



*Full Length Research Paper*

# Factors Affecting Land-Use Change on Property Values in Nigeria

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## ABSTRACT

Nowadays, industrialization along with urbanization and growing deforestation, increasing trend of green house effect, raising earth temperature, and rapid climate change have fallen a burden on the environmental resources and caused the earth to encounter twofold problems. Undoubtedly, man's presence and his destructive activities are not ignorable in reaching such a crisis. Nigeria has been encountering intensive environmental destruction in recent years because of the need to increase the revenue base and better the standard of living for the citizenry. This paper is aimed to answer this question: what are the effective factors that lead to the destruction of land in Nigeria? Land use change and environmental destruction not only has endangered natural resources, but also has had social and human resources to demolition and torn local societies. In this paper, qualitative methods like interviewing and observation were used to indicate reasons of land destruction and land use change. The conceptual models were created to investigate the interaction between the factors and their results on the trend of forming unsustainable development as a result of quest for higher values of the land in the country. A systems dynamic method was used for this analysis. Unsustainable trends in the land use changes were predicted and finally some suggestions were made to prevent the trend of land destruction.

**Keywords:** Deforestation, Environmental destruction, Land use

## INTRODUCTION

Land use change and environmental degradation have made too much damage in the world's natural resources. In fact, it can be expressed that even, natural sinks of the earth which improve and ease natural recycling system are being demolished as a result of negative environmental impacts. Destruction of forest has been decreasing air pollution absorption's factors. Global and regional trends and factors have caused a lot of change in economic, social and cultural capital; consequently, these changes have caused environmental destruction in domestic society in the country.

According to Veldkamp and Fresco (1996), land use change is determined by special and temporal interaction between biophysical factors (e.g. soil, climate, vegetation and topography) and anthropogenic factors (e.g.

population size and density, technology levels, economic conditions, the applied land use strategy, and social attitude and values). Agarwal et al. (2002), developed an analytical framework that illustrates these interactions very well and summarized models of human-environmental dynamics based on three critical dimensions: time, space and decision-making. Time and space are the first two dimensions, as all biophysical and human processes operate within them, and decision-making (the third dimension) is relevant to where human processes are involved. Cultural conditions, individual's perceptions of the world, influence what they consider to be important, and suggest appropriate or inappropriate courses of action. Nevertheless, cultural differences have important impacts on direct drivers, (Nelson et al., 2006).

Cultural factors can influence consumption behavior; therefore, can be a particularly important driver of environmental change.

Unfortunately, a sharp rise in selling agricultural lands on the pretext that the country should develop industrially has resulted into serious land use change. Therefore, in addition to the effects of environmental deregulation, these trends have had unfavorable effects on human and social capital of the country. Land use change and irregular building project policies have caused the adverse effects on the land utilization in the country which has given rise to the increase number of real estate agencies. Bararpour (2007) noted that the number of land speculators and real estate agencies has increased tremendously in the last ten years as a result of the volume of money in the circulation and the increment in the price of crude oil. The rate at which the land in Niger Delta had change over the years is unprecedented. The level of people's expectations in the country from the government has increased and the ways and manners the politicians are displaying the affluence also contributed to the quest by many people to look for money anywhere which in so many ways has contributed to the serious land use change in the country.

## **THEORETICAL FRAMEWORK**

A great deal of detailed studies on land use change in many parts of the world has been conducted; such as Lambin et al (2000), Ali (2004), Fisher et al (2004), Evenden et al. (2006), Salvatore et al. (2005), Murdiyarsa (2008) etc. Lack of both the sufficient environmental educators and the people's awareness were also reported by Klooser (2002), inappropriate governments' policies studied by Ahmad (2008), Anderson et al. (2006), Koomen et al. (2004). Also in different studies, demand for residential and industrial land has been reported as the main cause of land use change, as been mentioned by, Xiangzheng et al. (2008), Frapolli et al. (2007), and Reed-MD (2008). Lack of NGOs and weak collaboration of local people were investigated by Plummer (2006), Warren (2005), Klooser (2002). Also observation of Ostwald (2008) and Ellis et al. (2004) showed that low income in the other sector or the lack of livelihood diversity, were the reasons which caused land use change around the world.

Vitonset et al. (2007), opined that human use of land has altered the structure and functioning of the ecosystem. The most spatially and economically important human use of land globally include cultivation in various ways, construction, reserves, protected lands and timber extraction (Turner II et al., 2007). Recently, settlements and sprawl development are becoming large active land use change especially in the developing regions of the world. The pattern of land use can provide us insight into the factors that have caused the land cover change.

The urban population in Africa is growing faster than any other continent. It is predicted that by 2030 about 5 billion people, approximately the population size of the entire continent today will be in urban areas and that these figures will be absorbed by the urban areas of the less developed regions (UN, 2001). The driving forces behind the rapid urbanization in Africa today are the combination of rural-urban migration and natural increase within the towns and cities themselves.

Nigeria has been regarded as the most populous nation in Africa with a teeming population of over 160 million (Population census, 2006), crowded over a land area of about 923,000 square kilometers. It has over a hundred cities with population that passes for urban centers. Nigeria cities notably Lagos, Kano and Ibadan are among the first one hundred cities in the world (UN, 2001), which translates into pressures on land and thus high urban dynamics. The pressures on land orchestrated by increased rate of urbanization brought with it intractable urban problems, such as poor environmental sanitation, pollution, crime, unemployment and overcrowding among others. Many writers confirmed that Nigerian urban centers are faced with rapid growth and development, which contribute to land use change. The relationship between population increase, economic developments and land use change has generated research interest over two decades and half. While the trend in lateral growth, the pattern and direction of sprawl developments in many cities in Nigeria are limited by physical barrier such as lagoon, Rocky Mountains and other natural features, the influx of people into the cities complicated the urban condition through structural growth. The population increase naturally creates adjustment and readjustment of human and land use activities in space within urban systems thus causing lateral and structural changes. Land use changes are indirect consequence of national economic growth, it is important to evaluate land use changes in the regional and local context in order to assist in anticipating the impacts associated with change and contribute to an understanding of productive environmental sustainability (Laymon, 2003). It is not only necessary to understand the changed process in cities, the understanding of the agent of beneficiary of change can be useful indicators in planning and declaration of objectives functions in cities.

## **METHODOLOGY**

This study is based on system dynamic method, and furthermore, data gathering techniques such as qualitative interviews, direct and participant observations, as well as questionnaire for the gathering of factual data, were used. Conceptual models and computer simulation were applied as tools for analysis. System dynamic is an approach to come to an understanding about behaviour of complex systems over time. One branch of system

thinking is called System Dynamics (SD), which operates in a whole-system fashion while large avoiding jargon and convoluted explanations. It combines the theory, methods, and philosophy needed to analyze the behavior of system not only in management, but also in other field such as environmental change, politics, economics behavior, medicine and engineering. It draws on a wide variety of disciplines to provide a common foundation for understanding and influencing how things change over time. SD is a thinking model and simulation methodology. This paper is based on supply-demand model. In countries with open market, the market is the most important indicator for determining of supply and demand, and as a result, there is equilibrium among supply and demand. In open market when supply grows, price decreases and demand rises. So, with the rise of demand, price grows and supply also increases, therefore, equilibrium is created creates between supply and demand.

Land price in Nigeria follows the trend of supply-demand model. The research outcome shows that the government's indirect policies of allocating land though some agencies have resulted in high cost of lands as a result of land speculators.. Decrease in price of government land and other motivation policies like provision of infrastructure for rising demand have led land price to increase; consequently, land supply is raised.

## THE RESEARCH FINDINGS

**Government and Real estate policy.** Government efforts towards the provision of infrastructure and direct land allocation through various agencies at the states levels have caused the ease of illegal land use change. The research finding shows that most of the areas where the government agencies have acquired land have brought about land use changes as a result of the activities of original land owners. There have been series of illegal structures and non conformity of the development with original designs of the government. Government supportive policies of providing low income housing, which are not effective in most of the urban cities, are factors that brought about the activities of real estate developers in having series of uncoordinated housing estates around the country and which has however brought about land use changes.

**Attraction factors of the country and presence of crude oil:** The location of Nigeria at the West Africa has contributed to the influx of immigrants into the country. The location of the sea ports and as well as the soil fertility of the country has contributed to the rate at which people are coming to the country. The discovery of the crude oil in the Niger Delta and the attractiveness of the region have also contributed to the rate of land use changes in the country. According to statistics about

water pollution in the Niger Delta region, it was indicated that more than 40% of the population have got sick through last 20 years due to the polluted water. Kidnapping, robbery and breaking into cars by burglars within the region are common phenomenon. Lagos state is another state that has witnessed a great deal of land use change. The location of the state as a coastal area coupled with the presence of multinational companies and the first call of the immigrants has contributed to the land use change in the area. The state generated most of the garbage in the country because of the population.

**People and Regional conditions:** Because of efficiencies in agriculture sector and setting up of several government projects around the country, in addition to the ignorance of related laws to land use change by different governmental organist ions, land use change and land sell were growing. However, until 1960, the main sources of income in the country were from agriculture. The rate has changed and more than half of the population has moved to the urban centers looking for white collar jobs. These had contributed to the high rate of urbanization and changes in land uses.

**The law of the strength structure:** The land use Act of 1978, which vested all land into the hand of state Governors has also contributed to land use change. The empowered the Governor to declare any land urban area and also has the power of allocation as well as acquisition. This power has given the loyalists of the governors to request for any land at any location irrespective of what the land is being used for before. This has also enabled the government officials to manipulate the allocations of land within the state. The findings indicate how incorrect policies of government and weakness of agricultural sector in the country have resulted in farmland use change. Base on the research outcome, with the increase in different governments' tax policies and presence of dense real estate agency in most of the big cities, the amount of tourist attraction is increased. Presence of non-native population creates a few jobs on the service section.

Thus due to lack of infrastructural facilities and incorrect management policies or lack of enough knowledge about new methods of land management, in addition a lack of awareness among domestic people about environment destruction effects and low efficiency of agriculture section, inclination to land use change has been grown across the country.

## RECOMMENDATION

It is a good idea to prepare necessary facilities and infrastructure for the development of the country, government policies should geared to ensuring that there is balance in the utilization of the available land in the

country in such a way that there will sustainable development in the land management in the country.

Creating bases for educating and getting information to people about the environment's destruction and the unfavourable effects of climate change and forest degradation on land use change will bring Nigerian society into the committee of serious and advance nations which give their people needed information about the judicious ways of managing the available resources.

In term of job opportunity in the country the following solutions are suggested:

- Financial support from government in term of low income housing and better access to land will go a long way in reducing land use change.
- The recently passed building code and the efforts of the national Assembly to review the land Use Act of 1978 is in the right direction. These will reduce the speculation on land and modify the power of state Governors in various state of the federation.

Efforts of Lagos state government for example on land documentations should be emulated by all other states in the country. This will help to determine the types, nature and uses of various properties in the country and will also help to know the pattern land use change in each city.

Getting taxes from property transactions or the prohibition of selling farm land by 'omo onile' (land speculators) to people who are not farmers and punishment and preventing several land transaction in a short period can be useful to prevent land use change and illegal land transaction in the country.

Creating an observant group e.g. NGOs for observation trends of land transaction. This NGO can be created in environment where the populaces are well enlightened and ready to challenge any illegal land transaction within the community.

## CONCLUSION

Urbanization and ineffective legal frameworks had been discovered to be the major impediments to the ever growing land use changes in Nigeria. This has however contributed immensely to the poor economic structures and environmental degradation. This paper identified some of these factors as major reasons while it will be difficult for Nigeria to development effective land use policies and encourage environmental qualities. The paper therefore identified some road maps that will bring about sustainable development to the land use policies in the country.

## REFERENCES

- Agarwal C, Green GM, Grove JM, Schweik CM (2002). A Review and Assessment of Land-use changes models: Dynamics of Space, Time, and Human choice. Indiana University, USA.
- Ahmad S, Podesta G, Broad K (2008). Using Climate Information for Sustainable Management of water Resources in South Florida: A Dynamic Decision Support Framework. University of Nevada, Las Vegas.
- Ali AMS (2004). Technology Change in Agriculture And Land Degradation In Bangladesh: A case Study. *Land Degrad. Dev.* 15:283-298.
- Anderson K, Gibson CC (2006). Decentralized Governance and Environmental Change: Local Institutional Moderation of Deforestation in Bolivia. *J. Policy. Analysis. Manage.* 26: 99-123.
- Bararpour ABF, Merino L, Durand J (2007). Migration and Environment in the Context of Globalization. *Ecol. Environ.* 5: 182-190.
- Bello IK (2001). Land Use Changes under the Pressure of Urbanization. A Time Dimensional Analysis of Ibadan Metropolis between 1970 – 2000. A M.Sc. thesis submitted at the Department of Urban and Regional Planning University of Ibadan.
- Ellis F, Allison E (2004). Livelihood Diversification and Natural Resource Access. Food and Agriculture Organization of the United Nations Livelihood Support Programme (Lsp).
- Evenden J, Athman C, Chaveas M (2006). US Forest service International Programs, Department of Agriculture.
- Fabiya S (2006). Urban Land Use Chang Analysis of a Traditional City from Remote Sensing Data: The Case of Ibadan Metropolitan Area, Nigeria. *Human and Social Sci J.* 1(1): 42-64.
- Fabiya S (2005). Colonial and post Colonial Architecture and Urbanism in Nigeria Urban History, Past and Present. Ibikunle H. (ed.) University Press of America, Pp 144 - 164.
- Fisher RJ, Schmidt K, Akenshaev N (2004). Poverty and Forestry: A case study of Kyrgyzstan with reference to other countries in West and Central Asia, Livelihood Support Program (LSP).
- Frapolli EG, Orzoco BA, Frermandez GR (2007). Biodiversity conservation, traditional Agriculture and Ecotourism: Land Cover/Land use change projections for a natural protected area in the North a stern Yucatan Peninsula, Mexico. Eduardo Garcia. *J. Landscape. Urban. Plan.* 83: 93-111
- Ekoomen E, Groen J (2004). Evaluating future urbanization patterns in the Netherlands paper. 44 Congress of the European Regional Science Association.
- Klooster D (2002). Towards Adaptive Community Forest Management: Integrating local forest knowledge with scientific forestry. IASCP Conference, Bloomington Indiana, 1-35.
- Lambin EF, Rounsevell MDA, Geist HJ (2000). Are Agricultural Land Use Models Able to predict Changes in Land Use Intensity? *Agriculture, Ecosystems and Environment. Special Issue.* 1-15.
- Laymo C (2003). Satellite Remote sensing of Land Use Change. Universities Space research. Association National Space science and Technology Centre, 320 Sparkman, Huntsville, Alabama 35805. July 23, 2003.
- Murdiyarto D (2008). Measuring and Monitoring forest degradation for REDD. National Population Commission. (2006). Population Census. Federal Government Printing Press, Lagos, Nigeria.
- Nelson GC, Bennett E, Marco D, Abdali H (2006). Anthropogenic Drivers of Ecosystem Change: An Overview. *Ecology and Society*, Pp11 and 29
- Ostwald M, Palm M, Ravindrantath NH (2008). Land Use and Forest issues at COP13 ON Bali. Dept o Earth Sciences, Goteborg University.
- Plummer R (2006). The Evolution of Sustainable Development Strategies in Canada: An Assessment of Three Federal Natural Resource Management Agencies. *Sustainable Development.* 16:16- 32.
- Reed-MD CM (2008). Medical Tourism Christi. *New. J. Emerging Infectious. Diseases.* 92:1433 – 1446.
- Salvatore M, Ataman F, Bloise M. (2005). Mapping Global Urban and Rural Population Distribution, F.A.O. and The Trustees of Columbia University in the city of New York. United Nations Population Revision: World Urbanization Prospects: The 2001 Revision.
- Veldkamp A, Fresco L (1996). A Conceptual Model of Study the Conversion of Land Use and its effects. *Ecological Model. J.* 85: 253-270.
- Vitonset DM, Harris CD, Bulog EW (2007). Human Domination of Health's Ecosystems. *Science*, 27: 494-499.
- Warren C (2005). Community Mapping, Local Planning and Alternative land use strategies in Bali. *J. Geog.* 105: 9-41.