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Knowledge, Practice and Enforcement of Environmental Laws Provisions among Household Heads and Enforcement Officers in Enugu State, Nigeria

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ABSTRACT

Man's developmental activities, in pursuit of economic growth, have brought about pollution and degradation of the environment with attendant effect on the public health. This development seems to have ran contrary to the tenets of the "Sustainable Development"; which has been defined as "the development that meets the needs of the present without compromising the ability of the future generations to meet their own needs." Consequently, environmental laws were enacted to bring about sanity in the ecosystem and achieve sustainability of the environment. However, there seems to be a gap between the existence of these laws and the actual practices and enforcement of their provisions; leading to unsafe environmental practices, causing outbreak of diseases and infections. The situation compelled the researcher to carry out this baseline/study, designed to ascertain the level of knowledge, extent of practice and enforcement of the environmental laws; among the household heads and enforcement officers in Enugu State, Nigeria. The researcher adopted a combination of the doctrinal and empirical research methods. Relevant literature were reviewed on the legal and institutional framework for environmental protection laws in Nigeria. Three research questions guided the empirical aspect of the study. The population for the study was 626,746 household heads. The sample size of 400 household heads; determined through Taro Yamene's formular was selected through a multistage sampling procedure. Fifty (50) enforcement officers were purposively drawn from a population of 425. The instrument used for data collection were two sets of researcher-structured questionnaires. The validity and reliability of the instruments were adequately established. Result of the study revealed that household heads in Enugu State had moderate level knowledge of the environmental laws (43.90%) and they practiced the laws to a low extent ($x = 2.46$). The enforcement officers generally enforced the laws to a high extent ($x = 2.62$), but reportedly enforce waste recycling and monitoring of people's obedience to environmental protection activities to a low extent. The study recommends among other things: the inclusion of environmental education containing a body of environmental laws which is harmonized and codified under a single heading called "The Environmental Laws of Nigeria". This arrangement would minimize noticeably existing ambiguities in the mix of the different laws; while creating a better platform for studying and understanding of the provisions of the environmental laws. The enforcement officers should be statutorily empowered to enforce environmental sanitation laws strictly; including the power to arrest environmental offenders without warrant or assistance from police.

Keywords: Environment, Environmental Laws, Knowledge, Practice, Enforcement.

INTRODUCTION

All through the ages, the relationship between man and his environment can never be over emphasized. Hence, a good environment has been noted to improve people's health, while polluted environment leads to deterioration of people's health, resulting to death in extreme cases. The

importance of the environment to people's health has also been affirmed by Okorodudu-Fubara, who stated that the interdependency of man with or within the ecosystem is fundamental to human existence.



Environment as a concept refers to the human surroundings. It means the natural conditions in which we live such as air, land and water. The intricate relationship between man and the environment can better be explained through this inseparable definition that environment refers to the physical, chemical, and biotic components that act upon an organism or an ecological community and ultimately determine its form and survival. According to section 38 Federal Environment Protection Agency (FEPA) Act, 1988, which was later replaced by section 37 of the National Environmental Standards and Regulation Agency (NESREA) Act; environment included water, air, land and all plants and human beings or animals living therein and the inter-relationships which exist among these or any of them.

Unfortunately, some activities of human have been identified to be hazardous to the environment. This is buttressed with the assertion of Ayuba, Abdullah and Sulaiman¹ that mankind depends on the environment to sustain their lives and that solid waste is one of the three major environmental problems created by man. Consequently, uncontrolled generation of waste has threatened man and his environment through pollution of all kinds (land, air and water), thereby destroying the ecosystem. The above situation depicts a state of lawlessness with attendant negative effects on the environment and the people's health status. Consequently, it became apparent that action is needed at the global level if the human environment is not to be rendered uninhabitable by pollution in the not-too-distant future. This warranted orderliness through rules and regulations. Hence, environmental laws are put in place to mitigate the threatening environmental problems which emanate from human

activities in the quest for economic growth and development.

Environmental law as a concept describes regulations, statutes, local, national and international legislation, and treaties developed to save the environment from destruction and to address the legal outcome of such destruction on governments or private entities or individuals. In recognition of the importance of law in achieving environmental protection and preservation, countries enacted environmental laws in order to regulate and control developmental activities carried out on the environment. At the global level, one of such occasion for the facilitation of the above objective was the Stockholm Conference on the Human Environment, held in 1972. After the Stockholm Conference of 1972, there was the Rio Declaration on the Environment which was a product of the United Nation's Conference on Environment and Development (UNCED) of 1992 two decades after. Up until then, not much was done about the issue of environmental protection by the way of statutory regulations and policy framework until the 80's. The decade of 80's witnessed unprecedented upsurge of environmental consciousness and the demand for legislation. This upsurge was accentuated by the worsening of the environment brought about by the oil boom of the 70s and rapid industrial development that accompanied it. Incidentally, Nigeria was among the nations present at Stockholm Conference, and was also signatory to several conventions and treaties on the protection of the environment.

In Nigeria, the current national efforts to align with the global movement on protection of the environment came swiftly and decisively in 1988, after over 15 years of indecision, with the discovery of five ship loads of 3,888 tons of assorted toxic wastes of Italian origin on the shores of the Port

City of Koko in the Niger Delta area of Nigeria. This incident galvanized the government into action, culminating in the government of the federation enacting the Harmful Waste (Special Criminal Provision, etc) (HWSC PA) Act, the Federal Environmental Protection Act (FEPA) and the Environmental Impact Assessment (EIA) Act, all in the same year of 1988, for general environmental protection. Meanwhile, the period before this time has become popularly referred to as the “Pre environmental era.” Currently in Nigeria, environmental laws have been formulated and are being implemented to:

1. deal with a variety of environmental pollutions such as toxic chemicals, noise and others,
2. control particular activities such as mining, power generation and,
3. provide general guidelines for protecting basic natural resources such as water, air, land, etc.

Hence, there are international, federal and state environmental laws in Nigeria. Some federal environmental legislations in Nigeria include, but not limited to: the 1999 Constitution of the Federal Republic of Nigeria, National Environmental Standards and Regulations Enforcement Agency (NESREA) Act 2007 (at the repeal of Federal Environmental Protection Agency (FEPA) Act), Environmental Impact Assessment Act 1992, Harmful Waste (Special Criminal Provisions, etc) Act 1988, Oil Pipelines Act 1956, Petroleum Act 1969, Niger-Delta Development Commission (NDDC) Act and Land Use Act 1978, among others. At the Individual State Level, there are also some States’ Environmental Legislations geared towards the protection of the environment. In fact, each of the 36 States of Nigeria and the Federal Capital Territory of Abuja has laws

dealing with environmental protections and safety. Specifically, in Enugu State, the Enugu State Waste Management Authority (ESWAMA) Law (ENSL) No 8 of 2004 was enacted and charged with the responsibility to manage solid and liquid waste in the State.

It has been established that the law regarding human activities on the environment in Nigeria is contained in the NESREA Act 2007, which is actually the flagship of environmental protection in Nigeria. The Act as a legal instrument has provision for the protection of eight major aspects of the environment. These are: Air quality and atmosphere protection², Ozone protection³, Noise⁴, Federal water quality standardsⁱ, Effluent limitationsⁱⁱ, Environmental sanitationⁱⁱⁱ, Land resources and watershed quality, and Discharge of hazardous substances and related offences^{iv}. Flowing from these, are 33 Regulations which the Minister of Environment is empowered to make under Section 34 of the Act. The NESREA (Agency) which is the major federal body responsible for protecting Nigeria’s environment is responsible for enforcing all environmental laws, regulations, guidelines, and standards. This includes enforcing environmental conventions, treaties and protocols to which Nigeria is a signatory.

On the other hand, the Harmful Waste (Special Criminal Provision) Act (formerly Decree) prohibited the purchase, sale, importation, transmit, transportation, deposit and storage of harmful waste in Nigeria. It also made it an offence for anybody to collect and keep or dump harmful waste anywhere within the land, territorial waters, the contiguous zone or the exclusive economic zone of Nigeria or the inland water ways. A section of the Act also

provided that apart from criminal liability, anyone responsible for dealing in harmful wastes will also suffer civil liability.^v

In a similar vein, the creation of Environmental Impact Assessment Act^{vi} No. 86, 1992 brought about the establishment of a formal legislative framework for environmental impact assessment in Nigeria. The main objective of the Environmental Impact Assessment (EIA) Act is to ensure that potential environmental impacts are foreseen at the appropriate stage of project design and addressed before any decision is taken on the project. The Act seeks to ensure that all activities by all persons at the commencement of the project's identification and planning are in order to inculcate an environmental ethic in all citizens, persons and institutions in the country.^{vii} It also aims at encouraging free dissemination of information relating to the Environmental impact activities to relevant interested parties and public generally.

Ironically, the existence of these laws has not stemmed pollution of the environment both at the national and state levels. Specifically speaking, the situation in Enugu State seems degenerating; leading to outbreak of infectious diseases; owing to the fact that these laws may not have been duly observed and effectively enforced. Moreover, day-to-day experiences on how people deal with issues concerning sanitation of the environment through littering the environment with filths and wastes, as well as flout provisions of the environmental laws, made the researcher wonder why there seem to be so much gap between the existence of the legislations, their practice and their enforcement.

Among other worries, one wonders whether the inhabitants are knowledgeable on the provision of these environmental protection laws; which invariably would facilitate their practice of their provisions, leading to a

healthy environment; devoid of pollution. The situation above motivated the researcher to embark on the present study which focused attention on level of Knowledge of the provisions and extent of practices of some aspects of the National Environmental Standards and Regulations Enforcement Agency (NESREA), Environmental Impact Assessment (EIA), Harmful Waste (Special Criminal Provisions etc) HWSCPA and enforcement of the Enugu State Waste Management Authority (ESWAMA) Laws.

The study may, among other benefits enlighten the household heads, environmental laws enforcement officers as well as other stakeholders on the fact that although large and diverse arrays of laws and government policies which affect environment directly or indirectly exist, however that environmental laws deal with such issues as: protection of plants and animals, guarding and shielding of the earth, air, noise; water and the prevention of pollution; as well as maintaining relationship between states and nations.

It is also expected that the findings of the study will enlighten the enforcement officers on their roles and duties and embolden them to discharge the duties legally entrusted on them in line with the powers given to them under the relevant laws. This would ensure that the environmental protection laws' provisions are complied with; towards attaining a healthy environment for public health.

Finally, it is expected that this baseline study will provide literature, guidance and reference materials to future researchers on the subject matter and similar issues of concern.

Research Questions

Based on the specific purposes of the study, the following questions were answered by the study.

1. What is the level of knowledge of environmental laws provision among the household heads in Enugu State?
2. What is the extent of practice of environmental laws provision among the household heads in Enugu State?
3. What is the extent of enforcement of environmental laws provision among the enforcement officers in Enugu State?

Scope and Limitations of the Study

The field of environmental law is quite large in scope and generally all encompassing; touching on laws and regulations made to direct, control and checkmate all activities of man, in order to protect the environment and enhance public health. For the purpose of this study, the level of knowledge of some provisions of the National Environmental Standards Regulation and Enforcement Agency (NESREA) Act, the Harmful Waste (Special Criminal Provision etc.) (HWSCPA) Act, the Environmental Impact Assessment (EIA) Act and the Enugu State Waste Management Authority (ESWAMA) Law, among the household heads in Enugu State were determined. Furthermore, the extent of practice of some environmental protection activities among the household heads and the extent of enforcement of that State Sanitation Law among the relevant enforcement officers were also determined by the study.

Research Method

This is a hybrid study, because it used a combination of Qualitative (Doctrinal) and quantitative (Empirical) research methods. The choice for this hybrid research method finds further justification in the advice by Prof. Badaiki in Umahi and Akpghome^{viii} that law students should start moving away from the orthodox qualitative approach and

that “legal research in Nigeria must now start using a mix of methodology to achieve the research objective”. The Doctrinal research method aspect of the study dealt with descriptive and analysis of legal rules on environmental protection, found in primary sources (statutes, or regulations and cases) and review of other related works by erudite authors.

Descriptive survey research design was adopted for the empirical research method. According to Leedy and Ormrod,^{ix} descriptive survey design is a design used to study large population, which allows for selecting, studying and analyzing sample chosen from the target population; from which inferences/generalization are made about the entire population. Similarly, the design was considered appropriate because the study involved obtaining information from only a part of the household heads and enforcement officers in Enugu State.

The population for this study consisted of 626,746 heads of household that reside in 291 Health District Wards in Enugu State. A sample size of 400 household heads determined through Taro Yamane’s formula for finite population, was selected through multistage sampling technique and used for the study.

The instrument used for data collection were two sets of structured questionnaires. One of the questionnaires is titled: Knowledge of Environmental Laws and Practices among heads of households (KELAPAHH) in Enugu State, while the other one is titled: Enforcement of Environmental Laws among Enforcement Officers (EELAEO) in Enugu State. Each of the two sets of questionnaires comprised of two sections (A and B). Section A sought for personal data of the respondents while section B consists of question items that elicited information from the respondents on the different aspects of

selected environmental laws provisions, practices and enforcement.

In order to ensure the face and content validity of the instrument, three copies each of two sets of questionnaire, accompanying the purpose of the study and research questions were given to three research experts: One of the experts was in Environmental Law from Faculty of Law, University of Nigeria, Enugu Campus. One other expert was in Department of Human Kinetics and Health Education, from the Ebonyi State University, Abakaliki. A third expert was in Measurement and Evaluation from the Department of Science Education, Faculty of Education, Enugu State University of Science and Technology.

To ensure the reliability of the instrument, twenty copies of questionnaire were administered on twenty household heads and ten environmental enforcement officers respectively, in Ebonyi State.

In order to determine the internal consistency of the items, Kuder Richardson's formular 20 (K-R₂₀) was used to analyze Section B (Part i), dealing on household heads' level of knowledge of the provision of the laws while Cronbach Alpha was used to analyze items on practices of environmental law among the household heads and extent of enforcement among enforcement officers, respectively. The reliability coefficient of (0.9808) and (.977) were obtained for KELAPAAH (for heads of household questionnaire). The value of (.885) was obtained for EELAEO (enforcement officers' questionnaire). The reliability coefficient was high enough considering Ogazi and Okpala's^x criteria of .60 as being acceptable for good

instruments. All the filled copies of the two sets of questionnaires were collected at the spot, ensuring 100% return rate. However, out of the 400 copies of the questionnaire for household heads, 397 were properly filled out and therefore used for data analysis. This meant that it had 99.25% return rate. On the other hand, all the 50 copies from the enforcement officers were returned and found usable for analysis.

The collected data were analyzed using the Statistical Package for Social Sciences (SPSS),^{xi} to answer the research questions. Consequently, responses to items dealing on level of knowledge were analyzed using frequency counts and percentage scores. The responses were rated in line with the Ashur^{xii} categorization of the level of knowledge into four as follows:
0 – 39% - Low Knowledge (LK),
40 – 59% - Moderate Knowledge (MK),
60 – 80% - High Knowledge (HK) and
81 – 100% - Very High Knowledge (VHK).

The percentage score for correct responses only was considered. On the other hand, data relating to "Practice" for the household heads, and "extent of enforcement" of environmental sanitation laws, among enforcement officers were analyzed using Mean Score and Standard Deviation. The value of mean was obtained by computing the sum of the nominal value assigned to the 4-point rating scale used in the questionnaire and dividing it by the number of the rating scale ($4+3+2+1 = 10/4 = 2.50$). According to Uzoagulu, on a four-point scale, a factor with 2.50 and above is regarded as positive while mean below 2.50 is regarded as low.

Results

Table 1: Frequency and percentage scores on the level of knowledge of environmental laws among the household heads in Enugu State

n = 397

SN	Knowledge on; NESREA	Correct Freq.	%	Dec.
1	Environmental laws control plant and animal behaviors	137	34.51%	LK
2	The National Environmental Standards Regulation and Enforcement Agency Act controls the activities of the oil and gas industry	78	19.65%	LK
3	Environmental laws do not see every one as a stakeholder in the maintenance and enforcement of environmental standards	57	14.36%	LK
4	Environmental laws are those laws that govern only Nigerian environment, and not outside Nigeria	163	41.06%	MK
5	It is only the federal government that can implement Environmental laws and policies, and not the state and LGAs	256	64.48%	HK
6	EIA			
6	The protection of forests, trees and animals is not within the control of environmental laws	176	44.33%	MK
7	Submission of report on the possible consequences of a proposed project (such as parks, schools, markets, industries) is not compulsory	79	19.90%	LK
8	No state has a responsibility to inform another state of any potential danger of any proposed project to their state	105	26.45%	LK
9	Environmental law does not regulate activities of traders and commercial activities	74	18.64%	LK
10	Ministries and Agencies of government are not required to submit reports on the possible impacts of their project on the environment	88	22.17%	LK
	HWSCPA			
11	It is an offence to buy, sell, import or store harmful wastes	281	70.78%	HK
12	Environmental law punishes an owner of land where harmful wastes are found	190	47.86%	MK
13	The transportation of harmful wastes and storage of same is not an environmental law offence	215	54.16%	MK
	ESWAMA & General EL			
14	Environmental laws are created by the government to control human activities on our environment	285	71.79%	HK
15	Environmental laws control actions on water, land and the air	233	58.69%	MK
16	Industrial wastes include both liquid and solid wastes emanating from commercial establishments	303	76.32%	HK
17	Environmental law does not regulate activities of traders and commercial activities in the handling of wastes	179	45.09%	MK
18	Domestic pollution is not controlled by environmental law	229	57.68%	MK
19	Environmental law does not regulate building and housing projects	92	23.17%	LK
20	It is not an offence punishable by law to burn any bush for farming and hunting	128	32.24%	LK
21	Leaving a spoilt car in a manner that it causes obstruction is a punishable offence in the laws of environment	296	74.56%	HK
22	Not having a dust bin with a fitting cover for waste disposal is not an offence punishable by the laws on environment	141	35.52%	LK
23	A tenant or landlord could be charged to court for allowing weeds and grasses on his compound or surroundings	245	61.71%	HK
24	It is not an offence not to properly dispose any excavated material during construction or repairing of drainages	174	43.83%	MK
25	It is an offence to discard a waste from a moving car	249	62.72%	HK
26	It is not compulsory that government or other private establishments should have incinerator for the destruction of chemicals and dangerous wastes	94	23.68%	LK
27	Any owner of an undeveloped land within a residential place who fails to keep it clean can be convicted and made to pay a fine and the cost of clearing the land	75	18.89%	LK
28	Manufacturing companies can decide not to treat all waste generated from the company, if they like, without legal sanctions	167	42.07%	MK
29	Environment law states that every commercial bus driver should have a dustbin in the car	256	64.48%	HK
30	Public conveniences are optional requirements for all operators of public businesses such as cinemas, restaurants, petrol stations etc.	99	24.94%	LK
31	Vehicles who carry laterites and other stones without covering it has committed an offence punishable by law	220	55.42%	MK
32	The law does not permit the dumping of refuse in any place rather than places officially mapped out for that	256	64.48%	HK

33	Depositing materials in ways to cause obstruction of drainages is a serious environmental offence that could attract imprisonment	125	31.49%	LK
34	It is not an offence not to participate in cleanup activities on a sanitation day	183	46.10%	MK
Average		174.35	43.92%	MK

The results on table 1 showed the level of environmental law provisions among the respondents. The overall average of 43.92%

shows that the household heads in Enugu State had moderate level knowledge of environmental protection laws.

Table 2: The mean and standard deviation scores on the extent of practice of environmental laws among the household heads in Enugu State

n = 397

SN	Practice	X	SD	DEC.
1	I use a dust bin that has a tight-fitting cover to dispose refuse at home	2.65	1.27	HE
2	I do not allow overgrown grasses around my home surroundings	2.54	1.02	HE
3	I do not deposit rotten materials inside my dust bin	2.43	0.97	LE
4	I properly dispose any excavated material during construction or repairing of drainages	2.74	1.20	HE
5	I do not deposit materials that can cause obstruction on drainages	2.82	1.16	HE
6	I dump my refuse in places designated by government for refuse dump	2.19	0.90	LE
7	I dump harmful waste in designated places only	2.02	1.05	LE
8	I do not discharge any form of oily substance on public drains or body of water without approval	2.43	1.08	LE
9	I dispose my dirty water in drainages only	1.99	1.03	LE
10	I do not throw away dirt out of a moving vehicle	2.67	1.11	HE
11	I do not burn my refuse openly in my surrounding	2.54	1.02	HE
12	I participate in clean-up activities in my neighborhood	1.91	0.98	LE
13	I do not pour out dirty water indiscriminately around my surrounding	2.72	1.12	HE
14	I do not allow stagnant water around my premises	2.62	1.16	HE
15	I clean up gutters on sanitation days	2.65	1.16	HE
Grand Mean		2.46	1.12	LE

Data on table 2 shows the mean response score of household heads in Enugu State on the extent of practice of environmental laws provisions. The grand mean score of 2.46

shows that household heads in Enugu State practice environmental laws provisions on sanitation, to a low extent.

Table 3: The mean and standard deviation scores on the extent of enforcement of environmental laws among the enforcement officers in Enugu State

n = 50

S/N	I enforce these regulations:	X	SD	DEC.
1	Recycle waste (including composting and disposal)	2.16	0.96	LE
2	Monitor the compliance of inhabitants to environmental laws and regulations.	2.44	0.95	LE
3	Arrest environmental offenders without warrant or support from the police.	2.34	0.82	LE

4	Design blueprints for establishment of sewage disposal system and clearing sewage	1.94	0.96	LE
5	Collection, removal, processing, treatment and safe disposal of domestic, hospital, commercial, institutional and industrial waste.	2.92	1.14	HE
6	Removal and disposal of abandoned vehicles	3.82	0.39	HE
7	Removal and disposal of carcasses of dead animals from public places	3.40	0.78	HE
8	Clean streets (of solid wastes).	2.68	1.48	HE
9	Approve and watch closely all waste disposal systems in the State.	2.56	1.39	HE
10	Monitor the clearing, cleaning and maintenance of drainage facilities within Enugu State.	1.92	0.90	LE
	Grand Mean	2.62	0.98	HE

Data in table 3 shows the mean response score of enforcement officers on the extent of enforcement of environmental sanitation law in Enugu State. The grand mean score of 2.62 shows that the enforcement officers in Enugu State enforce sanitation laws to a great extent.

Discussion

The study surveyed the level of knowledge and extent of practice and enforcement environmental laws provision among household heads and enforcement officers in Enugu State, Nigeria. The findings on table 1 revealed that the household heads in Enugu State have moderate level knowledge of NESREA, EIA, HWSCPA, as well as ESWAMA and General Environmental laws. This finding confirms the earlier assertion of Nwaedozie^{xiii} that presently, environmental awareness is at a dismally low level among the populace. This low awareness pertaining to environmental issues means that people would do what will harm them, yet do not know that certain actions such as dumping refuse in drainages is against the law because of its harmful effect on environment. Ironically, Ladan^{xiv} had asserted that even lawyers and judges have no environmental consciousness and as such regard cases of environmental crimes as trivial cases, citing that example could be seen in a case of forest encroachment. Therefore, it can be adduced that people's

disregard of laws on forestry, waste management, EIA, is mainly due to ignorance.

The finding of low knowledge of environmental laws further agrees with the lamentation of Adeboye^{xv} that in spite of the formulation of FEPA and a national environmental policy, the environment however has not been adequately protected, so much so that the traditional solid waste management practices such as waste burning, indiscriminate open dumping of waste are still being practiced as a result of lack of knowledge on their consequences. The finding also supports Fafioye and Dewole^{xvi} who reported that an alarming rate of 41% of the residents in Akwe metropolis were ignorant of the dangers posed by improper disposal of wastes. Moreover, the study by Mansaray, Ajiboye and Audu,^{xvii} on environmental related knowledge, attitudes and practices among secondary school teachers, revealed rather low knowledge base and practices with respect to environmental issues by the populace. No wonder, it has also been acknowledged that the general paucity of public awareness of environmental issues among Nigerian citizenry still leaves much to be desired.^{xviii} One can then infer from the above assertions that a strong relationship exists between knowledge and practice on environmental protection activities.

Specifically, the finding of low level of knowledge on EIA among the respondents confirms the earlier assertion of Nwoko,^{xix} that the major drawback of EIA is that general public in Nigeria is comparatively indifferent and poorly informed about the potential negative environmental effects, and especially the long-term impact. The reason could also be that the training of personnel, the guidelines, the discussions on EIA are usually in English and quite often, the affected public is not adequately informed of the issues at hand or unable to interpret the EIA reports. The study further revealed that the household heads are more conversant with the topics of the environmental laws that specifically address waste and other sanitation issues; bothering generally on individual waste handling and disposal activities, than the other environmental issues that may be considered as being abstract in nature because they even deal with protection of other living and non-living things (as seen under the NESREA Act provisions).

Further scrutiny of the findings revealed that the respondents had moderate and low level knowledge on some other environmental protection issues respectively; including but not limited to the fact that relationship among individuals, between nations and even the interest of plants and animals and the ecosystem are within the purview of environmental protection laws. The NESREA and EIA are among such laws. The reason may not be unconnected with the contents and the manner in which their functions are framed, making it difficult for some people to decipher. This opinion also finds support in the earlier confirmation of some researchers, including Nnamani^{xx} that although environmental protection laws exist, but that they are usually couched in languages that are ambiguous and too technical for a layman, uneducated and unenlightened person to understand and

comply with. At this juncture, we humbly submit that environmental laws be reviewed; such that the ambiguities created in the laws would be cleared; thereby restating them in clearer, simpler and straight forward languages.

It is therefore important that the citizenry is equipped with the knowledge of the importance of a healthy and protected environment. This is in line with the goal of the National Policy on the Environment which is to achieve sustainable development in Nigeria and in particular, to secure for all Nigerians, a quality of environment for their health and well-being, among others.^{xxi} Moreover right to a healthful environment is akin to the constitutional right to life. On the other hand, a poor, filthy and putrid environment can affect the health of the individual and result in subsequent death.^{xxii} Therefore the fundamental right of man to live in a clean, safe and healthy environment devoid of any hazards to life can best be achieved through environmentally healthy practices, acquired from education and enlightenment.

The result in table 2 revealed that the household heads in Enugu State practiced the environmental laws to a low extent. Specifically, it was found that their practices on such environmental law provisions as: not depositing rotten materials inside the dust bin; dumping of refuse in places designated by government; not discharging of forms of oily substances on public drains or body of water; disposing of dirty water in drainages; and participating in clean-up activities in the neighbourhood were all to a low extent. The response from the respondents testifies to the common cite whereby solid waste and refuse were dumped indiscriminately on major streets close to residential areas and on drainage channels meant for free flow of storm water. The finding of low practice of environmental law provisions among the

respondents by the study implies that there exists an increase in the risk of infectious disease in the environment. One can only imagine the effect of such situation on the environment which invariably would affect the health of the very young, the elderly and people, especially those already suffering from diseases that lower their resistance. In particular, the buildup of waste materials in rivers and drainages due to inappropriate waste disposal practices is not just a human risk, because other species in the environment are affected; causing a distortion in the ecological balance of the environment. For instance, the discharge of untreated waste water and excreta into the environment affects human health by several routes including pollution of drinking water; contamination of food chain, for example via fruits, vegetables or fish and shellfish. Such action could also provide breeding sites for flies and insects that spread diseases. In particular, improperly disposed human excreta have been implicated in the transmission of many infectious diseases such as cholera and typhoid fever.^{xxiii}

Furthermore, the finding that household heads in Enugu State practiced environmental laws provision to a low extent is not surprising; taking into cognizance the earlier finding that they possessed low level knowledge of the environmental laws' provisions and regulations. Implicitly, the low knowledge invariably influenced their practice outcome. The situation clearly agrees with the general notion that "one cannot give what he does not have (*nemodat quod non habet*)". No wonder Momodu, Dimuna and Dimuna^{xxiv} asserted that a better understanding of solid waste management and its attendant problem will enhance the effective use of the environment, hence they stressed the importance of educating the populace in order for them to have positive attitude, commitment and motivation to

adopt sound techniques in managing their waste products.

The finding that the respondents participated in "clean-up" activities in their neighbourhood to a low extent is quite intriguing, considering that the State government had long ago introduced the "Monthly Environmental Sanitation Programme". This comes up every last Saturday of every particular month except were cancelled by an announcement from the office of the Managing Director, ESWAMA; who also gives reason for such cancellation. One then wonders what such defaulters do during so mapped out time to clean their environment. This attitude obviously negates government laudable objectives, to regulate environmental sanitation and pollution through law which the government set out to achieve through the establishment of regulatory agencies; which impose sanction to deter polluters to a certain extent. In Enugu State, among other functions, this is the objective for creating ESWAMA and instituting the "Monthly Sanitation Exercise".

The result in table 3 revealed that enforcement officers in Enugu State enforced the environmental laws to a high extent. Specifically, the activities that made up items on the enquiry on the objective include; collection, removal and disposal of domestic, hospital and institutional as well as industrial waste. Others are street cleaning; removal and disposal of abandoned vehicles; and removal and disposal of carcasses of dead animals from public places, among others. However, we humbly submit that the finding of enforcement activities being done to a great extent, is quite surprising because it runs contrary to the actual situation in Enugu state. For instance, in some parts of the city where they exist, most refuse dumpsters are seen filled to the brim and overflowing in the environment for several days before

being evacuated. Therefore, the finding of enforcement, to a high extent, may have also been as a result of man's inherent nature for self-preservation whenever opportunity is given for self-reporting. Such responses are usually deemed to have been tinted with bias.

At this juncture, it becomes pertinent to highlight the interesting, but significant finding of the study which revealed that most pressing aspects of enforcement are carried out to a low extent. Such activities include: recycling waste (including composting and disposal); design, operate and maintain waste disposal facilities; arrest of offenders without warrant or support from the police; design blueprints for the establishment of sewage disposal system; monitor the clearing, cleaning and maintenance of drainage facilities within Enugu State as well as monitoring the observance of environmental protection activities among residents; among others. Understandably, this finding may be a pointer to the fact that, among other outcomes, this has resulted to the inability of ESWAMA and the environmental officers (in the rural location), to thoroughly monitor the streets and highways. This situation obviously enables clients to deposit waste indiscriminately, because no staff of the monitoring and control unit is keeping watch.

The finding agrees with some earlier researchers on the subject matter. One such researcher was Okafor,^{xxv} who reported on the incompetency of the monitoring and control unit of ESWAMA in carrying out its duties. Accordingly, he explained that this has imparted negatively on the waste management activities in Enugu State; leading to observable records of evaders, heightened court cases between the agency and its clients.

Furthermore, detailed scrutiny of the study findings revealed that the enforcement officers were more involved in the pedestrian aspects of the provisions in the regulation while the more involving aspects of the regulation were rarely enforced. This may be as a result of lack of professionally trained waste management officers. This opinion collaborates the earlier finding of Okafor that waste management activities (like waste disposal, evacuation, handling etc) are carried out by the junior staff of ESWAMA, whom were also reported as not being given the opportunity to participate in training, both within and outside the country. Hence the responsibilities of ESWAMA suffered due to the absence of professional staff like Waste Management Engineers.

It is also a fact of practice that ESWAMA engaged different private contractors to carry out the job of enforcement of the Authority's responsibilities. This situation may also be a source of problem militating against effective enforcement activities in the city. Infact, it can be reasonably suspected that the low execution of some monitoring activities as found by the study, may not be unconnected with the fact that ESWAMA had engaged the services of some private contractors and subsequently may have also relinquished some of her duties to them. Among other issues, such situation may have created a problem of conflict of roles, especially if not clearly spelt out and delineated. The problem with such circumstance was as earlier decried by Ajagunna,^{xxvi} who surmised that difficulty could be encountered in enforcing environmental sanitation because a complex situation occurs where waste management is handled by several agencies such as Solid Waste Disposal Board, the Sanitary Inspection Division of the Ministry of Health, the State Environmental Task-Force and not less than ten certified waste disposal contractors as well as numerous uncertified

contractors. We humbly submit that such an arrangement would likely create a chaotic situation emanating from role conflict or duplication of powers. On this point, we also submit that this could be a result of “political patronage”, where most of the contractors are political party loyalists. The situation may also have resulted to the problems of use of inappropriate technological measures, because most of such contractors are quacks who may not have received formal training on the trade nor cared about employing professionals into their team.

Sadly, Owoeye and Adedeji had earlier lamented that most of the environmental sanitation institutions such as Federal Environmental Protection Agency (FEPA), the State Environmental Protection Agency (SEPA), Ministry of Health, Local Government Health Delivery Institutions, and Primary Health Centers are not adequately equipped with sufficient materials required to cope with the increasing challenges of maintaining an environment free of health hazards and problems occasioned by poor sanitation.^{xxvii}

Furthermore, the study revealed that the enforcement officers do not arrest offenders without warrant or support from the police. This finding of the situation at State level incidentally is in line with the powers contained in the NESREA^{xxviii} Act which empowers it to *enter and search with a warrant issued by a court, any premises including land, vehicle, tent, vessel and floating craft, inland water and other structure which they reasonably believe carries out activities or stores goods which contravene environmental standards or legislation for the purpose of conducting inspection, searching and taking samples for analysis.* It is regrettably submitted that the finding of the study on inability to arrest without warrant or police has significant implication for the enforcement of

environmental laws in Enugu State; including that the enforcement officers lack the “police power” which the “State” grants to an officer even to arrest person(s) caught in the act of exhibiting practices that are not environmentally friendly. It is also humbly submitted that under the circumstances, it becomes cumbersome for an enforcement officer to discharge his duties effectively. For instance, it makes it possible for an offender to escape and evade punishment, before the officer would have come back with a search or arrest warrant. This may be the reason whereby although there exists within legislations, provisions geared towards control of environmental pollution in all areas of life, but unfortunately many of the passed legislations are either not enforced or are poorly enforced.^{xxix} This is further observed from the fact that in Enugu metropolitan city, apart from the fact that some inhabitants do not dump wastes properly into the provided receptacles, the open roof trucks used for evacuating these wastes are mostly overfilled to the brim and uncovered. This result in some of the wastes being blown over and dropped along the road while the vehicle is in motion; thereby compounding the problem of scattering of the waste, while creating unsightly and foul smelling environment. Meanwhile those vehicles belong either to ESWAMA (the enforcement agency) or the contractors engaged by them. This being the correct position of events, one can only deduce that the agency cannot turn around to check itself since in this case, the offense is actually being perpetuated by the agency or by persons (contractors) engaged by it. *Hence, it is actually difficult if not impossible for a police to be policed.*^{xxx}

Further finding from the study revealed that monitoring the compliance of inhabitants to environmental laws and regulations; as well as monitoring the clearing, cleaning and maintenance of drainage facilities within Enugu State were done by the enforcement

officers, to a low extent. This finding is an indication that the key objective of monitoring which serves as a tool to enhance confirmation of extent of compliance to and enforcement of environmental regulations has been vitiated. This is an unfortunate situation which only renders the existing laws ineffective because laws on themselves are not self-enforcing. Meanwhile the importance of enforcement of environmental laws has been severally adumbrated by different authorities. Among such authorities is Ilegbune^{xxxix}, who during an examination on environmental regulation and enforcement in Nigeria stressed that a programme of environmental law regulation is only as good as its enforcement mechanism: because the best standards in the world accomplish nothing unless they were complied with, and that purely voluntary compliance cannot be expected within the social and economic institution. In the same vein, Nwosu^{xxxix} had lamented that low level of enforcement was one of the major limiting factors to the effectiveness of the regulatory regime.

Conclusion and Recommendations

Findings from the study revealed among other things that household heads in Enugu State had moderate level of knowledge of environmental laws' provisions; practiced the protection activities to a low extent, while the enforcement officers reportedly carried out their duties generally to a high extent; although specifically, they did not monitor the compliance of inhabitants to environmental laws regulation, nor could they arrest environmental offenders without warrant or assistance from the police. If the poor situation above is not checked, it would eventually encourage a crisis situation whereby the environment is unendingly polluted; thereby promoting the occurrence of preventable communicable diseases.

In order to minimize the negative effects of the above findings on the environment and people's health, the following are recommended among other things:

1. Environmental Education by Relevant Agencies

Agencies set up for protection of the environment both at Federal and State levels; such as NESREA and ESWAMA, respectively should as a matter of policy embark on comprehensive environmental education; to create environmental awareness and compliance to the provisions of the respective regulation. This is as a means to achieving environmental sustainability in Nigeria. This duty is important because most environmental degradation is as a result of ignorance of the public to the harmful nature of their activities to the environment.^{xxxix} Accordingly, just as ignorance of the use of a product lead to misuse, disuse and abuse, so also ignorance of the environment and all its elements leads to the misuse of the delicate elements, disuse of the very beneficial ones and abuse of their intended purpose.

Therefore, effort should be stepped up by all concerned to enlighten the public, for instance; on the fact that popular traditional method of managing waste such as burning of waste and indiscriminate open dumping of waste run contrary to the ideal ecological management practices as well as the regulations by government at all levels. This would encourage an understanding of the appropriate waste management practices and thereby bring about effective use of the environment while minimizing related public health challenges.

2. Provision of Environmental Protection Friendly Facilities

Government and other stakeholders at every level should provide equipment and facilities that would encourage and enhance

the inhabitants' zeal to observe the rules and regulations meant to protect the environment from pollution and degradation. Specifically, outfits and public places like filling stations, banks, markets, malls, recreation and entertainment centers should as a matter of necessity provide waste receptacles and conveniences at strategic locations and allow people to access these services at no cost at all since it is part of their corporate social responsibilities to the society within which they carry on their economic activities.

3. Strict Enforcement of Environmental Laws

Government and other stakeholders should strictly enforce the different environmental laws including ensuring that the requirement for the EIA is judiciously observed in the course of developments on land, as well as the provisions of state sanitation law. This would greatly facilitate and enhance environmental protection for the common benefit of the present and future generations. Hence, government should show commitment by implementing the environmental laws especially those that require their urgent attention, such as those on pollution abatement, oil and gas laws and international laws. Moreover, the enforcement officers should be empowered to enforce the laws; without warrant or support by the police.

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