



ASSESSMENT OF INCORPORATING GREEN AREA IN FEDERAL CAPITAL CITY PHASE 1 ABUJA, NIGERIA

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Abstract

This study assessed the conversion of green areas to other land uses in Federal Capital City (FCC) Phase One Abuja. The research examines the extent of conversion of green areas to other land uses, reasons responsible for conversion of green areas, adequacy of green areas among others. Systematic Random Sampling was used to obtain the number of plots, percentage of sampled plots and sample interval. Chi-square method was used to determine the variation of responses on conversion in Asokoro, Central Area, Garki, Maitama and Wuse as 62.5%, 92.3%, 86.6%, 82.3% and 90.6% of respondent respectively. In Asokoro, Central Area, Garki and Maitama most of the green areas were converted to commercial land uses that constitute the most threat to green area. The research concluded that the level of awareness of existence of green areas among the respondents were high. The level of conversion in the study area were also high and commercial land use constituted more threat to green areas and the economic constraint being the reason for conversion of green areas. Finally, the respondents indicate that the provision of green areas were inadequate in the study area.

Keywords: *Incorporating, green, areas, city, vegetation*

Introduction

The Environment is an interactive indispensable medium within through which man's life performance is carried out. Man's life is unimaginable without the

environment to supply him with his needs such as air (to breathe), water (to drink and wash with), food (to eat), and solid materials for fashioning weapons, building shelters and clothing. (Atolagbe, 2002). Environmental degradation resulting from human attitude is becoming serious the world over, and Nigeria is no exception. Generally, problems arising from environmental degradation are mostly due to developmental processes and are of local, regional and global effects (kadir, 2006).

These effects are viewed as consequences of human activities, and are most often harmful on human beings, livelihoods, animal and plant lives (Kjellstrom and Mercado,2008). These also have far reaching implications on sustainable development, therefore, urban environmental issues will continue to dominate sustainable development agenda the world over and in developing nations in particular in the next few decades (Daramola and Eziyi,2010). In the face of increasing urban population, the increased number of human extension of urban area through

Industrialization and technological advancement in transportation and building construction has contributed to industrial, human wastes and effluents resulting in environmental pollution such as noise pollution, air pollution, water pollution, land pollution, urban heat and urban sprawl leading to loss of green area (Hales, 2000).

When the decision to establish a new capital city for Nigeria was taken in 1976, it was with a view of creating a city – beautiful’ that would be sustainable in the long run. It was on this view that the master plan was prepared to guide in the development of the new city. The master plan then become the guiding principle for the orderly development of the city and has been in use for the last 30 years (Jibril, 2010). Massive construction work has been going on since then, thus leading to massive and rapid growth of the city within this period. Part of the provision of the master plan (MP) is the development of adequate recreational and green areas within the Federal Capital City (FCC) of Abuja (Jibril, 2010). The city is to be developed in phases on area of 250 square kilometers. The total land area of phase 1 of the city is about 7076 hectares. Out of these, about 1260 hectares is reserved for ‘Greens’ development. These include open space, recreational facilities, park centers, and national and district/neighborhood parks. Others include green stretches along valleys, hilly patches and some incidental open spaces (Jibril, 2010).

However, as the city grows, the provisions of these “Green Areas” become a subject of abuse and a lot of the areas were taken over by developers and converted to other land uses thereby leading to the abuse and distortion of the master plan of the city. In 2003, a serious effort was embarked upon to restore the “Green” as per the provision of the master plan. This concerted effort continued up to the middle of the year 2007. This attempt at the restoration of the master plan and reclamation of the ‘Green areas’ proved successful. The success of the reclamation is question to be admired.

Materials and Methods

Both Primary and Secondary data were used for this study.

Federal Capital City Phase, the study area consist of five (5) districts namely, Asokoro, Central area, Garki, Maitama and Wuse districts respectively. All the districts constitute the sample frame of this study. Systematic Random Sampling method was used to obtain the number of samples in each districts, sample size, sample percentage and sample interval respectively.

The sample size for the districts was determined using the sum of their number of plots allocated to each districts as provided by.....source which is (14,014). The sample size of 460 was used.

Statistics such as table, pie chart, multiple regression, Proportions and percentage will be use in analyzing the social and economic characteristics of respondents, to determine the percentage of areas converted to other land uses. Furthermore, multiple regressions would be used to determine which of the land use constitute the least and the most threat to green areas.

Results and Discussion

Awareness on Green Areas, Parks, Garden and Open Spaces

Respondents level of awareness on green areas, parks, gardens and open spaces shows that up to 92.9%, 89.7%, 97.6%, 7.6% and 95.0% for yes response -in Asokoro, Central Area, Garki, Maitama and Wuse districts and 7.1%, 10.3%, 2.4%, 2.4% and 5.0% for a No response in Asokoro, Central Area, Garki and Maitama. About Ninety five (95.4%) of the respondents in the study area are aware of the existence of green areas, parks, gardens and open space. Only About five percent (4.6%) of the respondents in the study area are unaware of the existence in green areas, parks, gardens and open space in the study area.

In Asokoro, Central Area, Garki, Maitama and Wuse, 16.1%, 10.3%, 2.4%, 4.0% and 13.8% respectively admitted that they have no green areas their area, saying "None" as response to the question - How many green areas do you have in your area/zone? Again in Asokoro, Central Area, Garki, Maitama and Wuse, 58.9%, 20.5%, 46.3%, 23.4% and 35.8% respectively estimated between 1-3. Similarly, 21.4%, 51.3%, 41.5%, 49.2% and 35.2% respectively estimated it to be between 4-7. Also, 1.8%, 12.8%, 3.7%, 13.7%, 9.4% estimated it to be between 8-11. Finally 1.8%, 5.1%, 6.1%, 9.7%, 5.7%, estimated it to be > 11. Similar question were asked in Asokoro, Central Area, Garki, Maitama and Wuse with regards to parks, Garden and open spaces and the responses are also shown in the tables and figures that follow (Q8 and Q9).

Conversion of Green Areas, Parks, Garden and Open Spaces

Question II in the questionnaire collected information about conversion of any designated green area in your zone/areas. The response reveals that in Asokoro, Central Area, Garki, Maitama, and Wuse 62.5%, 92.3%, 86.6%, 82.3% and 90.6% respectively noticed the conversion of designated green area in the district to other uses. In Asokoro 39.3% were converted to Commercial, 30.4% to Residential, 1.8% to religious, 5.4% to mixed uses and 23.2% others. In Central Area, 41.0% to commercial, 38.5% to Residential, 20.5% to Mixed uses. In Garki, 51.2% to commercial, 35.4% to Residential, 1.2% to Religious, 9.8% to mixed uses and 2.4% to others. In Maitama 39.5% to commercial, 30.6% to Residential, 6.5% to Religious, 13.7% to Mixed uses 9.7% to others. In Wuse 30.2% to Commercial, 57.2% to Residential, 4.4% to religious, 5.0% to Mixed uses and 3.1 % to Others uses. Chi-Square Tests show significant variation in their responses across the district since Pearson Chi-Square value of 27.496 and Asymptotic Sig. value (2- sided) is less than 0.05 level of significance. Similar question regarding parks were asked and the responses are also presented in tables and diagrams below.

In Asokoro, Central Area, Garki and Maitama most of the green areas were converted to commercial land uses thus constituting the most threat to green areas in the residential districts. However in wuse residential land use took 57.2 percent of the conversion which is the highest percentage of conversion of green areas to other land uses, thus constituting major threat to green areas in the district.

With respect to parks 51.8 percent in Asokoro, 87.2 percent in Central Area, 80.5 percent in Garki, 78.32 percent in Maitama and 32.2 percent in Wuse of the respondent noticed the conversion of parks to other uses. This response was randomly distributed across the districts since the chi square value of 33.3 with asymptotic value less than the level of significance of 0.05 reveal that the conversion of parks to other land uses varies significantly across the district.

In Asokoro residential and other land use aside religious and mixed uses took 35.7 percent respectively. This shows that the two land uses pose more threat to parks conversion in the area. In central area, commercial and residential land uses both has 33.3 percent respectively showing highest conversion of parks followed by mixed uses with 25 percent and other 12.9 percent respectively. Thus, commercial and residential land uses constitute more threats to parks in the area. Chi square statistical value of 64.4 and asymptotic significant value of $0.00 < 0.05$ shows that there is significant variation in the conversion of parks across the districts.

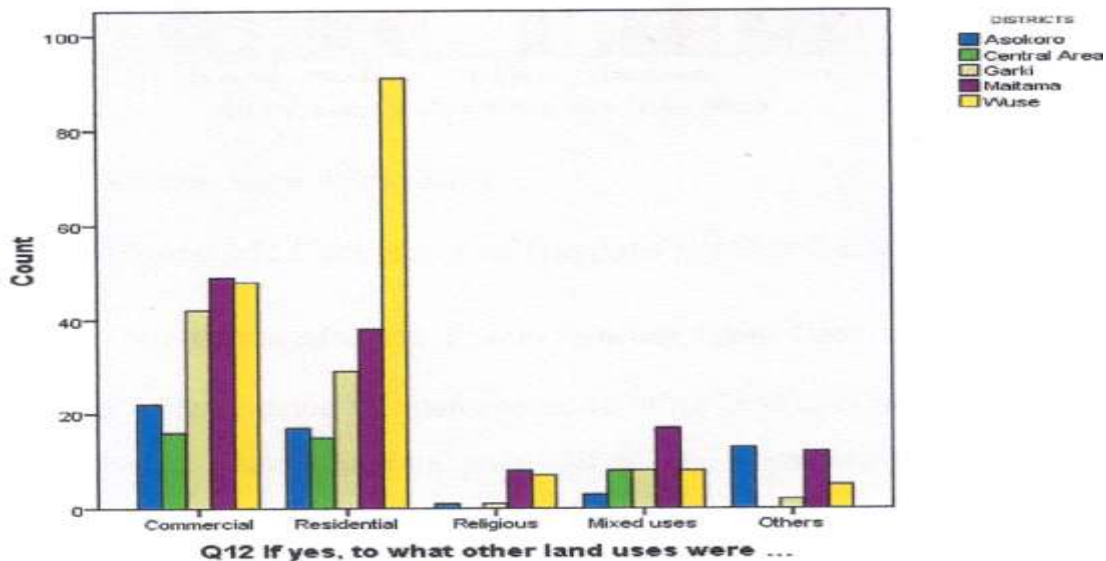
With regards to conversion of designated gardens in the districts 51 percent of respondents in Asokoro, 87.2 percent in central area, 73.2 percent in Garki, 79.0 percent and 86.8 percent in Wuse all noticed conversion of Garden to other uses and their response varied across the district as the chi square value of 23.37 and asymptotic sig. $0.00 < 0.05$ clearly shows that there is significant variation. The direction of conversion was towards commercial, residential, religious, mixed uses and others. However, 30.4 percent in Asokoro, 43.3 percent in central area, 43.9 percent in Garki and 48.4 percent in Wuse districts respectively were converted towards residential area being the highest percentage of conversion in those districts. Thus residential land uses constituted more threat to Gardens. However in Maitama, about 30 percent (29.8%) were towards commercial uses and has the highest percentage in the districts thus, constituted more threat to the gardens. The chi square value of 41.58 and asymptotic significance value of $0.00 < 0.05$ shows that there is spatial spread in the conversion of Gardens to other uses.

With respect to open space, in Asokoro, Central Area, Garki, Maitama and Wuse district base on the response of respondents, 60.7 percent in Asokoro, 87.2 percent in central area, 85.5 percent in Garki, 81.5 percent in Maitama and 81.8 Wuse percent admitted that there are conversion of open spaces to other use and this opinion varies across the districts as The chi square asymptotic sig. value of $0.00 < 0.05$ shows that there is spatial spread in the conversion of open space to other uses. In Asokoro commercial and other land uses had 33.3 percent and 41.1 percent respectively and the central area 35.9 percent, Garki 41.1

percent of respondents admission of conversion to commercial uses. Thus commercial land use constitutes more threat to open spaces in the districts. However, Maitama and in Wuse had 38.7percent and 52.2percent of respondents who admitted that open spaces were converted residential land uses. Thus this constituted more threat to open spaces in the area. The chi square value of 35.66 and asymptotic sig. value of $0.00 < 0.05$ shows that there is significant variation in the conversion of open spaces to other uses.

Conversion of Parks to other Land Uses

Fig 3.1 shows the conversion of parks to other land uses in the study area with the following percentages, Residential uses 42.2%, Religious uses 6.1 %, mixed uses 13.7% and other uses 14.8 % respectively. Conversion of land for religious uses posed least threat with 6.1 % while residential uses posed most threat in the whole districts. Hence in term of variation of land by districts Residential land uses had most threat in Central area districts with 43.9% and Religious land uses with least threat in Asokoro Districts with 2%.



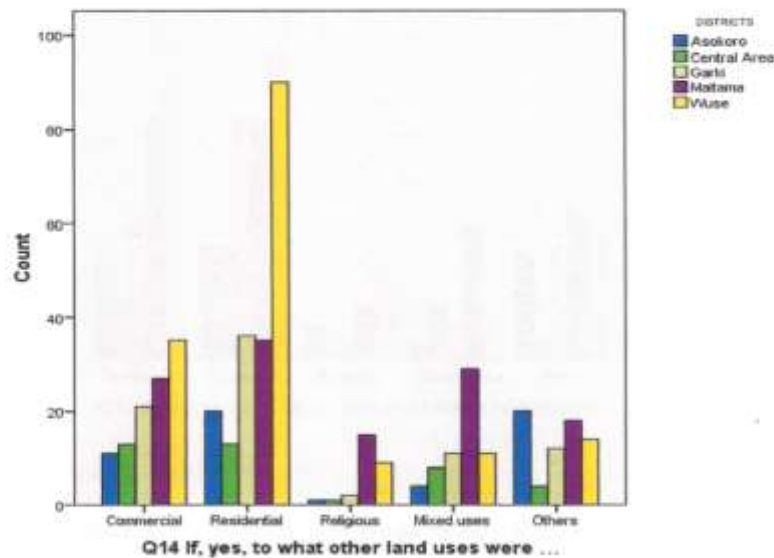
Source: Field work, 2019

Figure 3.1: Conversion of parks to other land uses

Conversion of Gardens to other Uses

Conversion of Gardens to other land uses in the study area reveals that residential land uses constituted 39.8% respectively. The residential land uses caused most threat while the Religious uses posed least threat with 39.8% and 6.1% respectively.

But in term of variation by districts most threat was witnessed in Wuse districts with commercial land uses of 48.4% and the least threat by Religious land uses in Garki districts with less 2.4% (See Fig. 3.2).



Source: Field work, 2019

Conclusion

The analyses of the data gathered are in support of the following conclusions: That the level of awareness of the existence of green area, parks, garden and open spaces in the study area is high.

That the level of conversion of green area, parks, gardens and open spaces to other uses in the study area is high and that about eighty-three percent of respondents are aware of conversion of green areas, parks, gardens and open spaces to other uses.

That commercial land use constitute more threat to green areas, parks, gardens and open spaces in the study area. That economics being in the reason for conversion of green areas, parks, gardens and open spaces rated highest in all the district except Wuse district, where political reason was the main reason for conversion. That respondents indicated that the provision of green areas, parks, garden and open spaces were inadequate.

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