

The Role Of Environmental Impact Assessment In Environmental Sustainability Of Onitsha Metropolis In Anambra State, Nigeria.

Nwokeji Paul Anulika, Obarisiagbon Osaze, Akatah Hilda Abiola, Enodiana Osamiabe Ignatius

1 Department of Plant Biology and Biotechnology, University of Benin, Benin City.

2 Department of Architecture, University of Benin, Benin City.

3 Department of Microbiology, University of Benin, Benin City.

4 Department of Natural Resource Management, National Institute for Freshwater Fisheries Research, New Bussa, Niger State, Nigeria.

Corresponding Author's Email: paul.anulika@gmail.com

ABSTRACT: Environmental impact assessment (EIA) is a process having the ultimate objective of providing decision-makers with an indication of the likely consequences of their actions or the official appraisal process to identify, predict, evaluate and justify the ecological, social, and related biophysical effects of a proposed policy, program or project on the environment, while sustainable development is the maintenance of ecological integrity. The present study investigates the level of development in the city of Onitsha in Anambra State, Nigeria, to ascertain whether it is a sustainable development, using the tool of EIA and its implementation as a parameter. The instrument used for data collection included literature review, field survey using questionnaire distribution, interviews and personal observation. The result of the research showed that a lot of development have taken place in the city of Onitsha which include building of residential houses, shops, industries, petroleum filling stations, road constructions, hospitals and schools but these developments are not sustainable especially those of Onitsha South Local Government Area because the environment is not put into consideration. The key tool for sustainable development, which is EIA, is not used in the process of these developments mentioned above. From the statistical analysis collected and analyzed using mann-whitney test shows that there is a significant difference between the project executed in this city using EIA and the ones executed without the use of EIA ($P < 0.05$). The consequences of this unsustainable development have resulted in environmental degradation, pollution, health hazards, erosion, excessive heat, over flooding and loss of the vegetation. To return to the path of sustainable development, there is therefore the need to go back to the use and implementation of EIA results provide by decision makers and the proper implementation of environmental laws and policies.

KEYWORDS: environmental impact assessment, sustainable development

INTRODUCTION

Environmental impact assessment (EIA) is an assessment of the possible positive and negative impact that a proposed project may have on the environment [10]. The purpose of the assessment is to ensure that decision makers consider the ensuing environmental impact when deciding whether to proceed with a project. Environmental Impact Assessment (EIA) is also considered as the official appraisal process to identify, predict, evaluate and justify the ecological, social, and related biophysical effects of a proposed policy, program or project on the environment [5]. It can also be defined as a process having the ultimate objective of providing decision-makers with an indication of the likely consequences of their actions [21]. Sustainable development deals with the maintenance of economic integrity [6]. According to World Commission on Environment and Development (WCED), it was defined as meeting the need of current generation without compromising the ability of future generation to meet their own need [20]. Environmental impact assessment (EIA) is potentially an important instrument for furthering sustainability in public and private decision-making [20]. A sustainability perspective must be intrinsic to EIA, if EIA is to facilitate sustainability. The origin of sustainability have generally been attributed to a shift in perspective regarding continuing environmental degradation and the international development agenda e.g. poverty [17]. Increasingly global and interregional environmental problem such as exploding population levels, the loss of biological diversity, climate change, ozone depletion and overburdened ecosystem have

come to the fore in environmental theory and practice [16]. Environmental protection and resource management has conventionally been given important all over the world, which has increase in recent time. However, industrialization, urbanization and changing lifestyle over the years affected the environment drastically in causing pollution and environmental degradation [5]. It is because of this effect that warranted the need for sustainability. Sustainable development is a mainstream recognition of a link between development and environment. It advocates meeting the economic, political, social, cultural and health needs of the present without compromising the ability of the future generation to meet their own need. Environmental impact assessment is the perceived tool for achieving the desired balance. The city of Onitsha in Anambra state in Nigeria is one of the cities in Nigeria which seeks to improve the people's standard of living by developing its environs through industrialization, commercial activities, marketing, housing, road construction and these industrial activities with their potentials for environmental degradation and pollution were carried out in an uncontrolled manner, thereby leaving the legacy of environmental degradation, noise and air pollution, deterioration of health quality and generation of health hazard. That is why environmental impact assessment is very crucial in maintaining the integrity of the environment. Environmental impact assessment began to be used in the 1960's as part of a rational decision making process, it involves a technical evaluation that would lead to objective decision making. Environmental impact

assessment was made legislation in the US in the National Environmental Policy Act (NEPA) 1969. It has since evolved as it has been used increasingly in many countries around the world. Although detail steps in environmental impact assessment (EIA) process vary from country to country, there are number of generic steps, which are followed internationally [21]. These steps include the following,

• **Screening**

Screening is the process of determining whether or not an individual project proposal requires a full-scale EIA and what the level of assessment should be. In some countries, an initial assessment is used when there is uncertainty regarding the scale of study required or where there is a small amount of information required to take the decision. Most countries have lists of activities for which EIAs are required (e.g. mining or major construction works). In addition, some countries have identified sensitive environments (e.g. estuaries or cultural heritage sites) for which EIAs are needed.

• **Scoping**

Scoping determines the nature and extent of the required impact assessment. This phase entails the identification of issues that are likely to be important during the EIA and eliminates those that are not. Scoping usually involves interaction between the public, government departments and proponents who assist in the identification of key issues for investigation. The scoping report forms the basis for the terms of reference for the impact assessment (or analysis) phase.

• **Impact assessment**

The objective of this phase is to identify how the activities of the proposed development will impact on the various components of the environment. The impact assessment entails the identification and analysis of impacts, as well as a prediction of the significance of the impacts. Both negative and positive impacts are assessed.

• **Mitigation**

Mitigation entails the identification of ways in which negative impacts can be avoided or minimized to limit costs, and ways in which positive impacts can be enhanced to ensure maximum benefit.

• **Reporting**

A single EIA report is produced and contains the integrated findings of the impact assessment and mitigation studies. This report is used by the authorities in decision-making.

• **Reviewing**

In all jurisdictions, the authorities must officially review the EIA report and decide whether it is of an acceptable standard or not. To improve rigour and ensure that relevant information is captured and reflected, the process often includes review by the public and independent specialists prior to finalization and decision-making. The Southern African Institute for Environmental Assessment (SAIEA) is the only institution dedicated specifically to providing a professional external review service in the region.

• **Decision-making**

Decision-making refers to the final approval or authorization of the proposal. It usually includes a series of conditions under which development may proceed. The conditions are often translated into the management plan for the project.

• **Implementation**

If the development is approved, the developer might be required to implement an environmental management plan (EMP) for construction, operation and, in some instances, decommissioning of the project. The EMP is the tool used to ensure that the mitigation actions and the monitoring requirements recommended in the EIA are systematically implemented throughout all phases of the project. This often-neglected aspect of EIA ensures delivery on promises. In Nigeria, as a consequence of the illegal dumping of toxic wastes in Koko, in the former Bendel State, in 1987, the Nigerian Government promulgated the Harmful Wastes Decree which provides the legal framework for the effective control of the disposal of toxic and hazardous waste into any environment within the confines of Nigeria [7]. This was immediately followed by the creation of a regulatory body, the Federal Environmental Protection Agency (FEPA) in 1988. FEPA is charged with the overall responsibility of protecting and developing the Nigerian environment. To put this into action a National Policy on the Environment was developed. This is the main working document for the preservation and protection of the Nigerian environment. States and Local Government Councils were also encouraged to establish their own environmental regulatory bodies for maintaining good environmental quality as it applies to their particular terrain. The EIA Decree No. 86 of 1992 is particularly directed at regulating the industrialization process with due regard to the environment. By this Decree, no industrial plan/development/activity falling under the FEPA's mandatory list can be executed without prior consideration of the environmental consequences of such a proposed action, in the form of an environmental impact assessment. Looking at the rate of development in the urban cities, the pertinent question that should be asked is this: is this development sustainable? That is why the aim of this paper is to analyze the role of EIA in environmental sustainability and sustainable development using Onitsha metropolis in Anambra State, Nigeria as a case study.

MATERIALS AND METHOD

The questionnaire focus and Administration

The questionnaire sought information on how projects and development are carried out in the city of Onitsha in Anambra state, Nigeria, the processes involved and to ascertain if environmental impact assessment were carried out on these projects before they were executed. An unrestricted questionnaire was used for this purpose and care was taken to make sure that it was only the indigenes of Onitsha under the age bracket of fifty (50) years and above filled the questionnaire, the reason for this was to get information on the state of the environment in the past years before the advent of "development". Thirty (30) questionnaires were administered to two (2) different Local Government Areas in the city of Onitsha. These were Onitsha North and South Local Government Area

respectively. Fifty (15) questionnaires were distributed randomly to the various wards of each these Local Governments.

The study

The study was conducted at Onitsha, the commercial city in Anambra State in the South-Eastern part of Nigeria, with Niger Bridge connecting it to the city of Asaba in Delta state. The study site were divided into two(2) different locations within the Onitsha city, these included Onitsha North and Onitsha south Local Government Area respectively. Onitsha is occupied mainly by both the indigenes and the foreigners.

Methodology

Four main instrument of data collection were adopted for this work, they are

- In depth interview in both English and Igbo language
- Observation as primary source of data
- The literature as secondary source of data
- Questionnaire distribution (60 copies)
- Field survey
- Data were analyzed using non parametric statistics (Mann-Whitney test)

RESULTS

From the statistical analysis of the data collected from the questionnaire distributed, the respondents generally agreed that before the Nigeria civil war, most of the places around Onitsha South and North local government were occupied with rain forest vegetation, with many economic trees such as *Elaeis guinensis*, *Newbouldia leavis*, *Milicia excelsa*, *Treculia africana*, *Cola nitida*, *canarium spp*, *chrysophyllum albidium*, *ceiba pentandra*, *sida acuta*, *Carica papaya*, *Anthocleista vogelii*, *Musa spp*, *Terminalia catappa*, *Azadirachta indica*, *Mangifera indica*, *Irvingia gabonensis*. There is also river Niger and "Nwa Ngene" lake, both at Onitsha South local government area. At Onitsha North local government area, there is "Nkisi" River, which flows down to river Niger. The respondents also agreed that most of the projects that were carried out before the Nigeria civil war also followed the environmental impact assessment procedures especially the public opinion aspect of it, which they witnessed. Such projects like the construction of the Niger bridge, building of the Onitsha main market and Ochanja central market, building of Leventis company at St John cross street, building of premier brewery, building of Life brewery, mapping of government reserve area (GRA) at Onitsha North Local government area for residential buildings. Recent studies shows that the vegetation is no longer in place, all the lands in Onitsha south local government area had been sold to the non indigenes that "developed" it with the indiscriminate building of houses, shops, petroleum filling stations in the residential area without any environmental impact assessment programme by the ministry of environment. A typical example is the building of petroleum filling station along the "Eze iweke street" this place is purely a residential area, another one is at "Modebere" avenue where petrol station was sited right in between to residential houses. This new trend is become a norm in Onitsha where a petroleum filling station will be sited within the residential area. There are still some

patches of economic trees and exotic ornamental flowers and gardens in Onitsha north local government area, that is along inland town and government reserved area. The lake is currently used as a refuse site, some part of river Niger has been blocked with concrete cement works afterword houses and shops were built on top of it. The only refuse dump site at Onitsha south at creek road street are now gradually been sold to people for them to build house on it. According to the data collected, all these indiscriminate random destruction of the vegetation in exchange for building of houses, petroleum filling stations and shops were done without the ministry of environment carrying out the environmental impact assessment on the after effect of these actions. Presently, the city of Onitsha is densely populated with gigantic buildings with barely any trace of "greening" or vegetation, natural habitat and natural ecosystem.

Table 1: Endangered species in Onitsha

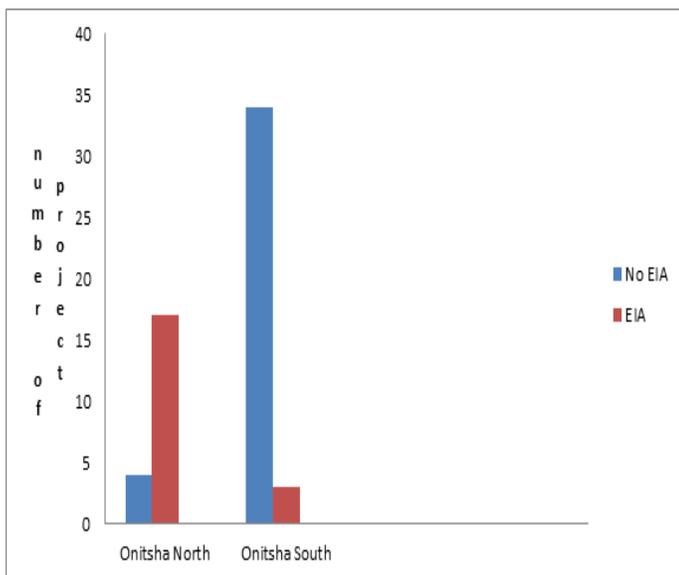
ENDANGERED SP	FREQUENCY	PERCENTAGE
<i>Brachystegia eurycoma</i>	54	90%
<i>Milicia excels</i>	39	65%

Table 2: Preserved trees in Onitsha before the dawn of "development"

BOTANICAL NAME OF TREES	FREQUENCY	PERCENTAGE
<i>Newbouldia laevis</i>	27	45%
<i>Elaeis guinensis</i>	60	100%
<i>Anthocleista vogelii</i>	42	70%
<i>Milicia excels</i>	60	100%
<i>Irvingia gabonensis</i>	60	100%
<i>Khaya grandifolia</i>	52	86.67%
<i>Ceiba pentandra</i>	60	100%
<i>Cola nitida</i>	60	100%
<i>Chrysophyllum albidium</i>	60	100%
<i>Dalium guinnensis</i>	37	61.67%
<i>Canarium schweinfurthii</i>	57	95%
<i>Baphia nitida</i>	26	43.33%
<i>Brachystegia eurycoma</i>	60	100%
<i>Musa spp</i>	29	48.33%
<i>Treculia Africana</i>	47	78.33%

Table 3:The use of EIA in execution of project

		Number of project performed with EIA	Number projects performed without EIA
Onitsha L.G.A	South	4.00	17.00
Onitsha L.G.A	North	3.00	34.00



DISCUSSION

The study comparatively analyzes the state of sustainable development in the city of Onitsha in Anambra state by considering the environment, which includes streams, trees and forest. Although many developments have taken place in the city of Onitsha but the question is, whether that development is truly a sustainable development? Is there a balance between these so-called developments and the environment? How many of these developmental projects follow the due process of environmental impact assessment? The forests have been deforested and the lands were used for building of houses and shops, petroleum filling stations right inside the residential houses. EIA cannot approve that kind of projects that is why I called it an unsustainable development. This situation has therefore created an atmosphere of totally strange ecosystem different from what was there in the 1970's. It is very difficult for rain to fall in Onitsha although we are in the raining season, but rain has been falling in other surrounding towns and villages. The acts of total destruction

of the vegetation have resulted to the severity of harmattan season because of the ozone depletion[2]. Erosion and pollution is another effect of deforestation in this area. The petroleum filling stations sited within the residential areas have caused alot of air pollution for the inhabitants of the area because they inhale these petroleum product, which can cause a long time health hazard. The issue of excessive heat and high temperature in the city of Onitsha is as a result of this unchecked practices of the people to the environment which now comes back to hurt them. The lake which has been blocked with waste disposal cannot accommodate the flood again during the raining season, the result in the over flooding issues that is a serious challenge to the people living at Onitsha south LGA (Fegge and Amobi street). The forest is the singular resources that, if destroyed, could bring disaster not only to the immediate community but the world at large, if the awareness for the need to stop deforestation and pollution of water bodies is not made known to Nigerian, perhaps the few sacred forest that are still existing today will become totally depleted in the nearest future[3], [4]. The issue of carrying out environmental impact assessment in an intended project is not effective in Onitsha, especially at Onitsha south LGA. That is why most of the "development" are not in real sense sustainable development. The reason for the ineffectiveness of EIA in Onitsha is because of the high level of corruption and ignorance in the part of the citizens. Comparing Onitsha North LGA (GRA and inland town) and Onitsha south LGA in terms of sustainable development, Onitsha North LGA is far more on the path of sustainable development than Onitsha south LGA. This is because of the role environmental impact assessment have played during the execution of their project, like in the building of the government reserve area, the consideration given to the environment in terms of the preserved trees such as the *Melicia excelsa* at 'isiokwe' street. The preservation of Nkisi stream from pollution using traditional laws. For proper implementation of environmental impact assessment for sustainable development to take place, government has a role to play in environmental protection both at the national, state and local government level. The state government can enact environmental pollution edict, although they derive their power to prescribe and enforce environmental standard from the federal environmental laws vested in federal environmental protection agency. Secondly, there is a need for personal re-evaluation and re-education of the people on the detrimental effect of abusing the environment, knowing that the environment will definitely give back to us what we give to it.

CONCLUSION

This paper has tried to analyze the state of development in both Onitsha north and south local government area of Anambra state, Nigeria and the negative effect of the unsustainable development especially in Onitsha south Local Government Area, which is evident on the ineffectiveness of environmental impact assessment in the projects going on in this locale. For sustainable development to take place, we all should know that forest, streams, trees forms the greatest pillar of life on earth and their deforestation/mishandling is inevitably laying the foundation for the obliteration of life on earth[2] It is hoped that the recommendation I have given for effective EIA and

sustainable development will be taken serious to avoid the annihilation of mankind. Environmental Impact Assessment is internationally recognized as a tool to guild us on a path to sustainable development[21]. It is therefore important that everybody in the world in general and Nigeria in particular will go the extra mile in protecting the environment for survival of the future generation.

ACKNOWLEDGEMENT

The author is very grateful to the people of Onitsha who were very helpful in providing information about the state of the town in the past and present. And to Professor Anoliefo G .O. for providing me with some of his research materials.

REFERENCES

- [1] Achi, C. and Nnaemeka, O. C. Environmental Impact Assessment in Nigeria. Abstract paper of Conference on environ metrics in china.31th july 2005
- [2] Akinyenye, Y. Forest Conservation as a Strategy of Environmental protection, the Nigerian Experience, In Osuntokun, A. (ed.). Dimensions of environmental problems in Nigeria. Davidson Press, Ibadan.85-93pp. 1997
- [3] Anoliefo, G. O., Isikhuemhen, O . S. and Ochije, N. R. Environmental Implications of erosion of cultural taboo practices in Akwa south Local Government Area of Anambra State, Nigeria. Journal of Agricultural and Environmental Ethics. 16:281-296. 2002
- [4] Anoliefo, G. O., Isikhuemhen, O. S., and Okolo, E. C. Traditional coping Mechanism and Environmental Sustainable strategies in Nnewi,Nigeria. Journal of Agricultural and Environmental Ethics. 11:101-109. 1999.
- [5] Barley, M. The Role and Importance of Environmental Impact Assessment. Environment. 18(4):17-34. 2010.
- [6] Bosselman, K. Losing the forest for the trees:Environmental reductionism in the law. Sustainability ISSN 2071-1050. 2010.
- [7] Boyce, J. K. Equity and the environment. Alternatives 21(1):12–17. 1995.
- [8] Brooks, H. The concept of sustainable development and environmentally sound technology. Pages 19–25 inEnvironmentally sound technology for sustainable development. Advanced technology assessment system, Issue #7. United Nations, New York,1992.
- [9] Feamside, P. M. Deforestation and International Economic development project in Brazilian Amazon. Conservation biology 1 (3):1214-1221. 1987
- [10] Holder, J. Environmental Assessment. The Regulation of Decision making, OxfordUniversity Press. New York. 2004.
- [11] Jacob, M. Sustainable development and deep ecology: An analysis of competing traditions. Environment Management18(4):477–488. 1994.
- [12] Niu, W., Lu, J. J.,and Khan, A. A.Spatial systems approach to sustainable development: A conceptual framework. EnvironmentalManagement 17(2):179–186. 1993.
- [13] Peacock, K. A. Sustainability as symbiosis. Alternatives 21(4):16–22. 1995.
- [14] Sadler, B. Sustainable development and water resource management. Alternatives 17(3):14–19. 1990.
- [15] Sadler, B., and Jacobs, P.A key to tomorrow: On the relationship of environmental assessment and sustainable development. Pages 3–31 in Sustainable development and environmental assessment:Perspectives for a common future CanadianEnvironmental Assessment Research Council, Ottawa, 1990.
- [16] Smith, L. G.Impact assessment and sustainable resources management. Longman scscientific and technical Essex, England, 210pp. 1993.
- [17] Sunderlin, W. D. Managerialism and the Conceptual limit of Sustainable development. Society and natural ressource 8(4):481-492. 1995
- [18] UN (United Nations). Agenda 21: Program for action for sustainable development. United Nations, 1992.
- [19] Wathern, P. Environmental Impact Assessment. London. Unwin hyman, 1988.
- [20] WCED. World Commission on Environment and development. Our common Future.Oxford University Press Oxford.400p. 1987.
- [21] Weaver, A. V. B., Keatimilwe, K. and Tarr, P. Encironmental Impact Assessment in Southern Africa.Environmental

Assessment year book 2002.
Lincoln.York, 294pp. 2002.