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ASSESSMENT OF ENVIRONMENTAL DEGRADATION IN ELEYELE AREA, IBADAN NORTH WEST LOCAL GOVERNMENT, OYO STATE NIGERIA

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ABSTRACT

This study investigated the causes and effects of environmental degradation in Eleyele, Ibadan. Six research questions were formulated for this study. A duly validated instrument named Questionnaire on Causes and Effects of Environmental Degradation (QCEED) was used for data collection. A total of ninety (90) copies of the questionnaire were administered to the respondents using simple random sampling method by coming in contact/physical means and oral interviewing the respondents. Descriptive statistic was used to analyze the data collected. The result from this study showed that erosion (28.8%), flooding (22.5%), and air pollution (18.3%) were identified as major environmental hazards in the study area. The causes of these environmental problems were inadequate drainage pattern (19.4%), dumping of solids wastes into rivers/streams (17.8%), poor sanitation exercise (15.6%). The study identified control measures such as awareness programme to re-awaken people's commitment on environmental management (81.3%), dredging of rivers/streams channel (91.3%), renovation of damaged drainages (85.0%) and prosecution of sanitation exercise programme offenders (75.0%). The study recommends that there is need for the formulation and enforcement of sanitation programme among others.

Keywords: Environmental hazards, Environmental degradation, Eleyele area, erosion and flooding

INTRODUCTION

There are problems associated with the environment today. The earth is besiegedby misuse, abuse and degradation of the environment. Traditions, business activities, human behaviours and livelihood practices are evolving very fast as a resultof resource extraction, they sometimes unleashed such desperation to solve the increasing and mounting problems of survival and progressive improvement and this leads to environmental degradation.

World Bank (1991) described environment as the natural and social conditions surrounding all mankind including future generations. The environment is made up of biophysical components and processes of natural environment of land, water and air (Bayode *et al.*, 2011). It includes all layers in the atmosphere, inorganic and organic matters, socio-economic components and processes of human endeavours. Itis the human natural habitat having many components within which different activities and processes occur. Environment was also defined in the National Conservation and Environment Protection Act (1987) to include the physical factors found within the human surrounding like land, water, soil, climate, atmosphere,

odour, sound, taste and the biological factors of animals and plants. The Federal Environmental Protection Agency Act (1992) includedair, water, land and all plants, animals and human beings living there in and the interrelationships which exists among them in the description of environment.

Environmental degradation is the deterioration of the environment through depletion of resources such as air, water and soil, the destruction of ecosystems and the extinction of wildlife (flora and fauna). When environments are degraded, biological diversity is lost, and natural resources are depleted. Environmental degradation can occur naturally, or artificially. The vast areas of concern presently are the loss of forest areas, air pollution and smog, ozone depletion, and the destruction of the water environment. Environmental degradation is a process by which the resource base (air, water, soil/land) become depleted, thereby reducing their quality and originality. Air, water, and soil/land are the major resources which can be depleted or degraded easily through overuse and anthropogenic activities. Dangyil (2009) pointed out that man's move against nature for his own benefits, livelihood or for the future generation results in the degradation of the environment. It could also be any disturbance that produces disastrous results on the environment social, economic, technological and institutional activities, and consequently producing effects that are undesirable for present and future generations. Some factors that could affect the environment are urbanization, population growth, economic growth and activities, intensification of agricultural activities, increase in the use of energy and transportation. Land, air and water are compromised when people exhaust and waste resources or release harmful chemicals.

Human activities and the environment are inter-related. This is because any activity of man is done in the environment and the resultant effect is either positive or negative to man. Human activities are diverse. According to Uchegbu (1998), negative influence of man comes from the economic and domestic activities. For example, agriculture requires the use of pesticides which pollute the environment/landand leach into drainage system via run off and sewers. Some anthropogenic activities that lead to environmental pollution include burning of fossil fuels, thermal power stations, and exhaust fumes. All these emit harmful pollutants like sulphur dioxide, carbon monoxide that cause acid rain, global warming, and the malfunctioning of human haemoglobin. Ukpong (1994) grouped anthropogenic activities which can cause nuisance and the degradation as; Destructive logging of forests, Overgrazing and over-cropping of arable lands and Strip mining. This may be extended to include oil exploitation, industrialization, improper disposal of domestic solid waste and human excretal including liquid waste, over-utilization of non-degradable materials for packaging among others. All these anthropogenic activities have combined to deplete the earth's resources, degrade the environment and cause loss of biodiversity (Uchegbu 1988). The environment in which these human activities takes place is the outer physical and biological systems of the earth in which man and outer organisms live. Although complicated, there are many components interacting with each other.

The worst environmental challenge facing the world is land degradation. The campaign for the use of fragile and marginal ecosystems has resulted into progressive degradation and continued desertification of marginal agricultural lands. It is alarming that the damage by drought and population increase might have led to genetic loss of large number of useful plant species. Some of the causes of land degradation pointed out by Ukpong (1994) include Improper resources management, Destructive logging of our forest, Overgrazing and over, cropping of

arable lands, Flooding and wind erosion menace, Strip mining in some parts of Nigeria, Land degradation with pesticides and fertilizers and some known natural landslides. Destruction of wetlands and marches for development. He also identified other indirect causes of land degradation to include population growth and population influx, property ownership issues, lack of control, enforcement measures and jurisdictional overlap which are due to lack of authority and the use of inappropriate technology for farming and even for producing manufactured goods.

The periodic Ogunpa flood disaster of 1951,1955,1963,1969,1973, and that of the 31th august1980 have claimed hundreds of life's and houses and properties (Ajibade, *et al*., (2010) Morphometric Analysis of Ogunpa and Ogbere Drainages, Ibadan. Nigeria). The alarming rate of deforestation in Ibadan metropolis has caused loss of biodiversity and genetic depletion such as (a) Destruction of forest plantation which conserved and protect Alalubosa watershed near Alesinloye market for the so called Ishola Housing Estate site by the Ibadan south-west local government. The deforestation had caused the erosion of soil down the slope into the lake (Fagbenro, 1994). As a result of siltation and exposure of the lake to the radiation of the sun, the lake has completely dried up and become a thing of the past. (b) Destruction of Sapati hill (Agala forest) is also an example of unwanted destruction of natural forest for urbanization and industrialization with serious fatal consequence on mankind. (c) The gradual exploitation of teak plantation that is conserving Eleyele Lake (The study area) either legally or illegally is lamentable. This lake serves as a source of potable water for thousands of people, water is an indispensable natural resource, many people have lived without love but no one live without water: if the exploitation of these tree is not checked the lake will also dried up like that of Alalubosa lake.

MATERIALS AND METHODS

Study Area

Eleyele area is in the city of Ibadan within Geographical Coordinates: Latitude 7º 20' - 7º 25'N, and Longitude 3º 51' - 3º 56' E. It falls within the Ibadan North West Local Government, Oyo State, Nigeria. It is accessed through Eleyele roundabout on Sango-Eleiyele Road, just downstream of the confluence of River Ona and River Alapata. The Ona River on which Eleyele dam is built traverses many locations within Ibadan Metropolis and goes as far as Apata and Omi-

Figure I: Map of Eleyele, Ibadan, Nigeria

Experimental Design

Descriptive survey research design was used for this study. Sample for the study was drawn from three sample frame. The techniques for the administration of well-structured questionnaires were from Eleyele

junction towards Sango road, Eleyele junction towards Dugbe road and Eleyele junction to Ologuneru road. Thirty well-structured questionnaires were administered in each of the three sample locations and interview conducted in language understood by respondents. The respondents were selected based on their location of residents from Eleyele junction to Dugbe, Sango and Ologuneru axis. The total number of questionnaires administered was ninety and recovered eighty questionnaires.

Validation of data instrument

To know the truth about level of hazard caused by environmental degradation in the study area, this was realized through the use of well-structured questionnaire, to content and validity to establish it correctness and consistencies for data collection. In content and face validity, the instrument must be passed to experts or specialist for validation. Based on this, a copy of questionnaire was given to the research supervisor for validation.

Data Collection

Primary data are the data collected from people living in the area with the use of well-structured questionnaires, oral interview was conducted, photographs of some scene and general observations were made on the study area.

Study population: The population of this study consists of the inhabitant of Eleyele area of Ibadan North West Local Government of Oyo State.

Data Analysis

The data were analyzed using descriptive statistics like means, frequency counts and percentages. They were presented in tables.

RESULTS

As shown in Table 1, all the 30 copies were retrieved in Eleyele to Dugbe road, 27 copies were retrieved from Eleyele to Sango road, while a response rate of 23 copies were retrieved from Eleyele to Ologuneru road. In all, a total of 88.9% response rate was achieved for the study.

Table 1: Frequency Count and Distribution Percentage of the Respondent Based on Sample Frame

Sample frame	Frequency	Percentage
Eleyele junction to Dugbe road	30	33.3
Eleyele junction to Sango road	27	30.0
Eleyele junction to Ologuneru road	23	25.6
Total	80	88.9

Table 2 showed the demographic characteristics of the respondents. The majority of the respondents 25 (31.3%) were aged 31-35 years, 20(25%) of the respondents were aged 21-25 years, 15 (18.7%) of the respondents were aged 26-30 years and 36-40 years and lastly 5 (6.3%) of the respondents were aged 41 years and above. Majority of the respondents that is 48(60%) were female while 32(40%) were male. Majority of the respondents 35(43.7%) were married, 25(31.3%) were single, while the least of the respondents 8(10%) were widow/widower.

Table 2also indicated that majority of the respondents, 28(35%) were OND/NCE holders, while 20(25%) of them had SSCE, also 15(18.7%) were HND holders, and only 5(6.3%) had Masters of Science (M.SC). Majority of the respondents 30 (37.5%) were self-employed, while 22(27.5%) of the respondents are unemployed.

Table 2: The demographic characteristics of the respondents

Variation		Frequency	Percentage
Age	21-25	20	25
	26-30	15	18.7
	31-35	25	31.3
	36-40	15	18.7
	41 above	5	6.3
	Total	**80**	**100**
Gender	Male	32	40
	Female	48	60
	Total	**80**	**100**
Marital Status	Single	25	31.3
	Married	35	43.7
	Divorced	12	15
	Widow/ widower	8	10
	Total	**80**	**100**
Educational Qualification	S.S.C.E	20	25
	OND/NCE	28	35
	HND	15	18.7
	B.Sc	12	15
	M.Sc	5	6.3
	Total	**80**	**100**
Job Status	Employed	28	35
	Self employed	30	37.5
	Unemployed	22	27.5
	Total	**80**	**100**

Table 3 shows the level of awareness of the respondents to environmental hazards in the study area. It was revealed that majority of the respondents 37(46.3%) indicated that they had the knowledge of environmental hazard in their area, 30(37.5%) indicated that they were familiar with it, while 10(12.5%) had never heard of it. Also 3(3.7%) indicated that they are not sure. This result clearly shows that there was a relatively high level of awareness of environmental problems among the respondents in the study area.

Table 3: Distribution of Respondents Based on Level of Awareness of Environmental Hazard

S/No	Environmental hazard	Frequency	Percentage
	Are you aware of environmental hazard in your area?		
a.	Yes, I have heard about it	37	46.3
b.	No, I have never heard of it	10	12.5
c.	Yes, I am familiar with it	30	37.5
d.	I am not sure	3	3.7

Table 4 shown the type of environmental hazard in the study area, Erosion was top on the list with 28.8% response rate, followed by Flooding with response rate 22.5%, next is Air pollution with response rate 18.3%, while Land pollution, Water pollution, and Noise pollution with 11.7%, 10.4%, and 8.3% respectively were the least of environmental problems in the study area.

Table 4: Frequency Count and Percentage Distribution of Respondents Based on Types of Environmental Hazard

S/No	Types of environmental hazard	Frequency	Percentage
a.	Erosion	69	28.8
b.	Flooding	54	22.5
c.	Air pollution	44	18.3
d.	Water pollution	25	10.4
e.	Land pollution	28	11.7
f.	Noise pollution	20	8.3

The fundamental causes of environmental menaces in the study area are shown in Table 5. Inadequate drainage pattern (19.4%) is identified as the most prevailing causes of environmental problem in the study area, followed by dumping of solids wastes into rivers/streams channel (17.8%), next is poor sanitation exercise (15.6%), then followed by excessive burning of refuse (9.4%). However, the gradient or slope of the land (1.6%), clearing of land for farming activities (3.1%) and others opinion as specified received least response rate (3.1%) of causes of environmental menaces in the study area.

Table 5: Frequency Count and Percentage Distribution of Respondents Based on Fundamental Causes of Environmental Menaces

S/No	Causes	Frequency	Percentage
a.	Illegal felling of vegetation (tree)	25	7.8
b.	Inadequate drainage pattern	62	19.4
c.	Poor sanitation exercise	50	15.6
e.	clearing of land for farming activities	10	3.1
f.	Excessive burning of refuse	30	9.4
g.	Low level of education among dwellers	15	4.7
h.	Dumping of solids wastes into rivers/streams channels	57	17.8
i.	Erection of building closed to rivers/streams channels	12	3.7
j.	The gradient or slope of the land	5	1.6
k.	Industrial/ market noises	20	6.3
l.	Dumping of wastes along road sides	24	7.5
m.	Others specify	10	3.1

Table 6 above, depicted the effects of environmental hazard identified by the respondents in the study area, Unpleasant/ugly outlook (18.7%) top the list of implication of environmental problem in the study area, then followed by Hinders of transportation system in the area (16.3%), next is Loss of lives and properties received (14.6%) response rate. The contrary, reducing value of land and landed properties had (9.6%) rate. It may responsible for underground water contamination (6.3%), and Other opinion specified (2.1%) respectively received the least response rate of the effect of environmental hazard identified by respondents in the study area.

Table 6: Frequency Count and Percentage Distribution of Respondents Based on Effects of Environmental Hazards

S/N	Implication on respondents	Frequency	Percentage
1.	Displacement of people from homes business area	25	10.4
2.	Hinders transportation system in this area	39	16.3
3.	Loss of lives and properties	35	14.6
4.	It may reduce population density	25	10.4
5.	It gives unpleasant outlook in our area	45	18.7
6.	It may be responsible for underground water contamination	15	6.3
7.	It hinders infrastructure amenities sustainability	28	11.6
8.	Reducing value of land and landed properties	23	9.6
9.	Others specify	5	2.1

Table 7, majority of the male respondents said YES to item s/n v, while majority of female respondents also said yes to item s/n v. similar minority response in term of NO were observed by both male and female respondents in item s/n v. However, minority of the respondents said yes to item s/n i, iii, iv, vi, vii, and viii for both male and female. The implication of this is that out of eight items, similarity was found in seven items for both male and female meaning that differences is only observed in one item (item s/n ii). It can therefore be concluded that there are no significant differences between the responses of male and female.

Table 7: Frequency Count and Percentage Distribution of Effects on Respondent Based on Gender

S/N	Implication on Respondents	Male		Female	
		Yes (%)	No (%)	Yes (%)	No (%)
1	Displacement of people from their homes and business area	10(31.3)	22(68.7)	15(31.3)	33(68.7)
2	Hinders transportation system in this area	15(46.9)	17(53.1)	24(50)	24(50)
3	Loss of life's and properties	15(46.9)	17(51.3)	20(41.7)	28(58.3)
4	It may reduce population density	10(31.3)	22(68.7)	15(31.3)	33(68.7)
5	It gives unpleasant outlook in our area	20(62.5)	12(37.5)	25(52.1)	23(47.9)
6	It may be responsible for underground water contamination	05(15.6)	27(84.4)	10(20.8)	38(79.2)
7	It hinders infrastructure amenities sustainability	12(37.5)	20(62.5)	16(33.3)	32(66.7)
8	It reduces the value of land and landed properties	9(28.1)	23(71.9)	14(29.2)	34(70.8)
9	Others specify…….				

Table 8 shows the level of awareness of respondents to measures in controlling environmental degradation in the study area. It was revealed that majority of the respondents (40%) indicated that they had the knowledge of measures in controlling environmental degradation in their area, while (25%) indicated that they were familiar

with it, However, (28.7%) indicated that they had never heard of it, also (6.3%) indicated that they are not sure. This result clearly shows that there was relatively a high level of awareness on measures in controlling environmental degradation in the study area.

Table 8: Frequency Count and Percentage Distribution of Respondents Based on Level of Awareness on Control Measures

S/No.	Control measures	Frequency	Percentage
	Are you aware of measures in controlling environmental hazard in your area?		
a.	Yes, I have heard about it	32	40
b.	No, I have never heard of it	23	28.7
c.	Yes, I am familiar with it	20	25
d.	I am not sure	5	6.3

Table 9 shows the attitude of people to control measures in the study area. In s/n 1, No fewer than 65 (81.3%) of the respondents agreed that there must be an awareness programme aimed at re-awakening people commitment on environmental management, will improve environmental degradation in the area. While 15 (18.8%) of respondents that disagreed with the control measure.

In s/n 2, 88.8% (47.5% and 41.3%, strongly agreed and agreed) that adoption of good sanitation programme put in place by government will assists to ameliorate environmental degradation, while 11.2% (8.7% and 2.5%, disagreed and strongly disagreed). The implication of this is that a large percentage (88%) of the respondents now appreciates the importance of good sanitation programme. In s/n 3, 60% (25% and35%, strongly agreed and agreed respectively) that law enforcement is necessary for the adoption of sanitation programme, while 40% (31.3% and 8.7%, disagreed, and strongly disagreed). In effect, majority (60%) of the respondents also appreciate that law enforcement is necessary for the adoption of sanitation programme. The substantial number (40%) of the respondents who felt otherwise is however worrisome. This shows that there is need for greater effort in enlighten people in this direction. In s/n 4, 75% (35% and 40%, strongly agreed and agreed) that environmental offenders need to be prosecuted, while 25% disagreed. This shows that majority of the respondents support the motion that environmental offenders need to be prosecuted. In s/n 5, 91.3% (50% and 41.3%, strongly agreed and agreed respectively) that dredging of rivers/streams channels and renovation of damage drainage will reduce environmental degradation, while 8.8% (6.3% and 2.5%, disagreed and strongly disagreed) to this statement. This shows that majority of the respondents appreciate the dredging of rivers /streams and renovation of damage drainage. In s/n 6, 85% (46.3% and 38.7%,, strongly agreed and agreed respectively) that provision of wastes bins/ incinerators for refuse disposal will reduced environmental degradation, while in contrary, 15% (10% and 5%, disagreed and strongly disagreed) to this statement, the implication of this is that majority of the respondents appreciate the provision of wastes bin/incinerator for refuse disposal.

Table 9: Frequency Count and Percentage Distribution of Respondents Based on Attitude of People to Control Measures

S/No	Control measures	SA F(%)	A F(%)	D F(%)	SD F(%)
1	There must be an awareness programme to re-awaken people commitment on environmental management	40(50)	25(31.3)	10(12.5)	5(6.3)
2	Adoption of good sanitation programme put in place by government will assist to ameliorate environmental degradation in my area.	38(47.5)	33(41.3)	7(8.7)	2(2.5)
3	Law enforcement is necessary for the adoption of sanitation programme.	20(25)	28(35)	25(31.3)	7(8.7)
4	Environmental offender in my area need to be prosecuted.	28(35)	32(40)	20(25)	
5	Dredging of rivers/streams channels and renovation of damage drainages is necessary	40(50)	33(41.3)	596.3)	2(2.5)
6	There must be provision of wastes bins/incinerator for refuse disposal.	37(46.3)	31(38.7)	8(10)	4(5)
7	Others specify				

Key; SA = Strongly agree, a = Agree, D = Disagree, SD= Strongly Disagree

DISCUSSION

The socio- demographic features of the respondents shows that majority of the respondents are educated enough to appreciate an aesthetical environment, the female respondents felt the menaces than the male respondents, the ages mostly affected signified that agile people felt the problem much, job status and marital status of the respondents are also analyzed.

The level of awareness of the respondents on environmental hazards shows that majority of the respondents had the knowledge and indicated that they were familiar with environmental hazards. While have never heard of it, also are not sure. There was a relatively high level of awareness of environmental menaces in the study area, also types of environmental problems identified by the respondents in the study area include erosion, flooding, air pollution land pollution, water pollution and lastly noise pollution. This result is supported by Ojeshina, (2005,) who identified many of the environmental problems as having serious adverse socio-economic and ecological implication on society or community.

Causes of the environmental menaces showed that majority of the respondents indicated that Inadequate drainage pattern top the list of fundamental causes of environmental problems in the study area, followed by Dumping of solids wastes into rivers/streams channel, then Poor sanitation exercise, followed by Excessive burning of refuse, and so on. This result is supported by Agukoronye, 2004) who attributed causes of environmental problems to the bad psychological orientation of urban residents on the environments as well as poor environmental management practices.

Effects of environmental hazards on the study area revealed that the most noticeable effects is that it gives the area an unpleasant outlook, then it hinders transportation systems in the area, followed by loss of lives and properties and so on. From this it is apparent that any area with these mentioned features will be under developed. This is also supported by Acho, (1998); DIDA (2000) and Kjellstrom and Mercado (2008). Generally, they maintained that the environmental problems are mostly due to developmental processes and are of local, regional, and global effects. These effects are

viewed as consequences of human activities, and are most often harmful on the lives of human being, livelihood, animal and plant presently or transferred to posterity.

Thegender that felt the menace of identified effects of environmental degradation in the study area most. It was revealed from the study that female felt the displacement of people from their homes and business area more than male respondents. Also, female respondents felt hinder transportation system than male respondents. Female respondents felt loss of lives and properties than male respondents. In addition, female respondents agreed that it may reduce population density, than male respondents, also female respondents agreed that it gives unpleasant outlook in the area, than the male respondents, also female respondents agreed that it may responsible for underground water contamination, than male respondents also agreed on the same effects. Many female respondents agreed that it hinders infrastructure amenities sustainability than male respondents. Lastly female respondents felt that it reduces the value of land and landed properties than the male respondents felt the same effects. In others opinions specify, it was revealed from the study that it may cause outbreak of epidermic disease and area may liable to hoodlum's attack.

Attitude of the people towards control measures on environmental degradation in the study area. This study shows that majority of the people showed good attitude to awareness programme to re-awaken peoples commitment on environmental managements, also adoption of good sanitation programme put in place by government was embrace by the majority of the respondents, use of law enforcement agency was supported by the majority of the respondents, however, the substantial number of respondents who felt otherwise is worrisome, this shows that there is the need for greater effort in enlightening people in this direction, majority of the respondents supported that environmental laws offenders must be prosecuted, in addition, majority of respondents indicated that dredging of rivers /streams channel and renovation of damage drainage with provision of wastes bins/incinerator for refuse disposal in the study area will help in controlling environmental degradation.

CONCLUSION

The study concluded that the people in the area are fully aware of the environmental hazard in the study area. The environmental hazards affecting area include erosion, flooding and air pollution. The fundamental causes of these menaces in the area are inadequate drainage pattern, dumping of solid wastes into river/stream channels, poor sanitation exercise and excessive burning of refuse.

Recommendations

As a public problem, it is imperative for people to key into orientation and enlightenment programme that will eradicate or ameliorate the menaces, and support the government to promote genuine development. With the various projects like, dredging of rivers/streams channels and renovation of damage drainages, provisions of wastes bins/incinerators for refuse disposal, and adoption of good sanitation programme and so on, people in the city particularly the study area stand a good chance of living good lives. Therefore, it is recommended that the government enact laws that will prosecute any environmental offenders with strong fines and the people should be orientated on environmental nuisance caused by their activities. This will help to increase their level of awareness.

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