion while secondary data was obtained from the Department of Development Control in Nasarawa Urban Development Board (NUDB), Nasarawa Geographic Information System (NAGIS) and National Population Commission (NPC). The target population of the residence of Ombi I, II and Shabu. Their occupations cut across the various works of life. A total of 200 houses were observed to have been converted from residential to commercial. Example a student resident is where we have A. A. Rano Gas Filling Station in Ombi I. Data obtained was analysed using SPSS 0.20 and results presents of charts.

RESULTS AND DISCUSSION

Category of Property Ownership by Respondents

From figure 2, 45% of the respondents believed that the property is owned by family members while 26% are of the view that corporates bodies owned most of the property in the study area. However, 19% believe that Government owned the property and just 10% of the respondents believe that other kinds of ownership are ascribed to the property. Consequently, the dominate ownership of the property in the study is family members and this could have been driving impetus for land use conversion especially for commercial uses with attendant problems on gains.

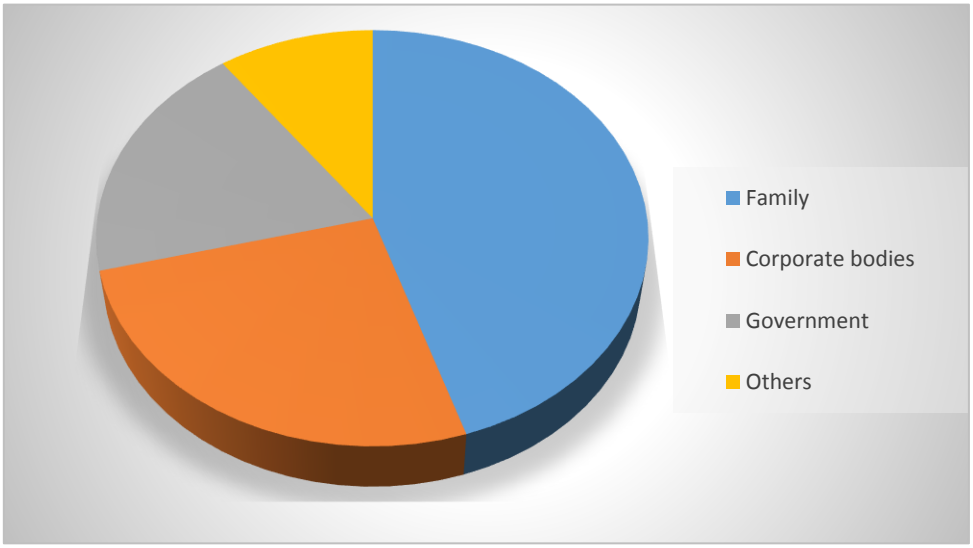

Fig. 1 Property Ownership in the Study Area

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Various Uses of the Property

The study also reveals that the various uses that the property is put in use in the area were presented in fig. 2 below.

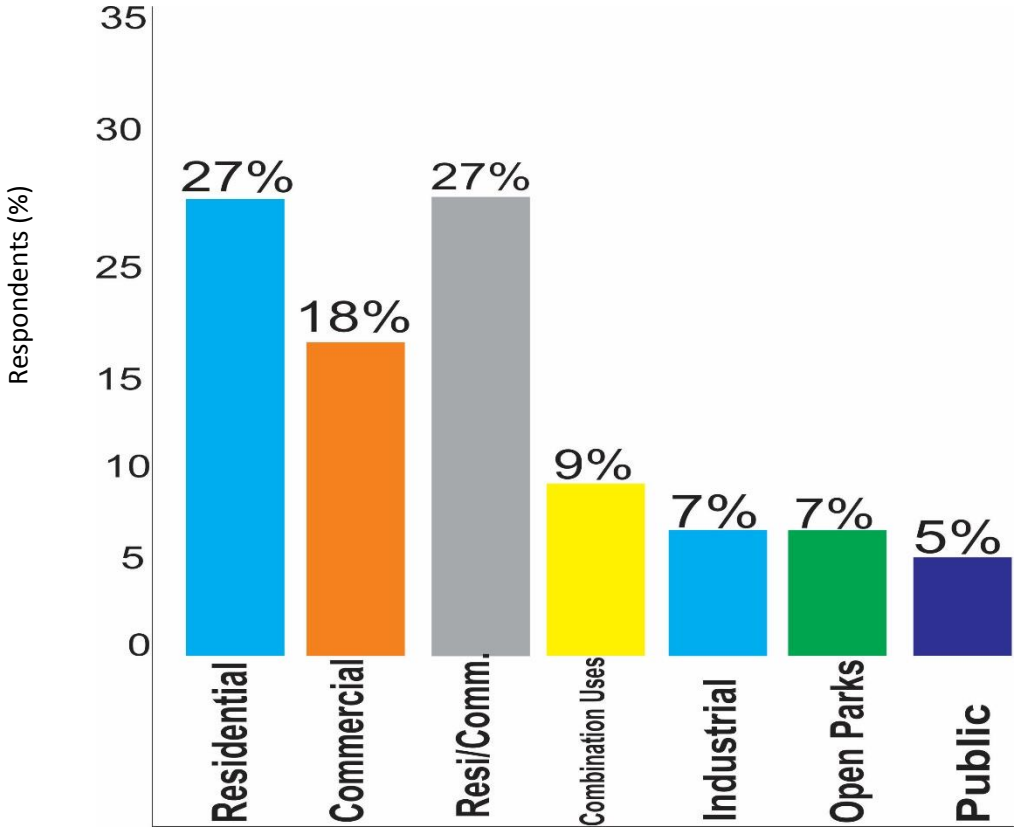

Fig. 2: Various uses of the property

Source: Field Survey, 2019.

From the figure above residential and commercial land use constitutes 27% for which the property is use while 18%, 27% and 7% are for commercial, residential, recreation/open space respectively. However, public institutions, industries, mixed uses are 5%, 7% and 10% accordingly. This implication of this results is that on individual basis, residential land use is dominant land use, however, when the residential and commercial land uses are separately delineated and summed up to commercial land use, the commercial use becomes the dominant land use. Also, in mixed uses commercial element of land uses could be found there. The proportion of land use provided for recreation and open space seem to be very low and this could have impact on relaxation and recreation.

Reason for Change in Land Use

Fig. 3 shows the perception of respondents' reasons for change on land use. From the charts below shows that various reasons were advance for change in land use in the study area.

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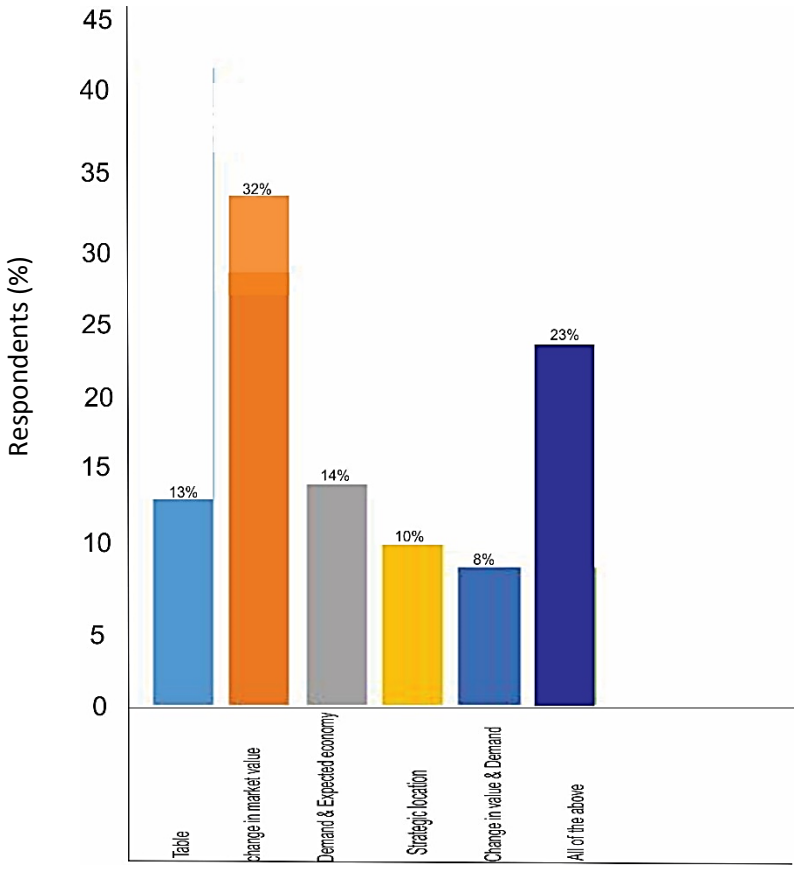

Fig. 3: Reasons for Change

Source: field survey, 2019

Assessment of Estimated Age of Property

An estimated age of the property in the study area reveals that the range of the property include 0 – 5 years (9%), 6 – 10 years (20%), and 11 – 15 years 35% while 16 – 20 and 25 and above constitute 21% and 15% respectively. From the analysis most of the properties are fairly old as they are between the ages of 11 and 15 years and this have the implication on the maintenance in terms of cost. This may prompt the owner of the property to convert to other uses which may bring economic benefits in order to help him maintain his/her property regularly.

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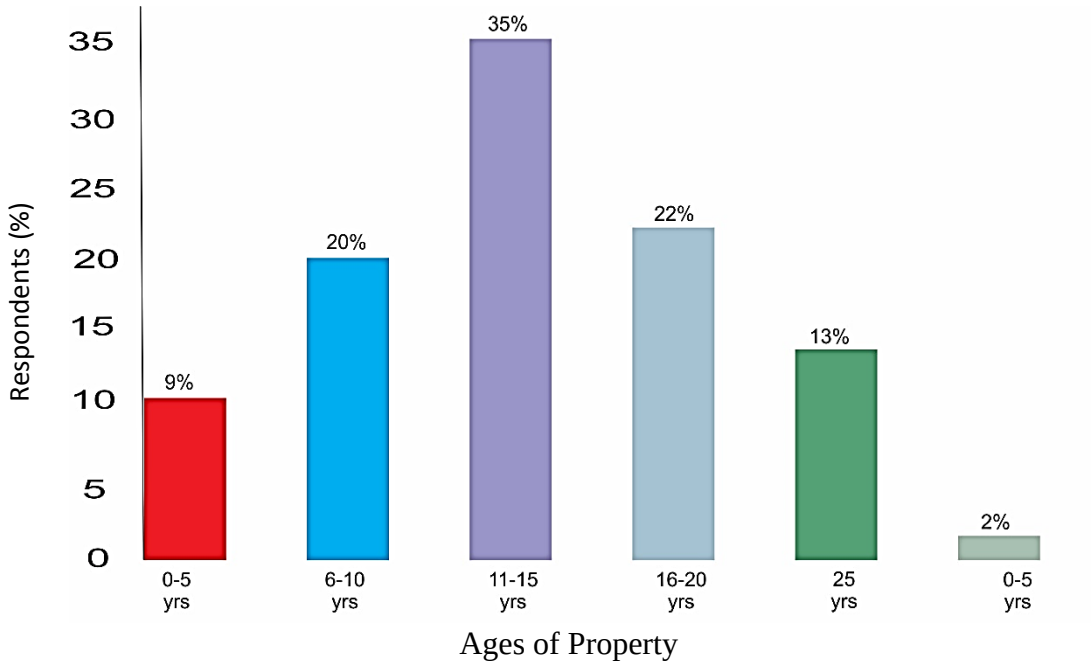

Fig. 4: Ages of Property

Source: field Survey, 2019

Level of Conversion

The level of land conversion in the study area is presented as follows. From fig. 6. Level of conversion include total conversion and partial conversion. From analysis 22% of the respondents have total conversion while 71% of the respondents goes for partial. The significant of this is that those areas dominated by land use partial conversion has the tendency to oscillate from one land use change to the other with attendant problem on land use planning.

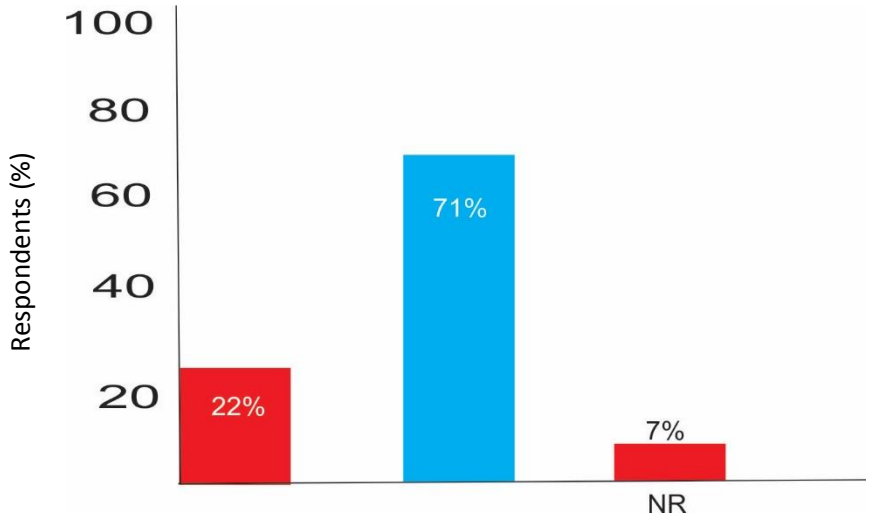

Fig. 5: Level of Conversion in Study Area

Source: Field Survey, 2019

CONCLUSION/RECOMMENDATIONS

The process of land conversion in the study are driven essentially by economic factors and this has affected the original master plan of the area (fig. 1). Consequently, environmental and socio – economic implications are common phenomenon that are associated with the process of land conversion. Also, most of the land conversion is from residential to commercial and only insignificantly proportion of the land conversion in the area is outside major land conversion.

The Following Recommendations are Suggested:

- Therefore, public awareness and campaign on the environmental implication of land conversion should be rigorously pursued through media house of Nasarawa State Broadcasting Service (NBS) 97.1, Precious F.M 102.5 and Breeze F.M (99.9).
- In view of the fact that land use conversion is associated with environmental degradation in terms of reduction in the quality of the air, water quality and noise level, it is imperative that public awareness and campaign should be carried out so that strict compliance to the master plan being monitored always.
- An environmental Impacts Assessment (E.I.A) of the Land conversion should be carried out to avert some calamites that may come up as a result of the conversion.

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