

**CATALYST APPROACHES TOWARDS CHALLENGES
OF ENVIRONMENTAL POLLUTION TO SUSTAINABLE
DEVELOPMENT IN NIGERIA: THE CASE OF ILORIN METROPOLIS.**

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Abstract

The word environment is all the situations, events, people and it includes air, water and land in which people, animals and plants live, and influence the life of one another (Longman's dictionary of contemporary English, 1995). Whereas, pollution is the introduction of contaminants in to a natural environment that causes; instability, disorder, harm or discomfort to the ecosystem. Nigeria which presently hosts a population of 166.7 million people is one of the most powerful countries in Africa. This paper examined the challenges of environmental pollution as the case is in Ilorin metropolis, how these challenges can be met with the view of sustaining the environment to be free from air, water even land pollutants. One hundred and sixty people were randomly selected for the study, by filling a researcher designed questionnaire. Both simple percentage and t-test statistical techniques were employed to analyze the collected data. Findings revealed among others that both private and public industries are never bothered on the control of environmental pollution which is having hazardous impact on main's health and his live stocks. Recommendations were put forward among others, indiscriminate dumping of refuse, toxic wastes and so on should be discouraged. Industries that dump their wastes indiscriminately should be brought to book, and so on. Five key words: challenge, environment, pollution, sustainable and development.

***Keywords:** Catalyst, Environment, Pollution, Sustainable Development & Ilorin Metropolis.*

Background to the Study

The word environment comes from a French word “environmer” which interprets to mean “surround”. Environment has been variously but similarly described as: the collective term for the conditions in which an organism live, the whole set of natural and social system in which people and other organisms live and from which they draw their sustenance. According to Olagunji (2001), environment is referred to the surrounding conditions which influence the process of behaviour, growth and development of living organisms. It includes the air, water, land or soil, climate hills and so on. Human environment must be protected for man to live a happier, comfortable and healthy life. Although are many human activities which pose challenges in to our environments such as bush burning, industrialization, mechanization, cooking using domestic fuels and firewood, release smoke in to the air causing air pollution. Mining and quarrying are other activities leading to air pollution, whereas the deposition of domestic wastes fertilizers, industrial effluents, urine, feaces, dead organisms, chemicals and petroleum products lead to water pollution. The land becomes polluted with garbage litter, defecation, over-grazing, oil spillage, chemicals, soil erosion and toxic wastes. Other forms of pollutions include thermal pollution, noise pollution and so on.

Ilorin is the capital of kwara state in Nigeria. Being the capital of the state it bears the highest population in the state with many small, medium and large industries or factories spread out within the metropolis. There

are a lot of Houses, both planned and unplanned ones also spread out in the city. Many human activities take place which lead to various environment pollution.

In Ilorin metropolis air or atmospheric pollution is caused majority by the followings; dust particles are discharges in to the air from the site where building construction is taking place, quarries, road construction, smoke from House chimneries, damaged or faulty automobile cars, taxi, lorries, trailers that pass along the major roads, people burn refuse parked at the back of their homes etc. At times the smoke from vehicles contain poisonous gases like sulphur (iv) oxide, carbon monoxide, carbon (iv) oxide, lead oxide, Hydrogen sulphide and so on. In this metropolis there are no modern incinerators, domestic wastes. Industrial wastes even the agricultural wastes are disposed of by dumping them on open ground or land. There are some open ground areas ear marked for dumping refuse collected from the town such as one area along Asa dam, Mandala near oko olowo, checking point along Ogbomosho-Ilorin road to mention a few. There are saw mill factories located in different part of Ilorin metropolis. These saw Mill Park saw dust and other mill wastes at back of their mills and set them ablaze, releasing smoke and other dangerous gases in to the atmosphere. Air pollutants can get to the body of human beings through inhalation or direct absorption through the skin to the blood stream.

The effect of air pollutants are catarrh, damage to the respiratory tract, lead particles can cause anemic and brain damage in children, in adult they can cause an injury to the nervous system. As regard, the water pollution in Ilorin metropolis, the pollutants are industrial wastes, farm/agricultural wastes, domestic wastes, pesticides or fertilizer carried by rain and dumped in to nearby streams. It is a common practice that people bring out their domestic wastes during rain and dump them in to gutters or water channels. Also there are many factories found along Asa dam industrial areas like kam wire industries, global soap industry, universal uniform factory, Dangote cement factory, Tuyil pharmaceutical industries and so on. Many of these factories dump their industrial effluents/waste in nearby stream or River. At times when one is passing along New Yidi road, one sees foam on the stream that pass through a bridge near Tuyil pharmaceutical industry. Those waste pollute the water and make it dangerous for drinking, such water pollutant may cause cholera, dysentery, typhoid fever and even death.

Soil or land pollution is majority caused in Ilorin metropolis by domestic wastes, urine, feaces, industrial wastes, dumping of old vehicles, or part of old vehicles in to open ground and so on. To control environmental pollution especially land pollution, kudos should be given to the immediate past Governor Doctor Abubakar Bukola Saraki who set up a company that manage wastes in kwara state. The name of the company is called Kwara State waste management company (KWMC). This company provided big steel containers in to some strategic places, some along the major roads, where people park or dump their domestic wastes. For effective waste management, the company employed many people or sweepers to sweep the major streets in Ilorin metropolis. After sweeping the cleaners park the wastes in to the waste bins. The present Government also keeps this legacy. Both immediate past government and present government efforts are commendable. It is observed that some illiterate people misuse this waste big steel bin by dumping dead animals in to them. Some bring their wastes and hot ashes and dump it inside the waste steel containers. At times this bad habit gets the steel burnt.

Noise pollution, according to EngKing (2009), is an unpleasant and irritating sound or unwanted sound or noise such as one produced by aeroplanes, horns from vehicles, industrial machinery etc. In cities like Ilorin metropolis noise pollution is commonly take place in mining, saw mill factories, aviation centers, motor parks, music recording shops where C.D, cassettes, records are sold. Noise pollution can lead to hearing impairment, high blood pressure, sleep loss, heart diseases, distraction and loss of productivity.

Statement of the Problem

Nigeria has abundant mineral resources which include; crude oil, coal, irons and so on. Also the country has both local and international industries that constitute nuisance to her environment challenge. In addition to this there are a lot of human activities daily that lead to the release of the harmful materials (Chemicals, gases, energy and other solid materials) in to the environment causing pollutions, such activities are: bush burning, industrialization mechanization and cooking using domestic fuels and fire wood, oil spillage, overgrazing and so on. Base of the hazardous effect of pollution to man and his life stocks: the present paper examined the challenges of environmental pollution as the case is in Ilorin metropolis. Sought for people opinion on what are the majority causes of air, water and land pollution in the city. Also people opinion are sought on various ways or method to meet the challenges of environmental pollution with view of having a sustainable environment that will be free of air, water and even land pollutants.

Literature Review

It is known facts that there are many environmental problems which human beings are exposed to; they include; pollution, population explosion, degradation, deforestation, species extinction, soil erosion and so on. Ajayi (2001) asserted that out of all the environmental problems, pollution in the most hazardous one. Bello (2001), in Adare (1993) asserted that a lot of effort have been made to control or protect Nigeria environment, locally, nationally and even internationally. At the local or national scene some of the efforts made to protect the Nigerian environments, among these are:

- i. The establishment of environmental sanitation decree of 1984; that is last Saturday of every month is observed as environmental sanitation day.
 - ii. The promulgation of legislation such as the endangered species decree No. 11 of 1985;
 - iii. National resources conservation council decree of 1989;
 - iv. The establishment of Federal Environmental Protection Agency (FEPA) decree of 58, in 1988 which was amended in decree 59, of 1992. In 1999, the Federal Ministry of Environment was created which took over the functions of FEPA. This ministry administered and enforces the environmental laws in Nigeria.
 - v. Nigerian Conservation Foundation (NCF) a nongovernmental organization was inaugurated in 1982 and formally affiliated to world wide fund (WWF) for nature in 1989.
 - vi. Review of the primary school science curriculum to include environmental related topics and themes;
 - vii. Establishing national parks, forest reserves, and wet land sanctuaries.
 - viii. Organizing and sponsoring visits, seminars, training or workshops on environmental protection.
 - ix. Publishing resource materials and reports on environmental education.
- On the international scene, some of the followings are efforts being made;
- i. Inter-governmental congress on Environmental Education and training of Moscow, in 1987.
 - ii. Integrated Environmental Awareness and Education programme for Nigeria (project as NG 0005) by the World Wide Fund for nature, United Kingdom and the Overseas Development Administration (ODA).
 - iii. Providing training in Environmental Education at the Jordan Hill College, Glasgrov;
 - iv. Funding or Assistance to Environmental Education programmes;
 - v. The adoption of the London 1990 obligations on phasing out chloro fluoro carbons (CFCS), nitrous oxide (N₂O) by the year 2010 and methyl chloro form by the year 2005 among others.

According to Raimi (1997) who asserted that among the methods of protecting our environment is to have

knowledge of environmental education. He stated further that environmental education is the process of acquiring or transmitting knowledge, attitude and skills for the sustainable use of natural and man-made resources. Hence, a nation that does not protects are environment from pollution cannot develop. To control the use of land the Federal Government of Nigeria enacted 'a land use act' which places the ownership, management and control of land in each state of the Federation in the hand of the State Governor. Land is therefore allocated with his/her authority for commercial, agricultural and purposes. This act prevents the misuse of land.

Research Methodology

This study is a descriptive survey research type. The research instrument employed to gather information is a structured questionnaire that sought people opinions on the challenges pose by environmental pollution as the case is in Ilorin metropolis. Also people opinions are sought on how to meet the challenges in other to have a suitable developed environment that would be free of pollutants. The questionnaire consists of twelve question items which people responded to on three (3) modified likert measurement scale of Agree (A) Neutral (N) and disagree (D). One hundred and sixty people were randomly selected for the study in different areas of Ilorin metropolis.

Procedure for Data Collection

Within the Ilorin metropolis there are four local government areas that cut across one another; Ilorin west, Ilorin east, Ilorin south and Moro LGAS. Ilorin west and Ilorin east cover the largest proportion / areas of the metropolis. The researcher personally distributed Eighty (80) copies of the questionnaire to people of Ilorin west and eighty copies to people in Ilorin east to fill and return. After the completion of the questionnaire, responses were analysed. Simple percentage and t-test statistical techniques were employed for data analysis. Two hypotheses formulated were tested with the use of t-test statistical technique.

Results and Discussion

Hypothesis one (Ho1): there is no significant difference in the opinions of people in Ilorin west and people in Ilorin east LGA that private and public industries dumped their wastes in nearby stream causing water pollution.

Table 1: t-test statistical analysis on the opinion of people in Ilorin west and Ilorin east that both private and public industries are never bothered on the control of their wastes.

| Groups | No. | Mean | S.D | df | Calculated t-value | Critical t-value | decision |
|---------------------------|-----|-------|-------|-----|--------------------|------------------|-----------------------------|
| People in Ilorin west LGA | 80 | 3.467 | 0.674 | 158 | 0.018 | 1.960 | H0 ₁ is accepted |
| People in Ilorin east LGA | 80 | 3.433 | 0.655 | | | | |

P > 0.05

Table 1 above shows that the calculated t-value is 0.018, whereas the table t-value is 1.960. Therefore, the calculated t-value is less than the table t-value. The null hypothesis which states that there is no significant difference in the opinions of people in Ilorin west and people in Ilorin east LGA that private and public industries dumped their wastes in nearby stream causing Water pollution was accepted. That is to say both private and public industries did not bother to control their wastes. Water pollutants make the water/stream dangerous for man to drink and they also endanger the life of aquatic plants and animals.

Hypothesis two (Ho2): there is no significant difference in the opinions of people in Ilorin west and people in Ilorin east LGA that majority of residential buildings/houses do not possess toilet, urine and faeces are disposed of on the open ground causing air and land pollutions.

Table 2 : t-test statistical technique to analyzed the opinions of people in Ilorin west and Ilorin east that majority of residential buildings do not have toilets. People pass sewage on open ground.

| Groups | No | Mean | S.D | df | Calculated t - value | Critical t-value | Decision |
|---------------------------|----|-------|-------|-----|----------------------|------------------|------------------------------|
| People in Ilorin West LGA | 80 | 3.203 | 0.535 | 158 | 0.005 | 1.960 | H0 ₂ is accepted. |
| People in Ilorin East LGA | 80 | 3.200 | 0.544 | | | | |

$P > 0.05$

Table 2 above shows that the calculated t-value is 0.005, while the critical t-value in 1.960. The calculated t-value is less than the critical t-value hence the null hypothesis which states that there is no significant difference in the opinions of people in Ilorin West and people in Ilorin East LGA that majority of residential buildings in Ilorin metropolis do not possess toilets was accepted. Majority of people especially those residing in interior of Ilorin metropolis dispose their urine and faeces (sewage) on open ground.

Conclusion

Base on the findings of this study, the followings are major conclusions: in Ilorin metropolis majority of factories and industries discharge their liquid effluents in to nearby floating streams which lead to water pollution. Findings also revealed that human faeces, Agricultural wastes, domestic waste were dumped into gutter during rain in Ilorin metropolis. Rain water carry this wastes and deposited them in to streams or close by rivers. Some of these streams that supposed to be good source of drinking water for people in the areas are render useless or dangerous for people to drink from them. At times some aquatic plants and animals die as a result of water pollution. Among the causes of air or atmospheric pollution is noise from the music recording shops found in almost all places in the town, noise from aeroplanes, tractors or heavy vehicles used for road construction. Smokes from unserviced vehicles, kitchens, bush burning, burning of refuses also contribute to atmospheric pollution. In Ilorin metropolis there is no modern incinerators, although the state government provided the big steel waste containers called row-row bins into many major streets or roads for people to dump their domestic wastes. It was revealed that people abuse this chance by dumping dead animals, in them.

In keeping the state always clean, the government employed sweepers, who sweep major roads and parked the waste or refuse into row-row bins, those cleaners are working under Kwara state Waste Management Company (KWMC) established by the government. This company manages the waste disposal in the state. Anytime the row-row bins are full the KWMC evacuate the waste and deposit them on earmarked open grounds. This practice is not good enough.

Recommendations

The following are suggested solutions or catalyst approaches to the problems of environmental pollutions in Ilorin metropolis and major town/cities in Nigeria.

1. There should be public enlightenment campaigns to educate people on injurious effect of waste to man and his livestock's.
2. More emphasis should be placed on environmental education in our schools, this may make the public to have attitudinal change and acquire skills that will promote environmental friendliness.
3. Industries that discharge their wastes into the environments indiscriminately should be brought to book. That is, the legislative acts or laws on the environmental pollutions should be enforced.
4. Environmental protection clubs should be organized in schools in order to inculcate good virtues into the students and so on.
5. Recycling of wastes to be reused by man in order to reduce the human activities on the environmental imbalance.
6. Proper sewage and refuse disposal should be designed and used.

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