

# “What we learn today is how we behave tomorrow”: a study on satisfaction level and implementation of environmental health ethics in Nigeria institutions

## Abstract

**Background:** The professionalism of environmental health practitioners (EHPs) has been an emerging trend in Nigeria and is governed by the EHORECON, though the EHPs are aware of their professional responsibilities but are concerned about the lack of active engagement with their professional board. Whilst empirical research was undertaken to comprise a case study of a group of EHPs practising to assess the “reality”, on the ground, in terms of the level of awareness and understanding among EHPs about their ethical and professional responsibilities and related challenges.

**Objective:** This study assesses the level of satisfaction with the implementation of the Environmental Health Ethics in institutions in Nigeria.

**Methods:** Online google form was used to access a large group of EHPs. One hundred and thirty-nine (139) questionnaires were settled for, as the sample size for the study through an adapted and validated questionnaire instrument. Data collected were analyzed using the Statistical Package for Social Sciences (SPSS) version 20 software.

**Results:** Most of the practitioners, in general, were satisfied (85.6%) and the teaching method (54.0%) informed their decision. However, the ethical cases that were of the most concern to the majority of the practitioners (53.2%) were negligence.

**Conclusions:** This study contributes some ideological facts to the existing literature and practice in nature. Even though, to come to the generalization with the aid of the particular study findings is complex. The study found satisfactory perceptions that signal a need for increased communication between professional bodies, respective organization/institutions, and practitioners regarding applied ethics in environmental health practice so that curriculums could reflect both theory and application. Also, decision-making guides that are empirically informed and tailored for practitioners having some value should be emphasized upon.

**Keywords:** environmental health practice, ehorecon, practitioners, ethics, satisfactory perception

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## Introduction

Societal challenges, ethical misconduct, and poor EHOs decisions responding to societal demands for short-term profitability have contributed to unsuccessful corporate management practices and strategies and loss of public confidence because of a lack of either personal or professional ethical standards. These practical impressions led to the conviction that there is a problem with ethics in the environmental economy and that the lack of ethics is not only harmful to people but also leads to serious productivity losses.<sup>1,2</sup> Also, the pursuit of self-interest is intended to ensure the greatest possible motivation for the individual, and thus a maximum result for the general public seems to work less and less. Poor ethical behaviors exhibited by EHOs could result in the near-collapse of financial markets in Nigeria, costing Nigerians taxpayers. The specific business problem being addressed is a lack of documented standards within ethics programs for catalyzing improved management practices, strategies, and decision making for EHOs.<sup>3</sup> Few professionals need to improve on their performance by pursuing continuing education and

one of them is the environmental health officer. Environmental health ethics would give environmental health professionals competencies in their daily activities, for them to be effective, there will be a need for them to engage in environmental health ethics education. Given the myriad of environmental issues facing society today a sound ethical background can be applied in an attempt to reach a compromise between conflicting interests, like anthropocentrism, global stewardship, religious values, economic development, and public health. A small sample of the scientific disciplines involved in environmental health ethics includes ecology, toxicology, epidemiology, and exposure biology. There are problematic adverse effects of environmental factors on human health when there is no environmental health education ethics among practitioners. However, a lot of environmental health officer go through ethical compromise, that is what this study is looking at and there is the need to talk about it. Moreover, as they undergo continuing environmental health programs other variables impact their performance and one of them is ethics. This study, therefore, intends to know how far the people (practitioners) involved are accountable and can they, from an ethical

point of view, be prevented in one way or another from repeating similar actions that contribute to those adverse effects. However, this researcher would want to find out if environmental health officers are more likely to experience more positive benefits when they engaged in continuing ethical education without official approval and practicing are evaluated on performance. What is more likely to be the outcome if a variable such as ethics is exhibited during schooling and practicing? Therefore, this study is important to be undertaken among the environmental health professionals because preventive health issues are essential to the citizenry of every nation and their government, especially in emerging countries and therefore there cannot be any compromise. However, studies examining environmental health professional performance during the period of education and practice and how it influences performance has not been well dealt with. Therefore, the question that needs an appropriate response is the impact of continuing environmental health ethics education on job performance among these environmental health professionals. The gap has been necessitated because the research is not just a theoretical one, but it is a practical problem in developing countries including Nigeria.

### The development of ethics

Do environmental health and ethics go together at all? Is it possible to measure environmental health contexts with criteria such as good and evil? At first glance, this seems unrealistic. How can one differentiate between good and evil? Many people have tried to answer the last question, without having been able to develop a universally applicable definition of good and evil. The differentiation and designation of good and evil are greatly dependent on one's point of view, but one can speak to general tendencies. We almost always use good and evil with the effect on a third party. An action is good if it is advantageous for others, and bad if it is harmful. It is impossible to reach a differentiation without addressing the relationship to an advantage or benefit. Societal norms and values are created in a process of trial and error, or cultural evolution. They express the behaviour a society desires because it is advantageous for the society and its members. Behaviour considered by society to be positive is rewarded with social approval. On the other hand, negative behaviour damaging to society is punished through social exclusion or the justice system as societal institutions. We say people are good if they bring benefits to other people and evil if they are harmful. One could also follow the golden rule; do unto others, as you would have them do unto you. This we would consider moral behaviour.

The study of ethics is ever-evolving.<sup>4</sup> Regardless of whether ethics is a philosophical, business, or theoretical approach, not everyone sees or understands ethical situations from the same ethical viewpoint.<sup>5</sup> Brown and Treviño noted that a standard definition of ethics is difficult to obtain. Even more challenging is how researchers and practitioners foresee ethics application in organizations.<sup>6</sup> McPherson noted that many professionals who struggle with questions of self-versus group or legality against morality have lost sight that ethics begins and ends with the concept of right and wrong. However, moral values in themselves, such as the dignity of man, should not be regarded as a requirement profile without logical reasoning, although they have a high target priority. Normative, moral, perhaps even emotional-related goals such as justice should be mentioned, but should not be used for argumentation when they are not productivity-enhancing. A review and synthesis of ethics literature are necessary to comprehend the requisite history and theories. Although the perception of ethics as a main of philosophy is centuries old, the association of ethics with many other areas of study includes environmental health, business,

economics, law, leadership and management, psychology, religion, and even sociology.<sup>7</sup> Each of these fields has different and equally important concerns, but this study's scope cannot answer questions in each of those areas. Scholars believe the possibility exists to analyze the principle of moral philosophies from which leaders concerned with business ethics and ethical leadership draw inspiration and knowledge.<sup>8</sup>

### Ethical theory and practice

Ethical theories do not always translate easily into practice.<sup>9,10</sup> Practitioners and scholars recognize the importance of translation difficulty when examining ethics educations.<sup>9-11</sup> Strategies proposed to help improve ethics educations in practices and decision-making must enable EHOs leader to overcome the various challenges of bridging ethical theory and practice.<sup>12</sup> Bridging the gap between ethical theories as virtue ethics, utilitarianism, and business practices are difficult because of the application of such theories with logical reasoning.<sup>13,14</sup> Bluntly stated, most business decisions are not so black and white and usually possess a unique set of circumstances.<sup>9</sup> Exacerbating these problems are the inexperienced organizational leaders or organizations lacking an ethical code. The conceptual nature of ethics, according to Dierksmeier<sup>11</sup> is often far removed from the logical practices of business and difficult for EHOs to follow. Ethical theory is necessary when reasonable people disagree about controversial issues in business.<sup>6</sup> Because the focus of this study was the exploration of how environmental health ethics education and practices among practitioners in Nigeria, understanding how EHOs think is important. Focusing on how EHOs can seek out and apply ethical theory in dynamic environments would seem logical for EHOs seeking a solution to real-world problems. To open that exploration of ethical theory, the discussion will begin with a review of general background information on environmental health ethics.

### Principles of environmental health practitioners

Adherence to acceptable ethical standards/principles and execution of social responsibilities are *Sin qua non* to organizational effectiveness and to provide a complete lively and environmental oriented work for modern EHOs scholars and professionals in the 21st century especially in developing countries. Hence:

- i. Health Practitioners must by his conduct in all mailers set a high standard and avoid being influenced primarily by motives of profit.
- ii. Health Practitioners shall not in any circumstance, do or authorized to be done or condone anything that will weaken the physical or mental resistance of a human being except for the prevention or treatment of diseases.
- iii. Health Practitioners must bear in mind the importance of preserving human life from the time of conception until death.
- iv. Health Practitioners are experts when required by law, a health worker shall not disclose without the consent of the patient information which, he has obtained in the course of his professional relationship.
- v. Health Practitioners shall maintain a friendly relationship with their colleagues or other professionals, paying due regard to their opinions.
- vi. Health Practitioners shall not be involved or found to be connected in practices that shall tarnish the image of his profession (bribery, cultism, adultery or stealing e t c).

- vii. Health practitioners to participate with government and others in creating Responsible laws; regulations and standards to safeguard the community, workplace, and environment.
- viii. Health Practitioners should operate out plants and facilities and handle our raw materials and products in a manner that can protect the environment and the safety and health of our employees and the public.
- ix. Health practitioners to work with others to resolve problems created by handling and disposal of hazardous substances from our operations.
- x. Health Practitioners to advise promptly appropriate officials, employees, customers, and the public of information on the significant industry-related safety, health, and environmental hazards and to recommend protective measures.

### Functions of health ethics

- i. It provides guidelines for the establishment and operation of educational Program by identifying common practices to be followed and those to be rejected
- ii. Serves as a basis for identifying standards of quality practice consistent with the action of the qualified competent practitioner.
- iii. Ethics serves as a resource for the orientation of new practitioners to their duties, right, and privileges.
- iv. It provides by implication for legal actions against incompetence and violators of the code and liability of the consequences of their actions.
- v. It provides for due process under the law for practitioners unjustly accused of misconduct in the performance of their duties.

### Problems/Unethical behaviours among the practitioners

Unethical acts by EHOs have caused an institutional scandal, eroded societal confidence in Nigeria, resulting in increased levels of bureaucracy through federal laws and legislative responses.<sup>15</sup> EHOs who reflect an ethical approach in their decision-making are more likely to establish a moral culture that engenders long-term success and sustainability.<sup>16,17</sup> Cranenburg and Arenas (2014) found that when ethical dilemmas arise, ethical violations occur in the context of business decisions because EHOs seem not to possess a positive moral structure to influence decision-making. Some of the unethical behaviours among the practitioners include:

- i. Jeopardizing of the ethics among the Environmental Health Officers/practitioners.
- ii. Bribery and corruption rampant among the practitioners
- iii. The integrity and reputation of the health practitioners damaged.
- iv. Polarization among the practitioners.
- v. Filthy habit among the practitioners
- vi. Invasion of an unskilled person into the profession
- vii. Stigmatization of the profession by other professional
- viii. Practitioner's misconduct and breaking of the ethics of the profession.

### Challenges of environmental health in Nigeria

The question of whether or not there is a need for ethics in environmental health is still an ongoing scientific discussion. However, the first doubts arose as to whether an environmental enterprise without morality, monitored by EHOs could work. The environment system places individual at the forefront of economic value creation and grants him a great freedom of development. The pursuit of self-interest is intended to ensure the greatest possible motivation for the individual, and thus a maximum result for the general public seems to work less and less. The central question to be answered is the extent to which moral values play a role as productive forces for the economy. Even though the environmental health profession predates Nigeria's independence and is one of the oldest in the Nation, it has not been accorded the recognition it deserves over the years. The emergence of EHORECON by Act 11, 2002 have done little to change the trend (although it could have been worse without it). Practitioners in many states have been battling with how to ensure the continued relevance of the profession in modern-day realities as hawks are waiting to prey on any available lacuna. In many states of the Federation, activities of the Environmental Health Officers are not seen, and where they try to force visibility, they aren't given the needed credit. The rate of unemployment in the profession is not only high but alarming. Although it would be unfair to feel that malaise affects only the cadre, ours is quite obvious. It is also noteworthy that the viability of the profession has made it a coveted bride by all Tom, Dick, and Harry. What are the causes of these numerous challenges facing the environmental health profession in Nigeria?

- i. Environmental health practitioners themselves: The greatest challenge of the profession is the professionals themselves. Unfortunately, many of the practitioners are not making any impact nor creating any value for their pay in the system. Many EHOs are not even going to their offices and even when they do, it's in mufti doing nothing but spreading gossips and selling irrelevances. What a shame! Many of us cannot stand to defend the course of the profession among other allied health practitioners, especially medical officers. We have shown no reason why the profession should be exclusively yours and preserved for you. No serious government wants to keep spending money on unprofitable ventures. Hence the snub of preventive health cares to the advantage of the more visible curative health care.
- ii. Lack of Media Presence: "If you fail to blow your own trumpet, no one will blow it for you" is an ancient axiom. One of the reasons people still clamour for the reintroduction of the Sanitary Inspector of old is because of their presence that was felt in every part of the nation. Today, we may not want to create the same fear factor, but can't we replace it with our visibility? Can't we just make use of the Press to showcase our activities to the world? We must understand that bad news sells fast and it's free. Or at least, it's cheap. Our continued lack of presence in the news makes it seem like we no longer exist. We will continue to remain irrelevant, obscure, outdated and of no use, if we fail to see the need to spend a token to keep the profession and its activities and actions in the news. Every day, Sanitarians all over Nigeria inspect hundreds of thousands of houses and other premises, prosecute defaulters in Customary and Magistrate courts, seal unhygienic premises, seize and condemn unsound food products, carry out EIA activities, give health education, solve waste problems, carry out pest control activities and so on,



yet the government seems not to care because we fail to project our image through the electronic, print and social media.

- iii. Politics, Politicians, and Government Policies: Even though democracy remains one of the best forms of government in the world today, it's the effect on environmental health in this part of the world has been negative. In Nigeria, almost everything is politicized. Security, health, education, business, and even the environment. The politician, whose job is to do all he can to win elections, will do all he can to stop the EHO from doing his job while canvassing for votes. "Those are our people who voted for us", they will often say. There have been cases where Local government chairman brought thugs to beat up officers who were prosecuting sanitation defaulters in the court of law. Cases abound of high-ranking politicians who call officers during duty to stop further action against houses with filled up toilets. One of our Deputy Directors was almost crushed to death by a politician who dared stopped his car during monthly Environmental sanitation exercise. Unstable government policies are also a bane of the environment. Lack of continuity in policies does not help. The Environmental Health Officer is caught up in the middle of all this drama and he now looks like an incompetent fool when these policies begin to crumble like a pack of cards, even though he wasn't part of the planning ab initio.

## Objectives of the study

This study aims at assessing the level of satisfaction with the implementation of the Environmental Health Ethics in institutions in Nigeria.

## Materials and methods

### Instrumentation for data collection

Both primary and secondary data were considered useful for the study. Primary Data: Instrumentation is the method that was used to administer the instrument to the respondents. The instrumentation for this study was a questionnaire designed after an extensive literature review. The researcher takes cognizance of the research question as well as the hypotheses in a manner that enables the researcher to gather as much information as possible from the respondents. Structurally, the questionnaire was divided into three sections A, B, and C. Section A is the introductory aspect which consists of a cover letter introducing the researcher with the school letter-headed paper signed by the researcher assuring them of information confidentiality. Section B is demographic data and consist of personal information or attributes of the respondent such as sex, age, etc., and section C is the core questions that strictly relate to the purpose of the study, by putting your conceptual framework into consideration.

Secondary Data: Secondary data for the study were gathered from published and unpublished materials like textbooks, Journals, bulletins, reports, newspapers, magazines, and the internet. Secondary data are useful not only for finding out information to answer research questions but also for providing a better understanding and explanation of research problems.

### Administration and measurement

As earlier stated a questionnaire is administered by the researcher through Google form to the respondents directly or is given to the EHOs practitioners of the various organizations, universities, and college of health technology. More so, the researcher introduces the

e-questionnaire style as well to some of the respondents who indicated interest. The scaling items were 5 points Likert scale such as; very satisfied, satisfied, unsatisfied, very unsatisfied, and don't know. This scaling method is intended to measure the relationship between environmental health practitioners and ethics education and practices among in Nigeria.

### Validity of instrument

To determine the validity of the research instrument, the original copy of the research instrument (questionnaire) was validated by the research supervisor for review whether they are suitable for the study, research questions, hypotheses, and the language that is used to develop the item. The supervisor corrects where necessary and modifies the instrument before it will be administered to the selected respondents.

### Reliability and validity of the instrument

The reliability of the instrument refers to the consistency with which the same measurement technique will produce the same results if the same technique were used by another researcher. Amadi (2014), defines reliability as the extent to which a test is consistent in measuring what it is expected to measure. It is thus the stability, dependability, and predictability of a measuring instrument.

### Data analysis technique/ Method of data analysis

Data obtained were analyzed using both descriptive analysis and inferential statistics. Data were analyzed descriptively using frequency and percentage. Data was also presented pictorially using charts.

### Ethical consideration

During this research work, the participants were accorded the due respect to ensure co-operation and information collected were treated with the utmost confidentiality. The cultures of the community were also respected during the research work. Informed consent was obtained from all of the participants.

## Results

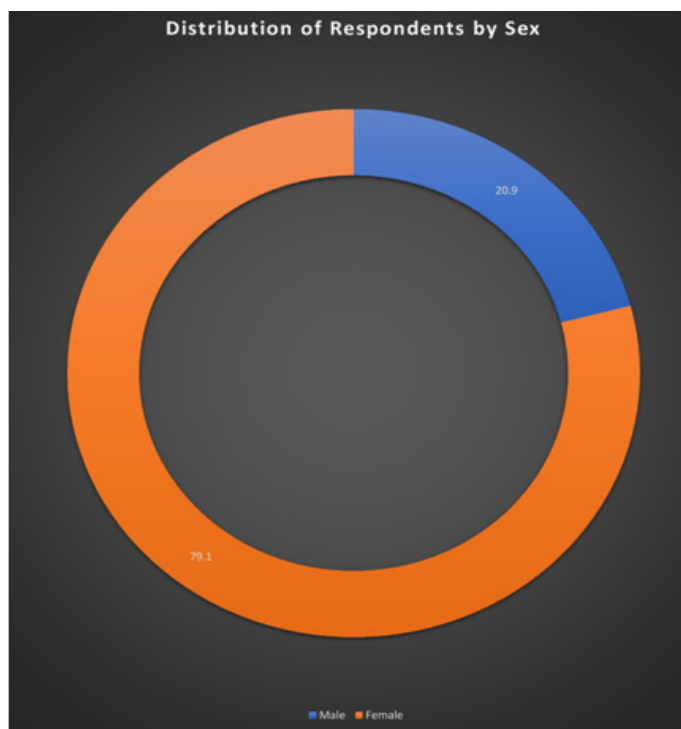
### Response rate/ Completeness of data

The response rate was 100%, however, 139 copies representing 100% were retrieved and found useable. All results of data analysis were based on the retrieved questionnaire.

### Demographics of the respondents

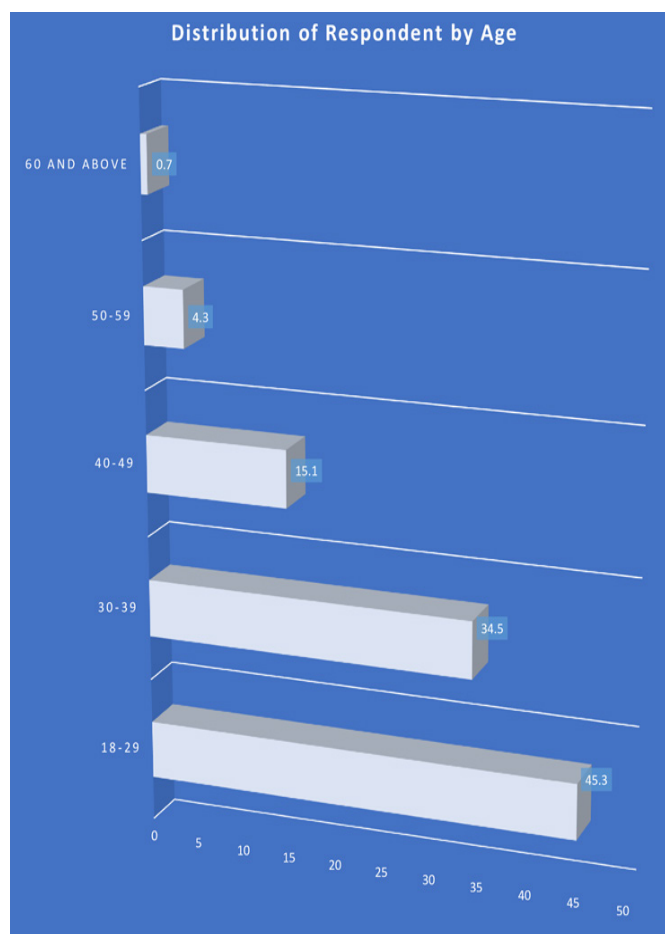
Result in Figure 1 reveals the gender distributions, 29(20.9%) of the respondents in the sample were males while 110(79.1%) are females, showing female predominance in the population. Result reveals that most of the sampled were female (79.1%). Among the age brackets, the result presented in Figure 2 reveals that 45.3% were between ages 18-29 years, 34.5% were between 30-39 years, 15.1% were between 40-49 years, 4.3% were between 50-59 years while 0.7% was 60 and above years. From the result presented so far, it can be deduced that the majority of the respondents were between the age group 18-29 years (45.3%).

In the respondents' level of education, result in Figure 3 reveals that seventy (70) respondents representing 50.4% were of the College of Health Technology, 4.3%, 24.5%, 19.4%, and 1.4% were of the Polytechnic, University, Postgraduates, and others respectively. From the result, it can be deduced that the majority of the respondents had a college of health technology education (50.4%) (Figure 4).



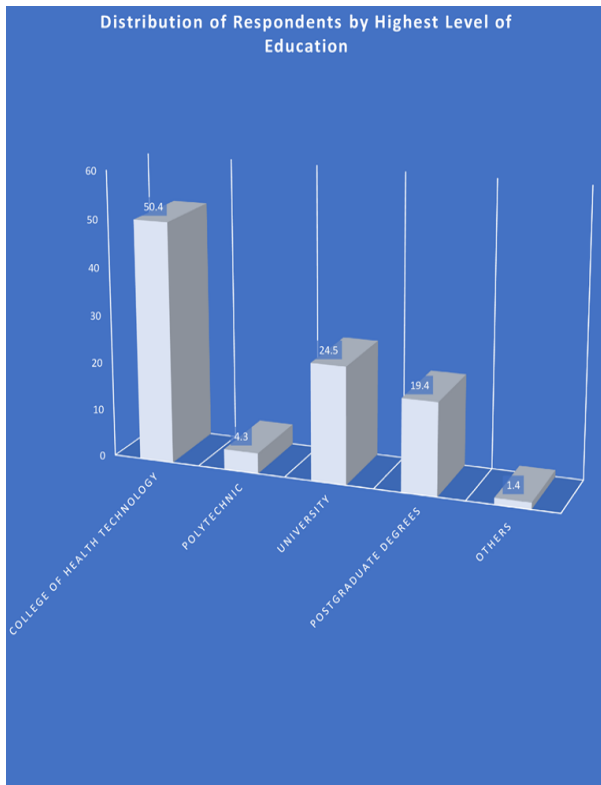
Source: Field Survey, 2019

Figure 1 Distribution of respondents by sex.



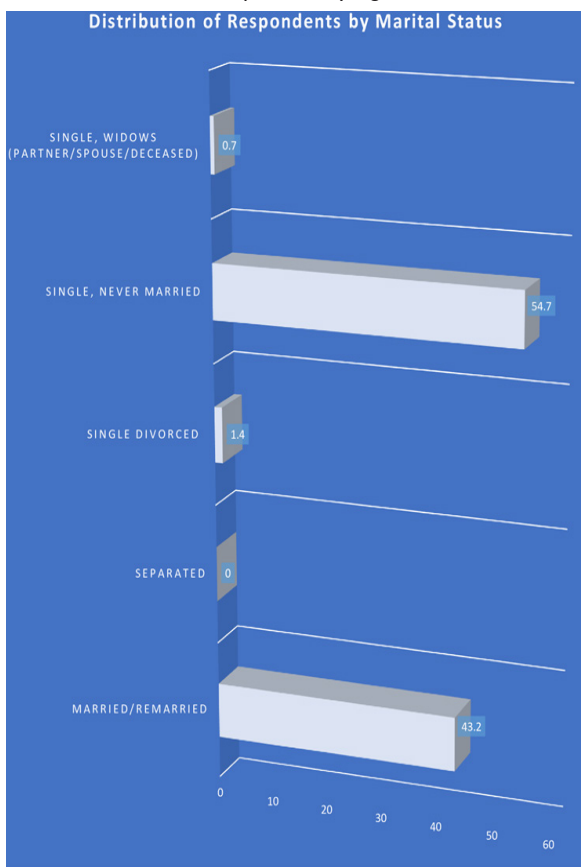
Source: Field Survey, 2019

Figure 2 Distribution of the respondents by age.



Source: Field Survey, 2019

Figure 3 Distribution of the respondents by highest level of education.

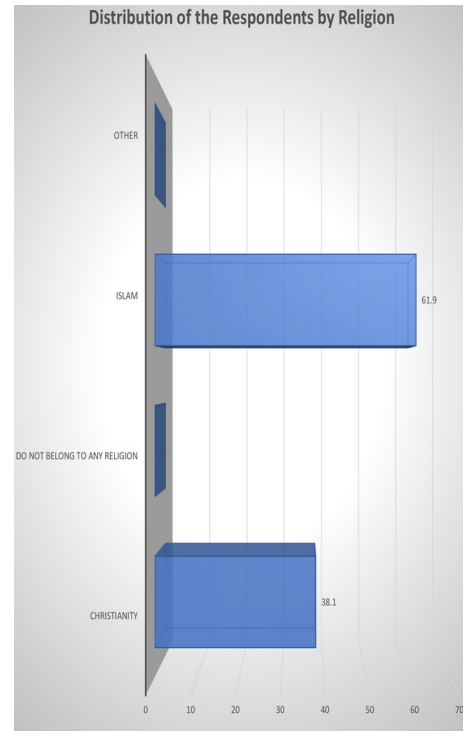


Source: Field Survey, 2019

Figure 4 Distribution of the respondents by marital status.

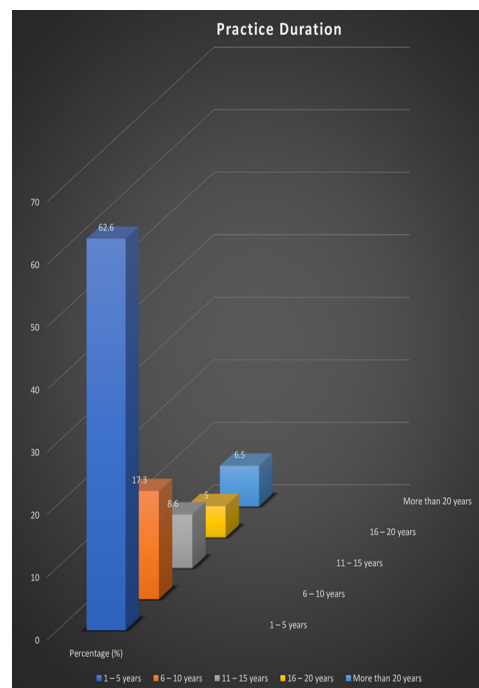
The distribution of their marital status was as follows: 43.2% were married or remarried, 0.0%, 1.4%, 54.7%, and 0.7% of the respondents were separated, single, Divorced, Single, Never Married and Single, Widow respectively. Based on the result, a larger percentage of the respondents were single (54.7%) at the time of the study.

Result in Figure 5 shows that 38.1% of the respondents were Christians, 61.9% were Islam, while 0.0% do not belong to any religion nor practiced other religions (Figure 6).



Source: Field Survey, 2019

Figure 5 Distribution of the respondents by religion.



Source: Field Survey, 2019

Figure 6 Practice duration.

Among the practice duration, the result presented in Figure 6 reveals that 62.6% with practice duration of 1-5 years, 17.3% with 6-10 years, 8.6% with 11-15 years, 5.0% with 16-20 years while 6.5% with more than 20 years. From the result presented so far, it can be deduced that the majority of the respondents have work duration practice of 1-5 years (62.6).

### Answering of objective questions

Objective 1: Assess the level of satisfaction with the implementation of the Environmental Health Ethics in institutions in Nigeria.

**Table 1** Satisfaction with the implementation of the environmental health ethics in institutions in Nigeria

How satisfied are you with what you learned in environmental health ethics during practice?	Practitioners (n =139)
Very satisfied	51(36.7)
Satisfied	68(48.9)
Unsatisfied	4(2.9)
Very unsatisfied	0(0.0)
Don't know	16(11.5)
<b>What would you say informs your response above</b>	
Teaching method	75(54.0)
Appropriateness of topic	28(20.1)
Duration of course	12(8.6)
Course content	24(17.3)
<b>What ethical cases do you think is/are of most concern to environmental health officers/practitioners</b>	
Negligence	74(53.2)
Conflict of interest	25(18.0)
Intellectual property	14(10.1)
Culture	26(18.7)
All of the above	0(0.0)

## Discussion

### A review of the samples in question

EHPs are located at the interface between government and communities, positioning them potentially well in relation to implementation of ethics education. With first-hand community engagement, EHPs can contribute to the shaping of national and local strategies, policies and regulations aimed at supporting communities. The findings of the study go in line with the objectives of the study and therefore shall be discussed in line with how it answered the research questions. Before the results of the statistical analyses are observed, the samples in question need to be reviewed so as to ascertain from what specific population the results were generated. There was a significant difference observed in the distribution of gender participants in their classification. The number of female respondents was 79.1% greater than the number of male respondents. The 18-29 year age groups were the largest groups in the study. This was as a result of the stratified sampling procedure. This was done in order to minimize the effect that small cell sizes have on skewing the frequency distributions. Ethical standards and the ability to model ethical conduct makes ethics a principle issue confronting modern environmental health practitioners for decades.<sup>5</sup>

### Values in the brackets are percentages

Table 1 shows that 36.7% of the respondents were very satisfied with what they learned in environmental health ethics during practice, 48.9%, 2.9%, 0.0%, and 11.5% were satisfied, unsatisfied, very unsatisfied and don't know respectively. Most of the practitioners were satisfied (48.9%) and what informed the decision of the majority of the practitioners (54.0%) was the teaching method. The ethical cases that were of the most concern to the majority of the practitioners (53.2%) were negligence.

Past gender studies noted gender sensitivity difference and inequality permeating questionable ethical practices Ali et al.,<sup>18,19</sup> and Schuh et al.,<sup>20</sup> further explained that women are much more sensitive to ethical and social issues as compared to male counterparts. In terms of gender, the results of this study also revealed large discrepancies. 79.1% of the female practitioners compared to 20.9% of the male practitioners, meaning two-thirds of the respondents were female. Thus, according to past research, gender differences seem to widen with increasing age and the gap has been found to be widest among those in their mid to late 20s. Armstrong (1983) maintains that such gender differences may be as much a product of social roles and social expectations of male and female behaviour as they are a result of differences in biological vulnerability. This view is contrary to the study carried out by Kalada,<sup>21</sup> who found that males (53%) were more obviously involved than the females (47%). The demographic profile of the practitioners used in this study is supported by the findings of Jordan et al., (2016) who stated that the respondents were mostly female (90%, n=63) and Tobius<sup>22</sup> who showed that females constituted 54% (67) whilst males represented 46% (56) of the total number (123) of environmental health staff. However, the study shows diverse age groups and educational backgrounds. All categories of the levels of education participated in the study. The largest levels of education were College of health technology (50.4%) as against a minority of



others (1.4%) who had basic level of education. EHPs education level ranged from national diploma to a doctorate with most (50.4%) EHPs having completed a national diploma. This is contrary to the study conducted by Tobius<sup>22</sup> who showed that the majority 91.4% (32) were in possession of a B.Tech/BSc Environmental Health qualification and 8.6% (3) qualified with a National Diploma in Environmental Health. The National Diploma in Environmental Health is the recognized undergraduate qualification for registration in the HPCSA professional register to practice as an Independent Environmental Health Practitioner in South Africa (Health Professions Council of South Africa, 1994). The B.Tech is an additional post National Diploma: Environmental health qualification that offers EHPs additional skills to improve their management practice and introduces EHPs to scientific research as part of carrying out their EHP responsibilities. All the EHPs who participated in the study were thus appropriately qualified to practice environmental health. This is congruent with the fact that the largest age group was the 18-29 year olds (45.3%), who are mostly in College of health technology with those above 61 years being the minority. A significantly higher proportion of participants are Islam (61.9%) compared to Christian (38.1%). A lower proportion of participants were married (43.2%) compared to participants who are single (54.7%). Meaning that respondent with marital status of single are more involved than respondents from other categories, thus, the sample was a representative sample of the community composition. The tables above give the distributions of the gender, age and educational levels of all respondents.

### Level of satisfaction with the implementation of environmental health ethics in Nigeria institutions?

Despite that environmental health ethics has been a part of the school curriculum, for nearly two decades the subject has not been shown to have a strong bearing on EHOs Practice. Thus the relationship between EHOs and clients/community keeps breaking down. Although, the result of this study showed a high level of satisfaction with what they learned in environmental health ethics during practice, however, among the majority of the practitioners, the teaching method seems to influence their decision as well as a satisfactory scheme implementation report by the practitioners. Although this study has some limitations like the use of small sample size, the result indicated the need for a proper and wider assessment of environmental health practitioners (EHPs) activities in Nigerian to ensure that the Environmental health ethics programme in Nigeria institutions are maximized. Knowledge and level of awareness of EHPs including satisfaction level were identified as critical issues to the implementation of the Environmental health ethics in institutions in Nigeria. This study found a high level of satisfaction with the implementation of the Environmental Health Ethics programme in institutions in Nigeria among the surveyed practitioners as indicated by the large number of respondents that agreed that environmental health ethics is designed to promote, enhance and establish a positive workplace attitude and ethical behaviour delivery in Nigeria while ensuring access to quality ethical behaviour with the involvement of both the practitioners and government in environmental health ethics contributions. This good knowledge and awareness were shown to be gained through various means including teaching method, course content and duration, appropriateness of topic, and during orientation among others. Although, there is continuing debate among educators in higher education on the best way to teach ethics in health care professions.<sup>23,24</sup> Educators must decide whether to teach ethics in a specific stand-alone ethics course or through ethics lectures that are

systematically infused throughout the entire curriculum. They may debate whether "something is lost" or gained (e.g., cognitive presence, the shared learning experience) if ethics training is delivered online as opposed to face-to-face.<sup>25</sup> They must further decide whether to teach ethics by focusing on clinical experience and reflection, teaching abstract theories or using skills-based approaches through lectures.<sup>26,27</sup> There are many levels of decisions to make, one of which may lead educators to decide to teach ethical practice through the form of case-study methods (Horner, 2012). Case-study methods include scenarios that tell a story and are designed to encourage discussion in the classroom. However, the fact that only ethical cases that were of the most concern to the majority of the practitioners (53.2%) were negligence is indicative of some problems with the course and programme implementation in the various institution. Meanwhile, professional negligence is seen as a major ethical issue of concern to the internal good in the preventive care practice for practitioners suggests a tendency to defensive or protectionist environmental health practice. This implies inadequate attention to environmental ethics education and the fear of being liable in practice. Although environmental health practitioners must be liable if their practice falls below standard and liability is not a sanction to warrant being protectionist or keeping practice errors in secrecy. Kalada<sup>29</sup> expresses his opinion that greater attention to professional negligence by doctors is to guard against their being liable and suggests a protectionist relationship between doctors and patients. But such protectionist tendency without understanding the philosophy, principles and basic theories of medical ethics cannot provide ethical practice of medicine. Rather the understanding that both communities and EHOs are in partnership relationship, with the EHOs as the leader and adhering to the basic principles of ethics, will make way for a greater tendency toward being less paternalistic. Moreover, the principles of justice which indicates fairness when professionals own up wrongdoing would also enable communities to appreciate the enormous responsibility in the hands of the practitioners knowing that no man has absolute power over life. However, the same is applicable to environmental health officers/practitioners as guarding against their being liable suggesting a protectionist relationship between EHOs and their clients or the communities.

Furthermore, where the interest of a service provider is primary to that of the client or communities, a conflict of interest (COI) arises but must be avoided. Conflict of interest has been treated with levity among environmental health professionals in Nigeria. It was found in this study that COI and culture were ranked almost the same. According to Kalada<sup>28</sup> indicates that conflict of interest is a situation an EHOs may face anytime. Although it is not ipso facto a violation of legal or moral rules. The concept should not be treated with levity. As similar suggestion is made by Board of Ethics of the American School Health Association when it describes COI as a situation in which personal or financial considerations have the potentials to influence or compromise professional judgment in clinical services, research, consultation, administration or any other professional activity.<sup>29</sup> Similarly, conflict of interest should be recognized as may occur whenever there are competing goals and responsibilities and because it negatively affects the clients/community interest, it should be given a high attention and not treated with levity.<sup>30</sup> While, ignorance of a culture, in particular, professional culture, can often lead to a violation or failure in the conduct expected of a member of that culture. That is why apart from being taught or even if not taught, students and practitioners need to learn their professions culture which often is embodied in their professional code of conduct and to make efforts for increase awareness of the values that inform their actions and



inactions so that they can more accurately and critically examine the influences of those values on the EHOs actions and attitudes. All of this problem may likely be due to individual behaviour, poor attitude towards ethics, environmental determinism, inadequate course content, course duration, appropriateness of the topic, and lack of proper orientation which is where the practitioners are expected to receive first-hand information about the importance and benefits of the course. This problem could also be seen from the small number of the practitioners that got to know about environmental health ethics through orientation means. Thus emphasizes should be based on proper education and information of the practitioners conscience as an indicator of moral since the duty of environmental health duty of preventive care is a legal duty, meaning that to fulfill it duty, it must be based on the recognition of a moral obligation on the part of the practitioners. In fact, it is indicated that environmental health ethics and jurisprudence among others are key to the development of effective preventive health care in the country. Thus in the teaching of environmental ethics, the conscience of the learner should be called forth to the realization of the responsibility of the call to the preventive duty of care. But this cannot be achieved by a mere didactic teaching. There is need for a dialogic interaction. May (1998) seem to describe that kind of teaching as one which involves a kind of moral imagination that permits practitioners, including teachers to enter into the life circumstances of the learner, and whereby a good teacher helps the students to unlock a freedom to perform or think in new ways.

Yet, the overwhelming number of the practitioners opined that environmental health ethics should not be discontinued is indicative of their positive attitude towards interdisciplinary training, belief, and behaviour re modification in the course during their study. Practitioners need to have a positive attitude as it influences their engagement and training of behaviours related to communication (Brock, et al., 2013) and environmental health practice in the working environment.<sup>31</sup> In this specific example of an interdisciplinary classroom on the topics of professional issues and ethics, the practitioner's attitudes seem to be positive from the beginning to the end. According to Ajzen & Fishbein,<sup>32</sup> positive results should lead to increased motivation for learning. Applying this theory to the current study, there should be an increased motivation to participate in educational opportunities, especially those that are also short-term in length i.e. thematic training. Each educational opportunity has the potential to further develop and build upon specific skills that practitioners need to enter into environmental health practice. However, this study offers some insight into how the topic of ethics might be taught in the classroom while maintaining a positive appeal with these practitioners. Based on these results and those of,<sup>33</sup> thematic training may work well with interdisciplinary learning opportunities. As Illingworth<sup>34</sup> suggested, exposing practitioners to different professional viewpoints can greatly improve the effectiveness of discussion-oriented learning. As practitioners need to understand how ethical decision-making affects them and other professionals in their workplace and interdisciplinary learning through continuous thematic training is one way the concept of ethics can be given a top priority and preparing them for what the professions hold in the future. However, in a fast changing society, the environmental health curriculum cannot remain stagnant or continue to be treated as "business as usual" without any recourse to innovation based on the advancement in age for moral reflection in the curriculum implementation. This is important because moral reasoning among students has been found to increase with age and level of education.<sup>35</sup> Meanwhile, if the dialogic method of teaching is applied for

environmental health ethics for both students and practitioners, this can become self-evaluative and reflective on the knowledge gained from the classroom and experiences from community practice.<sup>36-45</sup>

## Summary

To the best of my knowledge, this is the first study in which environmental health practitioners have been asked to assess environmental health ethics education and practices among practitioners in Nigeria. The results of this study could serve as a basis for workgroups for EHPs who want to improve their knowledge of ethical climate, but there is a limited amount of research on ethical practice among environmental health practitioners. Although, EHPs have a key role to play in resolving environmental challenges and preventing diseases of environmental origin to ensure healthy and safe environments for communities and it is necessary to understand and develop approaches to some of the world's most pressing environmental health problems. Therefore, ethics implementation should be incorporated within the EHPs scope of practice. Though a code of ethics cannot resolve all ethical issues or disputes or capture the richness and complexity involved in striving to make responsible choices within a moral community, their relevance in environmental health has enriched informed major environmental decisions, hence promoting environmental health. A code of ethics sets forth values and ethical principles and offers ethical guidelines to which a health professional can aspire and by which actions can be judged. Ethical behaviours result from a personal commitment to engage in ethical practice. Whether or not clients are aware of ethical principles, the onus greatly lies on environmental health practitioners to ensure its application or implementation. This, therefore, makes practitioners' perceptions and knowledge about ethical principles relevant at all times.

## Conclusion

Integrating ethics throughout the institution, from the bedside to the boardroom, ensure that systems and processes contribute to ethical practices and promoting ethical leadership behaviours. For environmental health practitioners to fully implement ethics education, measures and strengthening of the human and financial resources should be provided and trickle down to where EHPs need them to be effective 'agents of change' among communities. EHPs will potentially have an important role to play in ensuring that the environments (especially built environments) in which people live, learn, and play, are fit to promote and support health and safety. Thus, there is needs to be continuing dialogue, mentoring, discussion, and education to support environmental health practitioners in working through the ethical aspects of the situation they face daily. Therefore, environmental health ethics should be seen to be a course of its own and therefore be treated as such in the curriculum implementation.

## Recommendation

The study noted, teaching of environmental health ethics is explicit, not implicit, and the community values of mutual respect, honesty and integrity, and personal accountability should support environmental health learning and the heart of a school-wide aspiration to make standards essential to responsible leadership in the 21st century world. Values are a set of guiding principles for all that we do wherever we are and with everyone we meet. At universities, therefore, a rethink is necessary. Ethical considerations must not be excluded from the environmental health education. With this background the universities

are being blame for their graduates no longer being able to solve the complex, multidisciplinary problems of today's environmental health related problems due to the wrong education. The universities are failing to equip their students with useful abilities, to prepare them adequately as future environmental health practitioners/managers and give them norms for ethical behavior. In the light of the above, the study recommend the following:

- i. If environmental health ethics education must improve, the need to bring in specialists in policy studies and moral philosophy should be given urgent attention.
- ii. More importantly adequate time should be allocated for adequate content delivery in the implementation of the school curriculum. When this way is followed, environmental health ethics education would be fairly treated and would adequately prepared EHOs for a more effective practice.
- iii. The dialogic, case study and report writing methods of teaching should be brought to bear on the subject of environmental health ethics. Such is indispensable for the subject to be seen to be as remarkable as it is believed to be.

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## Conflicts of interest

Author declares that there are no conflicts of interest.

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